University of the District of Columbia
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Washington, DC 20008

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University of the District of Columbia | Undergraduate and Graduate Course Catalog 2008–2011

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Course Catalog 2008–2011

Undergraduate and Graduate

UNIVERSITY OF THE DISTRICT OF COLUMBIA

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Undergraduate and Graduate Course Catalog 2008-2011

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This *Undergraduate and Graduate Catalog* has been prepared for the benefit of students, faculty, and administrators of the University, and others wishing to know more about the University's programs, services, and activities. This Catalog is the primary reference for information about the curriculum, academic policies and procedures, and courses. Updated and supplemental information can be found in the following additional publications:

The Student Handbook: Available online and from the Office of Student Affairs, published annually.
The University of the District of Columbia web site, www.udc.edu : Updated regularly, with a variety of information about the University's programs, particularly upcoming activities and events, and links to departments, programs, students, and faculty.

The information in this Catalog is accurate as of the date of publication, and the authors know of no significant changes to be made by the University in the near future. The University, however, reserves the right to make changes at any time, with or without prior notice, including, but not limited to, changes in rates and fees, deadlines, program offerings, course offerings, and course and program descriptions and requirements.

UNIVERSITY COMPLIANCE

SEXUAL HARASSMENT AND RACIAL HARASSMENT POLICY STATEMENT

It is the policy of the University of the District of Columbia that all acts of sexual harassment and racial harassment of its students, faculty, staff and applicants for employment or admission to the University are prohibited.

The University will provide work sites and classrooms free of sexual harassment and monitor conditions so that instances of sexual harassment are prevented or detected soon after their occurrence. The University will examine impartially all complaints of sexual harassment and attempt to resolve them as promptly as possible.

EQUAL EMPLOYMENT OPPORTUNITY AND AFFIRMATIVE ACTION

The University of the District of Columbia actively subscribes to a policy of equal opportunity in education and employment, and will not discriminate against any person in recruitment, examination, training, promotion, retention, discipline or any other aspect of employment and education administration because of race, age, color, sex, physical or mental disability, marital status, religion, national origin, political affiliation, personal appearance, sexual orientation, matriculation, source of income, place of residence, familial status, or family responsibilities, in accordance with the provisions of the D.C. Human Rights Act of 1977 (D.C. Law 2-38). Vietnam War veterans and disabled veterans are also covered under this policy.

FILING A COMPLAINT

Persons who believe they have been discriminated against (including sexual harassment) may file a complaint by contacting the EEO/AA Coordinator in the Office of Human Resources in Building 38, Suite 301-14, telephone: (202) 274-5020.

THE AMERICANS WITH DISABILITIES ACT (ADA)

In accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990, no otherwise qualified student with a disability shall, solely because of her/his disability, be excluded from participation in, be denied benefits of, or be subjected to discrimination under any program or activity of the University, including facilities and employment.

THE FAMILY EDUCATION RIGHTS AND PRIVACY ACT (FERPA)

The Family Education Rights and Privacy Act of 1974, as amended, known as FERPA, is a federal law that protects the privacy of student education records that are directly related to the student and are maintained by the University.

Under FERPA, students are given certain rights regarding education records:

1. The right to inspect and review education records kept by the University.
2. The right to request the amendment of education records the student believes to be inaccurate, misleading or otherwise in violation of his or her privacy rights.

3. The right to consent to disclose directory information, except to the extent that FERPA and the regulations authorize disclosure without consent.
4. The right to file with the U.S. Department of Education a complaint concerning alleged failures by the institution to comply with the requirements and regulations of FERPA. The complaint should be in writing and contain specific allegations of fact. The complaint should be sent to:

   Family Policy Compliance Office
   U.S. Department of Education
   400 Independence Avenue, SW
   Washington, DC 20202-4605

The following documents are located in the Office of the Registrar (Building 39, A-14):

1. Information regarding the Family Educational Rights and Privacy Act of 1974, as amended
2. Request to Review Education Records form
3. Request to Amend or Remove Education Records form
4. Request to Prevent Disclosure of Directory Information form*

   *Directory information is information contained in an education record of a student that generally would not be considered harmful or an invasion of privacy if disclosed. It includes, but is not limited to, the student's name; date and place of birth; major field of study; dates of attendance; career classification; enrollment status (e.g., undergraduate or graduate; full-time or part-time); participation in officially recognized activities and sports; degrees, honors and awards received; and, most recent education agency or institution attended.

Note: Items that can never be identified as directory information are a student's social security number, citizenship, gender, religious preference, grades and grade point average.

NOTICE TO ALL STUDENTS

DRUG AND ALCOHOL ABUSE POLICY

The unlawful possession, use, or distribution of alcohol and illicit drugs on University property or as part of any University activity is prohibited.

Federal and District of Columbia laws prohibit the unlawful use, manufacture, possession, control, sale, and dispensation of any illegal narcotics and dangerous drugs.

The health risks associated with the use of illicit drugs and the abuse of alcohol include physical and mental impairment, emotional and psychological deterioration, fine and gross motor degeneration, and death.

Students who unlawfully possess, use, or distribute illicit drugs shall be sanctioned. Sanctions may include referral for criminal prosecution, expulsion, suspension, reprimand, or requiring the student to complete an appropriate rehabilitation program.

The University of the District of Columbia's Counseling Center provides confidential counseling and referral services to students with problems related to drug use and alcohol abuse. The University also provides information about substance abuse and treatment programs available to UDC students.

SMOKING RESTRICTIONS

Pursuant to the provisions of the District of Columbia Smoking Restrictions Act of 1979, as amended, D.C. Code, A76-011, et seq. (the "Act"), smoking shall be prohibited in all University facilities, including all portions of buildings and structures owned or leased by the University.

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The material contained in this Catalog is for information only and does not constitute a firm offer or contract between the applicant or the University of the District of Columbia or its Board of Trustees.
Every effort has been made to ensure that the information in this Catalog is accurate and current. The information printed in this Catalog is subject to change. The Board of Trustees and the University reserve the right to add, revise, or repeal policies, rules, requirements, and procedures at any time.

The specific financial charges stated in this Catalog, including tuition and fees, are subject to change at any time. The Board of Trustees and the University may increase, add, delete, or modify the tuition, fees, and other charges in accordance with the notice provision of D.C. Code, A7 1-1501, et seq.

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Ernesta Williams, Ed.D., *Title III Officer and Special Assistant to the Provost and Vice President for Academic Affairs*

DIRECTORY

University of the District of Columbia
4200 Connecticut Avenue, NW
Washington, DC 20008

General Information	**(202) 274-5000**
Division of Academic Affairs	**(202) 274-5072**
College of Arts and Sciences	**(202) 274-5194**
Division of Arts and Education	
Education	(202) 274-7404
English	(202) 274-5137
Languages and Communication Disorders	(202) 274-7405
Mass Media, Visual and Performing Arts	(202) 274-7402
Division of Science and Mathematics	
Biological and Environmental Sciences	(202) 274-7401
Chemistry and Physics	(202) 274-7410
Mathematics	(202) 274-5153
Nursing and Allied Health	(202) 274-5940
Division of Urban Affairs, Behavioral and Social Sciences	
Psychology and Counseling	(202) 274-7406
Urban Affairs, Social Sciences and Social Work	(202) 274-7403
School of Business and Public Administration	**(202) 274-7000**
Accounting, Finance and Economics	(202) 274-7002
Management, Hospitality & Graduate Studies	(202) 274-7001
Marketing, Legal Studies & Computer Information Systems	(202) 274-6510
School of Engineering and Applied Sciences	**(202) 274-5220**
Computer Science and Information Technology	(202) 274-5147
Electrical Engineering	(202) 274-7409
Engineering, Architecture and Aerospace Technology	(202) 274-5126
Community Outreach and Extension Services	**(202) 274-7100**
Learning Resources Division	**(202) 274-6370**
Office of Admissions	**(202) 274-6110**
Office of the Registrar	**(202) 274-6200**
Division of Student Affairs	**(202) 274-5210**
Disability Resource Center	(202) 274-6152
TTY	(202) 274-5579
Office of Financial Aid	(202) 274-5060
Office of Intercollegiate Athletics	(202) 274-5024
Student Life and Services	(202) 274-5900
David A. Clarke School of Law	**(202) 274-7400**
Cashier's Office	**(202) 274-5112**
Student Accounts	**(202) 274-5168**

UNIVERSITY OF THE DISTRICT OF COLUMBIA

ACADEMIC CALENDAR 2008-2011

FALL SEMESTER 2008

Last Day for Continuing Students to Pay for Fall On-line Course Registration
(Classes will be dropped by the Close of Business) ..... August 6, 2008
On-line Course Adjustment Period for Continuing Students ..... August 11-15, 2008
Professional Development Day ..... **August 18, 2008**
College/School Meetings ..... August 19, 2008
Orientation, Advisement and Registration for New and Transfer Students ..... August 20, 2008
Advising and Registration for New, Readmitted, Special and Transfer Students ..... August 21-22, 2008
Late Registration ..... August 25-26, 2008
Classes Begin ..... **August 27, 2008**
Add/Drop ..... Aug.29 & Sept. 2, 2008
Withdrawal Deadline for 100% Refund (Tuition only) ..... September 2, 2008
Labor Day Observed (University Closed) ..... September 1, 2008
Classes Resume ..... September 2, 2008
Last Day to Apply for Fall Degree ..... **September 12, 2008**
Spring Application Deadline for International Students ..... September 15, 2008
Ramadan (1st Day) ..... September 2, 2008
University Convocation ..... **September 23, 2008**
Yom Kippur (Begins at Sunset) ..... October 9, 2008
Constitution Day ..... **September 17, 2008**
Columbus Day Observance (University Closed) ..... October 13, 2008
Classes Resume ..... October 14, 2008
Mid-term Week (Instructors will inform students of their progress) ..... **Oct.15-17 & 20-21, 2008**
C.L.R. James Faculty Honors Convocation ..... **October 23, 2008**
Last Day to Withdraw from Classes Without Academic Penalty ..... **November 10, 2008**
Admissions Application Deadline for Undergraduate and Graduate Students for Spring Semester ..... November 15, 2008
Veterans Day Observance (University Closed) ..... November 11, 2008
Classes Resume ..... November 12, 2008
Continuing Students' Advisement Period for Spring ..... **November 3-14, 2008**
Continuing Students' On-line Registration for Spring ..... Nov. 17-Dec. 23, 2008
Thanksgiving Day Observance (University Closed) ..... November 27-28, 2008
Classes Resume ..... December 1, 2008
Deadline for Removing Incomplete Grades For Spring and Summer ..... December 8, 2008
Last Day of Classes ..... **December 10, 2008**
Common Exams (English) ..... December 11, 2008
Common Exams (Mathematics) ..... December 12, 2008
Final Examinations ..... **December 13-19, 2008**
Hanukkah (Begins at Sunset) ..... December 22, 2008
Last Day to submit Grades On-line ..... December 23, 2008
Last Day for Continuing Students to pay for Spring On-line Course Registration
(Classes will be dropped by the Close of Business) ..... December 23, 2008
Christmas Recess (University Closed) ..... Dec. 24, 2008-Jan 2, 2009

SPRING SEMESTER 2009

Professional Development Day ..... **January 5, 2009**
On-line Course Adjustment Period for Continuing Students ..... January 5-9, 2009
College/School Meetings ..... January 6, 2009
Orientation, Advisement and Registration for New & Transfer Students ..... January 7, 2009
Advisement & Registration for New, Readmitted, Special and Transfer Students ..... January 8-9, 2009
Late Registration ..... January 12-13, 2009
Classes Begin ..... **January 14, 2009**
Add/Drop ..... January 15-16, 2009
Martin Luther King, Jr. Holiday Observance (University Closed) ..... January 19, 2009
Inauguration Day (University Closed) ..... January 20, 2009
Classes Resume ..... January 21, 2009
Withdrawal Deadline for 100% Refund (Tuition only) ..... January 22, 2009
Last Day to Apply for Spring Degree ..... **January 16, 2009**

Presidents Day Observed (University Closed) ..... February 16, 2009
Classes Resume ..... February 17, 2009
Founder's Day ..... February 18, 2009
Ash Wednesday ..... February 25, 2009
Mid-term Week (Instructors will inform students of their progress) ..... March 11-17, 2009
Last Day to Submit Undergraduate Graduation Clearance Forms to Registrar ..... March 13, 2009
Summer Application Deadline for International Students ..... March 15, 2009
Spring Break (Classes Suspended) ..... March 23-28, 2009
Classes Resume ..... March 30, 2009
Last Day to Withdraw from Classes Without Academic Penalty ..... March 30, 2009
Continuing Students' Advisement Period for Fall ..... April 1-10, 2009
Deadline for Graduating Seniors to Clear Incomplete Grades for Fall Semester (Due in the Office of the Registrar) ..... April 3, 2009
Passover (Begins at Sunset) ..... April 9, 2009
Good Friday ..... April 10, 2009
Continuing Students' On-line Registration for Fall ..... April 13-May 1, 2009
Tuition Installment Plan Enrollment Period for Continuing Students ..... April 13-August 7, 2009
Admissions Application Deadline for Summer Semester ..... April 15, 2009
Emancipation Day (University Closed) ..... April 16, 2009
Classes Resume ..... April 17, 2009
Deadline for Graduating Seniors to Clear Any Financial Obligations ..... April 17, 2009
Final Examinations for Graduating Seniors ..... April 20-25, 2009
Last Day of Classes ..... April 22, 2009
Common Exams (English) ..... April 23, 2009
Common Exams (Mathematics) ..... April 24, 2009
Final Examinations ..... April 25-May 1, 2009
Last Day to Submit Graduation Clearance Forms for Graduate Students to the Registrar ..... April 27, 2009
Deadline for Removing Incomplete Grades For Fall (Due in the Office of the Registrar) ..... April 27, 2009
Final Grades for Graduating Seniors Due On-line ..... April 28, 2009
Commencement ..... May 9, 2009
Last Day to Submit Grades Online ..... May 12, 2009
Spring Semester Ends ..... May 13, 2009
Fall Admission Application Deadline for International Students ..... May 15, 2009

SUMMER SESSION 2009

SUMMER REGISTRATION for the First Four-Week and Eight-Week Terms (All students) ..... May 18-20, 2009
***First Four-Week Term* ..... May 21-June 19, 2009**
Classes Begin ..... May 21, 2009
Late Registration/Add/Drop ..... May 21-22, 2009
Memorial Day Observance (University Closed) ..... May 25, 2009
Classes Resume ..... May 26, 2009
Withdrawal Deadline for 100% Refund (Tuition Only) ..... May 26, 2009
Last Day to Withdraw from Classes (First Four-Week Term) ..... June 1, 2009
Last Day to Apply for Summer Degree ..... June 5, 2009
Admission Deadline for Fall Semester ..... June 15, 2009
Last Day of Classes (First Four-Week Term) ..... June 19, 2009
One Day Registration (Second Four-Week Term) ..... June 22, 2009
Final Examinations (First Four-Week Term) ..... Last Class
***Second Four-Week Term* ..... June 23-July 20, 2009**
Classes Begin ..... June 23, 2009
Late Registration/Add/Drop ..... June 23, 2009
All Grade Reports Due On-line (First Four-Week Term) ..... June 22, 2009
Withdrawal Deadline for 100% Refund (Tuition Only) ..... June 25, 2009
Last Day to Withdraw from Classes (Second Four Week Term) ..... July 2, 2009
Independence Day (University Closed) ..... July 3, 2009
Classes Resume ..... July 6, 2009
Last Day of Classes (Second Four-Week Term) ..... July 20, 2009
Final Examinations (Second Four-Week Term) ..... Last Class
All Grade Reports Due On-line (Second Four-Week Term) ..... July 22, 2009
***Eight-Week Term* ..... May 21-July 20, 2009**
Classes Begin ..... May 21, 2009
Late Registration/Add/Drop ..... May 21-22, 2009
Withdrawal Deadline for 100% Refund (Tuition Only) ..... May 27, 2009
Last Day to Apply for Summer Degree ..... June 5, 2009

Last Day to Withdraw from Classes (Eight-Week Term) ..... **July 2, 2009**
Independence Day (University Closed) ..... July 3, 2009
Classes Resume ..... July 6, 2009
Last Day of Classes (Eight-Week Term) ..... **July 20, 2009**
Final Examinations (Eight-Week Term) ..... Last Class
All Grade Reports Due On-line (Second Four-Week Term) ..... July 22, 2009

FALL SEMESTER 2009

Last day for Continuing Students to pay for Fall On-line Course Registration
(Classes will be dropped by the Close of Business) ..... August 7, 2009
On-line Course Adjustment Period for Continuing Students ..... August 10-14, 2009
Professional Development Day ..... **August 17, 2009**
College/School Meetings ..... August 18, 2009
Orientation, Advisement and Registration for New and Transfer Students ..... August 19, 2009
Advising and Registration for New, Readmitted, Special and Transfer Students ..... August 20-21, 2009
Ramadan (1st Day) ..... August 22, 2009
Late Registration ..... August 24-25, 2009
Classes Begin ..... **August 26, 2009**
Add/Drop ..... Aug. 28 & 31, 2009
Withdrawal Deadline for 100% Refund (Tuition only) ..... September 1, 2009
Labor Day Observed (University Closed) ..... September 7, 2009
Classes Resume ..... September 8, 2009
Last Day to Apply for Fall Degree ..... **September 11, 2009**
Spring Application Deadline for International Students ..... September 15, 2009
Constitution Day ..... September 17, 2009
University Convocation ..... September 22, 2009
Yom Kippur (Begins at Sunset) ..... September 28, 2009
Columbus Day Observance (University Closed) ..... October 12, 2009
Classes Resume ..... October 13, 2009
Mid-term Week (Instructors will inform students of their progress) ..... **Oct. 14-16 & 19-20, 2009**
C. L. R. James Faculty Honors Convocation ..... **October 22, 2009**
Continuing Students' Advisement Period for Spring ..... **November 2-12, 2009**
Last Day to Withdraw from Classes Without Academic Penalty ..... **November 9, 2009**
Veterans Day Observance (University Closed) ..... November 11, 2009
Classes Resume ..... November 12, 2009
Admissions Application Deadline for Undergraduate and Graduate Students for Spring Semester
(New, Readmitted, Transfer and Special Students) ..... November 15, 2009
Continuing Students' On-line Registration for Spring ..... Nov. 16-Dec. 22, 2009
Thanksgiving Day Observance (University Closed) ..... November 26-27, 2009
Classes Resume ..... November 30, 2009
Deadline for Removing Incomplete Grades For Spring and Summer (Due in the Office of the Registrar) ..... December 7, 2009
Last Day of Classes ..... **December 9, 2009**
Common Exams (English) ..... December 10, 2009
Common Exams (Mathematics) ..... December 11, 2009
Final Examinations ..... **December 12-18, 2009**
Hanukkah (Begins at Sunset) ..... December 12, 2009
Last Day to submit Grades On-line ..... December 21, 2009
Last Day for Continuing Students to pay for Spring On-line Course Registration
(Classes will be dropped by the close of Business) ..... December 22, 2009
Christmas Recess (University Closed) ..... Dec. 24, 2009-Jan. 1, 2010

SPRING SEMESTER 2010

On-line Course Adjustment Period for Continuing Students ..... January 4-8, 2010
Professional Development Day ..... **January 11, 2010**
College/School Meetings ..... January 12, 2010
Orientation, Advisement and Registration for New & Transfer Students ..... January 13, 2010
Advisement & Registration for New, Readmitted, Special and Transfer Students ..... January 14-15, 2010
Martin Luther King, Jr. Holiday Observance (University Closed) ..... January 18, 2010
Late Registration ..... January 19-20, 2010
Classes Begin ..... **January 21, 2010**
Last Day to Apply for Spring Degree ..... **January 25, 2010**
Add/Drop ..... January 25-26, 2010

Withdrawal Deadline for 100% Refund (Tuition only) ..... January 27, 2010
Presidents' Day Observed (University Closed) ..... February 15, 2010
Classes Resume ..... February 16, 2010
Founder's Day ..... February 17, 2010
Ash Wednesday ..... February 17, 2010
Summer Application Deadline for International Students ..... March 15, 2010
Mid-term Week (Instructors will inform students of their progress) ..... March 15-20, 2010
Last Day to Withdraw from Classes Without Academic Penalty ..... March 26, 2010
Spring Break (Classes Suspended) ..... March 29-April 3, 2010
Passover (Begins at Sunset) ..... March 30, 2010
Continuing Students' Advisement Period for Fall ..... April 5-9, 2010
Good Friday ..... April 2, 2010
Deadline for Graduating Seniors to Clear Incomplete Grades for Fall Semester (Due in the Office of the Registrar) ..... April 2, 2010
Classes Resume ..... April 5, 2010
Continuing Students' On-line Registration for Fall ..... April 12-May 3, 2010
Tuition Installment Plan Enrollment Period: Continuing Students ..... April 12- August 6, 2010
Deadline for Graduating Seniors to Clear Any Financial Obligations ..... April 15, 2010
Admissions Application Deadline for Summer Semester ..... April 15, 2010
Emancipation Day (University Closed) ..... April 16, 2010
Final Examinations for Graduating Seniors ..... April 19-24, 2010
Last Day to Submit Graduation Clearance Forms for Graduate Students to the Office of the Registrar ..... April 26, 2010
Final Grades for Graduating Seniors Due On-line ..... April 27, 2010
Deadline for Removing Incomplete Grades For Fall (Due in the Office of the Registrar) ..... April 27, 2010
Last Day of Classes ..... April 27, 2010
Common Exams (English) ..... April 28, 2010
Common Exams (Mathematics) ..... April 28, 2010
Final Examinations ..... April 29-May 4, 2010
Commencement ..... May 8, 2010
Last Day to Submit Grades Online ..... May 11, 2010
Spring Semester Ends ..... May 14, 2010
Fall Admission Application Deadline for International Students ..... May 15, 2010

SUMMER SESSION 2010

SUMMER REGISTRATION for the First Four-Week and Eight-Week Terms (All students) ..... May 17-19, 2010
First Four-Week Term **..... May 20-June 17, 2010**
Classes Begin ..... May 20, 2010
Late Registration/Add/Drop ..... May 20-21, 2010
Withdrawal Deadline for 100% Refund (Tuition Only) ..... May 24, 2010
Memorial Day Observance (University Closed) ..... May 31, 2010
Classes Resume ..... June 1, 2010
Last Day to Withdraw from Classes (First Four-Week Term) ..... June 1, 2010
Last Day to Apply for Summer Degree ..... June 4, 2010
Admission Deadline for Fall Semester ..... June 15, 2010
Last Day of Classes (First Four-Week Term) ..... June 17, 2010
One Day Registration (Second Four-Week Term) ..... June 18, 2010
Final Examinations (First Four-Week Term) ..... Last Class
Second Four-Week Term **..... June 21-July 19, 2010**
Classes Begin ..... June 21, 2010
Late Registration/Add/Drop ..... June 21, 2010
All Grade Reports Due On-line (First Four- Week Term) ..... June 21, 2010
Withdrawal Deadline for 100% Refund (Tuition Only) ..... June 23, 2010
Last Day to Withdraw from Classes (Second Four-Week Term) ..... July 1, 2010
Independence Day (University Closed) ..... July 5, 2010
Classes Resume ..... July 6, 2010
Last Day of Classes (Second Four-Week Term) ..... July 19, 2010
Final Examinations (Second Four-Week Term) ..... Last Class
All Grade Reports Due On-line (Second Four-Week Term) ..... July 21, 2010
Eight-Week Term **..... May 20-July 19, 2010**
Classes Begin ..... May 20, 2010
Late Registration/Add/Drop ..... May 20-21, 2010
Withdrawal Deadline for 100% Refund (Tuition Only) ..... May 26, 2010
Last Day to Apply for Summer Degree ..... June 7, 2010

Last Day to Withdraw from Classes (Eight-Week Term) ..... **July 1, 2010**
Independence Day Observed (University Closed) ..... July 5, 2010
Classes Resume ..... July 6, 2010
Last Day of Classes (Eight-Week Term) ..... **July 19, 2010**
Final Examinations (Eight Week Term) ..... Last Class
All Grade Reports Due On-line (Second Four-Week Term) ..... July 21, 2010

FALL SEMESTER 2010

Last day for Continuing Students to pay for Fall On-line Course Registration
(Classes will be dropped by the Close of Business) ..... August 6, 2010
On-line Course Adjustment Period for Continuing Students ..... August 9-13, 2010
Ramadan (1st Day) ..... August 11, 2010
Professional Development Day ..... **August 16, 2010**
College/School Meetings ..... August 17, 2010
Orientation, Advisement and Registration for New & Transfer Students ..... August 18, 2010
Advising and Registration for New, Readmitted, Special and Transfer Students ..... August 19-20, 2010
Late Registration ..... August 23-24, 2010
Classes Begin ..... **August 25, 2010**
Add/Drop ..... August 30-31, 2010
Withdrawal Deadline for 100% Refund (Tuition only) ..... August 31, 2010
Labor Day Observed (University Closed) ..... September 6, 2010
Classes Resume ..... September 7, 2010
Last Day to Apply for Fall Degree ..... **September 10, 2010**
Spring Application Deadline for International Students ..... September 15, 2010
Constitution Day ..... September 17, 2010
Yom Kippur (Begins at Sunset) ..... September 18, 2010
University Convocation ..... **September 28, 2010**
Columbus Day Observance (University Closed) ..... October 11, 2010
Classes Resume ..... October 12, 2010
Mid-term Week (Instructors will inform students of their progress) ..... **October 18-23, 2010**
C. L. R. James Faculty Honors Convocation ..... **October 28, 2010**
Continuing Students' Advisement Period for Spring ..... **November 1-12, 2010**
Last Day to Withdraw from Classes Without Academic Penalty ..... **November 10, 2010**
Veterans Day Observance (University Closed) ..... November 11, 2010
Classes Resume ..... November 12, 2010
Admissions Application Deadline for Undergraduate and Graduate Students for Spring Semester
(New, Readmitted, Transfer and Special Students) ..... November 15, 2010
Continuing Students' On-line Registration for Spring ..... **Nov 15-Dec 22, 2010**
Thanksgiving Day Observance (University Closed) ..... Nov 25-26, 2010
Classes Resume ..... November 29, 2010
Hanukkah (Begins at Sunset) ..... December 2, 2010
Last Day of Classes ..... **December 4, 2010**
Deadline for Removing Incomplete Grades For Spring and Summer (Due in the Office of the Registrar) ..... December 6, 2010
Common Exams (English) ..... December 7, 2010
Common Exams (Mathematics) ..... December 8, 2010
Final Examinations ..... **December 12-18, 2010**
Last Day to submit Grades On-line ..... December 21, 2010
Last Day for Continuing Students to pay for Spring On-line Course Registration
(Classes will be dropped by the Close of Business) ..... December 22, 2010
Christmas Recess (University Closed) ..... Dec. 24, 2010-Jan 2,2011

SPRING SEMESTER 2011

On-line Course Adjustment Period for Continuing Students ..... J anuary 3-7, 2011
Professional Development Day ..... **January 10, 2011**
College/School Meetings ..... January 11, 2011
Orientation, Advisement and Registration for New & Transfer Students ..... January 12, 2011
Advisement & Registration for New, Readmitted, Special and Transfer Students ..... January 13-14, 2011
Late Registration ..... January 18-19 2011
Classes Begin ..... **January 20, 2011**
Add/Drop ..... January 24-25, 2011
Withdrawal Deadline for 100% Refund (Tuition only) ..... January 26, 2011
Martin Luther King, Jr. Holiday Observance (University Closed) ..... January 17, 2011

Classes Resume ..... January 18, 2011
Last Day to Apply for Spring Degree ..... **January 24, 2011**
Founder's Day ..... **February 16, 2011**
Presidents Day Observed (University Closed) ..... February 21, 2011
Classes Resume ..... February 22, 2011
Ash Wednesday ..... March 9, 2011
Mid-term Week (Instructors will inform students of their progress) ..... **March 14-19, 2011**
Summer Application Deadline for International Students ..... March 15, 2011
Last Day to Submit Undergraduate Graduation Clearance Forms to Registrar ..... March 18, 2011
Spring Break (Classes Suspended) ..... **March 28-April 2, 2011**
Classes Resume ..... April 4, 2011
Last Day to Withdraw from Classes Without Academic Penalty ..... **April 1, 2011**
Deadline for Graduating Seniors to Clear Incomplete Grades for Fall Semester (Due in the Office of the Registrar) ..... April 1, 2011
Continuing Students' Advisement Period for Fall ..... **April 4-8, 2011**
Continuing Students' On-line Registration for Fall ..... April 11-May 2, 2011
Tuition Installment Plan Enrollment Period for Continuing Students ..... April 11- August 5, 2011
Deadline for Graduating Seniors to Clear Any Financial Obligations ..... April 14, 2011
Admissions Application Deadline for Summer Semester ..... April 15, 2011
Emancipation Day (University Closed) ..... **April 15, 2011**
Classes Resume ..... April 18, 2011
Final Examinations for Graduating Seniors ..... **April 18-23, 2011**
Passover (Begins at Sunset) ..... April 19, 2011
Good Friday ..... April 22, 2011
Last Day to Submit Graduation Clearance Forms for Graduate Students to the Office of the Registrar ..... April 25, 2011
Final Grades for Graduating Seniors Due On-line ..... April 26, 2011
Last Day of Classes ..... **April 30, 2011**
Common Exams (English) ..... May 2, 2011
Common Exams (Mathematics) ..... May 3, 2011
Deadline for Removing Incomplete Grades For Fall (Due in the Office of the Registrar) ..... **May 3, 2011**
Final Examinations ..... **May 4-10, 2011**
Commencement ..... **May 14, 2011**
Fall Admission Application Deadline for International Students ..... May 15, 2011
Last Day to Submit Grades Online ..... May 17, 2011
Spring Semester Ends ..... May 20, 2011

SUMMER SESSION 2011

SUMMER REGISTRATION for the First Four-Week and Eight-Week Terms (All students) ..... **May 23-25, 2011**
First Four-Week Term ..... **May 26-June 16, 2011**
Classes Begin ..... **May 26, 2011**
Late Registration/Add/Drop ..... May 26-27, 2011
Memorial Day Observance (University Closed) ..... May 30, 2011
Classes Resume ..... May 31, 2011
Withdrawal Deadline for 100% Refund (Tuition Only) ..... May 31, 2011
Last Day to Apply for Summer Degree ..... **June 3, 2011**
Last Day to Withdraw from Classes (First Four Week Term) ..... **June 6, 2011**
Admission Deadline for Fall Semester ..... June 15, 2011
Last Day of Classes (First Four Week Term) ..... **June 16, 2011**
One Day Registration (Second Four Week Term) ..... **June 17, 2011**
Final Examinations (First Four Week Term) ..... Last Class
Second Four-Week Term ..... **June 20-July 18, 2011**
Classes Begin ..... **June 20, 2011**
Late Registration/Add/Drop ..... June 20, 2011
All Grade Reports Due On-line (First Four Week Term) ..... June 20, 2011
Withdrawal Deadline for 100% Refund (Tuition Only) ..... June 22, 2011
Independence Day (University Closed) ..... July 4, 2011
Classes Resume ..... July 5, 2011
Last Day to Withdraw from Classes (Second Four Week Term) ..... **June 30, 2011**
Last Day of Classes (Second Four Week Term) ..... **July 18, 2011**
Final Examinations (Second Four Week Term) ..... Last Class
All Grade Reports Due On-line (Second Four Week Term) ..... July 20, 2011
Eight-Week Term ..... **May 26-July 18, 2011**
Classes Begin ..... **May 26, 2011**
Late Registration/Add/Drop ..... May 26-27, 2011

Withdrawal Deadline for 100% Refund (Tuition Only) ..... June 2, 2011
Last Day to Apply for Summer Degree ..... June 6, 2011
Independence Day (University Closed) ..... July 4, 2011
Classes Resume ..... July 5, 2011
Last Day to Withdraw from Classes (Eight Week Term) ..... **July 8, 2011**
Last Day of Classes (Eight Week Term) ..... **July 18, 2011**
Final Examinations (Eight Week Term) ..... Last Class
All Grade Reports Due On-line (Second Four Week Term) ..... July 20, 2011

FALL SEMESTER 2011

On-line Course Adjustment Period for Continuing Students ..... August 8-12, 2011
Professional Development Day ..... **August 16, 2011**
College/School Meetings ..... August 17, 2011
Orientation, Advisement and Registration for New & Transfer Students ..... August 18, 2011
Advising and Registration for New, Readmitted, Special and Transfer Students ..... August 19 & 22, 2011
Late Registration ..... August 23-24, 2011
Classes Begin ..... **August 29, 2011**
Add/Drop ..... Aug 31 & Sep 1, 2011
Labor Day Observed (University Closed) ..... September 5, 2011
Classes Resume ..... September 6, 2011
Withdrawal Deadline for 100% Refund (Tuition only) ..... September 6, 2011
Last Day to Apply for Fall Degree ..... **September 9, 2011**
Spring Application Deadline for International Students ..... September 15, 2011
University Convocation ..... **September 27, 2011**
Yom Kippur (Begins at Sunset) ..... October 8, 2011
Constitution Day ..... September 16, 2011
Columbus Day Observance (University Closed) ..... October 10, 2011
Classes Resume ..... October 11, 2011
Mid-term Week (Instructors will inform students of their progress) ..... **October 17-22, 2011**
C.L.R. James Faculty Honors Convocation ..... **October 27, 2011**
Continuing Students' Advisement Period for Spring ..... **November 1-10, 2011**
Last Day to Withdraw from Classes Without Academic Penalty ..... **November 10, 2011**
Admissions Application Deadline for Undergraduate and Graduate Students for Spring Semester (New, Readmitted, Transfer and Special Students) ..... November 15, 2011
Veterans Day Observance (University Closed) ..... November 11, 2011
Classes Resume ..... November 14, 2011
Continuing Students' On-line Registration for Spring ..... Nov 14-Dec 21, 2011
Thanksgiving Day Observance (University Closed) ..... November 24-25, 2011
Classes Resume ..... November 28, 2011
Deadline for Removing Incomplete Grades For Spring and Summer (Due in the Office of the Registrar) ..... **December 8, 2011**
Last Day of Classes ..... **December 10, 2011**
Common Exams (English) ..... December 12, 2011
Common Exams (Mathematics) ..... December 13, 2011
Final Examinations ..... **December 14-20, 2011**
Hanukkah (Begins at Sunset) ..... December 21, 2011
Last Day to submit Grades On-line ..... December 22, 2011
Last Day for Continuing Students to pay for Spring On-line Course Registration (Classes will be dropped by the close of Business) ..... December 21, 2011
Christmas Recess (University Closed) ..... Dec 24,2011-Jan 2,2012

HISTORY OF THE UNIVERSITY OF THE DISTRICT OF COLUMBIA

The University of the District of Columbia is, at once, old and new. The seeds of higher education for the District were planted in 1851 when Myrtilla Miner founded a "school for colored girls." In 1879, Miner Normal School became a part of the public school system. Similarly, Washington Normal School, established in 1873 as a school for white girls, was renamed Wilson Normal School in 1913. In 1929, by an act of Congress, both schools became four-year teachers colleges, Miner Teachers College and Wilson Teachers College, and the only institutions of public higher education in the city. Years later, after the long awaited Supreme Court desegregation decision, the two colleges united in 1955 to form the District of Columbia Teachers College.

However, for many residents who did not wish to become teachers or who were black and poor, the opportunity for advanced technical training or study for a liberal arts degree was an unattainable goal. Years of persistent lobbying for comprehensive public higher education by District residents and others caused President John F. Kennedy, in 1963, to appoint a commission to study the District's needs. It was no surprise that the Chase Commission found a definite and compelling need for public higher education in the District of Columbia. There was a demand for instruction that was affordable, and there was an overwhelming desire for learning that would enable residents to participate fully in the unique life of the city.

The Commission's report stimulated congressional action. Under the leadership of Senator Wayne Morse and Congressman Ancher Nelson, the Public Education Act (Public Law 89-791) was enacted in 1966. Two schools were established: Federal City College, whose Board of Higher Education was appointed by the Mayor of the District of Columbia, and Washington Technical Institute, whose Board of Vocational Education was appointed by the President of the United States. The mission of both institutions was to serve the needs of the community by directing the resources and knowledge gained through education toward the solution to urban problems.

As a sign of hope for the future, both schools proudly opened their doors in 1968. There were so many applications for admission to Federal City College that students were selected by lottery. Federal City College and the Washington Technical Institute achieved land-grant status in 1968, more than 100 years after the first Morrill Land-Grant Act was passed by Congress. Rapidly, the two schools grew in academic stature. Washington Technical Institute received accreditation in 1971; Federal City College in 1974.

Although the schools were in their infancy, thoughts turned to a comprehensive university structure. In 1969, the District of Columbia Teachers College, the city's oldest teacher training institution, was placed under the jurisdiction of the Board of Higher Education. In 1974, the Board established a joint administrative support system and placed the District of Columbia Teachers College and Federal City College under a single president.

After Congress granted limited home rule to the District of Columbia, the mandate for consolidation of the three schools was authorized by D.C. Law 1-36 in 1975. A new Board of Trustees took office in May 1976, consisting of 11 members appointed by the Mayor, three appointed from the student communities, and three appointed by the alumni associations. From that moment, the monumental task of shaping a new University of the District of Columbia began.

The Board of Trustees, acting to effect the consolidation, assigned Presidents Wendell P. Russell of Federal City College and Cleveland L. Dennard of Washington Technical Institute to work jointly in identifying, developing, and implementing tasks required to complete the effort. Beginning in February 1977, 22 task forces were formed to develop recommendations for Board action.

On August 1, 1977, the Board of Trustees announced the consolidation of the District of Columbia Teachers College, the Federal City College, and the Washington Technical Institute into the University of the District of Columbia under a single management system. On the same day, the Board appointed Lisle Carleton Carter, Jr., the first president of the University.

In 1977, under the direction of President Carter, academic components began planning for consolidation of academic programs. These efforts culminated in the establishment of five programmatic colleges — Business and Public Management; Education and Human Ecology; Liberal and Fine Arts; Life Sciences; and Physical Science, Engineering and Technology — University College, Continuing Education, and several academic units which comprised the University of the District of Columbia.

In 1994 and 1999, new academic consolidations took effect. The University currently offers over 75 undergraduate and graduate academic degree programs through the following college and schools: the **College of Arts and Sciences,** with its Division of Arts and Education, Division of Science and Mathematics, and Division of Urban Affairs, Social, and Behavioral Sciences; the **School of Business and Public Administration;** the **School of Engineering and Applied Sciences;** and the **UDC David A. Clarke School of Law,** formerly the District of Columbia School of Law, which merged with the University in 1996. Additionally, the University's public service arm, the **Division of Community Outreach and Extension Services** (COES), offers a variety of practical, nonacademic educational programs and training to the citizens of the District.

MISSION STATEMENT

The University of the District of Columbia is an urban land-grant institution of higher education with an open admissions policy. It is a comprehensive public institution offering quality, affordable postsecondary education to District of Columbia residents at the certificate, associate's, baccalaureate, and graduate levels. These programs will prepare students for immediate entry into the workforce, for the next level of education, for specialized employment opportunities, and for lifelong learning.

UNIVERSITY GOALS

1. **Student Access:** To ensure the legislative entitlement of the residents of the District of Columbia to comprehensive public post-secondary education;
2. **Student Choice:** To offer a broad variety of programs within its available resources to provide reasonable choices for post-secondary education to the residents of the District of Columbia that will lead to meaningful employment opportunities;
3. **Student Achievement:** To set high standards for student achievement and to provide quality instruction and support services to enable students to meet those standards;
4. **Land-Grant Functions:** To be innovative in carrying out the traditional land-grant functions of teaching, research, and public service to solve urban community problems and to improve the overall quality of urban living in the District of Columbia;
5. **Institutional Quality:** To ensure institutional excellence in management and leadership, academic programs, support services, instruction, research, and public service;
6. **Institutional Growth and Development:** To be responsive to new and emerging job market demands in the Washington, D.C. Metropolitan Area, and
7. **Advancement of Knowledge:** To advance knowledge at the local, national, and international levels through various innovative strategies in teaching, research, and public service as America's only public, urban, land-grant institution.

LOCATION OF THE UNIVERSITY

The main campus of the University of the District of Columbia is located at Connecticut Avenue and Van Ness Street in northwest Washington, D.C. Some UDC programs are offered at Reagan National Airport and at other off-campus sites. All University buildings are easily reached by public transportation.

The University's location in the Nation's Capital offers students access to cultural, intellectual, and political activities unequaled anywhere in the United States. The three branches of the federal government, the Library of Congress, the Smithsonian Institution, the numerous galleries, museums, halls for the performing arts, and other facilities of the Nation's Capital provide a rich setting for educational endeavors. The Washington metropolitan area features numerous parks and woodlands, and beaches and mountains are within easy commuting distance of the District. Bicycle paths, hiking and bridle paths and historic sites are found throughout the area.

Washington, D.C. offers students a rich sociocultural setting reflecting the diverse ethnic makeup of the city. Museums, radio stations, entertainment events, and community activities oriented to the multicultural community abound. Opportunities for students to participate in the life of the community are enhanced by the University's commitment to involvement in the life and needs of the city. Museums, radio stations, entertainment events, and community activities oriented to the multicultural community abound. Opportunities for students to participate in the life of the community are enhanced by the University's commitment to involvement in the life and needs of the city

ACCREDITATION

The University of the District of Columbia is accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools, 3624 Market Street, Philadelphia, PA 19104, (215) 662-5606. The Commission on Higher Education is an institutional accrediting agency recognized by the U. S. Secretary of Education and the Commission on Recognition of Postsecondary Accreditation. In 2005, the University received a 10-year unconditional reaffirmation of its accreditation from the Commission on Higher Education of the Middle States Association of Colleges and Schools.

Specialized Accrediting Bodies

- Accreditation Board for Engineering and Technology (ABET)
  111 Market Place, Suite 1050
  Baltimore, MD 21202
  (410) 347-7700
- American Bar Association
  321 N. Clark Street
  Chicago, Illinois 60610
  (800) 285-2221
- American Board of Funeral Service Education
  13 Garnet Road, #316
  P. O. Box 1305
  Brunswick, ME 04011
- American Chemical Society
  Committee on Professional Training
  1155 Sixteenth Street, N.W.
  Washington, DC 20036
- Association of Collegiate Business
  Schools and Programs (ACBSP)
  7007 College Boulevard, Suite 420
  Overland Park, KS 66211
- Council on Academic Accreditation in Audiology and Speech Language Pathology (CAA)
  10801 Rockville Pike
  Rockville, MD 20852
  (301) 897-5700
- Council on Social Work Education (CSWE)
  1600 Duke Street
  Alexandria, VA 22314-3421
  (703) 683-8080

- National Council for Accreditation of Teacher Education (NCATE)
  2010 Massachusetts Avenue, N.W., Suite 500
  Washington, DC 20036-1023
  (202) 466-7496
- National League for Nursing Accrediting Commission (NLNAC)
  61 Broadway, 33rd Floor
  New York, NY 10006
  (212) 363-5555

MEMBERSHIPS

Institutional

- American Association of State Colleges and Universities (AASCU)
- American Council on Education (ACE)
- Association for Institutional Research
- Association of Governing Boards of Universities and Colleges (AGB)
- College and University Personnel Association (CUPA)
- Consortium of Universities of the Washington Metropolitan Area
- Council on Undergraduate Research (CUR)
- Middle States Association of Colleges and Schools, Inc.
- National Association for Equal Opportunity in Higher Education (NAFEO)
- National Association of State Universities and Land-Grant Colleges (NASULGC)
- National Association of Student Financial Aid Administrators (NASFAA)
- The Greater Washington Board of Trade

Specialized

- American Assembly of Collegiate Schools of Business
- American Association of Colleges for Teacher Education (AACTE)
- American Association of Colleges of Nursing
- American Association for Higher Education
- American Mathematical Society (AMS)
- American Society for Engineering Education
- American Speech-Language-Hearing Association (ASHA)
- Association of Collegiate Business Schools and Programs
- Association of Collegiate Schools of Architecture
- Council of Academic Programs on Communication Sciences and Disorders (CAPCSD)
- Council of Colleges of Arts and Sciences (CCAS)
- Council of Colleges of Arts and Sciences in Urban Universities (CCASUU)
- Council of Graduate Programs
- Council of Graduate Schools
- Engineering Accreditation Commission
- Mathematical Association of America (MAA)
- Mid-Atlantic Consortium of Social Work Directors
- National Association for Education of Young Children
- National Association of Mathematics (NAM)
- National Institutes of Water Resources
- Society for College and University Planning (SCUP)
- Technology Accreditation Commission

ACADEMIC AFFAIRS

Eurmon Hervey, Ed.D.
Acting Provost
Building 39, Suite 301D
(202) 274-5072

The Office of Academic Affairs administers the academic programs of the University, and directs all instructional, research, and academic support components, as well as, academic technology and outreach units. This Office also scrutinizes the quality of academic programs and the inclusion of instructional technology to ensure academic growth, development and success for all students. By setting priorities and allocating resources accordingly, the Office of Academic Affairs ensures timely and adequate academic support services, resulting in the achievement of excellence in teaching and learning, scholarship and service by students, faculty and staff. Academic Affairs provides visionary and inspirational leadership to support excellence and innovation, including the advancement of effectiveness in all units in Academic Affairs.

CENTER FOR APPLIED RESEARCH AND URBAN POLICY

Deborah Lyons, Ph.D., Director
Building 52, Room 416A
(202) 274-7043

The Center for Applied Research and Urban Policy (CARUP) conducts research on problems that affect the social, economic, physical, and biological health of urban areas, with a special focus on the District of Columbia. It provides technical assistance to urban managers and policy-makers. The mission of CARUP is to serve as a bridge between the basic research of the academic community and the practical needs of District residents and institutions.

The activities of the Center include:

- Research on issues relevant to the Center's mission, funded by foundations, corporations, public agencies, and the University;
- Technical assistance to clients such as government agencies, school systems, community organizations, Advisory Neighborhood Commissions (ANCs), and nonprofit organizations;
- Training of faculty and students in proposal writing and research techniques;
- Dissemination of the results of the Center's work for educational and informational purposes.

The Center has a significant number of funded research and technical assistance projects; a growing number of information dissemination activities; publications; sponsorship of a variety of conferences and seminars; faculty, staff and student participation at the Center; involvement of Center personnel in the professional activities; and a body of positive media coverage on Center activities.

DIVISION OF LEARNING RESOURCES

Albert J. Casciero, M.A., Dean
Building 41, Room 201D
(202) 274-6370

The University maintains library and media facilities as one of its major academic support services. The collections consist of more than 575,000 books and more than 700,000 items, including microforms and media materials. Over 670 periodicals are received. The collection is housed in modern facilities with reading rooms, open stacks, and individual study carrels. The Division is a member of the Washington Research Library Consortium. The Consortium libraries provide students, faculty, and staff the opportunity to borrow materials from libraries of eight Consortium universities. Interlibrary loan arrangements are maintained with libraries throughout the United States.

Students and faculty have access to several services including reference assistance, use of multimedia and computer laboratories, computers for the visually impaired, individual study rooms, a 125 seat auditorium equipped with video display and sound amplification, and local as well as remote access to *ALADIN*, our online public access catalog, which also provides a gateway to the World Wide Web. LRD online services can be reached at **www.lrdudc.wrlc.org**. The effective use of the University's resources is encouraged through the provision of bibliographic instruction and special classes. The Division of Learning Resources regularly conducts orientation sessions. A reserve collection is maintained for required reading. Also, reader printers for microforms and self-service copiers are available. The hours for using the University's Learning Resources Division facilities are posted in convenient locations on the campus and on the Division's website. A valid University I.D. is required for students to borrow materials.

OFFICE OF INSTITUTIONAL RESEARCH, ASSESSMENT AND PLANNING

Building 52, Suite 506-E
(202) 274-7164

The Office of Institutional Research, Assessment and Planning enhances institutional effectiveness by providing information that supports academic planning and strengthens assessment and decision making processes for the University administration. This includes providing information to support internal and external requests for information and research regarding the University, including demographic and educational matters.

OFFICE OF SPONSORED RESEARCH AND PROGRAMS

Building 39, Room 301-H
(202) 274-5599

The mission and goal of the Office of Sponsored Research and Programs (OSRP) is to assist the University to build and sustain an infrastructure that encourages greater participation of faculty, staff and students in sponsored research and programs. Research is one of the three mandated missions of the Urban Land Grant University. The University is committed to a broad program of research, basic and applied, and creative work, which will stimulate both faculty and students in their pursuit of knowledge and applying such knowledge to help resolve the problems and challenges that confront society. This includes the following:

- The involvement of a significant proportion of faculty and staff in sponsored and elective research activities.
- Expanded opportunities for its graduate and undergraduate students to participate in scholarly activities and research with faculty mentors.
- An increased number of publications in refereed journals.
- Establishment of a working Research Council that is responsible for reviewing matters related to research.
- Establishment of the required Research Committees, Policies and Procedures in compliance with federal, state and University regulations.
- Helping build nationally reputable and competitive academic departments, colleges, centers and institutes.

OSRP, established as part of the Office of Academic Affairs, works towards fulfilling the research vision and mission of the University. OSRP routinely identifies research opportunities and resources and distributes them to interested faculty and staff. It represents the University at meetings of professional organizations concerned with university research enhancement. It holds seminars and workshops related to improving the enterprise of research at the University. It maintains 'in good standing' the required University Research Committees. It also assists the Provost and Vice President for Academic Affairs with intramural research applications and grants.

TITLE III OFFICE

Ernesta Williams, Ed.D., Title III Officer
Building 39, Room 301-U
(202) 274-5718

The Title III Office is responsible for administering federal funds provided by the U.S. Department of Education for strengthening developing institutions in the improvement of academic programs, institutional management, fiscal stability, and student achievement.

OFFICE OF RECRUITMENT AND ADMISSIONS

Building 39, Room A-12
(202) 274-6110

Undergraduate Admissions Application Procedures

The Office of Admission is responsible for the timely and orderly processing of admission/re-admission applications for new, transfer, and returning students. Specifically, the Office disseminates appropriate admission-related materials to potential applicants; accepts and processes applications for new, transfer, and returning students; creates applicant folders for all new students; evaluates transcripts and certifies advanced standing for eligible students; responds to related questions; retrieves and distributes mail and other documents that affect the status of applications; interfaces with academic departments to evaluate academic transcripts; and communicates with individuals regarding the status of their applications, documents, and other pertinent information.

Most new students are admitted to the University of the District of Columbia for the fall and spring semesters, although some students may apply for admission during the summer term (See academic calendar for the exact dates). Secondary school students may apply for admission to the University any time following the completion of their junior year of high school.

Application forms and procedures, University rules and regulations, and additional information describing programs offered by the University can be obtained by writing or visiting the Office of Recruitment and Admissions, 4200 Connecticut Avenue, N.W., Washington, D.C. 20008, Building 39, Room A-12 or by visiting our website at www.udc.edu. The telephone number is (202) 274-6333.

Requirements for Admission

Applicants who have graduated from an approved secondary school or who hold a valid General Education Development (GED) Certificate are eligible for admission to the University. Certificates of Completion and Certificates of Attendance are not acceptable credentials for admission to the University.

Home Schooled Applicants

In order to meet the admission requirement of the University of the District of Columbia, Home Schooled Students are required to submit passing scores on the General Education Development Test (GED).

Application Procedure for Admission

The University of the District of Columbia maintains an open admissions policy. Students who have graduated, or will soon graduate, from an approved secondary school or who possess a valid General Education Development (GED) certificate and who have not previously enrolled in any postsecondary institution apply as freshmen. Students who have been enrolled previously in another postsecondary institution apply as transfer applicants. Students not pursuing a degree at the University or who have received a degree from another accredited institution may apply as special students. Applicants who complete the application process by the deadline will receive written notification of their admission status from the Office of Recruitment and Admissions.

The application form for admission, non-refundable application fee, official transcripts, and all other required documents must be submitted by the application deadline for the semester in which the applicant wishes to enroll.

Freshman Applicants

A freshman applicant must submit the application for admission, the non-refundable application fee and an official transcript of all high school coursework and grades. The transcript must reflect the date of graduation and must be mailed directly to the Office of Recruitment and Admissions by the applicant's secondary school. The application is not complete until all documents are received.

The student will be informed regarding the status of the application within 8 business days after all documents have been received. A freshman applicant may be eligible for admission prior to actual graduation from a Washington, D.C. high school on a provisional basis. Such provisional status will be updated by the Office of Recruitment and Admissions upon receipt of the student's complete and official high school transcript that reflects the date of graduation and the school's seal.

Transfer Applicants

Transfer applicants must submit the Application for Admission, the non-refundable application fee, and official copies of academic transcripts from all previously attended postsecondary institutions. Transcripts must be sent directly to the Office of Recruitment and Admissions by the previous college or university.

All transfer credits are evaluated by a Transfer Student Counselor in the Office of Recruitment and Admission. Credits earned for college level courses from an accredited institution with a grade of "C" or higher, or a "B" or higher for graduate students may be eligible for transfer credit, however, the University does not recognize or give credit for either a plus or a minus (i.e. B+, C-). Academic departments reserve the right to determine those credits that will be used to satisfy degree requirements. Students are encouraged to meet with academic advisors, each semester, to ensure that degree requirements are being met. At the time of application, transfer students must list all institutions attended. Failure to do so may result in the denial of transfer credit.

Transfer applicants applying for financial aid must submit a financial aid transcript to the University's Financial Aid Office from each former postsecondary institution.

College Level Examination Program (C.L.E.P.)

Examinations designed to provide the student with an opportunity to earn credit by examination. The University of the District of Columbia awards course credits to eligible students for acceptable scores (as reflected on the Grade Report), made on the College Level Examination Programs of the Educational Testing Service ***prior*** to admission to the University. After enrolling in the University, a student cannot use this credit by examination option unless prior authorization has been given by the chairperson of the department offering the course that credit is to be awarded.

College Board Advanced Placement (AP)

Students may receive credit for scores on the Advanced Placement Standardized tests for AP courses while taken in high school. The University will only consider grades received at levels 3, 4 and 5, and will only do so within the first two semesters of enrollment at the University. Further, academic departments reserve the right to determine the acceptable grade for courses offered in their departments.

International Applicants

An international student applies to the University of the District of Columbia by submitting the completed application form with the non-refundable application fee, supporting educational documents, and an Affidavit of Financial Support. Applications for the Fall Semester are due in the Office of Admission by May 15; applications for the Spring Semester are due by September 15. Applications for Summer Sessions are due March 15. All supporting documentation is due no later than 15 days after the admission deadline. Residents of the United States, including foreign citizens with immigrant (resident) visas, foreign citizens with G-4 visas, and undocumented aliens, are not considered international students and should apply as regular freshmen or transfer students.

Foreign students with non-immigrant visas are admitted as international students. International applicants **must** pursue a degree and are not eligible for non-degree student status.

The admission status of students who have not attended another postsecondary institution is based on School-leaving Certificates or external national examinations used in the particular country as a terminal secondary certificate.

For students who have completed high school only, an original transcript and diploma (School Leaving Certificate) showing all grades (marks), and the date of graduation must be received by the University of the District of Columbia in the form of a **document-by-document** evaluation from World Education Services (WES). No hand delivered originals or copies will be accepted. Documents must be translated if in a language other than English.

For students who have attended University, the academic transcript must be evaluated by WES (see below). Results of the evaluation must be in a **course-by-course** format and mailed directly from the WES to the University of the District of Columbia. Additionally, if the period of attendance at the University was less than one year, high school documents, as indicated above, must be submitted along with the Application for Admission.

> WES (World Education Services)
> ***www.wes.org*** (Please visit the WES website for application and instructions for specific requirements by country.)

Students who have previously had a transcript evaluation completed by a member organization of the National Association of Credential Evaluation Services (NACES) (www.naces.org), prior to applying to the University of the District of Columbia, may request that an evaluation be sent directly to the Office of Recruitment and Admissions, University of the District of Columbia, 4200 Connecticut Avenue, NW, Washington, DC 20008. Hand delivered copies will not be accepted.

Students who do not hold a School-leaving Certificate of a level equivalent to a high school diploma in the United States must take the GED examination or graduate from an accredited high school in the United States.

International students whose native language is one other than English must take the Test of English as a Foreign Language (TOEFL), www.TOEFL.org. This requirement will be waived upon the submission of an official college transcript evidencing the successful completion of two college-level English courses at an accredited American college or university.

Non-degree Applicants (Special Undergraduate)

A person presently enrolled and pursuing a degree at another accredited undergraduate postsecondary institution who wishes to attend UDC should apply as a non-degree student. A non-degree student applies by submitting the Application for Undergraduate Admission and paying the non-refundable application fee by the deadline for the term for which he or she is seeking admission. The UDC Office of Recruitment and Admissions must receive a letter of good academic standing by the application deadline. The letter must be sent by the institution where the applicant is enrolled. The Office of Admissions will not accept a letter of permission to attend UDC in lieu of a letter of good academic standing.

Persons who are interested in taking courses only, and who have earned degrees should apply as non-degree students. A copy of the official transcript or copy of the degree may be submitted.

Readmission

Students who have not registered for classes for two consecutive semesters (excluding summer sessions) and students suspended for academic reasons will be required to apply for readmission to the University. Applications for readmission along with a non-refundable readmission fee must be received in the Office of Recruitment and Admissions by the application deadline for the term for which the student is seeking admission. Admissions Representatives will review applications, consider academic records, and grant readmission in accordance with the policies of the University.

Evaluating and Recording Transfer Credit

All transfer credits are evaluated by a Transfer Student Counselor in the Office of Recruitment and Admission at the time of admission. Transfer credit consideration will be given for course work in which the applicant received a grade of "C" or higher, or a "B" or better for graduate students, however, the University does not recognize or give credit for either a plus or a minus (i.e., B+, C-). Academic departments reserve the right to determine those credits that will be used to satisfy degree requirements. The transfer student's grade point average will reflect courses taken at UDC only. Transfer credit may also be awarded for such formal course work completed in the armed services, government agencies, and private corporations as identified and evaluated by the Office of Educational Credit of the American Council on Education (ACE). The University of the District of Columbia also awards credit for successful completion of general and subject examinations of the College Level Examination Program (CLEP).

College Level Examination Program (C.L.E.P.)

Examinations designed to provide the student with an opportunity to earn credit by examination. The University of the District of Columbia awards course credits to eligible students for acceptable scores (as reflected on the Grade Report), made on the College Level Examination Programs of the Educational Testing Service prior to Admission to the University. After enrolling in the University, a student cannot use this credit by examination option unless prior authorization has been given by the chairperson of the department offering the course that credit is to be awarded.

College Board Advanced Placement (AP)

Students may receive credit for scores on the Advance Placement Standardized tests for AP courses while taken in high school. The University will only consider grades received at the 3, 4 & 5 levels, and will only do so within the first two semesters of enrollment at the University. Further, academic departments reserve the right to determine the acceptable grade for courses offered in their departments.

Certificate Applicants

The admission requirements for an applicant seeking admission to a certificate program are:

- An official high school transcript reflecting the date of graduation, GED Certificate, or one official transcript sent from each postsecondary institution attended as appropriate; and official transcript from each postsecondary institution attended as appropriate, and
- A 100-word essay indicating the reason you chose your particular program.

GRADUATE ADMISSIONS APPLICATION PROCEDURES

Degree Applicants

A degree applicant is one seeking admission to a specific graduate degree program. The requirements for admission are:

- Two official transcripts from each collegiate institution attended;
- Two letters of recommendation;
- Entrance test score(s); and
- A 500-word typed essay indicating the reason you chose your particular program.

Admission packet requirements:

1. Obtain an application packet from the Office of Admission, University of the District of Columbia, 4200 Connecticut Avenue, N.W., Washington, DC 20008. Return the application with the non-refundable application fee (money order or certified check) and all other required documents as indicated on the application. Former graduate students may apply for readmission by completing and returning an application with the non-refundable application fee.
2. Submit transcripts for all undergraduate and graduate studies. Official transcripts (i.e., a transcript bearing the seal of an authorized University official) in sealed envelopes issued by the University Registrar, must be submitted along with the application and other supporting materials. International students with degrees awarded outside the United States must submit detailed reports of courses taken and grades received to World Education Services (www.wes.org).

3. Degree seeking applicants must have appropriate test results sent. Test scores, whether entrance tests or TOEFL (Test of English as a Foreign Language), are to be mailed directly to the University by the Educational Testing Service (ETS). Applicants are required to take the appropriate standardized test specified by the appropriate program of study. The following standardized tests are required: MBA - Graduate Management Admission Test (GMAT); MPA - Graduate Management Admissions Test (GMAT); other degree programs - Graduate Record Examination (GRE).
4. Meet any additional departmental requirements, such as a specific grade point average in former academic work, interview, written essay or prescribed examinations.

Admission will be based on the applicant's general preparation for advanced study and specific training in the field of concentration. No action will be taken on an application until all required documents are on file in the Office of Recruitment and Admissions.

Non-degree Applicants (Unlimited Enrollment)

A non-degree applicant is one seeking admission to the University to take graduate courses but who is not seeking a degree from a graduate program of study. Admission will be based on the applicant's preparation for advanced study and specific training in a selected field of concentration. Applicants with F-1 or J-1 visas are not eligible to apply for non-degree status. However, students who have graduated from the University within the past academic year and who have filed a degree application and are awaiting acceptance to a graduate degree program may be accepted upon completion of a non-degree application. Non-degree applicants who wish to study at the graduate level are required to submit proof of completion of undergraduate degree. Inquiries should be directed to the Office of Recruitment and Admissions. A maximum of nine hours taken as a graduate Non-degree student may be applied to a graduate degree program.

Readmitted Applicants

A former graduate student seeking readmission to a degree, non-degree, or certificate program must submit an admission application, two official transcripts from each postsecondary institution attended since last enrolled at the University, and pay the non-refundable readmission fee.

Graduate Transfer Credit

Up to nine semester hours earned at another institution may be applied to a master's degree. For transfer credit, individual courses: (1) must have been completed with a grade of "B" or better; (2) must have been completed within five years of the beginning of the semester for which the student is admitted to a degree program, and (3) must not have been a part of a program for which a degree has been awarded.

Graduate Writing Proficiency Requirement

Demonstrated proficiency in writing is required of all graduate students. With the exception of MBA and MPA applicants, all other students applying for admission to graduate programs must take the Graduate Record Examination (GRE) Analytical Writing Subtest as a requirement of admission. The minimal acceptable score is a 4.0. Students applying for admission to the MBA and MPA programs must take the Graduate Management Admission Test (GMAT), and earn a minimum score of 3.0 on the Analytical Writing Assessment subtest of the GMAT. Students failing to meet the respective criterion score may be admitted conditionally. If admitted conditionally, a student must enroll in and pass (with a grade of B or better) the University's graduate writing proficiency course 1133-290 during their first semester of enrollment.

Closing Dates for Graduate Admission

Applicants for graduate admission must have complete applications (all documents) on file no later than June 15 for the Fall Semester, November 15 for the Spring Semester, and April 15 for the Summer Session.

Application forms, admission procedures, University rules, and additional information describing programs offered by the University can be obtained from the University's web site at www.udc.edu or by writing to or visiting the Office of Recruitment and Admissions, 4200 Connecticut Avenue, N.W., Washington, D.C. 20008, Building 39, Room A-12. The telephone number is (202) 274-6110.

Applicants who complete the application process by the deadline will receive written notification of their application status.

Failure to adhere to the deadline may delay acceptance until the following semester.

Document Retention

All documents submitted in support of applications become a part of the permanent records of the University and are not returnable or transferable. Documents submitted by applicants who do not enroll for course work will be purged after one academic year.

Enrollment in Undergraduate Courses

A graduate student enrolled at the University may enroll in undergraduate courses to satisfy special needs or prerequisite requirements. However, credits earned in undergraduate courses do not apply toward a graduate degree. Additionally, regardless of the level of the course, graduate students are required to pay graduate fees.

International Graduate Student Admission Procedures

The University is approved by the Department of Homeland Security, U.S. Department of Justice, to accept international students. All international students who are not on an immigrant or a refugee visa are considered non-residents for tuition purposes and must pay non-resident tuition.

Selection of international applicants for graduate studies is based on the applicant's undergraduate record, results of the appropriate standardize tests, and letters of recommendation. Individual departments may require pre-admission examinations before granting admission. Applicants should check the requirements of the department in which they wish to study.

Applicants with F-1 or J-1 visas are not eligible to apply for non-degree status. The Application for Graduate Admission, required test scores, affidavits of support, and other supportive documents must be received by the Office of Recruitment and Admissions no later than May 15 for Fall Semester admission, September 15 for Spring Semester admission, and March 15 for Summer Session. All documents become the property of the University and are not returnable. Therefore, students are advised not to submit original certificates but to submit certified copies of documents.

In addition to the required documents listed under "Graduate Admission Application Procedures," international applicants must provide evidence of English language proficiency. English proficiency can be demonstrated by the applicant by any one of the following criteria:

A minimum score on the Test of English as a Foreign Language (TOEFL) - 1) Paper and Pencil Test - 550; 2) Computer-Based Test - 213; Internet-Based Test - 79; degree earned in an accredited American college or university; or one year completed in academic good standing in an accredited American postsecondary institution.

DISTRICT OF COLUMBIA RESIDENCY

The Board of Trustees of the University of the District of Columbia hereby gives notice that at its meeting held June 16, 1998, the Board took final rulemaking action to amend Section 722 of the University Rules (8DCMR) as follows. The Notice of Proposed Rulemaking was published in the D.C. Register on May 8, 1998, at 45 DCR 2864. This amendment will be effective upon publication of this notice in the D.C. Register.

722 Preferential Tuition for District of Columbia Residents as amended Title

723 8DCMR, Chapter 7, 722, as follows:

722.2 Any applicant for the preferential tuition established under Section (722) shall be presumed to be a bona fide resident of the District of Columbia if the Applicant has been, for the year prior to the date of the application for preferential tuition:

(a) Domiciled in the District of Columbia and either paid District of Columbia income taxes or received public assistance from a District of Columbia government agency; or

(b) Claimed as a dependent on District of Columbia resident tax returns filed by a parent or spouse of the applicant domiciled in the District of Columbia; or

(c) Graduated from a D.C. Public High School within the year before enrollment and was classified as a resident of the District of Columbia by the D.C. Public Schools.

722.3 Any applicant for the preferential tuition established under this Section (722) who is not presumed to be a bona fide resident of the District of Columbia by the District of Columbia shall be required to establish by a preponderance of the evidence to the President or his or her designee that the applicant:

(a) Was a bona fide resident of the District of Columbia for one year prior to the applicant's request for preferential tuition; and

(b) Remains a bona fide resident of the District of Columbia.

For purposes of this subsection, a "preponderance" of the evidence is the degree of relevant evidence, considering all of the available information, sufficient to find that the claim of residency is more probably true than untrue.

722.4 In determining whether an applicant for preferential tuition under this section is in fact a bona fide resident of the District of Columbia, the following factors shall be taken into consideration:

(a) Whether the applicant has lived in the District of Columbia, as evidenced by lease or mortgage agreements;

(b) Where the applicant's driver's license, if any, was issued;

(c) Where the applicant's motor vehicle, if any, is registered;

(d) Where the applicant is registered to vote; What address the applicant has used over the past several years for purposes of filing federal income tax returns, if any; and

(e) Any other factors deemed appropriate by the President.

722.5 A matriculating student classified as a non-resident and whose domicile has changed may request reclassification as a bona fide resident. However, residence in the District of Columbia primarily to attend college does not establish domicile and eligibility for the preferential tuition described in this section.

Students who are *bona fide* residents of the District of Columbia are entitled to reduced tuition at the University. No student shall be eligible for classification as a resident unless he or she is domiciled in the District of Columbia (the "District") and has resided in the District continuously for not less than one (1) year immediately preceding the first day of classes of the term for which classification is sought.

A student shall not be considered to be domiciled in the District unless he or she is in continuous physical residence in the District and intends to make the District his or her permanent home, while in attendance at the University and indefinitely thereafter, and has no intent to be domiciled elsewhere.

Residency Classification

For purposes of classification as a resident student at the time of enrollment, if any of the following apply, the applicant shall be deemed a resident student:

He or she is living with, and has lived with for at least the preceding year, a spouse, parent, or legal guardian who is a *bona fide* resident of the District of Columbia; or

1. He or she is a legal adult (18 or older) and has been a *bona fide* resident of the District of Columbia for at least one year; or
2. He or she (or spouse, parent or legal guardian) is an active duty member of the U.S. Armed Forces, Selective Reserve, National Guard; or
3. He or she has lived in the District of Columbia for the past 12 months, and intends to make the District of Columbia his/her permanent home not only while attending the University, but indefinitely thereafter, and has no intent to be domiciled elsewhere.

Residency Factors

The University will consider a number of factors when determining whether a student or applicant is eligible for resident student status. The following facts and circumstances, although not necessarily conclusive, shall have probative value in support of a claim for classification as a District resident. The existence of at least three of these factors shall create a presumption of residency:

(a) Continuous presence in the District during periods when not enrolled as a student;
(b) Reliance upon District sources for financial support;
(c) Domicile in the District of the student's family, guardian, or other relatives or persons legally responsible for the student;
(d) Former domicile in the District and maintenance of significant connections to the District while absent;
(e) Ownership of a home in the District;
(f) Admission to a licensed practicing profession in the District;
(g) Long-term military commitment in the District;
(h) Acceptance of an offer of permanent employment in the District.

Other factors in addition to the factors listed above indicating an intent by a student to make the District his or her domicile shall be considered by the University in classifying a student.

The following circumstances standing alone shall **not** constitute sufficient evidence of domicile to effect classification of a student as a resident unless they exist in conjunction with one (1) or more of the requirements listed below:

(a) Voting or registration for voting;
(b) Employment in any position normally filled by a student;
(c) The lease of living quarters;
(d) A statement of intention to acquire a domicile in the District;
(e) Domicile in the District of the student's spouse;
(f) Automobile registration or driver's license; or
(g) Other public records, such as birth or marriage records.

Individuals serving in the military on active duty, active reserve, or in the National Guard and stationed within the metropolitan Washington, D. C. area are eligible to enroll at the University at resident tuition rates, provided they have earned a high school diploma or equivalent. Dependents of these persons serving in one of the above categories are also entitled to the same benefits.

Pursuant to University of the District of Columbia (Provisional Edition), D.C. Office of Documents and Administrative Issuances – District of Columbia Municipal Regulations (DCMR) 1988, page 7-9, Section 720 International Student Status Determination, 720.4 states:

The following aliens, whose purpose for coming to the United States is of a temporary nature, shall have non-domiciliary student status:

(a) Persons with (F) visas;
(b) Persons with diplomatic (A) visas;
(c) Foreign organization employees with (G) visas; and
(d) Persons having other non-immigrant visas.

Therefore, according to this regulation, individuals holding visas, as reflected above, are assessed out-of-state tuition at the University of the District of Columbia.

Change of Residency

A student who moves from the District and establishes residency elsewhere loses status as a resident student at the end of the semester or term during which the student changes residency. Students are required to report all changes in residency to the Office of the Registrar.

Appeal of Adverse Residency Classification

A new student may appeal classification as a non-resident student by filing a written appeal with the Office of Admission. Continuing students who have applied for and been denied status as resident students or who have been reclassified as non-resident students may file a written appeal with the Office of the Registrar.

A student may appeal his or her classification as a non-resident student in accordance with the following provisions. Within seven (7) days of notification of the adverse classification, the student shall file an appeal with the Registrar. The Registrar shall issue a decision, which shall include the reasons for the decision, not later than 15 days after receipt of the appeal, excluding University holidays. A student may appeal an adverse decision by the Registrar to the Vice President for Academic Affairs. The appeal shall be filed with the Vice President for Academic Affairs within seven (7) days after notification of the Registrar's decision. The Vice President for Academic Affairs shall issue a decision on the appeal within 30 days after receipt of the appeal. A student may appeal an adverse decision by the Vice President for Academic Affairs to the President. The appeal shall be filed with the President within seven (7) days after notification of the decision of the Vice President for Academic Affairs. The President shall issue a decision within (30) days after receipt of the appeal. The decision of the President shall be the final administrative decision of the University. During the tendency of the appeal process, the student shall be assessed the non-resident tuition rate.

If, pursuant to the appeal process set forth in this section, the student is determined to be a resident student, the official making that determination shall direct that a refund be issued to the student. In order to be considered a resident, a student must have resided in the District of Columbia continuously for at least one year immediately preceding the first day of classes for the semester or term for which resident classification is claimed. Further, resident students must maintain their status as residents of the District of Columbia in order to retain resident student status.

Falsification of Residency

The burden of proof of residency is on the student. Submitting false documentation of residency or failure to inform the University of a change of residency that would render the student ineligible for resident student status is grounds for dismissal from the University and may result in the withholding of a degree. In addition, the student will be required to make financial restitution to the University for the difference between resident and non-resident tuition.

TUITION AND FEES

Undergraduate tuition for residents of the District of Columbia is $105 per semester hour of credit. Undergraduate tuition for non-residents, including international students is $215 per semester hour of credit.

Graduate tuition for residents is $225 per semester hour of credit. Graduate tuition for non-residents, including international students, is $350 per semester hour of credit.

Tuition rates and fees may be increased or modified by the Board of Trustees without personal notification to students or applicants.

METHODS OF PAYMENT

Tuition and fees are due and payable at the time of registration. If tuition and fees are not paid by the close of business the day of registration, courses will be dropped.

1. Acceptable forms of payment include: Cash, certified check, money order, personal checks (provided you have not previously presented an uncollectible check to the University and you have a valid picture identification for the maker of the check) or credit cards (MasterCard, Visa or Discover).
2. Deferred payments are available for the following students:
    a. Students who have training forms or agreements from a sponsor, organization or employer requesting deferred billing from the University (i.e., Agency Billing).
    b. Students who have applied for financial aid and have estimated award amounts posted to their student record. Students registering with estimated financial aid awards will be responsible for the outstanding balances on their accounts if awards are later adjusted and or denied.
3. Tuition may be remitted for all full-time employees of the University, their spouses and dependent children. Contact the Office of Human Resources for details and applicable forms.
4. Students may make monthly installment payments. Tuition Management Systems (TMS) is contracted by the University to assist students with financial need. Please note the following terms:
    a. New students who wish to enroll in the TMS Installment Program must enroll during official registration period(s).
    b. Continuing students who wish to enroll in the TMS Installment Plan can enroll during continuing student registration period(s).
    c. The first payment of the TMS Installment Plan includes: 1/3 of tuition; all mandatory and specialized fees; and a $35.00 TMS enrollment fee.

Note: The University does not offer the TMS Installment Plan during the summer term(s).

Failure to pay the entire amount of the installment agreement when due shall result in the following:

1. The University shall withhold the release of grades or credits and deny the student permission to register for subsequent sessions and all other student privileges;
2. The student shall forfeit all rights to participate in the Tuition Installment Plan in any future term, even if the student's bar is removed; and
3. Accounts not paid by end of term will be sent to a third party collection agency. The student will be subject liability for all associated collection costs.

Other Payment Information:

- Retain all receipts as confirmation of payments.
- Personal checks for payment of prior balances will be accepted; however, there is a 5-day delay for further services until the check has cleared the bank for payment.
- Classes will be dropped immediately upon notification from the bank of all stopped check payments and closed accounts. The University will not notify you of this action.
- Student accounts with an outstanding balance will be sent to a third party collection agency. The student will be subject liability for all associated collection costs.
- Student bars will be removed when the student's account is satisfied of all outstanding indebtedness.

Auditing

Tuition for auditors (students enrolled in courses on a non-credit basis) is the same as tuition for regular students.

Fees

The following schedule identifies various fees for services provided to students which are:

A separate laboratory fee of $50.00 shall be charged for each laboratory course.

Activity Fee $35.00
(per semester, including summer)

Application Fee
(paid once upon initial application)

Undergraduate $75.00

Graduate $75.00

F1 VISAS $100.00

Readmission .....$ 20.00

Late Application Fee $100.00
(In addition to Application Fee)

Tuition Management System (TMS) Enrollment Fee $35.00

Athletic Fee $105.00
(per semester, including summer)

Change of Course Fee $10.00
(add/drop - each course)

Credit by Special Examination $50.00
(per credit hour + associated tuition charges)

Duplicate I.D. Card Fee.....$15.00

Graduation Fee

Undergraduate $50.00

Graduate $65.00

Enrollment Fee, Domestic Students $100.00

Enrollment Fee, International Students.....$100.00

Health Services Fee $25.00
(per semester, including summer)

Late Application for Tuition Installment Plan $20.00

Late Registration Fee.....$50.00

New Student Orientation Fee $15.00

Returned Check Fee.....$35.00

Student Center Fee $95.00
(Per semester, including summer)

Student Health Insurance *.....$175.00

Technology Fee $50.00
(Per semester, including summer)

Transfer Student Fee.....$125.00

Transcript (First One) ..... FREE

Each Transcript After First One.....$5.00

Withdrawal Fee (per course) $7.00

(Student health insurance rates are subject to change.)*

The ***Activity Fee*** of $35 is charged to each student every academic term, including summer. The Activity Fee is used by the Undergraduate and Graduate Student Government associations for providing services to students, organizing social and cultural activities, and publishing the student newspaper and publications.

The ***Athletic Fee*** of $105 is charged to each student every academic term, including summer. The Athletic Fee helps to defray the costs of intercollegiate athletic activities. Admission to all UDC athletic events and other activities is open to UDC students upon presentation of the valid student identification card.

Tuition Management System Enrollment Fee is charged to each student that applies for the University's tuition installment plan.

The Change of Course Fee is charged for each add/drop transaction during the late registration period at the beginning of each academic term. For example, if following the student's initial registration, the student elects to add another course which conflicts with a course on the schedule, adds the new course and drops or changes sections on the other course, the student's account will be charged $10 for each course that is added to the schedule or dropped from the schedule, in addition to the increase in tuition charges, if any.

Comprehensive Laboratory Fee of $50 is charged whenever a student registers for a class with a laboratory. It is charged once each semester for each laboratory class. Laboratory classes and fees are indicated in the official class schedule.

The ***Credit by Special Examination Fee*** is charged to any student seeking examinations in lieu of enrollment in specific courses. Once the student receives per-mission to be examined, a fee of $50 per credit hour, plus the tuition, is charged. The examination cannot be administered prior to payment of the fee and tuition.

The ***Duplicate I.D. Card Fee*** of $15 is charged when a replacement I.D. card is requested. The initial I.D. card is issued without charge when a new student registers at the University.

The ***Graduation Fee*** of $50 (undergraduate); $65 (graduate) is assessed when the student files the Application for Graduation in the final semester of study. This fee covers expenses associated with commencement activities.

The ***Health Services Fee*** of $25 is charged each student every academic term, including summer. The Health Services Fee helps to defray the cost of the University Health Services.

The ***Late Registration Fee*** of $50 is added to the student's charges for tuition and fees whenever a registration takes place after the prescribed registration dates.

The ***Returned Check Fee*** of $35 is assessed to the student upon return of a check unpaid by the bank. This fee covers the expense of processing the check.

Student Health Insurance is required of all students. Students unable to show proof of coverage from other sources must purchase a policy through the University. Student health insurance rates are subject to change.

The ***Technology Fee*** of $50 is charged to each student every academic term, including summer. The technology fee is used to subsidize the cost of maintaining technology at the University.

The ***Transcript Fee*** is charged for the issuance of a copy of the student academic record. The first transcript requested is free. A fee of $5.00 is charged for each additional transcript.

The ***Withdrawal Fee*** of $7.00 per course is assessed on all students who withdraw from the University.

Senior Citizens

Tuition and fees normally required for students admitted to the University will be waived for qualifying senior citizens (D.C. residents 65 years of age or older), except in cases where the applicant matriculates in a degree program. Matriculating senior citizens shall pay one-half the amount established for students within their category unless otherwise deferred or waived by specific Board of Trustees authority. Qualifying senior citizens should contact the UDC Institute of Gerontology at (202) 274-6616 for additional information.

Refund Policy

Students who withdraw during the regular academic year from one or more classes, resulting in a reduction of the tuition charged, and students withdrawing from the University are entitled to a refund of tuition according to the following schedule:

Spring/Fall Terms

Withdrawal during Week 1 .....100%
Withdrawal during Week 2 .....80%
Withdrawal during Week 3 .....60%
Withdrawal during Week 4 .....40%
Withdrawal during Week 5 .....20%
No refund after Week 5

Summer Terms

Eight-Week Session

Withdrawal before classes begin through Week 1 .....100%
Withdrawal during Week 2 .....60%
Withdrawal during Week 3 .....20%
No refund after Week 3

First Four-Week Session

Withdrawal before classes begin thru 3rd day.....100%
Withdrawal during 4th thru 6th day.....60%
Withdrawal during 7th or 8th day 20%
No refund after 8th day

Second Four-Week Session

Withdrawals before classes begin thru 3rd day 100%
Withdrawal during 4th thru 6th day.....60%
Withdrawal during 7th or 8th day 20%
No refund after 8th day

**Refunds apply to Tuition only. Student Fees are Non-Refundable.*

All applications for refunds based on withdrawal from the University must be made in the Student Accounts Office. Building 39 – Room A09A – (202) 274-5168

Financial Aid Refund Checks

Financial Aid refunds will be mailed approximately six (6) weeks after classes start. Refund checks are mailed to the student's official address on file in the Office of the Registrar. Checks returned to the University due to an incorrect address will be available in the Cashier's Office (Bldg. 39, Rm. 201), (202) 274-5112.

Remitted Tuition

The University will provide full remitted tuition to all full-time permanent employees, their spouses, and dependent children who wish to enroll in courses at the University. However, such individuals are subject to University regulations, including admission, registration, and academic standing, and must pay all fees previously listed.

OFFICE OF FINANCIAL AID

Willis Parker, Acting Director
Building 39, Room 101
(202) 274-5060

The Office of Financial Aid disseminates information and assistance on financial aid resources to students. The office responds to financial aid inquiries, advises applicants on financial aid matters, and awards funds to eligible students in accordance with federal, state, and District regulations.

All students are strongly encouraged to apply for financial aid.

What is Financial Aid?

Financial aid is any fiscal resource which reduces or eliminates the cost of attending the University. The resources include grants, loans, scholarships, or Federal Work – Study. A grant is a financial award which does not have to be repaid. A loan is a financial award which must be repaid upon graduation or after a student has ceased attending the University on an at least half-time basis (6 credits). Federal Work - Study is a financial award which requires a student to work in order to receive work study funds.

Is There a Financial Aid Package for You?

Financial aid awards may consist of one or more types of aid programs based on your overall eligibility status.

If your award includes two or more forms of financial aid, you have been awarded a "financial aid package" to meet your educational expenses. The amount of aid in your "package" will depend on the funds available and the amount of your financial need. Early application for financial aid increases the likelihood that a student will receive the maximum aid for which he or she is eligible.

General Information

The University of the District of Columbia's Financial Aid Program provides assistance in the form of grants, loans, scholarships, and part-time employment. Need-based financial aid awards are made to students who demonstrate that their economic resources are insufficient to meet the cost of attending the University. Priority to receive need-based financial assistance is given to those applicants with the greatest financial need. Awards are made on a "first-come, first-served" basis. All awards are made subject to the availability funds in the Office of Financial Aid.

Financial aid awards must first cover educational costs incurred during the period stated in the student's financial aid award letter. Remaining funds be used by the student to cover other expenses.

Eligibility for Federal Financial Aid

All applicants who wish to receive consideration for financial aid (exception - the Pell Grant Program) must be enrolled at least halftime (i.e., six credit hours), must be degree-seeking regular student, must be a United States citizen, permanent resident or a eligible non-citizen.
All financial aid applicants must meet standards of satisfactory academic progress. Undergraduate applicants must demonstrate measurable academic progress toward attaining a degree with

cumulative grade point averages of 2.0 or better and a minimum completion rate of 67%. Graduate students must maintain at least a 3.0 cumulative grade point average and a minimum completion rate of 67%. The maximum time frame in which a student must complete their program of study is 150% of the required credits for completion of their program of study. A copy of the University's Financial Aid Satisfactory Academic Progress Policy is available in the Office of Financial Aid or on-line at www.udc.edu. (Financial Aid)
Admission to the University of the District of Columbia does not guarantee eligibility for financial aid.

How to Apply for Financial Aid

1. You may complete the Free Application for Fedral Student Aid (FAFSA) on-line at www.fafsa.ed.gov.
2. For on-line assistance visit: www.studentaid.ed.gov/completefafsa
3. Visit the Office of Financial Aid for assistance.

You must place the University's school code **(007015)** on your application so that a copy of your student aid report will be forwarded to the University's Financial Aid Office by the FAFSA processor.

Federal Pell Grant

This program provides eligible undergraduate students accepted for enrollment at the University a grant that ranges from $200 to $4,310 per academic year. Awards are adjusted according to a student's enrollment level. The student must be a U.S. citizen or residing in the United States for other than a temporary purpose, enrolled in an eligible course of study, and in good academic standing. While a Federal Pell Grant will be awarded through the University, both initial eligibility and the amount of the grant are determined by the U.S. Department of Education.

D.C. Leveraging Education Assistance Partnership Program Grant (LEAP)

Eligible student residents of the District of Columbia may receive up to $1,500 per academic year. Applicants must first apply for a Pell Grant. Once a Pell Grant is on file in the University's Financial Aid Office, the student may complete a LEAP application. Undergraduates are eligible to participate in this program. For further information, contact the:

Office of the State Superintendent of Education
441 4th Street, NW
Washington, D.C. 20001
(202) 727-2824

D.C. Adult Scholarship Program

Eligible residents of the District of Columbia may receive up to $5000.00 per academic year. Applicants must establish Pell Grant eligibility. Students may complete a D.C. OneApp on-line at www.osse.dc.gov. Undergraduates are eligible to participate in this program. For further information, contact the:

Office of the State Superintendent of Education
441 4th Street, NW
Washington, D.C. 20001
(202) 727-2824

UDC Scholarship Program

The purpose of the Scholarship Program at the University of The District of Columbia is to recognize outstanding achievement, encourage academic excellence, and offer support to meritorious students. The program is also responsible for processing scholarships awarded to students from outside organizations or sponsors. Scholarships are awarded on a yearly basis to those students who meet the established donor or university criteria.

Scholarships are awarded on a very competitive basis by the UDC Scholarship Committee. Merit scholarships are awarded solely on the basis of academic merit. Restricted scholarships are awarded on the basis of merit and one or more additional criteria, such as demonstrated financial need, study in a particular major, or leadership.

For further information, students may contact the Office of Financial Aid Scholarship Program at (202) 274-5060 or UDC website at www.udc.edu/scholarships

Types of Financial Aid Generally Available

- Pell Grants
- D.C. Leveraging Education Assistance Program (LEAP) – Grant
  D. C. Adult Scholarship Program
- Federal Supplemental Educational Opportunity Grant (SEOG)
  Academic Competitiveness Grant (ACG)
  National Science and Mathematics Access to Retain Talent Grant (National Smart Grant)
- Federal Family Education Loan Program (FFELP)
- Federal Perkins Loan Program
- Institutional Grants
  Scholarships
- Athletic Grants (Athletes only)

For further information visit www.FederalStudentAid.ed.gov

Consequence of Course Load Reduction and Complete Withdrawal from All Courses on Financial Aid Eligibility

- Financial aid eligibility is based upon enrollment status. Adding or dropping classes can have an effect on how much aid a student is eligible to receive. It is imperative that a student consult the Office of Financial Aid before adding or dropping classes, to understand what impact that will have on the eligibility.
- When a student decides to officially withdraw from school, timing can be critical. Exactly when the withdrawal occurs determines how much financial aid the student will be eligible to receive or whether the financial aid will be canceled. As with dropping classes, when a student decides to officially withdraw from school, the Office of Financial Aid should be consulted to determine how eligibility will be affected.
- For more detailed information concerning both dropping classes and officially withdrawing from school, refer to the "Schedule of Classes" publication which is published each Fall and Spring and is available in the Office of the Registrar, Bldg. 39, Room A-08, or the Office of Financial Aid, Bldg. 39, Room 101.

OFFICE OF THE REGISTRAR

LaVerne M. Hill-Flanagan, M.A., Registrar
Building 39, Room A-12
(202) 274-6200

The Office of the Registrar at the University of the District of Columbia provides timely and courteous service to University students, the University community, and outside agencies. The Office is responsible for consistently implementing District, Federal, and University policies and procedures, adhering to the American Association of Collegiate Registrars and Admissions Officers (AACRAO) guidelines, maintaining institutional credibility through the proper maintenance of student biographic and academic records, and certifying students for graduation. Services provided by the Registrar's Office include registration and scheduling adjustments, transcript maintenance and appropriate distribution, enrollment and veteran's certification, residency audit, student records management, and dissemination and maintenance of all student demographic data and directories.

Registration

Registration information and other relevant class announcements are published in the Schedule of Classes printed for each semester or term. Incoming freshmen and transfer students may obtain a Schedule of Classes from the Office of the Registrar. Continuing students will receive registration information from their respective academic departments. Only students officially enrolled may attend classes and receive academic credit for instruction.

Student Identification Cards

New students are issued an identification card at the time of their initial registration. This ID card is required for access to all University services and must be presented on request to security personnel in University buildings. The ID card is revalidated during each registration period (with proof of paid tuition) and is acceptable only if it bears a valid stamp for the current academic term. Replacement ID cards are available upon payment of the requisite fee and proof of registration for the current academic term. The Office of Student Affairs issues Student Identification Cards.

Full-Time Status Defined

Full-time undergraduate students must be enrolled in at least 12 credit hours of study. Students enrolled in fewer than 12 credit hours are classified as part-time students. Summer session undergraduate students are full-time when they are enrolled in six credit hours.

Full-time graduate students must be enrolled in at least 9 credit hours of study. Students enrolled in fewer than 9 credit hours are classified as part-time. Summer session graduate students are full-time when they are enrolled in six credit hours.

Course Load Limitations

The maximum course load is 18 credit hours. With the approval of the dean of the college in which the student is enrolled, a student in good academic standing may take a maximum of 21 credit hours in a semester. Students on academic probation have course load limitations until reinstated to good academic standing.

In applying the course load limitations, the University counts audited courses as a part of the student's course load. However, for regulations that require full-time status, audited courses are not counted as part of the course load.

Auditing

Students who wish to audit a course must have approval from the appropriate instructor or department chairperson. A grade assigned by the instructor for a student auditing a course is "AU."

Classification of Students

A student who has been admitted to the University in pursuit of an associate or baccalaureate degree is classified for the purposes of academic rank according to the number of credit hours completed.

Freshman	fewer than 30 credit hours
Sophomore	at least 30 but fewer than 60 credit hours
Junior	at least 60 but fewer than 90 credit hours
Senior	90 or more credit hours

Consortium of Universities

The University of the District of Columbia is a member of the Consortium of Universities of the Washington Metropolitan Area. Other affiliates are The American University, The Catholic University of America, Corcoran College of Art + Design, Gallaudet University, Georgetown University, George Mason University, The George Washington University, Howard University, University of Maryland (College Park Campus), Marymount University of Virginia, Southeastern University, Trinity University, National Defense University and National Defense Intelligence College.

The Consortium was formed to facilitate coordination of resources among its affiliates. Students enrolled in UDC may be eligible to take courses at any of the member institutions.

To be eligible for participation in the Consortium, a student must:

1. Be enrolled in a degree-granting program and registered for the current semester at UDC;
2. Receive approval from the major department and the dean;
3. Be in good academic standing with a cumulative GPA of 2.00 (3.0 GPA for graduate students); and
4. Be in good financial standing with the University of the District of Columbia.

Courses taken through the Consortium must be required for the degree and not offered in the given semester at UDC. Students are limited to six credit hours per semester through the Consortium. However, graduate students who have previously been granted nine transfer credits from non-Consortium arrangements may enroll and receive resident credit in only one of the Consortium institutions. Eligible students in associate degree programs should have completed 30 credit hours, students in bachelor's degree programs should have completed 60 credit hours, and graduate students should have completed 50 percent of their program in residence.

Registration forms and instructions are available from the Office of the Registrar. The student must pay UDC tuition and fees for the current semester before becoming eligible to attend institutions in the Consortium. Official registration in the University of the District of Columbia is a prerequisite for the Consortium registration. *Participation in the Consortium is not available to students during Summer Sessions.*

Change of Personal and Address Information

All changes in personal and address information must be reported to the Office of the Registrar. Change of name, social security number, birth date, or address must be accompanied by an acceptable document verifying the correct information at the time the request is made. Forms for reporting changes are available in the Office of the Registrar.

Change of Program of Study - Add/Drop

A student who finds it necessary to change his/her schedule must do so in the academic department. An add/drop fee is charged for each successful transaction after the regular registration period has ended. A course may be added only during the official Add/Drop period.

Students officially dropping credit hours during the designated Add/Drop period are entitled to receive a refund when such a change results in reduction of tuition charged. Changes made after the designated period of Add/Drop may not qualify for full refund (See Refund Policy).

Declaration and Change of Major

Undergraduate and graduate students who desire to earn a degree at the University of the District of Columbia must officially declare a major. Students wishing to declare or change a major course of study must obtain the approval of the new major department and the release of the former department. Such official approvals must be filed with the Office of the Registrar. Students should be aware that the time required to obtain a degree may be lengthened as the result of a change of major and should make such changes only after consultation with an academic advisor. Students are subject to the major program requirements in effect at the time the change of major is effected.

Withdrawal from a Course

Students may officially withdraw from a course without penalty up to five weeks prior to the beginning of the scheduled final examination. The current academic calendar must be consulted for the specific date. When such a withdrawal is processed officially and filed with the Office of the Registrar, a grade of "W" will be entered on the student's transcript. If the student stops attending class, or fails to file the Change of Program/Withdrawal form on time, a failing grade may be given. All students who withdraw must pay a per course withdrawal fee.

Withdrawal from the University

A student may withdraw from the University (all classes in which they are enrolled) up to and including the last day of classes prior to the beginning of the final examination period. Students who withdraw from the University after the published deadline for withdrawal from classes must obtain the signature of the chairperson of the department in which they are majoring and the dean of the appropriate college or school. Students enrolled and have not declared a major and who wish to withdraw from all classes must obtain the approval of the Dean of the College of Arts and Sciences. The approval must be obtained on the Withdrawal/Leave of Absence Form. A student who withdraws from the University will be required to apply for re-admission. All students must pay a per course withdrawal fee.

Concurrent Enrollment Policy

Students enrolled at the University of the District of Columbia who wish to take courses in other colleges and universities for transfer credit to the University of the District of Columbia must receive prior approval, in writing, from the department chair and dean of the college. This written authorization must be submitted to the UDC registrar. Credit will be denied if prior approval is not officially documented. Students must be in good academic and financial standing at UDC. Enrollment through the Consortium is not considered concurrent enrollment.

Transcript of Grades

The official or unofficial University of the District of Columbia student academic record is known as a transcript. All course work in which the student has enrolled is recorded on the student's transcript. Copies of the transcript are requested from the Office of the Registrar. There is no charge for the first transcript requested. There is a charge of $5 for each transcript requested after the first one. Official copies are sent directly to institutions and individuals upon the written request of the student. The University complies with Public Law 93-380, Family Education Rights, and Privacy Act of 1975.

CREDIT AND GRADING

The Semester Credit Hour

The semester credit hour is officially designated as the University's unit of academic credit. A semester credit hour requires the completion of one 50-minute period of lecture or two laboratory hours a week for one semester (15 weeks).

Undergraduate Grading System

The following grades will be used to designate levels of achievement and will appear on official transcripts:

A Excellent	4 quality points per semester hour of credit
B Above Average	3 quality points per semester hour of credit
C Satisfactory	2 quality points per semester hour of credit
*D Below Average	1 quality point per semester hour of credit
F Failure	0 quality points per semester hour of credit

**The University considers the grade of "D" as the lowest passing grade.*

Graduate Grading System

Graduate students are graded under the following system:

A Excellent	4 quality points per semester hour of credit
B Above Average	3 quality points per semester hours of credit
C Satisfactory	2 quality points per semester hour of credit
F Failure	0 quality points per semester hour of credit

Grade Point Average

The grade point average (GPA) is the measure of general scholastic achievement upon which honors, awards, probationary regulations, and graduation are based. For the purposes of graduation and academic honors, only college-level courses are counted in the GPA and credits earned. A grade point average of at least 2.0 is required for graduation for undergraduate students and a 3.0 for graduate students.

To compute the GPA, the credit value of each course is multiplied by the quality points of the grade earned in the course. The sum of the products thus obtained is divided by the number of credits for which the student was enrolled during the semester. In like manner, the cumulative GPA is determined by dividing the sum of all quality points earned by the sum of all quality hours attempted. When a course is repeated, only the higher grade earned is considered in computing the cumulative GPA. Other grades received will remain on the transcript in parentheses.

Example:

In a given semester, a student receives the following grades:

English	3 credit hours A	quality points = 12
Math	3 credit hours C	quality points = 6
History	3 credit hours B	quality points = 9
Biology	4 credit hours A	quality points = 16
French	4 credit hours C	quality points = 8
	17=Total credit hours attempted	Total quality=51 points

51 quality points divided by 17 credit hours = 3.00

Other grades which may appear on the transcript but which are not considered in computing the GPA are:

CR Credit

NC No Credit
The symbols CR and NC are available for use in those courses designated by the academic department. The CR symbol will count toward the hours completed.

AU Audit
The AU symbol will be used when a student audits a course. A student may register to audit a course during the period of registration and late registration only. The symbol AU will be preprinted on the class roster for the appropriate students.

W Withdrawal
The symbol "W" will designate official withdrawals. A student may officially withdraw from a course or the University up to five weeks prior to the beginning of the scheduled final examination period. A student who fails to withdraw in the required manner will receive the grade of F (failure). A student may withdraw from the University at any point up to the beginning of the final examination period for which he/she is enrolled. A student who withdraws from the University will not be considered as an enrolled student for the purpose of readmission during the semester of withdrawal. A student who wishes to enroll in the next consecutive semester must reapply for admission.

I Incomplete
The symbol "I" will be used only if the student is passing the course at the end of the term, has not completed required course assignments and signs a contract to complete the assignments. Incomplete grades must be removed by the student in the next regular semester after the term in which the "I" is earned. If not completed in the next consecutive term, the grade will become an F.

X In Progress
The symbol "X" is used for thesis preparation or directed study. This grade is applicable only for graduate study.

Undergraduate Academic Standing Policy

The success of a student depends upon both the creativity and effectiveness of the institution of higher education and the academic performance of the student. Academic standing, therefore, must be defined in terms of the performance of both the University and the student. The failure of either one of the parties to meet its responsibilities can result in lower levels of institutional performance and student achievement. The institution reaffirms its open admissions policy for students who seek to pursue undergraduate study and confirms its responsibility to recognize the level of performance of each student. Therefore, the University will make every effort to identify the needs of each student and clarify the responsibilities of each unit in the University to aid the student in fulfilling educational goals. It is the responsibility of the student to use the services offered through the University and his or her own initiative to succeed.

Academic Standards

The University requires each candidate for an associate or baccalaureate degree to have earned a minimum cumulative grade point average of 2.0 or better. Additionally, a student must complete all University-wide requirements and all requirements of the degree program elected. Any enrolled student whose cumulative GPA is less than 2.00 is placed on academic probation.

A freshman student enrolled in the University must achieve a cumulative GPA of 2.00 or a term GPA of better than 2.00 by the end of the third term of enrollment (summer terms included). A student who earns less than a 2.00 cumulative GPA after three terms must achieve a GPA of better than 2.00 each subsequent term of enrollment. A freshman student enrolled three terms, including summer, who has a cumulative GPA of less than 2.00 and who fails to achieve a term GPA of better than 2.00 will

be subject to suspension from the University. Until a student in the University achieves a 2.00 cumulative GPA, the student must abide by the course load restrictions placed by the University upon the freshman student with academic deficiencies, as follows:

1. If the GPA is below 1.6 after the first semester of enrollment, the student is limited to a course load of nine credit hours during the next semester of enrollment.
2. If the GPA is 1.6 to 2.0 after the first semester of enrollment, the student is limited to a course load of 12 credit hours during the second semester of enrollment.
3. If the cumulative GPA is below 1.8 after the second semester of enrollment, the student is limited to a course load of nine credit hours during the next semester of enrollment.
4. If the cumulative GPA is 1.8 to 2.0 after the second semester of enrollment, the student is limited to a course load of 12 credit hours during the next semester of enrollment.

After three semesters, or the completion of 30 credit hours, whichever comes first, a student enrolled in the University will be governed by the following policies:

1. The student must maintain a cumulative GPA of 2.00. In the absence of a 2.00 cumulative GPA, the student must achieve a semester GPA of 2.10 or better each term of enrollment until a cumulative GPA of 2.00 is achieved. Failure to meet this standard will result in the suspension of the student for one semester.
2. A student who has a cumulative GPA of less than 2.0 is limited to a course load of nine credit hours The dean may grant permission for a course load of 10 credit hours.

A transfer student admitted as a probationary student must achieve a term GPA of 2.0 during the first term of enrollment. Thereafter, the student is subject to the academic policies applicable to:

(a) Freshman students, as described above, if the student has completed fewer than 30 credit hours, or

(b) All other students, as described above, if the student has completed 30 or more credit hours

Probation and Suspension

When a student's cumulative grade point average falls below 2.00, the student is placed on academic probation. Notification will be sent from the Office of the Registrar informing the student that the grade point average is below the acceptable level. During the next term of enrollment, if the student fails to achieve a term grade point average of 2.10, the student is subject to suspension. Academic probation and academic suspension will be entered on the official permanent record of the student. A student who has completed 30 credit hours with a cumulative GPA of less than 2.00 will be restricted to a nine-semester hour course load (10 credit hours with the Dean's approval). If a student is subject to suspension and has registered for course work, their registration will be cancelled. A student enrolled in the University with fewer than 30 credit hours will be subject to the conditions and regulations placed by the University upon freshman students, as described above. If a student is subject to suspension and has registered for course work, their registration will be cancelled. The period of suspension is one academic semester.

Dismissal

If a student's cumulative GPA is below 2.00 and the student fails to successfully complete at least 50% of the hours attempted and fails to achieve a term GPA of 2.10 or better each term of enrollment following a second academic suspension, the student will be dismissed from the University. All courses for which the student was enrolled after add/drop are considered in determining 50% of the hours attempted. Reinstatement for such students will not be considered in less than two calendar years from the date of dismissal. If a student is subject to dismissal and has registered for course work, their registration will be cancelled. Reinstatement for such students will not be considered in less than two calendar years from the date of dismissal.

Dean's List

A Dean's List of all undergraduate students who have a cumulative grade point average of 3.00 and a term GPA of 3.30 or higher is certified by the Vice President for Academic Affairs at the end of each term.

In order to qualify for the Dean's List, an undergraduate student must have registered for a minimum of 12 credit hours with earned grades of A, B, C, D, AU, or CR. Students receiving the symbols of F, I, W, or NCR for any course will be ineligible for Dean's List consideration for that semester.

Honor Groups at The University of the District of Columbia

1. Beta Beta Beta Biology Honor Society
2. Beta Kappa Chi National Scientific Honor Society (Physical Science, Engineering, and Life Sciences)
3. Delta Mu Delta National Honor Society in Business Administration
4. Eta Kappa Nu Electrical Engineering Honor Society
5. H.O.P.E. - Honors Organization for the Promotion of Excellence
6. Kappa Beta Delta (2 Year) Business Tech and Computer Accounting Tech
7. Phi Beta Lambda, Psi Eta Chapter (Business and Public Management)
8. Psi Chi Honor (Undergraduate and Graduate Psychology)
9. Chi Sigma Iota (Graduate Counseling)
10. Phi Sigma Pi National Honor Society (General)
11. Sigma Tau Delta National English Honor Society
12. Tau Alpha Pi Technology Honor Society (Physical Science, Engineering, and Technology)
13. Tau Beta Pi (UDC Engineering Honor Society)

Graduate Good Academic Standing

Graduate students are required to maintain a 3.0 cumulative grade point average (CGPA) each semester and meet all requirements of the degree program elected to remain in good academic standing. Students must earn at least a grade of B in all major courses. In the event the student earns a grade of C in a major course, the course must be repeated. Students must consult the respective programs with regard to the number of times a course may be repeated.

Time to Completion of Graduate Degree

The time allowed for completion of a Master's degree is five years. If an extension is required, the student may make such a request in writing to the department chairperson. Notification of approval for extension will be made in writing from the Dean's office, through the department. The length of the extension may not exceed one academic year. Students who exceed the five-year term limit will become subject to any new program requirements that have been established since the time that they were admitted to the program.

Graduate Academic Probation

Graduate students are required to maintain a 3.0 cumulative grade point average (CGPA) each semester and meet all requirements of the degree program elected to remain in good academic standing. When the CGPA falls below the required 3.0, a student will be placed on probation. A student on probation is limited to six (6) semester hours during the regular semester and three (3) semester hours during the summer term. The academic dean will send notices to all students on probation to inform them that: a) they are required to reduce their course load while on probation; and b) they will be suspended unless they achieve a 3.0 CGPA by the end of the first semester of probationary status.

Graduate Academic Suspension

Graduate students on academic probation will be suspended for one semester if they fail to raise their cumulative grade point average (CGPA) to the acceptable 3.0 requirement at the end of the probationary period.

The academic dean will notify all graduate students of their suspension after grades from the previous semester have been posted and grade point averages have been determined. If a student is subject to suspension and has registered for course work, the registration will be canceled.

Graduate Dismissal

If a student's cumulative GPA is below 3.00 and the student fails to successfully achieve a cumulative GPA of 3.00 or better each term of enrollment following the period of suspension, the student will be dismissed from the University. If a student is subject to dismissal and has registered for course work, their registration will be cancelled. Reinstatement for such student will not be considered in less than two calendar years from the date of dismissal.

Final Examinations

Final examinations are held during the last week of the term; all students are required to take examinations according to the examination schedule issued by the Vice President for Academic Affairs. Final examinations are to be administered on the dates published in the examination schedule

Credit by Examination

Students may receive credit for specific courses upon successful completion of a departmental examination and approval of the appropriate dean. Students seeking credit by examination must be currently enrolled in a degree program and be in good academic standing. Credit by examination may be sought only for courses in which the student has never enrolled, and the examination may be taken only once per course. Students may not be registered for the maximum number of hours for the term in which credit by examination is requested. Students must receive prior permission from the chairperson of the department offering the course. A fee of $50.00 per credit hour and any additional tuition must be paid prior to the administration of the examination. Upon successful completion of the examination, the credit must be approved by the department chairperson and the dean. Credit earned by examination will appear on the students' transcripts as "CR" and will not be included in computing the grade point average.

Class Attendance Policy

The University expects all students to attend classes on a regular basis. If a student finds it necessary to be absent from class because of illness or other personal reasons, the reason for the absence should be reported to the instructor. This is for the instructor's information and in no way excuses the absence, nor does it relieve the student of the responsibility for assignments covered during the period of absence. Extenuating circumstances which may force a student to be absent should be reported to the departmental office and to the instructor. The instructor will determine the amount of assistance a student will need to complete the course requirements.

Academic Integrity Policy

Students enrolling at the University of the District of Columbia assume the obligation to maintain standards of academic integrity. Violation of academic obligations: include: unethical practices and acts of academic dishonesty, such as cheating, plagiarism, falsification, and the facilitation of such acts.

Cheating includes the actual giving or receiving of any unauthorized aid or assistance or the actual giving or receiving of any unfair advantage on any form of academic work. Plagiarism is the use of another's ideas or words, or both, as if they were one's own. However, ideas or direct quotations from others are acceptable with appropriate citation of source.

Students are subject to dismissal from a degree program for unethical practices and acts of academic dishonesty. It should also be noted that a plea of ignorance of the policy will not be accepted. The prescribed policies and procedures that pertain to violation of the academic integrity policy are contained in the *Student Handbook*.

GRADUATION REQUIREMENTS

Associate and Baccalaureate Degrees

Note: For the purposes of graduation and honors, only college-level courses numbered 100 and above are counted in the GPA and total credits earned.

Residency: The University confers the associate degree upon those students who complete the last 15 semester credit hours of study and the baccalaureate degree upon students who complete the last 30 semester credit hours of study in residence at the University of the Columbia. Additionally, the student must complete the University-wide-requirements, as well as degree requirements, and attain a minimum cumulative grade point average of 2.00.

Note: University-wide Requirements are under review and are subject to change.

Specific University-wide requirements for all two-year and four-year programs are as follows:

Requirements	2 Yr Degree	4 Yr Degree
Foreign Language*	0 credit hours	6 credit hours
Philosophy	0 credit hours	3 credit hours
Fine Arts**	0 credit hours	3 credit hours
English Comp I & II***	6 credit hours	6 credit hours
Lit & Adv Writ I & II***	0 credit hours	6 credit hours
Social Science•	3 credit hours	6 credit hours
Mathematics••	6 credit hours	6 credit hours
Natural Science•••	3 credit hours	6 credit hours

Additional Baccalaureate Requirements:
Students in four-year degree programs must take an additional four credit hours in either physical education, personal and community health, speech or natural science. If the student has already taken eight hours of laboratory natural science, and selects to take the additional fours hours in natural science, the additional four hours selected may or may not be a laboratory science.

* Students must take 6 credit hours of the same language that is not the student's native language. The following baccalaureate programs are exempt from the foreign language requirement: Nursing, Graphic Communications and all programs in the School of Engineering and Applied Sciences – Airway Science, Architecture, Civil Engineering, Computer Science, Electrical Engineering, Fire Science Administration, Information Technology and Mechanical Engineering.

** Select from Music, Drama, Art and Dance

*** English Composition I must be taken prior to English Composition II, not concurrently.

• Select courses from Psychology, Sociology, Economics, History, Social Work, Geography, Political Science, and Urban Studies. *Students enrolled in two-year technology programs may elect to take one three-credit-hour course in philosophy to satisfy this requirement.*

•• Only Mathematics courses numbered 100 and above satisfy this requirement.

••• Lab courses only. Natural science lecture (3 credit hours) and lab (1 credit hour) must be taken concurrently. Students in 4-year degree programs must take two semesters of natural science. ***Students must obtain passing grades in both lecture and lab.***

***Undergraduate Requirement*:** Once admitted and registered as a student at the University of the District of Columbia, it is expected that the student will be enrolled every semester until the student has completed the degree objective. Any student who is not continuously enrolled exclusive of the summer term, is subject to the requirements in effect at the time of re-enrollment.

***Associate Degree*:** To earn an associate degree, a minimum of 60 credit hours of college-level courses is required, including specific courses identified in the departmental program of study and the applicable University-wide requirements.

***Baccalaureate Degree*:** The baccalaureate degree programs require a minimum of 120 credit hours, including specific courses identified in the departmental program of study and the applicable University-wide requirements. Many departmental programs of study require more than the minimum hours designated above. Students should consult this catalog and their advisors when determining graduation eligibility.

Honors
To graduate with honors, an undergraduate student must have received 60% of the credits earned for graduation at the University of the District of Columbia. The honors systems for undergraduate students is:

3.8 or above	In all hours attempted	summa cum laude
3.60	In all hours attempted	magna cum laude
3.30	In all hours attempted	cum laude

Second-Degree Candidates

A student with a baccalaureate degree from an accredited institution who wishes to pursue a second baccalaureate degree at UDC is exempt from University-wide requirements. However, the student must meet all *program* requirements for the baccalaureate degree existing at the time of admission to the program.

A student with an associate degree from an accredited college or university who wishes to pursue a baccalaureate degree must meet the University-wide requirements and program requirements for the baccalaureate degree existing at the time of admission to the program.

Application for Graduation

Students who expect to complete their academic requirements during any given semester should submit an Application for Graduation to the Office of the Registrar on or before the deadline date indicated in the Academic Calendar, and pay the required graduation fee (undergraduate students - $50.00, graduate students - $65.00) in the Cashier's Office. However, the submission of an application does not guarantee graduation. Only those students who have met "all" academic requirements and who have satisfied "all" financial obligations will be cleared for graduation. In the event that a student does not complete graduation requirements in the designated term, a new Application for Graduation must be submitted for the term when all requirements have been met, no additional fee is required. Students are strongly encouraged to meet with their academic advisors, each semester, to ensure that academic requirements are being met for the degree objective pursued, and that they are on target for graduation.

Application of Undergraduate and Graduate Courses

Undergraduate courses *(courses numbered below 500)* may not be used to satisfy graduate degree requirements. Similarly, graduate courses (*courses numbered 500 and above)* may not be used to satisfy baccalaureate or associate degree requirements.

Graduate Study as a Senior

Students who are within nine (9) semester credit hours of completing the final requirements for the baccalaureate degree and are in good academic standing at UDC may enroll in courses carrying graduate credit (***not to exceed six (6) semester hours***). Prior to enrolling, students must secure written authorization from the chairperson of the student's major department, the department chairperson of the graduate program offering the course the student wishes to take, and the dean of the College/ School in which the course is taught.

Granting Degrees and Commencement

Degrees are granted at the close of each semester. The annual commencement convocation is held at the end of the spring semester. Recipients of degrees for the preceding summer and fall terms are invited to participate in the commencement exercises. Only students who have met all requirements for graduation will be permitted to participate in commencement exercises.

STUDENT AFFAIRS

Dr. Janice Borlandoe,
Acting Vice President for Student Affairs
Building 39, Room 301-I, (202) 274-5210

The Office of the Vice President for Student Affairs has oversight over athletic, including intercollegiate and intramural programs and activities; financial aid; student life and services, including student clubs and organizations; counseling, career services, health services, student employment, testing and assessment, community outreach and involvement, judicial affairs, record management, services to students with disabilities, ID services, and student support/TRIO Pre-college programs.

STUDENT LIFE AND SERVICES

Building 38, Room A-10 (202) 274-5900

The Office of Student Life and Services supports the academic programs of the University by providing leadership, direction, and coordination for programs and services that enhance students' personal growth, development, and learning experiences. Services include student life and activities, student support, counseling, career and job development, testing and assessment, community outreach and involvement, judicial affairs and services to students with disabilities.

An exciting and dynamic array of student life services and programs are offered through the Office of Student Life and Services. The Office provides a full range of programs that complement the formal instructional program of the University.

Student Life and Services programs are designed to enhance extra and co-curricular experiences and opportunities for students through participation in student self-governance, social and intellectual forums, and multicultural exchanges. This is also accomplished by offering opportunities for physical, cultural, and scholastic assessment and development.

Student Life and Activities

The Student Life unit, through its interactions with various student organizations, provides students with extracurricular activities, advisement, programming, and developmental services and opportunities. These services use educational, cultural, social, and recreational activities as tools to complement and reinforce the academic aspect of university life.

Campus-wide activities, including concerts, lectures, films, art exhibits, fraternities and sororities, homecoming week, pride week, international education week, student leadership development programs, and workshops provide an abundance of opportunities for students to enhance their social skills and develop abilities in planning, management, and decision-making.

The Student Activities unit coordinates the clubs and organizations that are a vital part of the University community. Students may seek membership in any of approximately 74 clubs and organizations representing diverse interests and concerns. Some clubs and organizations reflect the local or national social climate, while others represent the multi-ethnic composition of the student body. Still others relate to academic disciplines. Membership requirements vary with each club or organization. Student Life Specialists are located in Building 38, A-Level. Their numbers are (202) 274-6198 or (202) 274-5350.

Student Publications

The *Trilogy* Newspaper is a student published paper. It highlights campus events as well as national and local news. The *Flightpath* is the annual memoir yearbook that focuses on graduating students and activities of the current academic year.

Pan-Hellenic Council

The Pan-Hellenic Council is the governing body for the Greek-Lettered organizations. The nine Greek letter Sororities and Fraternities at the University of the District of Columbia are Alpha Kappa Alpha Sorority, Alpha Phi Alpha Fraternity, Delta Sigma Theta Sorority, Zeta Phi Beta Sorority, Iota Phi Theta Fraternity, Kappa Alpha Psi, Sigma Gamma Rho, Phi Beta Sigma, and Omega Phi Psi Fraternity.

New Student Orientation

The Office of the Vice President for Student Affairs coordinates the new student orientation program for students entering the University for the first time. University faculty and staff introduce new students to the resources available at the University that enable students to experience success. Further, students receive information regarding their matriculation and other related University procedures and regulations. The orientation process is extended through the Freshman Orientation course offered by the College of Arts and Sciences.

Student Self-Governance

The Undergraduate (USGA) and Graduate Student Government (GSGA) Associations are elected and appointed students who represent the interests of their peers at the University. Student participation in governance of the University is achieved through the associations' involvement with various University councils and committees. The USGA and GSGA representatives are elected by the undergraduate and graduate students, respectively. Each year, the undergraduate and graduate students also elect the Student Representative, and a voting member to the University's Board of Trustees.

The Undergraduate and Graduate Student Government Associations offer opportunities for students to exercise leadership skills in affairs related to student life and development. They provide forums for the exchange of ideas, skills, information, and other resources at the University and the public and private sectors.

Students are encouraged to participate in the student government associations.

Testing and Assessment

Students entering the University for the first time and whose primary language is English, and students pursuing a degree and have not completed courses in English and mathematics at other universities and colleges are required to take the placement tests in reading, English and mathematics before registering for classes. The computerized placement test ACCUPLACER is used to measure the three basic areas to determine students' readiness for college level course work. It enables academic and faculty advisors to place students in the appropriate courses thereby supporting

students' academic success. There is no cost for the test.

The following are websites for sample questions and testing tips:

- http://www.aims.edu/student/assessment/study_guides.htm
- http://www.yccd.edu/assessment/sample.html

International students whose native language is not English, and who did not graduate from high school or receive a GED in the United States, must take the Test of English as a Foreign Language (TOEFL.) This requirement will be waived upon the submission of an official college or university transcript evidencing the successful completion of two college-level English courses at an accredited American college or university.

The Testing Specialist is located in:
Building 38, Room A-01
(202) 274-6063

Student Identification Cards

New students are issued an identification card at the time of their initial registration. This ID card is required for access to all University services and must be presented on request to security personnel in University buildings. The ID card is revalidated during each registration period (with proof of paid tuition) and is acceptable only if it bears a valid stamp for the current academic term. Replacement ID cards are available upon payment of the requisite fee and proof of registration for the current academic term. Preparation and validation services are free. Students who officially withdraw from the University must surrender their ID cards to the Office of Identification and Validation Card Services.

COUNSELING AND CAREER DEVELOPMENT CENTER

Building 39, Suite 120, (202) 274-6000

Academic, career, rehabilitation and personal counseling services are coordinated by the Counseling and Career Development Center. In conjunction with the academic units of the University, the counselor acts as a catalyst for guiding students through a collegiate experience that fosters their personal and educational goals. The activities and services provide student assistance in adjusting personally and socially to the University environment; enhancing the development of effective coping skills to deal with any anxiety and stress related to their family, disability, employment, peers, or class work; selecting appropriate courses of study; analyzing their interests, aptitudes, values, and desired life style as they relate to career choice; and developing strategies for their job search effort upon graduation. In keeping with accepted professional practice, all counseling is confidential. Information related to personal contacts is not released to administrators, faculty, staff, spouse, or outside agencies without proper authorization from the consenting parties.

Services for Students with Disabilities Resource Center

Students with disabilities attending this University are integrated as completely as possible into the University community. UDC does not offer a specialized curriculum for persons with disabilities nor does it assume the role of a rehabilitation center. The University does share responsibility **with the student** for adapting campus facilities and programs to assist with individual needs. Students with disabilities at UDC have access to tools and resources that will enable them to manage day-to-day life in college. Self-advocacy and assertiveness will help the student gain the most from the UDC experience. A willingness to function in an environment requiring adaptability and change is also vitally important. The keys to success for persons with disabilities at UDC include:

- The ability and openness to realize personal strengths and limitations.
- The desire and aptitude to take responsibility for managing daily routines, as well as academic and personal success.
- The maturity to utilize resources and services and to communicate with the SSD office about needs and/or concerns.
- The patience to spend the extra time necessary to study effectively.

After reviewing appropriate and comprehensive **verification** of the student's disability and the student's written request for appropriate accommodations, the **Services for Students with Disabilities Office** offers the following services to students with either temporary or permanent disabilities:

1. Recruitment, matching, and/or referral of note takers and/or interpreters, as appropriate.
2. With appropriate verification of disability, facilitation of test administration, as well as proctoring services in collaboration with the UDC faculty.
3. Provision of adaptive and or assistive devices, where appropriate (and with proper documentation and verification of need).

A policy statement describing procedures for verification of disability and the provision of appropriate auxiliary aids and services, reasonable accommodations, and academic adjustments is available in the Services for Students with Disabilities Office.

Services to Students with Disabilities Office
Bldg. 38, Level A (Room A-11)
Phone (202) 274-6152
TTY (202) 274- 5078

OFFICE OF CAREER SERVICES

Building 39, Room 120B, (202) 274-6251

The **Office of Career Services** offers services, resources and consulting to assist students with their career planning. The wealth of information available through the Office of Career Services can facilitate informed career choices for our students. The vision is to provide a comprehensive range of career services designed to assist students in reaching their career goals and objectives. The Office of Career Services is committed to providing occupational support and direction to students through creative and innovative seminars, workshops, career advisement, on-campus recruitment events and the **UDC Firebird Employment Network** site. The

goal of the Office of Career Services is to produce students who can meet the demands of the global workforce, while supporting the mission of the University.

THE OFFICE OF COMMUNITY OUTREACH AND INVOLVEMENT

Building 38, A-10, (202) 274-5900

The University of the District of Columbia Office of Community Outreach and Involvement works to meet the needs of an urban campus community by providing rich and varied programs. These programs include co-curricular activities that will promote character, moral development and civic engagement. Students will participate in volunteer service projects, ambassador/leadership development programs and the Debate program. Students will be given the opportunity to have intellectual discourse and to network with community leaders and activists as well as with historical and cultural icons. In addition, evening and weekend services will be provided for students.

Health Services

The staff of the University's Health Services Unit includes a physician, a nurse practitioner, registered nurses, a program manager and two medical assistants. Together, they help to maintain and promote a state of optimum physical and emotional health among students and staff and assure the control of communicable diseases on campus. The mandatory Health Services fee is $25.00 per semester. At the Van Ness campus, the University Health Services provides initial response for emergencies and urgent care. Routine health assessments, physical examinations, vision and hearing screening, referral services, preventive healthcare services for women and men. At the University's community site at the P.R. Harris Educational building in Southeast DC the unit provides initial emergency triage, health evaluations and referrals. All services are free at both locations. Appointments are encouraged unless you are ill. All new students should complete Clinic Enrollment Forms including a health history. The health unit is located at the Van Ness Campus, 4200 Connecticut Avenue, N.W., Building 44, Room A-33. The hours are 8:30 a.m. to 7:30 p.m., Monday through Thursday, and until 5:30p.m. on Fridays, telephone (202) 274-5030, fax (202) 274-5411.

Medical Examination Requirement

All new students are encouraged to provide the University's Health Services unit with a current medical history indicating any special health problems. All students under the age of 26 are required by law to show proof of having immunization for tetanus and diphtheria (Td) within the last 10 years, two (2) doses of measles, mumps, rubella (MMR) vaccine, three (3) doses of Hepatitis B vaccine, and two (2) doses of varicella (chicken pox) vaccine if given after age 12 years.. For students under the age of 19, proof of polio immunization is required. A positive blood test for each disease is required if no record is available. Proof of a history of Chicken Pox illness is acceptable. Proof consists of an immunization record which must be in English, and must be signed by a physician or nurse. The Health Services unit may provide immunizations to DC residents as available. Identification and proof of acceptance to the University are required. If you attended a public school in the District of Columbia, the Health Services unit can access your immunization record from the DC Immunization Registry. You may obtain necessary vaccines from your physician's office or neighborhood clinic. .Health records should not be included with other correspondence but mailed, faxed or taken directly to University Health Services Unit, Building 44, Room A-33, 4200 Connecticut Avenue, N.W., Washington, DC 20008. The hours of operation are 8:30a.m. to 6:00 p.m., Monday through Friday, telephone (202) 274-5030, fax (202) 274-5411.

THE OFFICE FOR TRIO AND COLLEGE PREPARATORY PROGRAMS

Building 39, Rooms 101-104, (202) 274-5032

The Office for TRIO and College Preparatory Programs fulfills the University's strategic objective to interface with public, public charter, private and parochial secondary schools by developing and implementing academic enrichment programs which encourage and support postsecondary education. Our goals include:

1. Providing programs and services for college and pre-college students that facilitate entry into college and that assist with retention of students.
2. Providing exposure to postsecondary educational choices that match students' abilities and enable students to reach their academic and career potential.
3. Increasing the knowledge, preparation, motivation, interest, and awareness of educational and career alternatives, as well as expanding and enriching pre-college curricula in English, mathematics and science.
4. Providing a liaison with primary and secondary schools to ensure contact with school administrators for the purpose of improving program design, evaluating program development, and increasing student participation in pre-college programs.

Currently, five programs compose the Office for TRIO and College Preparatory Programs.

TRIO PROGRAMS

Educational Talent Search, Student Support Services Upward Bound and Veterans Upward Bound are the four TRIO programs at UDC. All TRIO programs are funded by grants from the United States Department of Education and require application for renewal at the end of each respective grant cycle, typically every 4 years. Services are provided to eligible students who are United States citizens or permanent residents.

Educational Talent Search Program (ETSP) - serves DC public school students in grades 7-12 or persons who are high school or college dropouts (up to age 27). Eligible participant are low-income (according to federal guidelines) and are first-generation students. The UDC Talent Search program offers academic and career counseling, tutorials; self-esteem, goal setting, financial aid, and college-preparation workshops in six selected DC Public School sites. ETSP has a maximum enrollment of 1200.

Upward Bound: Project POWER (UB) - serves DC high school students who are low-income and are "first- generation college" in grades 9-12, and who reside primarily in "target areas" from

neighborhoods in D. C. Wards 7 and 8. The Upward Bound program offers academic instruction in English, mathematics, science and a foreign language during the academic year and the summer component. The program also provides SAT/ACT test prep, career, financial aid, and college-preparation workshops, as well as culturally enriching field trips. UB is a year-round academic program and has a maximum enrollment of 50 students during the academic year and 40 students during the summer.

Concurrent Enrollment and the HI/SCIP Program:

These programs serve academically accelerated high school students who place at the college level in English or mathematics on the UDC ACCUPLACER placement test. Students from public, public charter, private, or parochial schools are eligible to participate. Students, who enroll in freshman level courses, can earn transferable college credits while simultaneously completing or supplementing their high school courses.

In collaboration with the Office for College Prep Programs, UDC is also the Higher Education Partner for the State Education Office's GEARUP Program (the Johnson Junior High School Cohort) through 2008.

The TRIO Student Support Services Program

The UDC TRIO Office of Student Support Services provides a variety of academic and social support services to help increase the retention and graduation rates of eligible "first-generation" **college** students, who are United States citizens or permanent residents and who are enrolled in UDC undergraduate degree programs. Enrollment is limited to first generation college students, individuals with disabilities, and those who meet federal guidelines for low-income status.

TRIO-Student Support Services — assists students in earning associate and baccalaureate degrees. Program services include tutoring; academic and personal enrichment workshops; academic, personal, and career counseling.

Students desiring information and enrollment should contact the UDC TRIO Student Support Services Program on (202) 274-6241 or 274-6247, Building 38, Room A-05.

OFFICE OF INTERCOLLEGIATE ATHLETICS

Mr. Julius Smith, Acting Director
Building 47, Room A01
(202) 274-5368

The athletics and intramural programs at the University of the District of Columbia promote physical health, impart ideals of hygiene, and develop skills essential to the well-being of students, faculty, staff, administration, and the community. These programs foster feelings of loyalty and sportsmanlike competition, as well as develop leadership, citizenship, a sense of joy, and responsibility. The University of the District of Columbia athletics and intramural programs continue to strengthen personal values such as physical fitness, moral fortitude, intellectual prowess, emotional stability, and social conscience.

The University of the District of Columbia athletics and intramural programs also function as integral parts of the total educational experience at the University. The structure and scope of the programs reflect the needs and interests of students and the opportunities offered by their unique location in the Washington, D.C. community. The University draws from a high school population with a rich heritage of athletic participation and notable achievements. The University is committed to providing a program of intercollegiate athletics that satisfies student needs while students pursue the primary goal of earning the associate, baccalaureate, or master's degree. Operating from the premise that all should have a chance to participate, and coupled with the fact that student fees provide the major portion of financial support, the University provides programs broad enough in scope to encourage the fullest possible participation in a variety of team and individual sports by all members of the student body.

The University of the District of Columbia participates as a member of the National Collegiate Athletic Association (NCAA Division II-Independent). There exist ten varsity sports consisting of men's and women's basketball, men's and women's tennis, men's and women's cross-country, women's volleyball, men's soccer, and women's indoor and outdoor track.

Traditional intramural programs have increased to include a variety of recreational opportunities for faculty, staff, and other campus personnel. These programs and sports activities are:

Fall:	Softball, tennis, touch football, soccer club
Winter:	Basketball, free-throw, table tennis, volleyball, water polo, handball, weight lifting, and racquetball
Spring:	Softball, horseshoes, tennis

*Swimming and aerobics year round.

Intramural activities are voluntary and competitive sports for all participants who want to improve and test their skills in athletic events. Students also benefit from healthful and invigorating physical exercises. Intramural activities are designed to maintain social and physical fitness.

MILITARY SCIENCE (ROTC)

Students interested in enrolling in an ROTC program should contact the appropriate staff person listed below.

ARMY ROTC Howard University Douglass Hall (Basement)
2401 6th Street, N.W.
Washington, D.C. 20059
CONTACT: Enrollment Officer, (202) 806-6784

AIR FORCE ROTC Howard University Douglass Hall (Basement)
2401 6th Street, N.W.
Washington, D.C. 20059
CONTACT: Ms. V.R. Mahatney, (202) 806-6788

Service Members Opportunity College Program (SOC)

Through the Service members Opportunity College Program, military personnel may pursue an educational goal and receive maximum credit for educational experience obtained in the armed forces.

Applicants who are graduates of approved high schools or those who hold the high school equivalency (GED) certificate are eligible for admission to SOC programs of study, provided they meet certain criteria. For applicants to be admitted to degree programs in upper divisions of the University, they must complete the prerequisites prescribed by the major programs of that department.

Residency Requirement for Service Members Opportunity College

Students who enter the university through the Servicemembers Opportunity College must complete 30 credit hours and 15 credit hours in residence for the baccalaureate and associate degrees, respectively. The requirements for other University programs — that the last 30 credit hours for the baccalaureate degree and the last 15 credit hours for the associate degree must be completed at the University of the District of Columbia — does not apply to SOC students.

University Compliance

University policies and practices comply with all Federal Civil Rights and District of Columbia Human Rights Laws.

Sexual Harassment and Racial Harassment Policy Statement

Sexual harassment in any way at the University of the District of Columbia of faculty, students, staff, and applicants for employment or admission to the University is prohibited. The University provides work sites, classrooms, and other facilities free of sexual harassment. The University examines impartially all complaints of sexual harassment and attempts to resolve them as promptly as possible

Filing a Complaint

Persons who believe they have been discriminated against (including sexual harassment) may file a complaint by contacting the EEO/AA Coordinator located in the Office of Human Resources in Building 38, Suite 301-14; telephone: (202) 274-5452.

Equal Employment Opportunity and Affirmative Action

The University of the District of Columbia actively subscribes to a policy of equal opportunity in education and employment and will not discriminate against any person in recruitment, examination, training, promotion, retention, discipline , or any other aspect of employment and education administration because of race, color, religion, national origin, sex, age, martial status, personal appearance, sexual orientation, familial status, family responsibilities, matriculation, political affiliation, disability, source of income, or place of residence or business. Vietnam Era veterans and disabled veterans are covered by this policy.

UNIVERSITY BOOKSTORE

The University Bookstore, on the Van Ness Campus, is open from 9:00 a.m. to 7:00 p.m., Mondays and Wednesdays, and from 9:00 a.m. to 5:00 p.m. on Tuesdays, Thursdays, and Fridays during regular semesters. During the first two weeks of each semester, the bookstore is open until 8:00 p.m., Monday through Thursday; 9:00 a.m. to 5:00 p.m. on Friday; and 9:00 a.m. to 2:00 p.m. on Saturday. In addition to textbooks, the bookstore provides other books, supplies, and materials of interest to students. The address of the bookstore is:

Van Ness Campus
Building 38, Level A
4200 Connecticut Avenue, N.W.
(202) 274-5110

COLLEGE OF ARTS AND SCIENCES

Rachel M. Petty, Ph.D., Dean
Building 41, Suite 405-01
(202) 274-5194

College Mission, Description, and Degree and Certificate Programs

The College of Arts and Sciences (CAS) offers a variety of programs in a cultural and academic environment in which its students and faculty may thrive as scholars, teachers, leaders, and activists. The College strives to create and maintain a stimulating academic and social environment for the diverse population it serves. This environment is characterized by cooperation and communication among all constituencies in order to enhance quality and productivity in the delivery of services to students.

The primary mission of the College is to produce well-educated, autonomous, competent, and resourceful graduates who are well prepared to live and work in the multiethnic, global, and technological society of the 21st century. To accomplish this mission, the College provides opportunities for students to: 1) acquire a mastery of basic competencies and skills; 2) acquire the fundamentals of a general education; 3) concentrate in several fields in the humanities, fine arts, natural sciences, social sciences, allied health, and education; and 4) obtain sound preparation for professional graduate study.

The College is organized into four divisions - **the Division of Arts and Education, the Division of Nursing and Allied Health, the Division of Science and Mathematics, and the Division of Urban Affairs, Behavioral,** and **Social Sciences.** Departments in the ***Division of Arts and Education*** are Education, English, Languages and Communication Disorders, and Mass Media, Visual and Performing Arts. The **Division of Science and Mathematics** consists of the Departments of Mathematics, Biological and Environmental Sciences, and Chemistry and Physics. Units in the **Division of Urban Affairs, Behavioral and Social Sciences** include the Department of Urban Affairs, Social Sciences, and Social Work and the Department of Psychology and Counseling. The **Division of Nursing and Allied Health** consists of the Department of Nursing and Allied Health and includes the Nursing, Respiratory Therapy, Radiologic Technology, and Mortuary Science Programs.

CAS offers 47 degree programs including **9** Master's degree programs, **27** Bachelor of Arts and Bachelor of Science degree programs, and **11** Associate of Arts and Associate of Science degree programs. Additionally, there are **8** certificate programs (Adult Education, Child Development, Practical Nursing, Gerontology, Multimedia, Photography, Desktop Publishing, and Nonprofit Leadership) and **4** non-degree programs (English as a Second Language, Geography, Philosophy, and Public Speaking). As an integral part of its service function, CAS also offers Developmental Education, General Education, and Freshman Orientation Programs. Outreach efforts are accomplished through the College's three institutes, the Early Childhood Leadership Institute, the Institute of Gerontology, and the Institute for Public Safety and Justice.

The College has a reputation for preparing a representative number of its graduates for acceptance at prestigious and highly ranked graduate programs. It also prepares many others for careers in teaching, law enforcement, social work, arts education, speech-language pathology, government service and work in the private sector.

DIVISION OF ARTS AND EDUCATION

Department of Education

Lena Walton, Ph.D. Acting Chairperson
Building 38, Room 109
(202) 274-7404

FULL-TIME FACULTY

Professors: R. Bolig S.O. Hall, V.H. Howard, W. L. Johnson, P. M. Myers, J. L. Slack

Associate Professors: J.A. Fox, A. King-Berry, D. Peters, D. Robinson-Richards, B.A. Stockard, L. Walton

Assistant Professors: H. Oliver O'Gilvie, D. Soodjinda, S. Winston

Instructor: M. Hamilton

The Department of Education, one of the nine academic departments in the College of Arts and Sciences, administers both pre-service and in-service professional education programs for the University of the District of Columbia. In keeping with the mission of the University of the District of Columbia, the Department's programs and activities are designed to respond to the University's responsibilities as an urban land-grant institution. To this end, the Department of Education (a) prepares certified teachers and other professionals who desire leadership roles in diverse human service settings, and (b) provides an adequate foundation for advanced study for students to continue their educational preparation.

The mission of the Department of Education is expressed in the theme: *Renewing the Legacy of Excellence.* The Department embraces the idea that excellence is demonstrated by adhering to the beliefs and principles espoused in its conceptual framework and summarized in its vision - *to prepare excellent educational professionals who possess the knowledge, skills, and dispositions needed to transform schools for the 21st Century to ensure that all children learn.*

In addition to a variety of curricular offerings that range from child development through gerontology education *(see* Institute of Gerontology in this section), the Department of Education provides for systematic admission procedures into its teacher education and related certification programs; engages in collaborative efforts with the District of Columbia Public Schools and other local agencies; provides on-site practical experiences in its Child Development Center; prepares students

to be competitively involved in research, education, and service delivery for urban elders; and provides training, consultation, and technical assistance to community agencies and organizations.

The degrees offered at the undergraduate level are: ***Associate in Arts in Education***; ***Bachelor of Arts in Early Childhood Education; Bachelor of Arts in Elementary Education***; ***Bachelor of Arts in Special Education;*** and ***Bachelor of Science in Health Education.*** At the graduate level, the Department of Education ***offers a Master of Arts degree in Early Childhood Education*** and ***a Master of Arts degree in Special Education.*** In addition, the Department of Education offers certification courses for teachers in the areas of business, foreign languages, art, music, mathematics, science, social studies, health and physical education, English, special education, and adult education. Through the baccalaureate programs in nursing, sociology, social work, and health education, individuals who desire advanced skills and knowledge without committing to a degree program may receive a Certificate in Gerontology.

The Department of Education has infused technological tools throughout the curriculum, especially in the methodology courses, in an effort to prepare students to teach in the technologically-driven society of the 21st century.

The Department holds membership in the American Association of Colleges for Teacher Education (AACTE), and the unit is accredited by the National Council for Accreditation of Teacher Education (NCATE).

The institutional pass rate, required by Higher Education (HEA) - Title II, for teacher candidate completers from the Department of Education was 100% for 2006-2007.

Institute of Gerontology

The Institute of Gerontology was established with two goals in mind: to introduce interdisciplinary courses in gerontology into the University curriculum and to create a community resource for improving the lives of the urban elderly. In keeping with the goals of the University, special efforts by the Institute are directed toward identifying the problems of African-American and other minority aged and training professionals to work with them. The academic program of the Institute is directed towards providing the expertise essential for employment opportunities for university-trained workers in services for the aged. The Institute offers a Certificate in Gerontology for majors in public health, nursing, sociology, and social work. A general certificate in Gerontology is offered for all other majors.

UDC Academy for Lifetime Learning

The UDC Academy for Lifetime Learning (UDC-ALL) is a collective of intellectually curious older D.C. residents of diverse ethnic, educational, and economic backgrounds who believe that age is not a barrier to learning. Sponsored by the University of the District of Columbia through its Institute of Gerontology, UDC-ALL is self-governing and member-run. It offers a variety of short-term cultural, social, and educational experiences for mature learners in the form of formal presentations, lunchtime seminars, and hands-on interactive workshops, in a non-threatening, learning-friendly environment.

Early Childhood Leadership Institute

The Early Childhood Leadership Institute was established to address the District of Columbia's need to create a comprehensive system of professional development for personnel in Head Start, child care, pre-school, and before- and after-school settings. This system is designed to enhance the quality of child care services in the District of Columbia. The Institute serves to provide a child care development registry for the District of Columbia; an early childhood education trainer certification system; a Director's Credentialing Program; a transition program from the Child Development Associate (CDA) to an Associate in Arts Degree in Child Development; and conducts workshops and conferences in early care and education.

Admission to Teacher Education Programs

Students who wish to major in a teacher education program must apply for admission to the Teacher Education program. Transfer students with 45 or more credit hours of college-level work should apply during the first semester of enrollment in the University. Others must apply during the second semester of the sophomore year and not later than the first semester of the junior year.

Application forms and related information are available in the Department's office, as well as in each academic department offering a teacher education program. A student must meet the following criteria to be accepted into a teacher education program:

- Complete a minimum of 45 credit hours of college-level work (including English Composition I and II and two courses in college-level mathematics with a grade of "C" or better);
- Must have a cumulative grade point average of 2.5 or better;
- Take and Pass Voice and Articulation (1119 116) or Public Speaking (1119 115) with a grade of "C." or better;
- Submit two letters of recommendation that must he completed by persons who have direct knowledge of the candidate's potential to become an effective teacher;
- Earn a qualifying score on the Praxis I: Academic Skills Assessments in Reading, Writing, and Mathematics;
- Complete a voluntary or paid experience working with children in an organized program; and
- Have an interview with the Admissions Committee of the Teacher Education Council. Interview dates for the Fall Semester: 3rd Thursday in September and November. Dates for the Spring Semester: 3rd Thursday in February and April.
- Complete an on-line computer-based technology assessment.

Background Checks and Investigations

Police clearances and criminal background checks are required of all Education majors before advancement to candidacy and/or placement in student teaching. Failure to acquire clearance may result in students not being admitted to the program. Adverse reports from either of these investigations will preclude advancement toward degree and placement in the District of Columbia schools.

Candidates who do not meet all of the above criteria may be granted provisional acceptance upon recommendation by the Department Chair.

Final acceptance into a teacher education program will be made by the Admissions Committee of the Teacher Education Council and the Chair of the Department.

Field Services, Student Teaching, and Teacher Certification

The Coordinator of Field Services, Student Teaching, and Teacher Certification arranges all field services activities and teacher certification courses and programs offered by the Department. The coordinator serves as a liaison between educational agencies in surrounding jurisdictions and the Department to provide a wide range of field experiences for prospective teachers, as well as staff development courses for in-service teachers.

In cooperation with the District of Columbia Public Schools, the Field Services Coordinator:

- Arranges field practicum activities;
- Determines student eligibility for field service placements;
- Processes student applications for field services and student teaching; and
- Coordinates the offering of appropriate teacher certification courses as determined by the District of Columbia Public School's Office of Academic Credentialing and Standards, and
- Oversees validation of students' certification requirements.

Applications for student teaching ("Observation and Student Teaching" course) are secured from and submitted to the Field Services Coordinator. Closing dates for submission of applications for student teaching are the third Friday in March and the third Friday in September for the Fall and Spring semesters, respectively. Applications may be made at any time prior to the closing dates.

Student teaching is a full-day experience that requires students to be available from 8:00 A.M. until 3:30 P.M. Monday through Friday, for the entire semester. Adjustments to the schedule may be made by the administrators of the school to which the student is assigned.

Failure to complete satisfactorily the requirements for student teaching with a grade of "B" or better after two attempts may result in a student not being allowed to complete this requirement at the University.

Transfer students who wish to student teach must meet the Department's requirements for admission to student teaching, including a minimum of eighteen semester hours of professional education courses in residence.

Requirements for admission to student teaching are:

- Full admission into a teacher education program at least three semesters prior to student teaching;
- Completion of all courses in the student's academic program
- A cumulative grade point, average of at least 2.5;
- A grade point average of 2.5 or better in the major teaching field;
- Approval from the Chair of the Department or a designee;
- Evidence of good health, including TB test;
- Police clearance (fingerprinting); and
- Signed verification of eligibility by faculty advisor.

Students who wish to enroll in courses for purposes of certification only must meet with a faculty advisor in their disciplines to determine the appropriate course(s) that satisfy the competencies identified in the licensing and certification requirements for the District of Columbia or other jurisdictions.

Students may enroll in no more than three (3) semester hours (non-major courses) concurrently with the course, Observation and Student Teaching. Approval is required by the Chair of the Department in consultation with the Coordinator of Field Services, Student Teaching, and Teacher Certification:

Teacher Education Council

The Teacher Education Council is the body within the Department of Education that is responsible for the coordination of all of the University's teacher education programs. The Council serves as the coordinating body that:

- Assures consistency, uniformity, and quality of the teacher education programs;
- Determines and establishes policies and procedures in teacher education on such academic matters as student admissions, retention, exit, follow-up, program monitoring and evaluation, and development of new programs;
- Assumes responsibility for stimulating innovations for improved practices and new departures in programs in education; and
- Serves to facilitate communication among the various departments of the University in matters affecting programs in the preparation of teachers.

The Council consists of at least one representative from each area of the University that offers a teacher education program. Other members include the Coordinator of the Office of Field Services, Student Teaching, and Teacher Certification Department of Education provides professional education courses include: Early Childhood Education, Elementary Education, Secondary Education, Special Education, and Adult Education.

The Teacher Education Council meets the fourth Friday of each month during the academic year (beginning in September). The Council's standing committees are Student Admissions, Retention, and Exit; Program Evaluation and Follow-up; and In-service and Resource Linkage.

The University of the District of Columbia Child Development Center

The UDC Child Development Center is a model program that utilizes current and appropriate theories and practices for the educational development of voting children, ages 2 years 9 months through 4 years 8 months. The Center provides a rich learning environment for young children and serves as a practicum site for pre-service teachers in early childhood education and child development.

Students enrolled in both undergraduate and graduate programs in Child Development and Early Childhood Education may complete practicum experiences or student teaching at the Center. In addition, students majoring in other disciplines use the Center as a means of integrating classroom theory with practical learning experiences.

The Center operates from 7:00 a.m. to 6 30 p.m. Extended evening care is available until 9:00 p.m. for students enrolled in evening classes. The Center is at 4200 Connecticut Avenue, N. W. (Budding 39, A Level). For further information; call the Director at (202) 274-5213.

Teacher Certification Courses

The Department of Education works cooperatively with state licensing and certification agencies to ensure that courses offered in professional education satisfy the competencies needed for teacher certification. Areas of certification for which the Department of Education provides professional education courses include: Early Childhood Education, Elementary Education, Secondary Education (mathematics, English, art, music, history, French and Spanish), Special Education, and Adult Education.

Graduate Certificate in Adult Education

The Graduate Certificate Program in Adult Education provides a comprehensive, theoretical understanding of the field of adult education. The program addresses the current social, political, and cultural issues that educators and practitioners of adult education face.

A total of 21 graduate hours is required to complete the Certificate Program in Adult Education without teacher certification. Participants who wish to acquire teacher certification but do not have a degree in a teacher education program prior to entry to the certificate program, will be required to take additional teacher education courses. Additionally, program completers must earn a qualifying score on Praxis I: Academic Skills Assessments (Reading, Writing and Mathematics). All students must pass Praxis 1 in order to continue taking courses beyond 9 credit hours.

Core Courses: 18 credit hours

1303 504	Introduction to Adult Education	3
1303 514	Adult Learner	3
1303 525	Techniques of Teaching Adults	3
1353 589	Teaching Adults with Learning Disabilities	3
1303 537	Communication Skills in Adult Education	3
1109 695	Theory and Practice of English Language Training	3

Elective Courses: 3 credit hours

1303 544	Counseling Adult Learners	3
1303 524	Program Planning and Curriculum Development	3
1351 516	Teaching Reading to Adult Learner	3
1303 596	Internship in Adult Education	3
1303 534	Administration of Adult Education Programs	3

The program is designed to be completed in one year; however, participants may opt to complete the program in two years.

Certification in Gerontology

The general Certificate Program in Gerontology is a multi-disciplinary approach to the study of aging. The program is geared to those persons who work in the senior service network and who desire opportunities for professional development and personal enrichment; to those persons who are second or third careerists who are desirous of developing a new knowledge base without committing to a full four-year program of study; or to those persons who are simply interested in understanding their own or a loved one's aging process.

The general certificate program, consisting of 21 semester hours, has been devised in consultation with the District of Columbia Office on Aging. The required and elective courses for the program are as follows:

Requirements: 15 credit hours

1173 506	Introduction to Aging and Special Problems of the Black Elderly	3
1177 395	Introduction to the Sociology of Aging	3
1171 346	Adult Development and Aging	3
1173 275	Ecology of Health, Illness and Aging	3
1173 398	Internship Independent Study	3

Suggested Electives: 6 credit hours

1173 477	Working with the Elderly	3
1173 276	Introduction to the Economics of Aging	3
1177 244	The Family	3
1333 374	Geriatric Nutrition	3
1427 454	Gerontological Nursing	3
1427 456	Grief and Loss	3

Undergraduate Certificate Programs in gerontology are also offered in conjunction with the Bachelor of Arts or the Bachelor of Science degree in nursing, sociology/ anthropology, social work, and public health.

The Graduate Certificate Program requires the successful completion of the following core courses:

1305 537	Concepts and Issues in Gerontology	3
1305 505	Sociology of Aging	3
1305 506	Economics of Aging	3
1305 504	Psychology of Aging	3
1303 586	Internship in Adult Education Gerontology	3
1315 595	Independent Research Study	VC
1315 555	Counseling the Elderly	3

Degree Offerings in the Department of Education

The degree programs offered by the Department of Education are: Associate in Arts in Education; Bachelor of Arts in Early Childhood Education; Bachelor of Arts in Elementary Education; Bachelor of Science in Health Education; Bachelor of Arts in Special Education; Master of Arts in Early Childhood Education; and Master of Arts in Special Education. Descriptions of and specific requirements for these programs follow.

ASSOCIATE IN ARTS IN EDUCATION

The Associate in Arts degree in Education provides a comprehensive background in developmental theory, emphasizing the practical application of theory to developmentally appropriate environments for children. The program includes development from the physiological, psychological, cognitive, and sociological perspectives for children from birth through adolescence,

The curriculum is designed to meet the needs of adults working in various early childhood settings, including both public and private day care homes, child development centers, kindergartens, Head Start, and pre-school and school-age care programs. The program complements the competency requirements for the Child Development Associate (CDA) credential and the standards set by the National Association for the Education of Young Children (NAEYC).

Candidates must complete practicum and field experiences which are a part of many of the courses in the curriculum. The UDC Child Development Center serves as the practicum and field experience site for students in the program. Before- and after-school programs in the District of Columbia Public Schools and Recreation Department also serve as sites, particularly for students who elect the school-age care or general education options.

Three options: Option I Infant/Toddler/Education; Option II Early Childhood/School Age Education; and Option III General Education.

Total Credit Hours of College-Level Courses Required for Graduation: 60

University-Wide Requirements: 22 credit hours

1133 111	English Composition I	3
1133 112	English Composition II	3
1535 101	College Mathematics I	3
1535 102	College Mathematics II	3
1161 105	World Cultural Geography	3
1119 116	Voice and Articulation or	3
1119 115	Public Speaking	3
1415 107	Integrated Science	3
1415 108	Integrated Science Laboratory	1

Core Courses: 12 credit hours

1319 104	History and Philosophy of Early Childhood Education	3
	Or	
1323 220	Foundations of Education	3
1319 105	Principles of Child Development	3
	Or	
1325 244	Human Development	
1319 204	Curriculum in Early Childhood	3
1353 204	Introduction to Education of Exceptional Children	3

Option I: Infant/Toddler Education: 21 credit hours [0 to Age 3]

1319 206	Infant Education	3
1319 208	Emergent Literacy	3
1319 224	Planning and Administration Early Childhood Programs	3
1319 245	Child in the Family	3
1351305	Children's Literature	3
1319 230	Practicum I – Infant/Toddler	3
1319 326	Practicum II - Infant/Toddler	3

Suggested Electives: 5 credit hours

1109 312	Language Acquisition	3
1333 318	Child Health and Nutrition	3
3528 104	Introduction to Computers Lec	2
3528 105	Introduction to Computer Lab	1

Option II: Early Childhood/School Age (Pre-K through Grade 3): 21 credit hours

1341 174	Techniques & Skills in Dual and Team Sports	3
1105 271	Creative Crafts	3
1319 207	Understanding Self and Relationships	3
1319 225	Administration and Supervision of School-Age Care Programs	3
1319 230	Practicum I - Early Childhood	3
1319 304	Play Activities and Materials	3
1319 326	Practicum II - Early Childhood	3

Suggested Electives: 5 credit hours

1351 305	Children's Literature	3
1333 318	Child Health and Nutrition	3
3528 104	Introduction to Computers Lec	2
3528 105	Introduction to Computer Lab	1

Option III: General Education (Elementary and Secondary)

1319 314	Teacher, Child, School, and Comm Inter	3
1323 300	Educational Psychology	3
1351 314	Teaching Reading in Elem Sch.	3
1535 393	Theory and Application of Mathematics	3
1325 428	Classroom Management	3
1325 330	Practicum I (Parapro.-Section # 2)	3
1325 430	Practicum II (Parapro- Section # 2)	3

Suggested Electives: 5 credit hours

1351 305	Children's Literature	3
1333 318	Child Health and Nutrition	3
2207 104	Introduction to Business	3
3528 104	Introduction to Computers Lec	2
3528 105	Introduction to Computer Lab	1

Comments: Students must earn a grade of "C" or better in all required courses in their major including English and mathematics.

EARLY CHILDHOOD EDUCATION PROGRAM

The Bachelor of Arts degree in Early Childhood Education focuses on comprehensive care and education of children (birth through 8 years) and professional interaction with their families. This education forms the academic framework which guides the developmentally appropriate practices in early childhood settings. Emphasis is placed on responding to the developmental and cultural uniqueness of each child, as candidates in the program learn to design, implement, and evaluate learning environments and curricular activities. Each student completes student teaching experience in pre-primary and primary settings.

The program is designed to prepare candidates for careers in teaching in early childhood education settings. It enables them to fulfill teacher certification and other requirements in early childhood fields and provides the opportunity to advance on the career ladder of professional early childhood education.

Candidates must complete practicum and field experiences which are a part of many of the courses in the curriculum. The University's Child Development Center and the District of Columbia Public Schools serve as the practicum and field experience sites for students in the program.

The minimum number of credits required for graduation in Early Childhood Education is 126 credit hours of college-level courses. However, upon completion of additional courses, students may qualify for an endorsement in Early Childhood/Special Education.

Bachelor of Arts in Early Childhood Education

Total Credit Hours of College-Level Courses Required for Graduation: 126

University-Wide Requirements: 48 credit hours

1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature and Adv. Writing I	3
1133 212	Literature and Adv. Writing II	3
1535 101	College Mathematics I	3
1535 102	College Mathematics II	3
1401 101	Biological Science I	3
1401 103	Biological Science Laboratory	1
1163 101	U.S. History I	3
1163 102	U.S. History II	3
1157	Spanish Electives	6
1119 116	Voice and Articulation or	3
1119 115	Public Speaking	3
	Fine Arts Elective	3
	Philosophy Elective	3
	Natural Science Elective	3
	Natural Science Lab Elective	1
	Physical Education Elective	1

Core Courses 12 credit hours

1319 104	History and Philosophy of Early Childhood Education	3
1319 105	Principles of Child Development	3
1321 222	Children and Youth in Urban Schools	3
1353 204	Introduction to Education of Exceptional Children	3

Professional Studies/Academic Specialization: 42 credit hours

1319 208	Emergent Literacy	3
1319 230	Practicum I-Early Childhood	3
1323 300	Educational Psychology	3
1319 301	Methods and Materials for Teaching Math, Science, and Technology in Early Childhood Education	3
1319 302	Methods and Materials for Teaching Language Arts and Social Studies in Early Childhood Education	3
1351 314	Methods and Materials for Teaching Reading in Elementary Schools	3
1319 326	Practicum II - Early Childhood	3
1341 394	Methods and Materials for Teaching Health, Physical Education, and Safety in Elementary Schools	3
1325 428	Classroom Management	3
1321 461	Methods and Materials for Teaching Creative Arts	3
1319 406	Observation and Student Teaching in Early Childhood Education	12

Other Required Courses: 21 credit hours

1161 105	World Cultural Geography	3
1163 279	History of the District of Columbia	3
1319 304	Play Activities and Materials	3
1351 305	Children's Literature	3
1319 314	Teacher, Child, School, and Community Interaction	3
1333 318	Child Health and Nutrition	3
1535 393	Theory and Application of 1535	3

Suggested Electives: 3 credit hours

1323 215	Technology for Teachers	3
1353 337	Understanding Exceptional Children and Youth	3
1351 406	Techniques/Procedures for Corrective and Remedial Reading	3
1323 475	Measurement and Evaluation of Teaching and Learning	3

Comments: Candidates must earn a grade of "C" or better in all required education courses, except Observation and Student Teaching, which requires a grade of "B" or better. Candidates must take and pass Praxis II before or during the last semester of their senior year.

ELEMENTARY EDUCATION PROGRAM

The Bachelor of Arts degree in Elementary Education prepares candidates to teach children in grades Kindergarten through six. The program is designed to provide courses and field-based learning experiences which enable students to develop the skills and competencies required to effectively meet the educational needs of children in a multi-ethnic urban environment.

The program emphasizes multi-faceted curriculum approaches designed to help candidates function in a school environment which provides behaviorally-oriented learning experiences, as well as standards-based curriculum designs. Additionally, elementary education majors are exposed to opportunities to understand and become empowered to actively participate in innovative and creative approaches to teaching and curriculum reforms.

The scope of the program is also intended to prepare candidates for advanced study and education-related careers in educational technology, computer-assisted instruction, and research. Culminating with student teaching in lower and upper elementary school grades, this reflective process is organized sequentially as outlined below. The minimum number of credits required to graduate with a Bachelor of Arts degree in Elementary Education is 126 semester hours.

Bachelor of Arts in Elementary Education

Total Credit Hours of College-Level Courses Required for Graduation: 126

University-Wide Requirements: 48 credit hours

1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	English Literature and Advanced Writing I	3
1133 212	English Literature and Advanced Writing II	3
1535 101	College Mathematics I	3
1535 102	College Mathematics II	3
1401 101	Biological Science I	3
1401 103	Biological Science Laboratory	1
1163 101	U.S. History	3
1163 102	U.S. History II	3
1157	Spanish Electives	6
1119 116	Voice and Articulation or	3
1119 115	Public Speaking	3
	Fine Arts Elective	3
	Philosophy Elective	3
	Natural Science Elective	3
	Natural Science Lab Elective	1
	Physical Education Elective	1

Core Courses: 12 credit hours

1353 204	Introduction to Education of Exceptional Children	3
1321 220	Foundations of Education	3
1321 222	Children and Youth in Urban Schools	3
1323 244	Human Development and Behavior	3

Professional Studies/Academic Specialization: 45 credit hours

1323 300	Educational Psychology	3
1325 304	Methods and Materials for Teaching Language Arts in Elementary Schools	3
1325 305	Methods and Materials for Teaching Social Studies in Elementary Schools	3
1325 306	Methods and Materials for Teaching 1535 in Elementary Schools	3
1325 307	Methods and Materials for Teaching Science in Elementary Schools	3
1351 314	Methods and Materials for Teaching Reading in Elementary Schools	3
1325 330	Practicum I –Elementary Education	3
1341 394	Methods and Materials for Teaching Health, Physical Education and Safety in Elementary Schools	3
1325 428	Classroom Management in Elementary Schools	3
1325 430	Practicum II- Elementary Education	3
1325 434	Observation and Student Teaching in Elementary Schools	12
1321 461	Methods and Materials for Teaching Creative Arts in Elementary Schools	3

Other Required Courses: 18 credit hours

1161 105	World Cultural Geography	3
1163 279	History of the District of Columbia	3
1319 314	Teacher/Child/School/Community Interactions	3
1351 305	Children's Literature	3
1351 406	Techniques/Procedures for Corrective and Remedial Reading	3
1535 393	Theory and Application of Mathematics	3

Suggested Electives: 3 credit hours

1323 215	Special Topics: Technology for Teachers	3
1333 318	Child Health and Nutrition	3
1353 411	Developing and Implementing IEP	3
1323 475	Measurement and Evaluation of Teaching and Learning	3

Comments: Candidates must earn a grade of "C" or better in all required education courses, except Observation and Student Teaching, which requires a grade of "B" or better. Candidates must take and pass Praxis II before or during the last semester of their senior year.

HEALTH EDUCATION PROGRAM

The Health Education Program offers a Bachelor of Science degree in two options: health and physical education, and public health. In addition, courses related to health and physical fitness may be taken by the general University student population to satisfy electives and university-wide requirements.

Health education offerings are designed to prepare professional service personnel for employment opportunities as administrators in both the public and private sectors. Graduates of the program may pursue careers as health and physical education teachers, public health administrators and educators, athletic coaches and directors, physical fitness trainers, wellness center directors, and recreation specialists and program directors.

Additional credits are offered and required for certification to teach health and physical education in the District of Columbia Public Schools. The Health Education Program requires students to maintain a cumulative grade point average of 2.5 in major courses for graduation

Bachelor of Science in Health Education

Total Credit Hours of College-Level Courses Required for Graduation: 120-134

University-Wide Requirements: 48 credit hours

1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature and Advanced Writing I	3
1133 212	Literature and Advanced Writing II	3
1535 101	General College Mathematics I	3
1535 102	General College Mathematics II	3
1401 101	Biological Science I	3
1401 103	Biological Science I Lab	1
1401 111	Fundamentals of Anatomy and Physiology I	3
1401 113	Fundamentals of Anatomy and Physiology I Lab	1
1119 116	Voice and Articulation **or**	
1119 115	Public Speaking	3
	Foreign Language Electives* (1 year)	6
	Fine Arts Elective	3
	Philosophy Elective	3
	Social Sciences Electives**	
	Physical Education Elective	1

* Spanish is the required foreign language for the Health and Physical Education Option.

**History of the District of Columbia and Principles of Psychology are the required social sciences for the Health and Physical Education Option.

Core Courses for Option I and II: 35 credit hours

1401 112	Fundamentals of Anatomy and Physiology II	3
1401 114	Fundamentals of Anatomy and Physiology II Lab	1
1333 103	Introduction to Nutrition	3
1333 103	Introduction to Nutrition Lab	1
1337 105	Personal and Community Health	3
1337 204	Prevention, First Aid and Emergency Medical Services	3
1337 424	Sex Education	3
1337 405	Health and Safety of Community Populations	3
1337 426	Drug Use and Abuse	3
1341 465	Measurement and Statistical Analysis in Health, Physical Education, and Leisure Studies	3
1341 104	Introduction to the History and Philosophy of Health, Physical Education and Leisure Studies	3
1341 494	Senior Project in Health, Physical Education and Leisure Studies	3
1341	Skills Electives*	3

*Health and Physical Education Option must take Intermediate Swimming.

Academic Specialization 1: Public Health Option: 42 credit hours

Students selecting the Public Health Option shall take the following courses:

1337 321	Organization and Administration of School Health and Community Health Programs	3
1337 390	Health Practicum	2
1337 404	Mental Health	3
1337 406	Consumer Health	3
1337 417	Internship	4
1337 493	Seminar: Health Issues	3
3528 104	Introduction to Applications of Computers	2
3528 105	Introduction to Applications of Computers Lab	1
1415 450	Environmental Health	3
1415 451	Environmental Health Lab	1
1401 245	Clinical Microbiology	3
1401 244	Clinical Microbiology Lab	1
1337 214	Survey of Public Health	3
1337 314	Public Health Planning and Program Development	3
	Business Elective	3
	General Electives	4

Academic Specialization: Health and Physical Education Option: 51 credit hours (Requires admission to Teacher Education)

1321 220	Foundations of Education	3
1321 222	Children and Youth in Urban Schools	3
1323 244	Human Development and Behavior **or**	
1319 205	Principles of Child Development	3
1323 300	Educational Psychology	3
1351 314	Methods and Materials for Teaching Reading in Elementary Schools **or**	
1351 315	Methods and Materials for Teaching Reading in Secondary Schools	3
1341 284	Mechanical and Kinesiological Analysis of Human Motion	3
1341 357	Athletic Coaching and Officiating	3

1341 389	Physiology of Exercise	3
1341 390	Introduction to Adaptive Physical Education	3
1341 394	Methods and Materials of Teaching Health, Physical Education and Safety in Elementary Schools	3
1341 396	Methods and Materials of Teaching Health, Physical Education and Safety in Secondary Schools	3
1341 407	Organization and Admin. of Physical Education and Leisure Studies	3
1341 174	Technique and Skills in Dual and Team Sports	3
1325 434	Observation and Student Teaching in Elementary Schools	6
1321 471	Observation and Student Teaching in Secondary Schools	6

Comments: Candidates must earn a grade of "C" or better in all required education courses, except Observation and Student Teaching, which requires a grade of "B" or better.

SPECIAL EDUCATION PROGRAM

The Bachelor of Arts degree in Special Education is designed to meet the non-categorical teacher certification requirements for the District of Columbia and other school jurisdictions. Upon completion of the program, students will be prepared for careers as teachers in public and private schools or as special educators who provide direct services to children and youth with special needs.

The program of study is designed to provide courses and learning experiences that enable candidates to develop teaching skills and competencies required to assess the academic, social, and behavioral needs of exceptional children and youth within a multi-ethnic urban school setting; to acquire and apply teaching methods, learning strategies, and instructional interventions that are based on sound research and best practices; to effectively manage a performance-based, behaviorally-oriented learning environment in grades K-12; and to prepare students for advanced graduate study.

Candidates must complete practicum and field experiences which are a part of many of the courses in the curriculum. These experiences allow for progressive application of the educational principles and practices required to meet the objectives of the program.

Bachelor of Arts In Special Education

Total Credit Hours of College-Level Courses Required for Graduation: 126

University-Wide Requirements: 48 credits

1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature and Advanced Writing I	3
1133 212	Literature and Advanced Writing II	3
1535 101	General College 1535 I	3
1535 102	General College 1535 II	3
1401 101	Biological Science I	3
1401 103	Biological Science I Lab	1
1163 101	United States History I	3
1171 210	Principles of Psychology	3
	Electives (1 Year)	6
1119 116	Voice and Articulation **or**	
1119 115	Public Speaking	3
	Fine Arts Elective	3
	Philosophy Elective	3
	Natural Science Elective	3
	Natural Science Lab Elective	1
	Physical Education Elective	1

Core Courses: 12 credit hours

1323 244	Human Development and Behavior	3
1353 204	Introduction to Education of Exceptional Children	3
1321 220	Foundations of Education	3
1321 222	Children and Youth in Urban School	3

Professional Studies/Academic Specialization Courses: 45 semester hours

1353 214	Field Experience in Special Education I	3
1353 314	Field Experience in Special Education II	3
1323 300	Educational Psychology	3
1353 305	Intro. to Legal Issues in Special Education	3
1353 306	Behavior Management in the Classroom	3
1351 314	Methods and Materials for Teaching Reading in Elementary **or**	
1351 315	Methods and Materials for Teaching Reading in Secondary Schools	3
1353 435	Methods I: Teaching, Math, Science and Technology for Special Populations	3
1353 436	Methods II: Teaching Language Arts and Social Studies for Special Populations	3
1353 485	Assessment of Exceptional Children	3
1353 454	Vocational Aspects of Disabilities	3
1353 411	Development of Individualized Educational Programs -IEPs	3
1353 474	Observation and Student Teaching in Special Education - Elementary	6
1353 475	Observation and Student Teaching in Special Education – Secondary	6

Other Required Courses (18 Semester Hours)*

1161 105	World Cultural Geography	3
1163 279	History of the District of Columbia	3
1109 312	Language Acquisition	3
1351 406	Tech/Corrective Remedial Reading	3
1341 390	Introduction to Adaptive Physical Education	3
1535 393	Theory and Application of Math	3

Suggested Electives: 3 semester hours

1323 215	Special Topics: Technology for Teachers	3
1333 318	Child Health and Nutrition	3
1351 305	Children's Literature	3

Comments: Candidates must earn a grade of "C" or better in all required education courses, except Observation and Student Teaching, which requires a grade of "B" or better.

GRADUATE PROGRAM IN THE DEPARTMENT OF EDUCATION

Admissions Requirements

Students must apply for admissions into the graduate program through the Department of Education and be admitted to graduate candidacy before taking more than 9 semester hours. Students may be admitted on a provisional basis as non-degree seeking. To be admitted into the program, students must meet all admissions requirements of the University of the District of Columbia. In addition, students must meet the following Department of Education requirements to be fully admitted into the Master of Arts Degree

Program in Early Childhood Education or the Master of Arts Degree Program in Special Education:

- Submit a completed Graduate Application for Admission to the University;
- Show proof of a baccalaureate degree from an accredited institution with a cumulative grade point average of at least 2.8;
- Earn a qualifying score on Praxis I (Student must submit an original copy of Praxis scores to Graduate Coordinator in the Department of Education);
- Demonstrated proficiency in writing is required of all graduate students. Students must take the Graduate Record Examination (GRE) Analytical Writing Subtest as a requirement of admission. The minimal acceptable score is a 4.0. Students failing to meet the criterion score may be admitted conditionally. If admitted conditionally, a student must enroll in and pass (with a grade of B or better) the University's graduate writing proficiency course 1133-290 during their semester of admission to the university.
- Satisfy all undergraduate prerequisite courses, where applicable, that have been determined by the Department of Education's Graduate Admissions Committee.
- Demonstrate basic computer literacy skills;
- Be interviewed by the Department of Education's Graduate Admissions Committee. The interview will include a brief reflective writing activity.

The student will receive written notice from the Graduate Studies Committee as to his/her eligibility status for admission to the program under the following conditions:

- Applicant is ***approved*** to major in the program area, unconditionally
- Applicant is ***conditionally approved*** to major in the program area indicated. Letter is sent to applicant indicating the condition(s). The Graduate Studies Committee will determine the criteria for conditional acceptance as relevant to the student. The student must complete all criteria as required within the first semester of graduate studies in order to continue in the program.
- Applicant is ***approved to register*** as a non-degree student for a maximum of 9 credit hours.
- Applicant is ***approved for readmission***. If approval is conditional, a letter is enclosed indicating the reason(s) for this decision.
- Applicant is authorized to register as a Special Student, for ***one term*** only in the program.
- Applicant is ***ineligible*** for admission. Letter is sent to applicant indicating the reason(s) for this decision.

Academic Standing

In order to continue matriculation in the graduate program, the student must remain in good academic standing. The University requires that graduate students maintain a cumulative GPA (CGPA) of 3.0 in order to be considered as in good standing. Once the student is advanced to candidacy in a teacher education program, the candidate must:

- Maintain 3.0 cumulative grade point average to remain in good academic standing. Students are required to earn a grade of "B" or higher in all major courses.
- Consult with his/her advisor each semester.
- Maintain membership in a professional organization
- Continue to upgrade portfolio
- Show continuous growth in all professional areas as specified by the Department.

Advancement to Candidacy

Students must apply for admission to candidacy through the Department of Education in the graduate teacher education program before taking more than 9 semester hours of core work taken in residence. In order to advance to candidacy, the student must meet the following requirements:

- Submit a completed *Application for Admission to Candidacy* to Graduate Programs;
- Submit an official transcript showing proof of an earned cumulative grade point average of 3.0 in the first 9 semester hours of graduate core work taken in residence.
- Earn a qualifying score on all 3 components of the Praxis 1 Academic Skills Assessment in Reading, Writing, and Mathematics Examination.
- Submit two letters of recommendation that must be completed by persons who have direct knowledge of the student's potential to become an effective teacher/administrator;
- Submit a Work Experience Form, video portfolio, or other performance-based entry documenting the student's entering knowledge, skills, and dispositions related to the profession;
- Be interviewed by the Graduate Studies Committee, Department of Education. The interview will include a written reflective activity relevant to their field of study.
- Demonstrate specific computer literacy. A laboratory skills assessment experience will be arranged during the interview session.

Students who do not have an undergraduate degree in education or a related academic discipline will be required to complete additional undergraduate courses depending upon the requirements of their major. These courses must be satisfactorily completed before taking graduate courses applicable to the degree.

Students who have less than one year of evaluated teaching experience in the program discipline are required to complete 6 hours supervised internship/teaching experience with a grade of B or higher.

Any person not accepted to candidacy will be prohibited from further enrollment as a degree-seeking candidate in the Department of Education until specified conditions have been fulfilled as deemed appropriate by the Department of Education.

The Teacher Education Council and/or the Graduate Studies Committee and the Chairperson of the Department of Education will make final acceptance to candidacy in the Unit's graduate program.

Academic Probation

If the CGPA falls below 3.0 in a given semester, the graduate student or candidate is placed on academic probation and must retake courses or enroll in pre-approved elective courses in order to improve his/her CGPA. The course load is reduced from full-time to part-time (6 hours). These students will be notified by the Dean's Office in writing of their probationary status. They are required to rectify their academic standing (bring the CGPA to a minimum of 3.0).

Academic Suspension

Academic suspension occurs when a student fails to meet the requirements of their academic probation. Students who are placed on academic suspension may seek reinstatement one semester following the semester of their suspension. Upon reinstatement, the student must bring their academic status to the level of good standing. If the student seeks reinstatement two or more semesters after their semester of suspension, then he/she must apply for readmission to the University.

Transfer Credit: Students may transfer no more than 9 credit hours of graduate credit earned from an accredited institution. Transfer courses will be evaluated and accepted toward the degree, however, on the basis of their applicability to the requirements of the program. No credits will be accepted that are more than 5 years old.

Graduate Writing Proficiency Requirement: Demonstrated proficiency in writing is required of all graduate students. Students must take the Graduate Record Examination (GRE) Analytical Writing Subtest as a requirement of admission. The minimal acceptable score is a 4.0. Students failing to meet the criterion score may be admitted conditionally. If admitted conditionally, a student must enroll in and pass (with a grade of B or better) the University's graduate writing proficiency course 1133-290 during their semester of admission to the university.

Written Comprehensive Examination: Students are required to pass a written comprehensive examination, which is taken during the final semester of the student's academic degree program. The dates for the Examination are as follows:

Fall Semester

Orientation - 2nd Friday in September

Examination - 2nd Friday in October

Retake (If applicable) - 3rd Friday in November

Spring Semester

Orientation - 2nd Friday in February

Examination - 2nd Friday in March

Retake (If applicable) - 3rd Friday in April

Students who fail to earn a passing score on the Written Comprehensive Examination after two attempts will be dismissed from the graduate program.

Thesis: (Optional) The submission of an acceptable thesis in lieu of six additional credit hours of course work may be approved by the student's academic advisor.

MASTER OF ARTS DEGREE IN EARLY CHILDHOOD EDUCATION

The Master of Arts degree in Early Childhood Education is designed to offer professional preparation in early childhood education for careers as master teachers or as early childhood specialists in the private and public sectors. The program leading to the Master's degree presupposes that the student has met the requirements for teacher certification or plans to take the necessary additional courses concurrently that will lead to certification prior to graduation. The advisor, in consultation with the Chair of the Department of Education, will plan a program of study, which includes specific courses that will enable the student to become certified upon completion of the program of study. In order to meet requirements for certification and the Master's degree concurrently, the student should be prepared for a longer period of study.

Curriculum Requirements

The completion of a minimum of 36 credit hours is required for the Master of Arts degree in Early Childhood Education. Students who have less than one year of teaching experience in early childhood education or who did not complete student teaching in an undergraduate program will be required to enroll in the Department's undergraduate course, 1319 406 Observation and Student Teaching in Early Childhood Education.

Core Courses: 12 credit hours

1319 505	Child Development Theories in Early Childhood Education	3
1319 580	Managing the Early Childhood Environment	3
1321 684	Introduction to Educational Research	3

Academic Specialization: 21 credit hours

1319 504	Curriculum and Methods for Teaching Language Development in Early Childhood Education	3
1319 506	Curriculum and Methods for Teaching Math, Science, and Technology in Early Childhood Education	3
1319 508	Curriculum and Methods for Teaching Creative Arts in Early Childhood Education	3
1319 510	Curriculum and Methods for Teaching Social Studies, Health, Physical Education and Safety in Early Childhood Education	3
1319 515	Impact of Home, School, and Community Interaction on Early Childhood Education	3

1353 505	Curriculum Methods for Diagnostic and Prescriptive Teaching	3
1319 606	Administration in Early Childhood Education	3

Research Courses - for Thesis Option Only (6 credit hours)
Students electing the thesis option are required to enroll in Thesis and Statistics course:

1319 696	Thesis	(3-6)
1535 599	Basic Statistical Methods	3

Suggested Electives (Non-Thesis Option-6 credit hours)

1353 504	Foundations of Special Education	3
1353 537	Psychology of Exceptional Children	3
1319 599	Special Topics: Technology for Teachers	3
1319 607	Internship in Early Childhood Education	3
1171 552	Advanced Statistics and Research Design	3

Comment: Candidates must maintain a cumulative grade point average of 3.0 or better throughout their program of study. If the grade point average falls below 3.0, students are suspended from the program. A grade of "B" or better is required in all core and academic specialization courses.

MASTER OF ARTS DEGREE IN SPECIAL EDUCATION

The Master of Arts degree in Special Education is designed to offer advanced graduate training and professional preparation for careers as master teachers in public or private schools and other educational institutions. The goals of the Master's program are oriented toward students acquiring advanced knowledge and professional competencies in the areas of psycho-social, socio-cultural, and psycho-educational development, and behavior management or special populations of children and youth.

The program is structured to emphasize interrelated course work in the following areas of learning: instruction and teaching methods, educational research and design, diagnostic testing and applied instructional interventions, and educational programming and behavior management in the classroom setting. It is primarily directed toward individuals who hold teaching certification and have had teaching experience in special education or related disciplines. Upon satisfactory completion of the program, students are prepared to fulfill a variety of roles related to teaching and instructional practices in schools and institutions serving special populations of children and youth.

Curriculum Requirements
The completion of a minimum of 39 semester hours is required for the Master of Arts degree in Special Education. Students who have less than one year of teaching experience in special education are required to complete 6 hours of internship.

Candidates who are seeking specialization in one of two categorical areas – Serious Emotional Disturbance or Specific Learning Disabilities - or who wish to study Special Education and Early Childhood Education will be required to take additional courses.

Core Courses: 12 credit hours

1353 504	Foundations of Special Education	3
1353 557	Behavioral and Classroom Management	3
1321 684	Introduction to Educational Research	3
1535 599	Basic Statistical Methods	3

Academic Specialization: 21 credit hours
Non Categorical K-12

1353 505	Curriculum Methods for Diagnostic and Adaptive Teaching	3
1109 509	Language Development and Remediation	3
1353 515	Development, Implementation, Monitoring IEP's	3
1353 537	Psychology of Exceptional Children and Youth	3
1353 554	Vocational Aspects of Disabilities	3
1353 585	Assessment of Exceptional Children	3
1353 588	Current Trends and Legal Issues in Special Education	3

Practicum/Internship: 6 credit hours**

1353 597	Internship in Special Education I	3
1353 598	Internship in Special Education II	3

**Required of candidates who have less than one year of teaching experience in special education.

Research Courses - for Thesis Option Only: 6 credit hours
Students electing the thesis option are required to enroll in the Thesis course:

1353 696	Thesis	(3-6)

Suggested Electives: 6 credit hours

1353 590	Research Seminar in Special Education	3
1353 589	Special Topics: Technology for Teachers	3
1109 695	Seminar in Bilingualism	3
1109 698	Sign Language	3
1171 537	Life Span Development	3
1171 535	Tests and Measurements	3
1303 589	Teaching Adults with Learning Disabilities	3

Certification in Serious Emotional Disturbance: 15 credit hours

1353 591	Psychological and Behavior Characteristics of the Serious Emotionally Disturbed	3
1353 592	Behavior Management for Children and Youth with Serious Emotional Disturbance	3
1353 593	Educational Programming and Implementation for the Serious Emotionally Disturbed	3
1353 597	Internship in Special Education I	3
1353 598	Internship in Special Education II	3

Certification in Specific Learning Disabilities: 15 credit hours

1353 594	Psychological and Behavioral Characteristics of Children and Youth with Specific Learning Disabilities	3
1353 595	Diagnostic Techniques and Intervention for Children and Youth with Specific Learning Disabilities	3

1353 596	Educational Programming and Curriculum Modification in Basic Skills Instruction for the Specific Learning Disabled	3
1353 597	Internship in Special Education I	3
1353 598	Internship in Special Education II	3

Candidates must maintain a cumulative grade point average of 3.0 or better throughout their program of study. If the grade point average falls below 3.0, students are suspended from the program. A grade of "B" or better is required in all core and academic specialization courses.

COURSE DESCRIPTIONS

1319 104 History and Philosophy of Early Childhood Education (3)
Traces the theoretical, social, and political roots of early childhood education. Discusses the impetus for the development of nursery schools, Head Start, special education programs, multicultural education, and child care. Highlights policy issues affecting young children and their families. **Field experiences required.**

1319 105 Principles of Child Development (3)
Presents human development through the life span, with special emphasis on cognitive, language, physical, social and emotional development, both typical and atypical from birth through age 8. Twenty hours of clinical observation is required.

1319 204 Curriculum Content in ECE (3)
Analyzes existing curricula emphases in Early Childhood Education as a basis for designing, developing and evaluating curricula for use in early childhood education settings. Prereq.: 1319 104 and 105.

1319 205 Advanced Child Development (3)
Examines the principles of development with emphasis on school age and adolescence. Stresses positive physical, cognitive, social and emotional development, along with building self-esteem. Prereq.: 1319 104, 105.

1319 206 Infant Education (3)
Focuses on developmental characteristics of infants from the prenatal period through two years of age. Focuses on guidance of infants and toddlers within family and group care settings, development in the context of the family, program, and society. Requires participation with infants. Prereq.: 1319 104 and 105.

1319 207 Understanding Self and Relationships (3)
Explores dynamic socialization processes involving children, adolescents, peers, parents, and society. Discusses sources of developmental and individual differences in identity formation and attainment, as well as theory and research related to social and emotional development of children and adolescents.

1319 208 Emergent Literacy (3)
Explores how language and literacy develop in young children. Students will identify literacy activities for young children that are appropriate to their age and development. Emphasis on creating an environment that encourages concepts and language development that make literacy practices practical.

1319 224 Planning and Administration of Early Childhood Programs (3)
Discusses guidelines to achieve quality programming for early childhood programs. Focuses on effective interpersonal communication skills in program management; principles of management and operation; and designing and scheduling appropriate space and activities. Prereq.: 1319 104 and 105.

1319 225 Administration and Supervision of School Age Care Programs (3)
Focuses on administration, financial, and program management and the foundations of quality school age programming. Focuses on planning a safe, healthy environment for before- and after-school care and strategies for effective program management. Prereq.: 1319 104 and 105.

1319 230 Practicum I (3)
Provides directed observation and participation with preschool and primary grade (1-3) children. Focuses on instruments, skills, and assessment strategies of young children. Provides experience in team assessments. Requires lecture and 30-hour practicum. Prereq.: 1319 104 and 105.

1319 245 The Child in the Family (3)
Considers the influence of family interaction in the management of children and personality development and the impact of parental practices on child rearing. Examines current issues with appropriate multicultural examples, including child care and nontraditional parenting situations. Prereq.: 1319 104 and 105.

1319 301 Methods and Materials for Teaching Mathematics, Science, and Technology in Early Childhood Education (3)
Emphasizes activities and materials for teaching mathematics and science. Uses competency-based approach to define goals, concepts, and skills. Develops curriculum based on the stages of early childhood development and how learning can be evaluated. Emphasizes planning for teaching, classroom management, use of instructional resources, and related technology. Practicum required. Prereq.: Admission to the Teacher Education Program. **Field experiences required.**

1319 302 Methods and Materials for Teaching Language Arts and Social Studies in Early Childhood Education (3)
Emphasizes language and literacy skills, geography, culture, and heritage through speaking, listening, reading, and writing. Introduces students to strategies to promote pro-social behavior, social awareness, and interpersonal skills. Emphasizes planning for teaching; evaluative devices; classroom management; use of instructional resources; and related technology. Practicum required. Prereq.: Admission to the Teacher Education Program. **Field experiences required**.

1319 304 Play Activities and Materials (3)
Examines the principles of evaluation and selection of play activities and materials for pre-school and children in grades 1-3. Explores the design of learning environments and play strategies appropriate for individuals and groups and for appropriate developmental levels. Prereq.: 1319 104 and 1319 105.

1319 314 Teacher, Child, School and Community Interaction (3)
Concentrates on giving students an insight into parental involvement with the child, the school, and the multi-cultural community. Provides opportunities for students to have first-hand experiences with community organizations and government agencies concerned with the welfare of young children. Prereq.: 1319 104, 105; 1321 222.

1319 326 Practicum II (3)
Provides direct observation and participation with preschool and primary grade (1-3) children. Focuses on management strategies and program activities for early childhood education. Allows opportunities for students to gain experience in assisting the classroom teacher. Requires lecture and 30-hour practicum. Prereq.: 1319 104, 105; 1319 230.

1319 406 Observation and Student Teaching in Early Childhood Education (VC)
Focuses on observation and practical experiences in pre-kindergarten and primary grades. Evaluates students' proficiency of theoretical concepts, content, and teaching strategies. Requires weekly professional development seminar. Prereq.: Clearance by major advisor and Coordinator of Field Services, Student Teaching, and Teacher Certification. Prereq: 1319 230; 1319 326.

1319 408 The Young Child in a Multicultural Society (3)
Concentrates on enhancing students' appreciation of and respect for other cultures. Employs modules of the study of cultures such as those of African, Asian, Spanish-speaking, and Native American traditions and values. Emphasizes strategies for utilizing these materials in the early childhood setting. Prereq.: 1323 300.

1319 409 Workshop, Seminar, Institute (3)
Presents topics/problems related to issues in education. Designed for special groups that wish to explore current topics and issues relevant to the field of education.

1321 220 Foundations of Education (3)
Presents historical, philosophical, psychological, and social foundations of education in America. Focuses on constitutional and statutory provisions for public school education. Emphasizes the role of teaching and learning in a multicultural environment. **Field experience required.**

1321 222 Children and Youth in Urban Schools (3)
Provides an overall perception and understanding of the school as an integral part of society in an urban environment. Emphasizes the role of the teacher in promoting and understanding multicultural awareness. Explores other major contemporary issues/concerns encountered by urban educators.

1321 405 Classroom Management (3)
Provides instruction in the various techniques for effective management of a K-12 classroom. Emphasis is on creating positive learning environments and developing effective classroom instructional practices.

1321 434 Methods of Teaching Business Subjects in Secondary Schools (3)
Focuses on current instructional strategies used to facilitate learning business in secondary schools. Emphasizes planning for teaching; effective utilization of instructional resources; and related technology for teaching specific content to the learner. Prereq.: Junior standing and permission of Department Chairperson. **Field experience required.**

1321 445 Methods of Teaching Art (PreK-12) (3)
Focuses on current instructional strategies used to facilitate learning art at the Pre-K-12 levels. Emphasis is on planning for teaching; effective utilization of instructional resources; evaluative devices; classroom management; and related technology for teaching specific content to the learner. Prereq.: Junior standing and permission of Department Chairperson. **Field experience required.**

1321 446 Methods of Teaching Science in the Secondary Schools (3)
Focuses on current instructional strategies used to facilitate learning science in secondary schools. Emphasizes planning for teaching; effective utilization of instructional resources; evaluative devices; classroom management; and related techniques for teaching specific content to the learner. Prereq.: Junior standing and permission of Department Chairperson. **Field experience required.**

1321 449 Methods of Teaching English in the Secondary Schools (3)
Focuses on current instructional strategies used to facilitate learning English in secondary schools. Emphasizes planning for teaching; effective utilization of instructional resources; evaluative devices; classroom management; and related techniques for teaching specific content to the learner. Prereq.: Junior standing and permission of Department Chairperson. **Field experience required.**

1321 450 Methods of Teaching Foreign Languages (Pre-K -12) (3)
Focuses on current instructional strategies used to facilitate learning foreign languages at the pre-K-12 levels. Emphasis is on planning for teaching; effective utilization of instructional resources; evaluative devices; classroom management; and related techniques for teaching specific content to the learner. Prereq.: Junior standing and permission of Department Chairperson. **Field experience required.**

1321 452 Methods of Teaching Social Studies in the Secondary Schools (3)
Focuses on current instructional strategies used to facilitate learning social studies in secondary schools. Emphasizes planning for teaching; effective utilization of instructional resources; evaluative devices; classroom management; and related technology for teaching specific content to the learner. Prereq.: Junior standing and permission of Department Chairperson. **Field experience required.**

1321 454 Methods of Teaching Mathematics in Secondary Schools (3)
Focuses on current instructional strategies used to facilitate learning mathematics in secondary schools. Emphasizes planning for teaching; effective utilization of instructional resources; evaluative devices; classroom management; and related technology for teaching specific content to the learner. Prereq.: Junior standing and permission of department chair. **Field experience required.**

1321 458 Music for the Specialist (Pre-K-12) (3)
Studies music objectives, concepts, curricular plans, and materials; the development of techniques and strategies for the instruction of students, Pre-K-12; effective utilization of instructional resources; classroom management and related technology. Practicum is required. Prereq.: Junior standing in music and music education for vocal and instrumental majors.

1321 461 Methods of Teaching Creative Arts in Elementary Schools (3)
Focuses on methods, materials, and procedures to be used at the early childhood and elementary levels for teaching creative arts (art, music, drama, movement, literature, storytelling). Emphasizes lesson planning, classroom management, assessment, and use of technology in teaching. Prereq.: Junior standing.

1321 470 Observation and Student Teaching in Secondary Schools (VC)
(For Music Majors Only)
Provides opportunities for students to teach one-half day for one semester or one whole day for one-half semester in a junior or senior high school. Requires weekly professional development seminar. Prereq.: Clearance by major advisor and Coordinator of Field Services, Student Teaching, and Teacher Certification.

1321 471 Observation and Student Teaching in Secondary Schools (VC)
Focuses on observation and full-time practical experiences in junior or senior high settings under the guidance of a certified teacher and college supervisor. Evaluates students' proficiency of theoretical concepts, content, and teaching strategies. Requires weekly professional development seminar. Prereq.: Clearance by major advisor and Coordinator of Field Services, Student Teaching, and Teacher Certification.

1321 495 Independent Study (3)
Allows students an opportunity to pursue any topic germane to the Department on an individual basis. Allows students to study subject matter of special interest under faculty supervision and counsel. Prereq.: Permission of Department Chairperson.

1323 215 Technology for Teachers (3)
Incorporates technology tools and resources to locate Internet resources, collect data, develop lesson plans, create support materials, publications, multimedia presentations, and begin a web site.

1323 244 Human Development and Behavior (3)
Presents a study of the intellectual, physical, emotional, and social growth processes over the life span. Emphasizes theories of growth, development, and learning. **Field experience required.**

1323 300 Educational Psychology (3)
Examines current theory and practice in the teaching/ learning process. Explores implications of theories for teaching/learning activities. Discusses methods of assessing student learning, performance assessments, and standardized tests. Prereq.: 1321 220 and 1321 222. **Field experience required.**

1323 475 Measurement and Evaluation of Teaching and Learning (3)
Provides techniques of measurement and evaluation of achievement, adjustment, and intelligence. Studies informal teacher-made tests and standardized tests. Develops criteria for the selection of instruments of evaluation. Includes elementary statistics to enable the student to analyze and interpret the results of testing.

1325 304 Methods and Materials of Teaching Language Arts in Elementary Schools (3)
Provides pre-service teachers with the theoretical background and instructional strategies for teaching the language arts. Includes topics such as aural-oral communication, listening, speaking, reading, literature, written composition, handwriting, and spelling. Emphasizes planning; classroom management; use of instructional resources, and related technology. Requires practicum. Prereq.: Admission to Teacher Education Program. **Field experience required.**

1325 305 Methods and Materials of Teaching Social Studies in Elementary Schools (3)
Focuses on traditional and innovative ways to teach the elementary school social studies curriculum. Emphasis is on analyzing and practicing research-based pedagogy and the relationship between social science and social studies. Additionally, it explores the resources and materials needed to effectively guide children to the achievement of social studies goals and objectives and the planning, management, and technological tools required. Requires practicum. Prereq.: Admission to Teacher Education Program. **Field experience required.**

1325 306 Methods and Materials of Teaching Mathematics in Elementary School (3)
Examines the objectives, content, methods, and instructional materials of mathematics and mathematics instruction for the elementary grades. Emphasizes the nature of mathematics, consumer mathematics, metric education, and diagnostic and prescriptive techniques of teaching mathematics. Emphasizes planning; classroom management; use of instructional resources, and related technology. Requires practicum. Prereq.: Admission to Teacher Education Program. **Field experience required.**

1325 307 Methods and Materials of Teaching Science in Elementary Schools (3)
Examines the objectives, content, methods, and instructional materials of science and science instruction in the elementary grades. Emphasizes the processes and techniques of science and how teachers can help pupils use such processes in problem-solving situations. Emphasizes planning; classroom management; use of instructional resources, and related technology. Requires practicum. Prereq.: Admission to Teacher Education Program**. Field experience required**.

1325 330 Practicum I (3)
Provides directed observation of and participation with primary children. Focuses on one-to-one tutoring, developing mini-lessons, providing individualized instruction, monitoring small groups, and related teaching activities. Lecture and 30-hour practicum are required. Prereq.: 1321 220 and 1321 222.

1325 428 Classroom Management (Elementary) (3)
Provides instruction in the various techniques for effective management of a K-6 classroom. Emphasis is on creating positive learning environments and developing effective classroom instructional practices.

1325 430 Practicum II (3)
Provides directed observation of and participation with intermediate children. Focuses on one-to-one tutoring, developing mini-lessons, providing individualized instruction, monitoring small groups, and related teaching activities. Requires lecture and 30-hour practicum. Prereq.: 1325 330

1325 434 Observation and Student Teaching in the Elementary School (VC)
Focuses on observation and full-time practical experiences in an elementary school setting under the guidance of a certified teacher and a college supervisor. Requires weekly professional development seminar. Prereq.: Clearance by major advisor and Coordinator of Field Services, Student Teaching and Teacher Certification. Prereq: 1325 330; 1325 430.

1325 435 Observation and Student Teaching in Elementary Schools (VC)
(For Music Majors Only)
Provides opportunities for students to teach one-half day for one semester or one whole day for one-half semester in an elementary school. Prereq.: Clearance by major advisor and Coordinator of Field Services, Student Teaching, and Teacher Certification.

1337 105 Personal and Community Health (3)
Is concerned primarily with sound health knowledge, attitudes and behavior as they apply to the individual. Content covers the spectrum of health problems of concern to the individual from childhood through the senior years with special attention given to the urban environment.

1337 204 Prevention, First Aid & Emergency Medical Service (3)
Includes emphasis on accident prevention and proper injury management in the general and sport environment. Students will receive Red Cross Certification in CPR and First Aid upon completion of course requirements.

1337 214 Survey of Public Health (3)
Presents a comprehensive overview of the public health field, including the history and philosophy of public health. The primary intent is to provide information, insight and perspective on a wide range of public health concerns impacting urban and rural populations, as well as children, adults, and the senior citizen. Prereq.: 1341 104.

1337 224 Survey of School Health Programs (3)
Is designed to deal with the aspects of school health: health environment, health services, and health education. The relationships of the school health programs and the general education program are emphasized.

1337 314 Public Health Planning and Program Development (3)
Is designed to develop basic knowledge and technical skills required to identify and assess the magnitude of health problems and issues involved in developing, implementing, operating, managing, and evaluating programs for all ages of citizens from the young to the elderly. Prereq.: 1337 214.

1337 324 Organization and Administration of School and Community Health Programs (3)
Is for the student whose health career emphasis is focused on employment opportunities as a public health administrator or one who organizes health systems. Prereq.: 1337 224.

1337 390 Practicum/Health Education (2)
Affords students the opportunity to participate and assist in a variety of public health settings, including programs aimed at all ages including senior populations. Prereq.: 1337 105, 1337 214.

1337 404 Mental Health (3)
Provides thorough analysis of the definitions, scope, and extent of mental health. It also covers changing concepts in philosophy, treatment care services, training and therapy. Special attention is given to the urban environment and problems of all ages including the older citizen. Prereq.: 1337 105.

1337 405 Health and Safety of Community Populations (3)
Examines policies, practices, and procedures involved in the organization, administration, and supervision of comprehensive health and safety education programs in the community. Special emphasis will be given to understanding communicable diseases with respect to signs/symptoms, incidence, epidemiology, control and prevention. All ages from childhood through senior populations will be explored.

1337 406 Consumer Health (3)
Provides a comprehensive analysis of products and services needing consumer evaluation. The course examines those health products and services which can be fraudulent to the consumer, including all ages from youth through senior citizens.

1337 417 Internship (3)
Provides the opportunity for observation and work in a variety of health and recreational settings under professional supervision. Students are required to prepare periodic reports, a final work product, and attend biweekly seminars. Prereq.: Senior Health Education majors.

1337 424 Sex Education (3)
Is designed to provide further insight into the physical, psychosocial, and religious factors associated with contemporary attitudes, perceptions, beliefs, myths, and human behavior relative to heterosexual relationships. Special emphases will focus on personal responsibilities, causation and prevention of pregnancy, and the social epidemiology of venereal diseases.

1337 426 Drug Use and Abuse (3)
Provides an interdisciplinary analysis of contemporary drug issues and problems. The course will examine physiological, psychological, social, philosophical, historical, legal, and health aspects of drug use and abuse. Special attention will be focused on planning and organizing current curricula materials for the teaching of drug education in the schools.

1337 493 Seminar: Health Issues (3)
Provides students with a forum to openly discuss community health issues and problems in an academic setting. Topics will be aimed at all population ages from youngsters to senior adults. Current topics will be selected, prepared, and presented by the students with instructor approval. Prereq.: Health Education majors.

1341 104 Introduction to the History and Philosophy of Physical Education, Health Education, and Leisure Studies (3)
Examines the fields of health, physical education, and leisure studies in terms of historical development, philosophical foundations, professional standards, roles, and ethics. Discussion focuses on the disciplines' value and contributions to various community populations, including K-12 and senior citizens.

1341 111 Tennis I: Beginning (1)
Is designed to provide instruction in the fundamental strokes, rules, regulations, scoring, etiquette, and strategy of tennis for both singles and doubles. The students will be expected to play points, games, and sets.

1341 112 Tennis II: Intermediate (1)
Continues and reviews Tennis I, with special emphasis on strategy for singles and doubles.

1341 118 Weight Management and Conditioning (1)
Is designed to improve cardiovascular and muscular fitness through progressive exercise. Emphasis is placed on dynamic health, dietary analysis, and caloric intake adjustment.

1341 119 Golf (1)
Emphasizes skills, techniques, regulations, rules, and strategy. Practical experience on public golf course is provided.

1341 121 Swimming and Beginning Water Safety (1)
Offers opportunities for non-swimmers to develop basic strokes and to alleviate psychological problems centered on aquatic activities. Red Cross certification possible with instructor approval.

1341 122 Swimming: Intermediate (1)
Continues beginning swimming and safety skills. Red Cross certification possible with instructor approval.

1341 143 Yoga (1)
Deals with broad yoga concepts, with special emphasis on how one can personally apply these teachings to bring about desired changes in one's life.

1341 165 Weight Training and Conditioning (1)
Covers overall body development through progressive weight resistance and running programs. Individual fitness profiles developed.

1341 174 Techniques and Skills in Dual and Team Sports (3)
Includes skill development and teaching strategies of a selected number of dual and team sports including tennis, badminton, track and field, soccer, basketball, touch/flag football, softball, and volleyball.

1341 178 Techniques and Skills in Jogging and Conditioning (1)
Is designed to expose students to proper jogging, running and power walking techniques. Emphasis on proper equipment, conditioning techniques and safety concerns. Course will accommodate all fitness levels.

1341 179 Handball-Racquetball (1)
Covers basic skills and techniques of handball and racquetball; strategy, rules, and rules interpretation; singles and double play.

1341 284 Mechanical and Kinesiological Analysis of Human Motion (3)
Covers the meaning and significance of muscular movements, the relationship of kinesthetics to growth and development, and application of principles of mechanics and physics to human motion. Prereq.: 1401 222.

1341 357 Athletic Coaching and Officiating (3)
Includes basic coaching principles with special emphasis and opportunity for practical application of the rules and regulations governing sports activities, along with the mechanics of officiating.

1341 389 Physiology of Exercise (3)
Covers experimentation and analysis of bodily functions while under the stress of exercise and understanding of classroom activity and its effect on systematic changes. Prereq.: 1341 284 and 1401 112.

1341 390 Introduction to Adaptive Physical Education (3)
Is an overview of preventive and adaptive physical education as it relates to the broader program. Students will be expected to have some knowledge of physiology, anatomy, and kinesiology. Students will receive field experiences. Prereq.: 1341 389.

1341 394 Methods and Materials of Teaching Health, Physical Education and Safety in Elementary Schools (3)
Provides lecture and discussion in curriculum methodology and development of instructional objectives. Emphasis will be placed on teaching aids/materials, program safety, teaching strategies and movement education for early childhood and the elementary school child. Twenty-hour practicum required. Prereq.: 1337 105, 1341-skill elective. **Field experience required.**

1341 396 Methods and Materials of Teaching Health, Physical Education and Safety in Secondary Schools (3)
Provides lecture and discussion in curriculum methodology and development of instructional objectives. Emphasis will be placed on teaching aids/materials, program safety, teaching strategies specific to secondary school health and physical education Twenty-hour practicum required. Prereq.: 1337 105, 1341 - skills electives, junior status. **Field experience required.**

1341 407 Organization and Administration of Physical Education and Leisure Services (3)
Presents the organization and administration structures of physical education and leisure services programs at various educational and agency levels. The course will cover administration areas including personnel, budget funding, concepts and styles, facilities, equipment, programs and leadership. The course will also acquaint students with the manner in which all aspects of the physical education and recreation professions function to produce adequate and well organized programs. Prereq.: 1341 104, 1337 105.

1341 465 Measurement and Statistical Analysis in Health, Physical Education and Leisure Studies (3)
Examines measurement techniques and statistical analysis in the fields of health, physical education and leisure studies. Special

attention is given to test construction and the importance of statistical analysis in determining human services. Prereq.: Junior health education major.

1341 494 Senior Project in Health, Physical Education and Leisure Studies (3)
Will equip the student in basic research techniques. Each student will successfully complete a comprehensive research project utilizing recognized research methodology. Students will present and defend projects with peers and the instructor.

1351 305 Children's Literature (3)
Enables pre-service teachers to develop the ability to select, present, and interpret literature appropriate to the ages and developmental stages of learners. Emphasizes the selection of books for children and the work of illustrators. A literature-based reading approach is used.

1351 314 Methods and Materials of Teaching Reading in Elementary Schools (3)
Focuses on historical aspects of reading instruction in America and the analysis and evaluation of con-temporary methods and state-of-the-art reading instruction. Emphasizes planning; classroom management; use of instructional resources, and related technology. Requires practicum. Prereq.: Admission to Teacher Education Program. **Field experience required.**

1351 315 Methods and Materials of Teaching Reading in the Secondary Schools (3)
Focuses on the nature of the reading process, cognitive skills, developing vocabulary, comprehension and interpretation skills, and recommended content area reading practices for grades 7-12. Emphasizes planning; classroom management; use of instructional resources, and related technology. Requires practicum. Prereq.: Admission to Teacher Education Program. **Field experience required.**

1351 406 Techniques and Procedures for Corrective and Remedial Reading (3)
Enables students to understand the causes of reading disability and their impact upon reading performance. Emphasis is on the application of theory in developing competence in the use of procedures and materials for the diagnostic prescriptive teaching of reading. Requires practicum. Prereq.: 1351 314 or 1351 315.

1351 419 Methods and Materials of Teaching Reading in Content Areas (3)
Focuses on providing pre-service teachers with assistance in recognizing, diagnosing, and solving basic problems and questions relative to reading in their respective subject fields. Emphasizes the development of technical vocabulary and comprehension skills through a practicum approach. Requires practicum. Prereq.: 1351 314 or 1351 315. **Field experience required.**

1353 204 Introduction to Education of Exceptional Children (3)
Studies the characteristics of exceptionality and their effect on how students learn. An overview of each area of exceptionality is included, as well as historical development, basic concepts, current issues and programs, and future trends in special education. Emphasizes critical issues related to schools, family and society, existing attitudinal barriers, and current methods of support (Formerly Survey of Exceptional Children). **Field experience required.**

1353 214 Field Experiences in Special Education I (3)
Provides opportunities for students to observe and assist with school or institutional curricula and extra-curricular program activities in special education at elementary level. Requires lecture and 30-hour practicum.

1353 305 Introduction to Legal Issues in Special Education (3)
Provides a study of national, state, and local laws, policies, and procedures affecting the education of exceptional children. Reviews rights of parents and children in the educational placement process. Prereq.: 1353 204 AND 1323 244

1353 306 Behavior Management in the Classroom (3)
Studies the behavior management techniques, which include explanation and implementation of rewards, behavior modification, performance contracting, life-space interviewing, expectancy communication, and surface management for changing child behavior in the classroom. Prereq.: 1353 204 AND 1323 244.

1353 314 Field Experience in Special Education II (3)
Provides opportunities for students to observe and assist with school or institution curricula and extra-curricula program activities in special education at the middle or secondary level. Requires lecture and 30-hour practicum.

1353 335 Special Topics (VC)
Provides an opportunity for students to study a specific area of interest as related to exceptional children and youth. Emphasis on contemporary issues in special education. Course topics may be offered by other departments in the University.

1353 337 Understanding Exceptional Children and Youth (3)
Focuses on the psychological manifestations of disabling conditions and how children, youth, and adults with disabilities react to societal norms. Prereq.: 1353 204.

1353 411 Development of Individualized Educational Programs - IEPs (3)
Focuses on the development of Individualized Educational Programs (IEPs) for children and youth with special educational and behavioral needs. Emphasis also on how to implement and monitor IEPs. Prereq: 1353 204; 1323 300.

1353 435 Methods I: Teaching Math, Science, and Technology for Special Population (3)
Focuses on current instructional strategies used to facilitate teaching in a special education environment. Emphasizes planning for teaching; effective utilization of instructional resources; evaluative devices; classroom management; and related technology. Includes lecture and practicum. Prereq: Admission to Teacher Education Program. **Field experience required.**

1353 436 Methods II: Teaching Language Arts and Social Sciences for Special Populations (3)
Focuses on current instructional strategies used to facilitate learning language arts, social studies, and creative arts in special education environments. Emphasizes planning for teaching, effective utilization of instructional resources, evaluative devices;

classroom management; and related technology. Includes lecture and practicum. Prereq.: Admission to Teacher Education Program. **Field experience required**.

1353 454 Vocational Aspects of Disabilities (3)
Focuses on transition from school to work for persons with disabilities. Discusses career awareness, exploration, and preparation concepts. Discusses pre-vocational, vocational, and work activities with emphasis on the relationship between disabilities and employment opportunities. Prereq.: 1353 306.

1353 474 Observation and Student Teaching in Special Education (Elementary Schools) (VC)
Focuses on observation and full-time practical experiences in an elementary school setting under the guidance of a certified teacher and a University supervisor. Requires weekly professional development seminar. Prereq.: Clearance by major advisor and Coordinator of Field Services, Student Teaching, and Teacher Certification. Prereq 1353 214; 1353 314.

1353 475 Observation and Student Teaching in Special Education (Secondary Schools) (VC)
Focuses on observation and full-time practical experiences in a secondary school setting under the guidance of a certified teacher and a University supervisor. Requires weekly professional development seminar. Prereq.: Clearance by major advisor and Office of Field Services, Student Teaching, and Teacher Certification. Prereq 1353 214; 1353 314.

1353 485 Assessment of Exceptional Children (3)
Provides demonstrated competence in the development, selection, administration, and interpretation of formal and informal assessment techniques. Prereq.: 1353 204; 1323 244.

GRADUATE COURSE DESCRIPTIONS

1303 504 Introduction to Adult Education (3)
Affords opportunities for students to identify, examine, understand, and evaluate the historical, sociological, psychological, and philosophical foundations of adult and continuing education. Examines different theories and concepts of adult learning, and the role of selected agencies active in the field. Examines psychological principles and theories that influence educational processes.

1303 514 Adult Learner (3)
Reviews in depth the current research and literature pertaining to the contemporary lifestyles, personal characteristics, and problems of the adult learner. Addresses various learning theories and the impact of stages of adult development on the learners. Examines effective communication skills with adult learners.

1303 524 Program Planning and Curriculum Development (3)
Examines theories and practices of developing and implementing adult education programs. Includes development of curricula and materials specifically geared toward adult programs. Prereq.: 1303 525.

1303 525 Techniques of Teaching Adults (3)
Presents a survey of techniques and procedures used to facilitate learning with adult populations. Specific methods, materials, research, and use of technology to enhance instruction are explored. Emphasis on use of individualized and small group instructions. This course also addresses managing adult classes and developing effective communication skills in reaching and teaching adults. Prereq.: 1303 504, 514.

1303 Special Topics in Adult Education (VC)
Provides an opportunity for students to study a specific area of interest as related to adult education. Emphasis on contemporary issues in adult education. Example:

1303 537 Communication Skills in Adult Education (3)
Designed to develop the students' communications skills with adults. Gives students an understanding of the adult learner and the methodology for organizing and presenting materials and information that are appropriate in addressing adults. Course covers information gathering, speech outlining, small group discussion, informative speaking, and persuasive speaking.

1301 507 Concepts and Strategies in School Supervision (3)
Prepares individuals for supervisory roles for the everyday problems related to school supervision by relating theory and practices.

1301 600 Higher Education: Historical, Sociological, and Philosophical (3)
Presents an in-depth analysis of the evolution and development of American higher education, including its historical, sociological, and philosophical bases.

1301 602 Administration of Higher Education (3)
Examines the organization and structure of post-secondary institutions, including administrative roles of the president, vice president, and other administrative officers. Focuses on the boards of trustees and legislative agencies in governance and policy formulation which guide administrative behavior and decision-making.

1301 604 Higher Education and the Courts (3)
Examines the legal aspects of higher education; the role of the courts in the conduct of higher education, and the impact of court decisions on educational policy.

1301 605 Finance and Economics of Higher Education (3)
Focuses on the benefit analysis and economic returns of higher education. Examines resource acquisition and allocation and the economic policies of local, state, and federal governments.

1319 504 Curriculum and Methods for Teaching Language Development in Early Childhood Education (3)
Focuses on language development and the application of language development theories in designing the language arts curriculum in early childhood education. Prereq: 1319 505.

1319 505 Child Development Theories in Early Childhood Education (3)

Focuses on current research of child development from birth through age eight. Emphasizes intellectual, emotional, psychological, sociological, and moral development and the implications of these for designing develop-mentally appropriate programs for children of diverse populations. Explores role of play as a vehicle for learning and development.

1319 506 Curriculum and Methods for Teaching Mathematics, Science, and Technology in Early Childhood Education (3)

Provides an examination of current research and the application of new practices, techniques, and equipment for teaching mathematics and science to children with various learning styles. Prereq: 1319 505.

1319 508 Curriculum and Methods for Teaching Creative Arts in Early Childhood Education (3)

Presents examination and application of current research for designing learning experiences in art, music, drama, movement, literature, and storytelling to children emphasizing cultural diversity. Prereq: 1319 505.

1319 510 Curriculum and Methods for Teaching Social Studies, Health, Physical Education, and Safety in Early Childhood Education (3)

Presents examination and application of current research for designing learning activities and experiences in social studies, physical education, health, and safety. Prereq: 1319 505.

1319 515 Impact of Home, School, and Community on Early Childhood (3)

Provides an opportunity for students to plan and execute activities which involve parents, school, and the multicultural community. Involves students in hands-on experiences with community organizations and governmental agencies concerned with the welfare of children on the early childhood level. Prereq: 1319 505.

1319 517 Assessing the Development of the Young Child (3)

Studies current research relevant to the assessment of children and the use of formal and informal assessments for evaluating the development of children. Requires practicum. Prereq.: 1319 505.

1319 580 Managing the Early Childhood Environment (3)

Focuses on the role of the early childhood teacher in classroom management based on research findings, theories, and strategies appropriate for young children. Requires field experiences. Prereq.: 1319 505, 1353 505.

1319 590 Practicum Experiences in Early Childhood Education (3)

Provides students with the opportunity to work with children in an early childhood setting for one semester under the supervision of a master teacher. Prereq.: By permission of major faculty advisor.

1319 594 Current Problems – Issues in Early Childhood Education (3)

Examines current research and practices relevant to the education of young children locally, nationally, and internationally. Prereq.: 1319 505.

1319 599 Workshops, Seminars, and Institutes (3)

Provides opportunities for graduate students to engage in educational exchanges, such as workshops, seminars, or institutes, developed around specific topics in early childhood education. Requires permission of the Department Chair.

1319 606 Administration in Early Childhood Education (3)

Studies the functions of administrators and styles of leadership appropriate for persons involved in administering programs for young children in various settings. Requires field experiences. Prereq.: Completion of all core courses and 1319 506, 1319 508, 1319 510, 1319 515.

1319 607 Internship in Early Childhood Education (3)

Provides supervised field experiences in the administration of educational programs for young children in a D.C. Public School, Day Care Center, UDC Child Development Center, or in a selected public or private setting appropriate to students' career goals. Prereq.: Completion of all core and specialization courses and permission of major advisor or Department Chair .

1319 695 Independent Study in Early Childhood Education (3)

Allows students to choose, study, and develop an early childhood education related topic under the supervision of a faculty member. Requires a seminar paper. By permission of major faculty advisor.

1319 696 Thesis (3-6)

Allows students an opportunity to design a study, review related literature, collect data, analyze and interpret research findings, draw conclusions, and make recommendations. Prereq.: Completion of all core and specialization courses.

1321 684 Introduction to Educational Research (3)

Provides an introduction to the fundamental methods and procedures for conducting educational research. Includes intensive reading, analysis, and interpretation of research; application to teaching fields; writing of abstracts, research reports, and seminar papers.

1305 504 Psychology of Aging (3)

Explores general and developmental psychology from young adulthood to old age; the interrelationship of biological, individual and social changes; and the aging process as it affects sensation and perception, thinking, intelligence, problem-solving ability, cognition, learning, and psychomotor functions.

1305 505 Sociology of Aging (3)

Reviews the history of social gerontology in the United States. Compares the roles, status, and security of aging and aged persons in pre- and post-industrial societies. Analyzes past, present, and projected characteristics of the aged in several societies.

1305 506 Economics of Aging (3)
Focuses on economic programs for the elderly, the impact of advanced computer technologies, occupation change, retraining for second and third careers, age discrimination, and income in retirement. Analyzes public policies, laws, and programs relating to the economic status of the elderly.

1305 537 Concepts and Issues in Gerontology (3)
Presents an overview of the major theories, concepts and issues in the field of social gerontology. Of primary concern is the analysis of research data on aging from a multidisciplinary perspective. Requires site visits to aging service organizations, agencies, and facilities.

1305 596 Internship in Adult Education-Gerontology Section (3)
Provides an in-depth study and experience in some aspect of professional development in adult education and gerontology. Gives assignments planned around the individual student's need to broaden competency in the field of aging.

1351 502 Reading in the Secondary Schools (3)
Provides students with competencies and techniques essential to the development of a reading program in the secondary schools. Theories and specialized teaching strategies for improving the instructional program are explored.

1351 505 Advanced Children's Literature (3)
Provides the reading specialist with basic competencies and techniques essential to analyzing and using literature as a vital component of the total reading program. Explores different genres of literature and the development of philosophy governing the selection, use, and evaluation of material.

1351 514 Trends and Practices in the Teaching of Reading in Elementary Schools (3)
Emphasizes theories, trends, and current practices in the field of reading at the elementary school level. Emphasis on theories and principles in reading as they relate to the overall developmental reading process.

1351 516 Teaching Reading to the Adult Learner (3)
Focuses on providing theoretical and practical experience in identification of the specific needs of the adult learner, exploration and development of materials, and strategies for meeting the needs of adults at varying functional reading levels.

1353 504 Foundations of Special Education (3)
Surveys the background and contemporary role of special education in both public and private sectors. Studies the characteristics of exceptionality and their effect on how students learn. Emphasis on inclusive education, learning disabilities, family involvement, gifted and talented, and related services for students with special needs. Emphasis on the intellectual, social, and emotional characteristics of special needs population. Six-hour practicum required.

1353 505 Diagnostic and Prescriptive Teaching (3)
Explores the methods of using diagnostic material in logical ways to prepare individual educational pro-grams for meeting the needs of children with learning problems.

1353 515 Developing Individualized Educational Programs (IEPs) (3)
Focuses on the development of individual education programs for children and youth with special educational and behavioral needs. Emphasis on how to develop, implement, and monitor IEPs.

1353 525 Teaching Adults with Learning Disabilities (3)
Introduces students to appropriate strategies and techniques needed to teach adults with learning disabilities. Emphasis on helping adult learners choose, apply, and generalize previously learned information to new challenges in daily living, employment, training, participants to observe and assist with school curricula and extracurricular program activities in special education. Requires practicum and lecture.

1353 535 Methods and Materials for Teaching Exceptional Children (3)
Focuses on current instructional strategies used to facilitate learning by exceptional children. Emphasis planning for teaching effective utilization of instructional resources; evaluative devices; classroom management; and related technology for teaching specific content to the special needs learner. Practicum required.

1353 537 Psychology of Exceptional Children (3)
Emphasizes the intellectual, social, and emotional characteristics of handicapped and gifted children.

1353 554 Vocational Aspects of Disabilities (3)
Focuses on transition from school to work for persons with special needs. Discusses career awareness, exploration, and preparation concepts. Emphasis on pre-vocational, vocational and work activities as related to the relationship between disabilities and employment opportunities. Practicum required.

1353 557 Behavior and Classroom Management (3)
Focuses on the behavior and instructional components of effective classroom management. Students gain skills in assessing behavior problems, planning, implementing, and evaluating interventions and strategies used for students with special needs from diverse backgrounds.

1353 585 Assessment of Exceptional Children (3)
Discusses the principles and methods of psycho-educational testing and assessment. Requires demonstrated competence in the development, selection, administration, and interpretation of formal and informal tests and assessment instruments.

1353 588 Current Trends and Legal Issues in Special Education (3)
Provides an in-depth examination and analysis of national, state, and local laws and policies that affect the education of exceptional children and youth. Student rights, records, and due-process issues are studied. Discussions focus on the historical and current legislation.

1353 589 Special Topics in Special Education (VC)
Provides an opportunity for students to study a specific area of interest as related to exceptional children and youth. Emphasis on contemporary issues in special education.

1353 590 Research Seminar in Special Education (3)
Provides an in-depth review of basic research design used in special education. Required of students who opt to write a thesis. Students are provided individualized assistance and guidance toward the completion of their research.

1353 591 Psychological and Behavior Characteristics of the Serious Emotionally Disturbed (3)
Examines the nature and needs of individual with serious emotional disturbance. In-depth discussion of psychiatric diagnostic categories, psycho-social development, etiology, behavioral interventions, and educational services.

1353 592 Behavior Management for Children and Youth with Serious Emotional Disturbance (3)
Focuses on current behavior management techniques and instructional interventions that are used to teach and modify the behavior of individuals with serious emotional disturbance. Students gain knowledge and practical skills in behavioral assessments that can be used to develop and manage student behavior in varied school situations.

1353 593 Educational Programming and Implementation for the Seriously Emotionally Disturbed (3)
Involves theory and practice in planning and implementing educational programming for children and youth with learning disabilities. Emphasizes techniques for modifying curriculum and materials for individualized programming in basic academic and functional skills.

1353 594 Psychological and Behavioral Characteristics of Children and Youth with Special Learning Disabilities (3)
Discusses the psychological, social, behavioral, and cognitive development and characteristics of individuals with learning disabilities. In-depth examination of neurological and developmental aspects of specific learning disabilities and includes discussion of etiological theories, educational services, and policy issues.

1353 595 Diagnostic Techniques and Intervention for Children and Youth with Specific Learning Disabilities (3)
Focuses on current diagnostic techniques and instructional interventions that are used to identify and teach individuals with learning disabilities. Students gain knowledge and practical skills in administering and interpreting formal testing instruments and curriculum-based assessments to develop appropriate instructional interventions for individuals with specific learning disabilities.

1353 596 Educational Programming and Curriculum Modification in Basic Skills Instruction for the Specific Learning Disabled (3)
Involves theory and practice in planning and implementing educational programming for children and youth with learning disabilities. Emphasizes techniques for modifying curriculum and materials for individualized programming in basic academic and functional skills.

1353 597 Internship in Special Education I (3)
Provides a supervised teaching experience for students to apply academic work and teaching methods in educational settings appropriate to their professional interests. Students will complete a minimum of 250 clock hours in a noncategorical setting or a setting with children with serious emotional disturbance or specific learning disabilities.

1353 598 Internship in Special Education II (3)
Provides a supervised teaching experience for students to apply academic work and teaching methods in educational settings appropriate to their professional interests. Students will complete a minimum of 250 clock hours in a non categorical setting or a setting with children with serious emotional disturbance or specific learning disabilities.

1353 679 Internship in Special Education (3)
An on-site practicum experience under the supervision of a practicum coordinator.

1353 695 Independent Research Study (VC)
Provides an opportunity for the student who has selected an area of specialization to engage in additional directed reading, discussion, and research. Prereq.: Consent of professor and approval of Department Chairperson.

1353 696 Thesis (3)
Provides an opportunity for students to design a research study that includes literature review, data collection, analysis and interpretation of research findings, drawing conclusions, and making recommendations. Required of students who opt to write a thesis.

Department of English

Chester W. Wright, Ph.D., Acting Chairperson
Building 41, Room 413-04
(202) 274-5137

FULL-TIME FACULTY

Professors: C. Barquist, P. Bhatt, H. Krauthhamer, P. Maida, N.A. Sahibzada, E.A. Williams, C.W. Wright

Associate Professors: E. Shiro

Assistant Professors: A. Howe, E. Hamilton, F. Lassiter, M. Petti, C. Turpin, W. Yarbrough

Instructor: J Basist, G. Irvin, R. Jones, D. Phaire

The Department of English offers the Bachelor of Arts and the Master of Arts degrees. For all University students, the Department provides a sequenced program (1133 111, 112, 211, and 212) to develop reading, writing, and research proficiency. The Writing Center offers tutor- and computer-assisted support. In addition, the program affords students the opportunity to read and analyze literary works to develop their general knowledge and their appreciation of the aesthetic and social dimensions of literature.

ENGLISH PROGRAM

The Bachelor of Arts in English broadens and deepens students' understanding of language and literature and develops skills in analysis, research, and writing. To meet these objectives, the Department offers a variety of courses in language and in literature (arranged by area, period, genre, movement, or special topic).

Career opportunities for English majors vary and are outlined in a booklet available in the departmental office. The English major prepares students for teaching (at the secondary level) and has long been regarded as appropriate baccalaureate preparation for careers in law, medicine, business, and government.

Students interested in becoming English majors should contact the English Department to be assigned an adviser. Thereafter, students are required to meet with advisers each semester before registration and to have the appropriate adviser's signature on the registration form. Students become majors upon completion of 1133 213 with a grade of "B" or higher.

BACHELOR OF ARTS IN ENGLISH

Credit Hours of College-Level Courses Required for Graduation: 120, 121

Core Required Courses for Both Options:

1133 213	Introduction to Critical Writing	3
1133 314	Structure of English	3
1133 315	History of the English Language	3
1133 316	Advanced Grammar	3
1133 330	British Literature I	3
1133 331	British Literature II	3
1133 351	American Literature I	3
1133 352	American Literature II	3
1133 354	African-American Literature	3
1133 439	Shakespeare	3
1133 467	Principles of Literary Criticism I or	3
1133 468	Principles of Literary Criticism II	3
1133	Electives in English	12

(Minimum 9 credit hours at 300- or 400-level)

TOTAL **45**

Highly Recommended Courses: 3

*1163 101	United States History I (To 1865)	3
*1163 102	United States History II (Since 1865)	3
*1167 105	Introduction to Logic	3

** Satisfies University-wide Requirements*

Teacher Education (Secondary)
In addition to courses in the major, the following courses are required for students seeking teacher certification in English. Students must have their assigned English Department adviser's permission to enter the program and must meet regularly with their adviser, who plans with them and monitors their program of study. The program in English Education is accredited by the National Council for Accreditation of Teacher Education.

1353 204	Introduction to Education of Exceptional Children	3
1321 220	Foundations of Education	3
1321 222	Children and Youth in Urban Schools	3
1323 244	Human Development and Behavior	3
1323 300	Educational Psychology	3
1351 315	Teaching Reading in Secondary Schools	3
1321 449	Methods of Teaching English in Secondary School	3
1321 471	Observation and Student Teaching in the Secondary Schools	VC

Note: Students must earn a "C" or better in all required education courses, except Observation and Behavior Student Teaching, which requires a "B" or higher.

Additional Comments or Requirements: Prospective majors are expected to earn grades of "B" or higher in composition and literature courses 1133 111-212 and should declare a major in English before taking 1133 213. The Department encourages English majors to maintain a GPA of at least 3.0; the required minimum GPA is 2.5. A grade of "B" is required in 1133 213, and the course may be repeated once. A minimum grade of "C" is required in other English courses. A course may be retaken only once. On the recommendation of an English adviser, a student may be required to take additional courses. Entry into the Teacher Education Program requires permission of and written recommendation from the assigned adviser. English 1133 212 is a prerequisite for all non-English majors who take advanced English courses.

Sequencing: Students must have passed 1133 213, Introduction to Critical Writing, with a "B" or higher before taking 300- or 400-level literature courses, but they may take 200-level writing courses and 300-level language courses concurrently with 213. At least some literature courses at the 300-400 level are to be taken before Principles of Literary Criticism I, 1133 467, preferably 1133 330 and 1133 331.

GRADUATE PROGRAM IN ENGLISH

The Master of Arts in English Composition and Rhetoric reflects the recent pedagogy research that has shifted the view of writing from product to process with special attention being paid to notions of multiple illiteracies and electronic networks of communication. Writing is seen less as a demonstration of knowledge already acquired and more as a means of thinking and learning. Such inquiry requires a multidisciplinary approach, drawing on other disciplines such as psychology, linguistics, anthropology, and literature. The program's objectives are as follows: to acquaint students with the most recent theory and practice of teaching writing through a process approach; to provide an intellectual setting to stimulate students to analyze their own writing processes; to combine academic work with practical experience in a classroom or business setting; and to prepare students to conduct research in composition.

The program trains new teachers, provides opportunities for experienced teachers to continue their professional development, creates a foundation for further graduate study on composition and Rhetoric, and prepares graduates for employment as writing

specialists in government service and the private sector. Although individuals can tailor their programs to specific interests, requirements of a minimum of 36 credit hours include a majority of courses in writing theory and pedagogy, several courses in a related field, a writing workshop, an internship, and a thesis.

MASTER OF ARTS IN ENGLISH

Composition and Rhetoric

Credit Hours of College-Level Courses Required for Graduation: 36

Admission Requirements:
The English Department requires the following for admission to the program:

1. Grade Point Average: 3.0 in junior and senior years (students applying with a baccalaureate degree); 3.0 in graduate study (students applying with an M.A. degree).
2. Letters of Reference: Three letters of reference from persons familiar with the student's work.
3. Writing Sample: A sample of approximately 1000 words on a topic to be determined by the English Department.

Graduate Writing Proficiency Requirement
Demonstrated proficiency in writing is required of all graduate students. Students must take the Graduate Record Examination (GRE) Analytical Writing Subtest as a requirement of admission. The minimal acceptable score is a 4.0. Students failing to meet the criterion score may be admitted conditionally. If admitted conditionally, a student must enroll in and pass (with a grade of B or better) the University's graduate writing proficiency course 1133-299 during their semester of admission to the university.

Comprehensive Examination: None Required

Thesis or Research Project: Required

Required Courses for M.A. in English Composition and Rhetoric

1133 520	Writing Workshop	3
1133 530	Internship	3
1133 540	Research Project or Thesis	6

A minimum of five courses is required from among the following:

1133 500	Interdisciplinary Research Methods	3
1133 501	The Composing Process	3
1133 505	Writing Assessment	3
1133 506	Reading/Writing Connections	3
1133 507	Teaching the Basic Writer	3
1133 510	Writing Across the Curriculum	3
1133 514	Teaching Business and Professional Writing	3
1133 570	Classical Rhetoric	3
1133 571	Contemporary Rhetoric	3

In addition to the above requirements, three courses will be selected from the literature courses (course descriptions 1133 572 through 1133 578) or in a related field, such as linguistics.

COURSE DESCRIPTIONS

1133 014 Reading Improvement (3)
Develops, improves, and strengthens reading skills and comprehension. Integrates listening, speaking, thinking, and writing skills in recognition of their interrelationship. Laboratory attendance required.

1133 015 English Fundamentals (3)
Helps students improve in written expression. Focuses on grammatical correctness, sentence clarity, and paragraph effectiveness.

1133 111 English Composition I (3)
Focuses on expository writing. Includes selected readings and extensive practice in writing essays (e.g., analysis, comparison and contrast, cause and effect). Also reviews grammar and introduces the student to library resources. Prereq.: Placement in 1133 111 or successful completion of 1133 015.

1133 112 English Composition II (3)
Focuses on analysis and argumentation. Culminates in the writing of a research paper. Prereq.: 1133 111.

1133 113 Technical Writing (3)
Introduces students to the general concepts of technical writing, idea development, and physical layout in different career fields. Also emphasizes proofreading and editing. Prereq.: 1133 112.

1133 211 Literature and Advanced Writing I (3)
An introduction to literature emphasizing critical thinking, writing, and research as a means of deepening the students' understanding of fiction. Prereq.: 1133 112.

1133 212 Literature and Advanced Writing II (3)
An introduction to literature emphasizing critical thinking, writing, and research as a means of deepening the students' understanding of poetry and drama. Prereq.: 1133 211.

1133 213 Introduction to Critical Writing (3)
Enables the student to write about literature through the study of four genres. Introduces critical terms, approaches, and methods. Prereq.: 1133 212.

1133 215 Creative Writing (3)
Introduces creative writing, including the short story, poetry, drama, and novel. Prereq.: 1133 112.

1133 216 Words in Context (3)
Develops, through reading and writing, awareness of how differences in language use, form, and setting affect meaning; Assesses how context determines meaning of a passage. Prereq.: 1133 112.

1133 219 Advanced Writing (3)
Focuses on advanced structural, rhetorical, and stylistic techniques in writing. Also emphasizes reading of selected texts. Prereq.: 1133 112.

1133 290 Topics in Literature (3)
Offers in-depth, seminar-style exploration of literary topics vary to accommodate faculty and student interest in language and literature. Prereq.: 1133 112.

1133 314 Structure of English (3)
Analyzes the phonological, morphological, syntactic, and semantic structures of English using modern linguistic techniques. Emphasizes linguistic approaches to the study of grammar. Prereq.: 1133 212.

1133 315 History of the English Language (3)
Analyzes the history and structure of Old, Middle, and Modern English, including dialects of Modern English. Emphasizes historical and cultural factors influencing linguistic development. Prereq.: 1133 212.

1133 316 Advanced Grammar (3)
Presents the history of grammatical study and surveys modern grammar and current usage. Covers descriptive English grammar. Prereq.: 1133 212.

1133 330 British Literature I (3)
Examines the main literary works and movements from *Beowulf* through the neo-classical period. Concentrates on the historical development of forms and modes and analyzes works by major authors.

1133 331 British Literature II (3)
Examines the main literary works and movements from the Romantic to the modern period. Concentrates on the historical development of forms and modes; focuses on major authors, individually and in historical context. Prereq.: 1133 330.

1133 351 American Literature I (3)
Surveys American literature from the seventeenth to the nineteenth century. Concentrates on major American writers.

1133 352 American Literature II (3)
Surveys American literature from the nineteenth century to the present. Emphasizes the major American writers of the modern period. Prereq.: 1133 351.

1133 354 African-American Literature (3)
Surveys African-American literature to the eighteenth century.

1133 356 African Literature (3)
Surveys the national literatures (in English and in English translation) of Africa. Examines prose models from classical Egypt to the post-independence period writers.

1133 358 Caribbean Literature (3)
Studies major works of poetry, fiction, and drama from the English, French, and Spanish Caribbean, by Cesaire, Guillen, Walcott, Brathwaite, Naipaul, Lamming, Carpentier, Roumain, and others. Focuses on the theme of Caribbean identity.

1133 359 Special Topics in Caribbean Literature (3)
Focuses on some facet of Caribbean literature for a semester; for example, the Caribbean novel, the works of a single author, or major intellectual movement.

1133 437 Victorian Writers (3)
Studies poetry and non-fictional prose from 1832 to the twentieth century. Emphasizes major Victorian poets and essayists.

1133 438 English Novel (3)
Studies the development of the novel from its beginning to the twentieth century. Emphasizes representative novels from Defoe to the present.

1133 439 Shakespeare (3)
Studies selected plays (histories, comedies, and tragedies) and sonnets. Introduces conventions of the Elizabethan theater, relevant social history, and Shakespeare scholarship.

1133 454 American Novel (3)
Surveys the American novel. Focuses on major novelists from Brown to Faulkner.

1133 455 African-American Fiction (3)
Emphasizes critical analysis of major novels and selected short stories. Focuses on African-American writers since 1940.

1133 456 African-American Poetry (3)
Studies poetry by African-American writers. Examines early poetry in America; also emphasizes major

1133 467 Principles of Literary Criticism I (3)
Analyzes literary and critical theory from the ancient to the eighteenth century.

1133 468 Principles of Literary Criticism II (3)
Studies modern theories of literary criticism. Focuses on various approaches to the evaluation and critical analysis of literature by applying theory to selected literary texts.

1133 470 Topics in Literature (3)
Offers in-depth seminar-style exploration of topics, which vary to accommodate faculty and student interest in language and literature. Prereq.: 1133 213.

1133 495 Independent Study (3)
Provides for in-depth study or project with the guidance of an instructor. Approval of the Department chair is required. Prereq.: Junior standing, 2.8 cumulative GPA.

GRADUATE COURSE DESCRIPTIONS

1133 500 Interdisciplinary Research Methods (3)
Investigates approaches to research and analysis of writing. Provides a variety of techniques, skills, and knowledge of writing.

1133 501 The Composing Process (3)
Examines major research and theory of the last 25 years in composition studies.

1133 505 Writing Assessment (3)
Examines major large-scale writing assessment efforts. Considers classroom responses to student writing.

1133 506 Reading–Writing Connections (3)
Studies connections between reading and writing from the dual perspectives of research and classroom application.

1133 507 Teaching the Basic Writer (3)
Analyzes the definition and historical development of programs for developmental writers.

1133 510 Writing Across The Curriculum (3)
Examines research underlying the concept of writing across the curriculum and considers sample programs.

1133 514 Teaching Business and Professional Writing (3)
Examines writing techniques applicable to all fields of professional writing. Emphasizes methods for training professionals to write competently in their respective fields.

1133 520 Writing Workshop (3)
Provides opportunities for students to develop their own writing in a variety of genres. Required course.

1133 530 Internship (3)
Provides students with experience in a classroom environment or another context for the teaching or assessment of writing. Required Course.

1133 540 Research/Thesis (6)
Students will elect to participate in a research project or to write a thesis; either will be approved and directed by a faculty adviser. Prereq.: Completion of all course work; approval of proposal by a faculty adviser. Required.

1133 570 Proseminar: Style in Language (3)
Studies Plato, Aristotle, and other major figures in classical rhetoric.

1133 571 Proseminar: Style in Genre (3)
Studies Richards, Burke, Weaver, Yachting, and other figures in contemporary rhetoric.

1133 572 Proseminar: Studies in African Literature (3)
Studies special areas of African literature written in or translated into English. Specific topics vary according to the needs and interests of students and faculty.

1133 573 Proseminar: Studies in African-American Literature (3)
Studies special areas of African-American literature. Focuses on historical/cultural eras and specific writers.

1133 574 Proseminar: Studies in American Literature (3)
Accommodates varying student and faculty interest in Euro-American, African-American, and other ethnic literatures in the U.S.

1133 577 Proseminar: Studies in World Literature (3)
Studies selected areas of world literature; topics will be determined by student and faculty interest.

1133 578 Proseminar: Studies in Literary Themes (3)
Studies in depth a particular theme in literature; specific themes will be determined by student and faculty interest.

1133 595 Independent Study (3)
Focuses on a particular area of writing, language, or literature in an individually designed course supervised by faculty. Prereq.: Approval of plan of study by the English graduate faculty.

Department of Languages and Communication Disorders

Marc A. Christophe, Ph.D., Chairperson
Building 41, Room 413-05
(202) 274-7405

FULL-TIME FACULTY

Professors: M.A. Christophe, S.M. Jackson, B.D. Minus, M. Racine, P. Randolph, E.N. Sims

Associate Professors: W.F. Garrett, C. Grady, M. LeGall, A. Massey, E. Munoz, M.D. Sola-Sole

Assistant Professors: T. Davis, N. Ottey, A. Bradford, T. Walters

CLINICAL STAFF

D. Kimbrough-Glears, M.E. Wiggins

The Department of Languages and Communication Disorders offers six programs: French, Spanish, English as a Second Language (ESL), Communication Arts, and graduate and undergraduate programs in Speech-Language Pathology. Four degree programs are offered: a Bachelor of Arts in both French and Spanish, and a Bachelor of Science and a Master of Science in Speech-Language Pathology. The French and Spanish programs and the graduate program in Speech-Language Pathology have all met the requirements for accreditation by national associations. The teacher education options of the French and Spanish programs are accredited by the National Council on Teacher Education (NCATE). The Speech-Language Pathology Graduate program is accredited by the Council on Academic Accreditation in Speech Language Pathology & Audiology (CAA), and is the first program at an historically Black institution to be accredited by this Association.

Students enrolled in the Department receive special training and gain practical experience in the language and research laboratories and the UDC Speech and Hearing Clinic. The language laboratory provides instruction in listening comprehension and speaking skills for students enrolled in the ESL, French, and Spanish programs. This lab utilizes state-of-the-art computer technology and is designed to allow students to work independently or with an instructor.

Students enrolled in the Speech-Language Pathology programs complete their core practicum requirements in the UDC Speech and Hearing Clinic while completing the required course work. The Clinic provides comprehensive diagnostic and therapeutic services for speech, language, and hearing-impaired children and adults. An important goal of the Clinic is to improve the quality of services for minority populations, especially those in urban areas. All clinical services are available at no cost to persons in the Washington metropolitan area, including UDC faculty, staff, and students.

SPEECH-LANGUAGE PATHOLOGY PROGRAM

The Bachelor of Science program in Speech-Language Pathology at UDC is designed to be a comprehensive educational experience that prepares students to pursue graduate level training and ultimately certification in the discipline. Upon graduation, students will have:

1. Working knowledge of the processes of normal and abnormal communication;
2. Skill in applying linguistic theory to the understanding and treatment of communication disorders; and
3. Entry level competence in the understanding and use of clinical methods basic to assessment and treatment of communication disorders across age, gender, ethnicity, language, and culture.

Two programs of study are offered: Speech-Language Pathology with a non-clinical concentration; and Speech-Language Pathology with a clinical concentration. The programs differ by participation in the Clinical Practicum only.

The Master of Science in Speech-Language Pathology is designed to provide training for individuals who wish to become certified in speech-language pathology by the American Speech Language Hearing Association (ASHA), the national certifying agency for professional speech-language pathologists. Training emphasizes communication behavior and disorders in linguistically and culturally diverse urban populations.

Bachelor of Science in Speech-Language Pathology

Total Credit Hours of College-Level Courses Required for Graduation: 120

Contact the Department for recommended program of study.

Option I: Non-Clinical

Option II: Clinical

Required Courses for Options I and II: 39 credit hours

1107-225	Anatomy and Physiology of Hearing	3
1107-334	Audiology	3
1107-455	Speech Reading and Auditory Training	3
1109-115	Introduction to Linguistic Analysis	3
1109-116	Introduction to Sociolinguistics	3
1109-224	Anatomy and Physiology of Speech	3
1109-312	Language Acquisition	3
1109-332	Speech-Language Pathology	3
1109-333	Functional Disorders	3
1109-334	Organic Disorders	3
1109-344	Observations	3
1109-434	Diagnostics	3
1109-435	Procedures and Methods in Management of Communication Disorders	3

Additional courses required for Option II: 15 credit hours

1109-460	Clinical Practicum	VC
1109-495	Independent Study	1-3

Additional Comments and Requirements

The minimum acceptable cumulative grade point average for speech-language pathology courses is 2.5, with a minimum grade of "B" in the practicum course (1109-460). Satisfactory completion of a minimum of 25 clock-hours of supervised clinical practicum is also required for the clinical option.

Master of Science in Speech-Language Pathology

There are four categories of admission to the graduate speech-language pathology program: (1) degree status, (2) conditional status, (3) non-degree status, and (4) special status.

Degree Status

A *degree applicant* is one who is seeking admission to the master's degree program in speech-language pathology. To be admitted into the program, students must meet all admissions requirements of the University of the District of Columbia in addition to the speech-language pathology program requirements.

Admission Requirements

Applicants must have an undergraduate degree from an accredited institution and a minimum grade point average of 3.0. A degree in speech-language pathology is preferred, but not required. Students must submit a copy of official transcript(s) for all undergraduate and graduate studies, two letters of recommendation, a letter of intent, and official GRE general test scores with their applications for admission. Prospective applicants are also required to participate in an interview with an admission committee representative.

Graduate Writing Proficiency Requirement

Student proficiency writing is required of all graduate students. Students must take the GRE Analytical Writing Subtest as a requirement for admission. The criterion score is four. Students failing to meet the criterion must enroll in and pass (with a grade of B or better) English Composition 1133-299 during their semester of admission.

Comprehensive Examination

Students must successfully complete a thesis or the comprehensive examination administered by the Department. Students electing to take the comprehensive examination must sit for the exam in their final Spring semester of graduate study. They have two opportunities to take the exam. Two failures result in dismissal from the program.

Conditional Status

The *conditional status* of admission is considered for applicants with a cumulative GPA at the undergraduate level that is equal to or greater than 2.85 but less than 3.0 and who meet all other admission requirements. Students admitted under this category are required to enroll in a minimum of two courses (i.e. six credits) stipulated by the speech-language pathology program during their first semester of study and must earn a minimum grade of "B" in **all** courses. Failure to do so will place them on probation resulting in dismissal from the program if their GPA is not restored to a 3.0 no later than the end of spring semester.

Nondegree Status (limited number of slots available)

A *nondegree applicant* is one who wishes to pursue graduate study, but is not currently seeking admission to the speech-language pathology graduate degree program. Admission will be based on the applicant's preparation for advanced study and specific training in speech-language pathology. Applicants who hold a F-1, J-1, B-1, or B-2 visa are not eligible to apply for non-degree status unless awaiting action on a degree application. Nondegree applicants are required to submit proof of completion of an undergraduate degree. A nondegree student may later apply for admission to the speech-language pathology graduate degree program. In such cases, the application for admission must be submitted to the UDC Office of Admissions by the deadline established in the University calendar. No more than nine (9) semester hours of credit earned as a non-degree student may be applied toward the master's degree program.

Special Status

The *special status* applicant is one who is seeking admission as a nondegree student for one term only. The sole admission requirement is verification of completion of an undergraduate degree. The special student may be required to be enrolled full-time (i.e., 9 credit hours) during the semester. In addition, a minimum grade of "B" must be earned in all courses, should the student desire to apply for admission to the master's degree program. Students who are successful in meeting these requirements are eligible to apply for admission to the speech-language pathology master's degree program and must meet the requirements for graduate admission. Due to the *one semester limit of study*, special students are not allowed to pre-register for another semester of course work. To be eligible for registration, special students must have received a formal letter of admission to the master's degree program from the department Chairperson.

Curriculum Requirements

The Master of Science in Speech-Language Pathology requires 54 credit hours (57 for students without a background), not including credit hours for prerequisite coursework; a minimum of 400 clock hours of supervised clinical practicum, of which a minimum of 375 must be in direct client/patient contact, and at least 25 in clinical observation. At least 325 of the 375 clock hours must be at the graduate level.

Prerequisite Courses: The following courses are required for students without an undergraduate degree in Speech-Language Pathology.

1107-225	Anatomy and Physiology of Hearing	3
1109-224	Anatomy and Physiology of Speech	3
1109-312	Language Acquisition	3
1109-434	Diagnostics	3
1109-507	Speech/Hearing Disorders and Related Disciplines	3

Required Courses for the Master of Science in Speech-Language Pathology

1109-510	Survey of Linguistic Theory	3
1109-513	Sociolinguistics: Survey of Social Dialects	3
1109-520	Neuroanatomy of the Speech and Hearing Mechanism	3
1109-534	Stuttering	3
1109-535	Language Disorders	3
1109-536	Phonological Disorders	3
1109-560	Practicum in Speech (minimum of 4 semesters required)	12
1109-634	Aphasia	3
1109-635	Structural Abnormalities of the Speech Mechanism	3
1109-636	Neurophysiological Disorders of Speech and Swallowing	3
1107-520	Diagnostic Audiology	3
1107-552	Aural Rehabilitation	3
1109-611	Physiologic and Acoustic Phonetics	3
1109-674	Research I	3
1109-695	Independent Study, if elected	1-3
1109-698	Elective	3
1109-699	Thesis, if elected	VC

FRENCH PROGRAM

The French program offers courses leading to the Bachelor of Arts degree in French. It also prepares students for teacher certification at the elementary and secondary levels. Students may also elect to minor in French. The French curriculum provides students the opportunity to develop those language skills that increase the marketability of knowledge gained in other disciplines. It is also designed to prepare students to use French language skills for careers in business, industry, international organizations, civil and foreign service, the arts, and in public service. Moreover, the French Program offers courses to enable students to fulfill their University requirements in foreign languages.

The academic program leading to a Bachelor of Arts in French aims at developing students' sensibilities to personal and cultural differences for better communication among people and for an improved quality of life. It seeks to strengthen students' analytic skills through study devoted to the language, culture, literature, and civilization of the various French-speaking people living in diverse regions of the world.

Bachelor of Arts in French

Total Credit Hours of College-Level Courses Required for Graduation: 120

Contact the Department for Recommended Course of Study.

Option I: French

Option II: French (Teacher Certification)

The beginning and intermediate courses listed below must be completed or proficiency demonstrated prior to enrollment in courses in the major.

1143-101	Beginning French I	3
1143-102	Beginning French II	3
1143-201	Intermediate French I	3
1143-202	Intermediate French II	3

Required Courses for All Options: 21 credit hours

1143-301	Advanced French Grammar and Composition I	3

1143-302	Advanced French Grammar and Composition II	3
1143-351	French Civilization and Literature I	3
1143-352	French Civilization and Literature II	3
1143-374	Advanced French Conversation	3
1143-381	Francophone Civilization and Literature I	3
1143-382	Francophone Civilization and Literature II	3

Additional courses required for Option I: 15 credit hours

1143-384	French Phonetics	3
1143-484	Caribbean Literature in French	3
1143-485	African Literature in French	3
300- or 400-level French Electives		6

Additional courses required for Option II: 15 credit hours

1143-384	French Phonetics	3
1143-484	Caribbean Literature in French	3
1143-485	African Literature in French	3
1143-480	Applied Linguistics—French	3

Select one course from:

1143-430	French Literature of the Seventeenth Century	3
1143-431	French Literature of the Eighteenth Century	3
1143-432	French Literature of the Nineteenth Century	3
1143-433	French Literature of the Twentieth Century	3

Additional Education Courses Required

1321-220	Foundations of Education	3
1321-222	Children and Youth in Urban Schools	3
1323-244	Human Development and Behavior	3
1353-204	Introduction to Education of Exceptional Children	3
1323-300	Educational Psychology	3
1351-315	Teaching Reading in Secondary Schools	3
1353-450	Methods of Teaching Foreign Language Pre-K-12	3
1321-471	Observation and Student Teaching in Elementary/Secondary Schools	VC

Additional Comments or Requirements

A grade point average of 2.5 is required for French majors. Students pursuing elementary education certification should take the following courses: 1321-220, 1321-222, 1323-244, 1323-300, 1353-204, 1351-314, 1321-465, 1325-434.

Students must earn a grade of C or better in all required education courses except student teaching, which requires a grade of B or better.

Foreign Language Placement Examination or consent of Department required for students enrolling in 1143-101, 1143-102, 1143-201, 1143-202, 1143-301.

SPANISH PROGRAM

The Spanish program offers courses leading to the Bachelor of Arts degree in Spanish. It also prepares students for teacher certification at the elementary and secondary levels. Students may also elect to minor in Spanish. The program's curriculum provides students the opportunity to develop those language skills that increase the marketability of knowledge gained in other disciplines. The Spanish program also prepares them to use their language skills for careers in public service, business, industry, international organizations, civil and foreign services, and the arts. Moreover, the Spanish program enables students to fulfill their university-wide requirements in foreign languages. The Spanish program promotes understanding of cultural differences for better communication among people and for an improved quality of life. It also strengthens students' analytical skills through study devoted to the language, culture, literature, and civilization of the various Spanish-Speaking peoples living in diverse regions of the world.

Bachelor of Arts in Spanish

Total Credit Hours of College-Level Courses Required for Graduation: 120

Contact the Department for Recommended Course of Study.

Option I: Spanish

Option II: Spanish (Teacher Certification)

The beginning and intermediate courses listed below must be completed or proficiency otherwise demonstrated prior to enrollment in major courses.

1157-101	Beginning Spanish I	3
1157-102	Beginning Spanish II	3
1157-201	Intermediate Spanish I	3
1157-202	Intermediate Spanish II	3

Required Courses for Both Options: (39)

1157-301	Advanced Spanish Grammar and Composition I	3
1157-302	Advanced Spanish Grammar and Composition II	3
1157-341	Spanish Civilization and Literature I	3
1157-342	Spanish Civilization and Literature II	3
1157-351	Latin-American Civilization and Literature I	3
1157-352	Latin-American Civilization and Literature II	3
1157-374	Advanced Spanish Conversation	3
1157-384	Spanish Phonetics	3
1157- 439	African Presence in Hispanic Civilization and Literature **or**	3
1157-489	Contemporary Latin American Culture	

Complete two courses in Literature

1157-434	Twentieth Century Spanish Literature	3
1157-435	Latin-American Novel	3
1157-486	Literature of the Golden Age **or**	3
1157-487	Don Quixote	3

Complete one course in Advanced Language

1157-364	Business Spanish	3
1157-375	Spanish Translation	3
1157-480*	Applied Linguistics in Spanish	3
1157-388	Spanish Sociolinguistics	3

** Required for students pursing Option II*

Students pursuing Option II must complete:

1157-480	Applied Linguistics in Spanish	3

Additional Education Courses Required:

1321-220	Foundations of Education	3
1321-222	Children and Youth in Urban Schools	3
1323-244	Human Development and Behavior	3
1353-204	Introduction to Education of Exceptional Children	3
1323-300	Educational Psychology	3
1351-315	Teaching Reading in Secondary Schools	3
1353-450	Methods of Teaching Foreign Language Pre K-12	3
1321-471	Observation and Student Teaching in Elementary/Secondary Schools	VC

Additional Comments or Requirements

A grade point average of 2.5 is required for Spanish majors. Students pursuing elementary education certification should take the following courses: 1321-220, 1321-222, 1323-244, 1323-300, 1353-204, 1351-314, 1341-465, 1325-434.

Students must earn a grade of "C" or better in all required education courses, except student teaching which requires a grade of "B" or better.

Spanish Language Placement Examination required or consent of the Department for students enrolling in 1157-101, 1157-102, 1157-201, 1157-202, and 1157-301.

ENGLISH AS A SECOND LANGUAGE (ESL)

The Department of Languages and Communication Disorders offers English courses for students whose native language is not English. The main goal of the ESL program is to prepare those students for academic life in a university setting. This intensive, academic program covers the areas of grammar, reading, writing, speaking, and listening. The ESL program has four different levels: Basic English I and II, Intermediate English I and II, Advanced English I and Advanced English II. Placement of newly admitted students is determined by their TOEFL scores. Students whose final grade is lower than a C will be required to repeat the course. The ESL program does not satisfy degree requirements.

COMMUNICATION ARTS

The Department of Languages and Communication Disorders houses the program area of Communication Arts. The courses offered under the Speech Arts Communication Program fulfill necessary instructional needs for various degree-granting programs throughout the University.

The major course required by most degree programs is Public Speaking. This course provides an overview of the theory of oral discourse, while offering training and practice in developing effective oral communication.

Through the Competitive Public Speaking courses, the program area trains students interested in competing in speech tournaments or on competitive academic teams. Training in special events planning and speech tournament coordination and management also taught.

A sampling of course offerings in this area provides the student with an understanding of and an appreciation for the power of effective communication.

COURSE DESCRIPTIONS

1107-225 Anatomy & Physiology of Hearing (3)
Focuses on the structural anatomy and physiology of the hearing mechanism, with special attention to the central nervous system as it relates to hearing.

1107-334 Audiology (3)
Provides an introduction to hearing disorders and basic hearing measurement and interpretation. Emphasis on pure tone audiometry, speech and immittance audiometry, and interpretation of audiograms. Prereq.: 1107 225.

1107-455 Speechreading and Auditory Training (3)
Introduces principles and methods for teaching hearing-impaired individuals to integrate auditory and visual cues for the comprehension of spoken language. Prereq.: 1107 334.

1109-115 Introduction to Linguistic Analysis (3)
Provides general introduction to articulatory phonetics, distinctive feature analysis, and phonology. Covers the morphological and syntactical structure of English.

1109-116 Introduction to Sociolinguistics (3)
Emphasizes the role of language in society and the various social factors which affect language usage. Analyzes social dialect features as an example of variation in language. Prereq.: 1109-115.

1109-205 Speech and Language Development (3)
Includes a description of speech and language development, language assessment, and sociolinguistic diversity. Considers educational implications of these various dimensions of language development.

1109-224 Anatomy & Physiology of Speech (3)
Provides an introduction to the anatomy and physiology of the vocal and speech mechanisms. Discusses the respiratory, phonatory, and articulatory systems in terms of their structure and function, with emphasis on muscles and their innervations.

1109-312 Language Acquisition (3)
Investigates the various theories and processes of child language acquisition. Emphasizes normal acquisition, but aspects of deviant language development also will be examined.

1109-317 Sign Language (3)
Examines the linguistic bases for AMESLAN, SEE, Signed English, and other manual systems used by the deaf and severely hearing impaired individuals. Sociolinguistic consideration included.

1109-332 Speech-Language Pathology (3)
Offers an orientation to the profession of speech and language pathology. Focuses on articulation, language, stuttering, aphasia, cleft palate, and cerebral palsy. Considers comprehensive diagnostic procedures and therapeutic approaches for each disorder.

1109-333 Functional Disorders (3)
Focuses on the study of communication disorders of a functional nature. Includes disorders of articulation, voice, fluency, and delayed language. Explores the nature of each disorder, along with diagnostic and therapeutic techniques. Prereq.: 1107-225, 1109-224, 332, & 312.

1109-334 Organic Disorders (3)
Focuses on the study of speech and language disorders associated with structural and neurological disturbances. Examines aphasia, cleft palate, motor speech disorders, and cerebral palsy. Discusses the nature, etiology, structural, and neurological correlates of each disorder and treatment strategies. Prereq.: 1109-224, 225, 332 & 312.

1109-344 Observations (3)
Includes the observations of clinical activities as well as an introduction to clinical writing, including the writing of diagnostic protocols, evaluation reports, and intervention plans. Requires one hour per week of instruction and a minimum of three hours of supervised clinical observation per week. Prereq.: 1109-333 & 334.

1109-434 Diagnostics (3)
Focuses on theoretical study and practical experience in administration of tests, interpretation of test results, application of diagnostic labels, determination of candidacy for therapy, and report writing. Prereq.: 1109-312, 333, 334.

1109-435 Procedures and Methods in Management of Communication Disorders (3)
Introduces the student to traditional and contemporary methods for rehabilitating speech and language problems associated with organic and functional disorders. Prereq.: 1109-333, 334, & 434.

1109-460 Clinical Practicum (Optional) (3)
Focuses on the practical application of theory in the diagnosis and treatment of communication disorders of functional and organic origin training site is in the University Speech and Hearing Clinic. Prereq.: 1109-333, 334, 434, 435.

1109-495 Independent Study (3)
Allows qualified students to participate in independent study under the guidance of a faculty member. Concentrates on broadening and enriching the students' knowledge and scope in various areas of communication disorders. Prereq.: Permission of chairperson.

1119-115 Public Speaking (3)
Investigates informative speaking, persuasion, group discussion, impromptu, manuscript, and extemporaneous formats; also includes basic speech writing and presentation of speeches.

1119-116 Voice and Articulation (3)
Designed to acquaint the student with the basic factors involved in the productions of sounds that create speech. The general aim is to help students develop a flexible vocal and articulation mechanism that can be applied to conversation, sight and prepared readings, acting, radio/television, teaching and presentational skills. The students will be taught the concepts associated with career speech and hopefully develop their own individuality within the framework of career speech.

1119-211 Debate Techniques I (3)
Emphasizes the introduction of the principles of academic debate: (1) analysis, (2) research and evidence, (3) refutation and argumentation, (4) organization, and (5) delivery. An application of the principles through student participation in affirmative and negative class debates on public issues.

1119-241 Competitive Public Speaking I (3)
Serves as a training class to prepare students to compete in intercollegiate speaking competitions or to serve on the competitive academic teams such as the Honda Campus All-Star Challenge Team. The class also provides training and instruction in event coordination and planning. Prereq.: 1119-115.

1119-242 Competitive Public Speaking II (3)
Extends the training and instruction of Competitive Public Speaking I, so as to provide experience through competition in local and national tournaments. Actual experience is also provided through paid and non-paid internships in event coordination and planning. Prereq.: 1119-241.

1136-005 ESL Basic English I (3)
Introduces English structures to students with little knowledge of the language. Emphasizes correct oral and written production of basic English patterns. Taken concurrently with ESL Basic English II.

1136-006 ESL Basic English II (3)
Focuses on perfecting simple constructions and learning more advanced ones. Reinforces knowledge of the structures studied in Basic English I. Emphasizes basic English patterns, simple tenses, noun phrases, and common sentence structures.

1136-007 ESL Intermediate English I (3)
Surveys increasingly more advanced structures of English for those students who have achieved some fluency and control of the basic English structures. Emphasizes consistency of tense and sequence in more formal speaking and writing. Taken concurrently with ESL Intermediate English II.

1136-008 ESL Intermediate English II (3)
Focuses on the preparation of written English language corpus, with emphasis on the organization of paragraphs. Focuses on pronunciation at the level of the word, as well as intonation at the phrase level. Emphasizes increasing reading speed with commensurate comprehension is also emphasized.

1136-012 ESL Advanced English I (9)
Emphasizes advanced grammatical concepts and the integration of all structures in increasingly more complex written language. Expects verbal output to be more fluent and at a higher level than in previous courses. Encourages the reading of simple novels.

1136-013 ESL Advanced English II (6)
Serves as the culmination of all four skill areas (i.e., writing, reading, grammar, speaking). Refines the advanced reading and writing skills needed for regular academic subjects. As the link between the ESL Program and courses required for a degree, this level is required to exit the ESL Program.

1137-101 Beginning Arabic I (3)
Presents the four basic language skills of comprehension, speaking, reading, and writing in modern standard Arabic, as well as culture. Provides practice in conversation for students who have no previous knowledge of the language. Gives first level course of a two-semester required sequence. Includes laboratory and other audio-visual technology experiences.

1137-102 Beginning Arabic II (3)
Expands the acquisition of the four basic language skills of comprehension, speaking, reading, and writing in modern standard Arabic, as well as culture. Provides practice in conversation. Requires placement examination. Provides the second level course of a two-semester sequence. . Includes laboratory and other audio-visual technology experiences. Prereq.: 1137-101 or equivalent.

1139-101 Beginning Chinese I (3)
Presents the four basic language skills of comprehension, speaking, reading, and writing in standard Mandarin Chinese, as well as culture. Provides practice in conversation for students who have no previous knowledge of the language. Gives first level course of a two-semester required sequence. Includes laboratory and other audio-visual technology experiences**.**

1139-102 Beginning Chinese II (3)
Expands the acquisition of the four basic language skills of comprehension, speaking, reading, and writing in standard Mandarin Chinese, as well as culture. Provides practice in conversation. Requires placement examination. Provides the second level course of a two-semester sequence. Includes laboratory and other audio-visual technology experiences. Prereq.: 1139-101 or equivalent.

1143-101 Beginning French I (3)
Presents the four basic language skills of comprehension, speaking, reading, and writing, as well as culture. Provides practice in conversation for students who have no previous knowledge of the language. Gives first level course of a two-semester required sequence. Requires attendance in Language Laboratory.

1143-102 Beginning French II (3)
Expands the acquisition of the four basic language skills of comprehension, speaking, reading, and writing, as well as culture. Provides practice in conversation. Requires placement examination. Provides the second level course of a two-semester sequence. Language Laboratory attendance required. Prereq.: 1143-101 or equivalent.

1143-114 French Diction for Voice Majors (2)
Enables voice majors to acquire the pronunciation of French as applied to the performance of vocal literature in that language.

1143-115 French Diction for Voice Majors II (2)
Enables voice majors to improve their pronunciation of French as applied to the performance of vocal literature in that language. Prereq.: 1143-114 or equivalent.

1143-130 French Literature in Translation (3)
Examines selected works of French translation.

1143-171 Beginning French Conversation I (3)
Provides extensive practice in the use of French conversational patterns for beginning students. Offers the first level course of a two-semester sequence. May be used to satisfy the foreign language requirement at UDC.

1143-172 Beginning French Conversation II (3)
Provides extensive practice in the use of French conversational patterns for beginning students. Offers the second level course of a two-semester sequence. May be used to satisfy the foreign language requirement at UDC.

1143-200 Scientific French I (3)
Focuses on reading and translation of modern French texts dealing with natural and social sciences. Offers an intermediate level course specially designed for science students. Prereq.: 1143-102 or equivalent.

1143-201 Intermediate French I (3)
Provides a more in-depth knowledge of the language and prepares students for advanced courses. Offers the first semester of the second-year course in French. Prereq.: 1143-102 or equivalent.

1143-202 Intermediate French II (3)
Provides a more in-depth knowledge of the language and prepares students for advanced courses. Offers the second semester of the second year course in French. Prereq.: 1143-102, 201 or equivalent.

1143-203 Scientific French II (3)
Focuses on more advanced reading and translation of modern French texts dealing with natural and social sciences. Offers an intermediate level course specially designed for science students. Prereq.: 1143-200, 1143-201 or equivalent.

1143-207 Intermediate Grammar and Composition (3)
Provides more extensive study and review of grammatical patterns and practice in composition writing. Prereq.: 1143-201 or equivalent.

1143-271 Intermediate French Conversation I (3)
Provides students with at least one year of French who wish to improve their fluency and grammatical accuracy in conversation. Prereq.: 1143-201 or equivalent.

1143-272 Intermediate French Conversation II (3)
Provides students with three semesters of French an opportunity to improve their fluency and grammatical accuracy in conversation. Prereq.: 1143-271 or equivalent.

1143- 301 Advanced French Grammar and Composition I (3)
Focuses on review of grammatical structure, with special emphasis on more complex construction and intensive practice in the writing of compositions. Prereq.: 1143-202 or equivalent.

1143-302 Advanced French Grammar and Composition II (3)
Focuses on review of advanced grammatical structure, with special emphasis on more complex construction and intense practice in the writing of compositions. Prereq.: 1143-202 or equivalent.

1143-331 French-English and English-French Translation I (3)
Aims at developing proficiency in the art and technique of translation. Affords students an opportunity to convey French thought patterns into English and vice versa. Prereq.: 1143-202 or equivalent.

1143-332 French-English and English-French Translation II (3)
Aims at developing greater proficiency in the art and technique of translation. Affords students an opportunity to convey French thought patterns into English and vice versa. Prereq.: 1143-202 or equivalent.

1143-351 French Civilization and Literature I (3)
Integrates the study of the civilization and the literature of France in a chronological approach. Offers the first of a two-semester survey course. Prereq.: 1143-202 or permission of Department Chair.

1143-352 French Civilization and Literature II (3)
Integrates the study of the civilization and literature of France in a chronological approach. Offers the second of a two-semester survey course. Prereq.: 1143-351 or permission of Department Chair.

1143-354 Contemporary French Culture (3)
Examines the social, historical, political, artistic, and scientific factors which characterize contemporary French culture and civilization. Prereq.: 1143-202 or equivalent.

1143-355 Contemporary Francophone Culture (3)
Examines the social, historical, political, artistic, and other factors which characterize the various manifestations of contemporary Francophone culture. Prereq.: 1143-202 or equivalent.

1143-361 French for Business I (3)
Provides study and practice in the techniques of French business correspondence. Discusses the vocabulary of economics, business, law, and finance. Prereq.: 1143-202 or permission of Department Chair.

1143-362 French for Business II (3)
Provides study and practice in the techniques of French business correspondence. Discusses the vocabulary of economics, business, law, and finance. Prereq.: 1143-361 or permission of Department Chair.

1143-374 Advanced French Conversation (3)
Focuses on intensive practice in conversation designed to develop fluency, increase the student's vocabulary, and enhance ability to discuss various selected topics. Prereq.: 1143-202 or equivalent.

1143-381 Francophone Civilization and Literature I (3)
Integrates the civilization and the literature of the Francophone world. Offers the first of a two-semester survey course. Prereq.: 1143-202 or permission of Department.

1143-382 Francophone Civilization and Literature II (3)
Integrates the civilization and the literature of the Francophone world. Offers the second of a two-semester survey course. Prereq.: 1143-202, 1143-381 or permission of Department Chair.

1143-384 French Phonetics (3)
Focuses on the study of the phonological system of French and procedures for overcoming major articulatory and pronunciation problems for native speakers of English. Prereq.: 1143-202.

1143-430 French Literature of the Seventeenth Century (3)
Focuses on the study of the classical era of French literature, drama, poetry, and prose. Prereq.: 1143-352 or permission of Department Chair.

1143-431 French Literature of the Eighteenth Century (3)
Focuses on readings in the works of authors of the 18th century, such as Montesquieu, Diderot, Voltaire, Rousseau. Prereq.: 1143-352 or permission of Department Chair.

1143-432 French Literature of the Nineteenth Century (3)
Examines authors, trends, and movements in nineteenth century France. Prereq.: 1143-352 or permission of Department Chair.

1143-433 French Literature of the Twentieth Century (3)
Examines the important works in drama, poetry, novel, and essay. Includes lectures, reports, and discussions in French. Prereq.: 1143-352 or permission of Department Chair.

1143-480 Applied Linguistics-French (3)
Introduces prospective teachers to the linguistic analysis of the French language. Presents linguistic concepts in phonology, morphology, syntax, semantics and usage, contrasting French with English. Prereq.: 1143-301 and 302 or permission of Department Chair.

1143-484 Caribbean Literature in French (3)
Examines the themes and trends in the works of main writers from French Guiana, Guadeloupe, Haiti, and Martinique. Prereq.: 1143-382 or permission of Department Chair.

1143-485 African Literature in French (3)
Examines the themes and trends in the works of main writers from the French-speaking countries of Black Africa. Prereq.: 1143-382 or permission of Department Chair.

1151-364 Special Projects (3)
Provides use of foreign language skills in a particular area of application through projects, such as internships, work outside the classroom, and community service. Open to juniors. Requires that supervision by faculty advisors be arranged prior to registration. Prereq.: Permission of Department Chair.

1151-394 Independent Study (Junior Level) (3)
Allows the student to work on the junior level in special areas not included in current Departmental offerings. Requires that special arrangements be made with Department prior to registration. Prereq.: 2.8 cumulative GPA and permission of Department Chair.

1151-464 Special Projects (3)
Provides projects or specialized study which will aid in use of foreign language skills or acquisition of technical knowledge in a particular area of application, i.e., internship, work outside the classroom, community service. Requires that arrangements be made with Department prior to registration. Prereq.: Permission of Department Chair.

1151-495 Independent Study (Senior Level) (3)
Allows the student to work on the senior level in special areas not included in current Departmental offerings. Requires that special arrangements be made with Department prior to registration. Prereq.: 2.8 cumulative GPA and permission of Department Chair.

1153-101 Beginning Portuguese I (3)
Presents the four basic language skills of comprehension, speaking, reading, and writing, as well as culture. Provides practice in conversation for students who have no previous knowledge of the language. Gives first level course of a two-semester required sequence. Includes laboratory and other audio-visual technology experiences.

1153-102 Beginning Portuguese I I (3)
Expands the acquisition of the four basic language skills of comprehension, speaking, reading, and writing, as well as culture. Provides practice in conversation. Requires placement examination. Provides the second level course of a two-semester sequence. . Includes laboratory and other audio-visual technology experiences Prereq.: 1153-101 or equivalent.

1157-101 Beginning Spanish I (3)
Presents the basic skills of comprehension, speaking, reading, writing, and knowledge of the culture of the Spanish-speaking world. Provides extensive practice through situational drills for students who have no previous knowledge of the language. Offers the first course of a two-semester sequence. Requires attendance in the Language Laboratory.

1157-102 Beginning Spanish II (3)
Provides further practice in the basic skills of listening, speaking, reading, writing, and cultural knowledge. Offers the second course within a two-semester sequence. Requires completion of the Language Laboratory experience. Prereq.: 1157-101 or equivalent.

1157-171 Basic Conversational Spanish I (3)
Presents a basic conversational course in Spanish. Offers the first course in a two-semester sequence. Requires completion of Language Laboratory experiences. May be used towards satisfying language requirements at UDC.

1157-172 Basic Conversational Spanish II (3)
Provides further practice in conversational patterns in Spanish. Requires completion of the Language Laboratory experiences. May be used towards satisfying the language requirement at UDC. Prereq: 1157-171 or equivalent.

1157-201 Intermediate Spanish I (3)
Offers a grammatical review of the language with expanded study of syntax. Discusses readings on culture and short compositions. Offers the first in a two-semester course sequence. Prereq.: 1157-1157-102 or equivalent.

1157-202 Intermediate Spanish II (3)
Continues an intermediate grammatical review with emphasis on cultural and literary readings for discussion and vocabulary development. Offers the second course in a two-semester sequence. Prereq.: 1157-201 or equivalent.

1157-301 Advanced Spanish Grammar and Composition I (3)
Reviews grammatical structure, with emphasis on more complex patterns and intensive practice in writing compositions. Offers the first of a two-semester course sequence. Prereq.: 1157-202 or equivalent.

1157-302 Advanced Spanish Grammar and Composition II (3)
Focuses on more advanced topics in grammar. Requires compositions based upon selected topics. The second of a two-semester course. Prereq.: 1157-202 or permission of Department Chair.

1157-341 Spanish Civilization and Literature I (3)
Traces the civilization and the literature of Spain from its beginnings to the Golden Age in a chronological presentation. Offers the first of a two-semester survey course. Prereq.: 1157-202 or equivalent.

1157-342 Spanish Civilization and Literature II (3)
Surveys Spanish civilization and literature from the Golden Age to the 20th Century. Offers the second of a two-semester survey course. Prereq.: 1157-202 or permission of Department Chair.

1157-351 Latin-American Civilization and Literature I (3)
Traces the civilization and the literature of Spanish America from its known origins through Independence. Offers the first of a two-semester survey course. Prereq.: 1157-202 or equivalent.

1157-352 Latin-American Civilization and Literature II (3)
Surveys the civilization and literature of Spanish America from Independence to contemporary times. Offers the second of a two-semester survey course. Prereq.: 1157-202 or permission of Department Chair.

1157-364 Business Spanish (3)
Presents a study of the terminology used in business in Spanish-speaking countries. Provides the opportunity for oral and written experience in conversational patterns reflecting appropriate cultural understanding. Requires writing letters, documents, bills, etc. Prereq.: 1157-202 or permission of Department Chair.

1157-374 Advanced Spanish Conversation (3)
Offers the opportunity to improve the student's proficiency in the use of the spoken language. Concentrates on dialogues, discussions, and situational responses. Prereq.: 1157-202 or permission of Department Chair.

1157-375 Introduction to Translation (3)
Develops skills in translating to and from Spanish. Aims at enhancing the student's proficiency in the art and skill of translating thought patterns in Spanish or in English. Prereq.: 1157-202 or equivalent.

1157-384 Spanish Phonetics (3)
Provides a descriptive study of the sound system of Spanish and techniques for acquiring near-native control. Presents procedures for teaching English to Spanish speakers. Prereq.: 1157-202 or equivalent.

1157-434 Twentieth Century Hispanic Literature (3)
Presents the ideologies and literary styles of 20th century Hispanic countries. Prereq.: 1157-351 or permission of Department Chair.

1157-435 Latin-American Novel (3)
Studies the development of the Spanish-American novel from the beginning to the present. Presents a literary analysis and critical evaluation of the most representative works and authors. Prereq.: 1157-352 or permission of Department Chair.

1157-439 African Presence in Hispanic Literature (3)
Presents an analysis, interpretation, and appreciation of a broad selection of readings covering civilization and literature by and about African descendants from Africa, Spain, and the Americas. Involves treatment of texts as both literature and as commentary on social and cultural issues. Prereq.: 1157-301 or permission of Department Chair.

1157-480 Applied Linguistics-Spanish (3)
Introduces prospective teachers to the linguistic analysis of the Spanish language. Presents linguistic concepts in phonology, morphology, syntax, semantics and usage contrasting Spanish with English. Prereq.: 1157-301 and 302 or permission of Department.

1157-486 Literature of the Golden Age (3)
Studies the main authors, their works, and their literary and social significance. Includes reading of the most important works of the Golden Age. Requires discussions and reports. Prereq.: 1157-352 or permission of Department.

1157-487 Don Quixote (3)
Examines the texts of Cervantes with close attention to his masterpiece, Don Quijote Discusses issues involving class, gender and race. Prereq.: 1157-301 or permission of the Department Chair.

1157-488 Spanish Language in Society: Sociolinguistics (3)
Examines the use of language variation within different levels and groups in society. Includes topics on the use of pronouns, dialectology, Afro-Hispanic influences, euphemisms, and discourse analysis. Prereq.: 1157-301 or permission of Department Chair.

1157-489 Contemporary Latin American Culture (3)
Provides a general view of current social and political events in Latin America. Gives special attention to the impact of Hispanic culture on the U.S. Prereq.: 1157-301 or permission of Department Chair.

GRADUATE COURSE DESCRIPTIONS

1107-520 Diagnostic Audiology (3)
Focuses on techniques and interpretation of diagnostic test batteries. Introduces pure tone, speech, immittance audiometry and the role they play in differential diagnosis of hearing impairment; overview of special diagnostic testings. Includes calibration of test equipment and environment. Prereq.: 1107-225.

1107-552 Aural Rehabilitation (3)
Provides an overview of acoustical and perceptual phonetics and the impact of hearing loss. Addresses assessment of hearing-impairment and its implications for habilitation/rehabilitation. Reviews techniques for speech-reading, auditory training and counseling, including an overview of cued speech, manual communication systems and amplification systems (auditory training units, hearing aids and assistive listening devices). Prereq.: 1107-520.

1107-617 Manual Communications Systems (3)
Examines the linguistic bases for AMESLAN, SEE, Signed English, and other manual systems used by the severely hearing-impaired and the deaf. Considers sociolinguistic issues. Prereq.: Graduate standing

1109-507 Speech and Hearing Disorders and Related Disciplines (3)
Provides an overview of the practice of speech-language pathology, including requirements for certification as an SLP, the discipline's code of ethics, and disorders and client populations served by the SLP. This course is required for new graduate students without an SLP background. Prereq.: Graduate standing.

1109-510 Survey of Linguistic Theory (3)
Surveys descriptive and theoretical models for analyzing the grammar of a language. Gives particular attention to traditional and current models of grammatical analysis. Includes exercises in rule-writing for particular aspects of English syntax. Prereq.: Graduate standing.

1109-513 Sociolinguistics: Survey of Social Dialects (3)
Surveys the linguistic rules characterizing various social dialects of American English, including historical and social issues which have led to diversity in American English. Includes as assignments the extraction of socially diagnostic linguistic variables from samples of English dialects. Prereq.: 1109-510.

1109-520 Neuroanatomy of the Speech and Hearing Mechanism (3)
Examines the anatomy and physiology of the central and peripheral nervous systems as they relate to the speech and hearing mechanisms. Prereq.: Graduate standing.

1109-534 Stuttering (3)
Highlights and contrasts the differences between normal and abnormal non-fluency. Acquaints the student with various theories pertaining to the causes and onset of stuttering; introduces the student to a variety of approaches to the diagnosis, treatment, and counseling techniques involved in stuttering therapy. Prereq.: Graduate standing.

1109-535 Language Disorders (3)
Examines the pragmatic, semantic, and syntactic features of children exhibiting disorders of oral and written language. Provides practical experience in the use of common language assessment protocols and the application of various language intervention strategies. Requires a basic knowledge of normal language acquisition. Prereq.: 1109-510 & 312.

1109-536 Phonological Disorders (3)
Focuses on systems of speakers exhibiting phonological disorders, with emphases on diagnosis, analysis of phonological data, and remediation strategies. Discusses normal phonological acquisition as a baseline for examining disordered systems. Prereq.: 1109-510.

1109-560 Practicum in Speech (3)
Provides supervised clinical practicum in the identification, diagnosis, and treatment of communication disorders, including techniques of interviewing and counseling. Includes discussion of requirements for the profession and professionalism. Prereq.: Permission of the clinical coordinator.

1109-611 Physiological and Acoustic Phonetics (3)
Examines anatomical and physiological factors that relate to the acoustic analysis of features found in connected speech. Laboratory exercises in speech acoustics will also be included.

1109-634 Aphasia (3)
Focuses on language disorders in adults and children caused by lesions of the central and peripheral nervous systems. Discusses specific disorders such as aphasias due to left hemisphere lesions, congenital aphasia, language disturbances caused by right hemisphere lesions, traumatic brain injury, and dementias, including Alzheimer's disease. Prereq.: 1109-520

1109-635 Structural Abnormalities/ Voice Disorders (3)
Examines the perceptual and physical characteristics disorders of voice. Discusses the etiology of these disorders and various assessment and treatment procedures. Prereq.: 1109-520.

1109-636 Neurophysiological Disorders of Speech and Swallowing (3)
Focuses on speech and swallowing disorders related to central and peripheral nervous system disturbances. concern to motor speech disorders and dysphagia; the etiology and specific sites of lesion and resultant effects upon communication. Also discusses clinical management of these disorders. Prereq.: 1109-520 or permission of instructor.

1109-674 Research Methods in Communication Sciences (3)
Introduces students to basic research and statistical procedures in the communication sciences. Demonstrates how research can be used to answer important questions in both speech/language and hearing disorders. Prereq.: Graduate standing.

1109-695 Independent Study (3)
Allows graduate students the opportunity to explore areas of academic interest in which no formal course is available. Gives the graduate student the opportunity to explore an area which may lead to a thesis problem or which will provide further understanding in a particular area. Prereq.: Permission of Department chairperson.

1109-698 Elective (3)
Subject varies. Prereq.: Permission of Department chairperson.

1109-699 Thesis (VC)
Gives the student an opportunity to apply research theories and methodologies to the study of a topic of importance in the selected discipline. Enrolls students in the course according to their areas of concentration and faculty availability and willingness to direct the thesis project. Prereq.: Permission of Department chairperson.

Department of Mass Media, Visual and Performing Arts

(Programs in this department are under review and curriculum requirements are subject to change. Please see the Department for changes pertinent to your program.)

Professor Meredith Rode, MFA, Ph.D., Acting Chairperson
Building 46, Room A03-B
(202) 274-7402

FULL-TIME FACULTY

Professors: C. Belanger, M. Cooper, H. Roach, M. Rode, H. Van Buren, N. Ormond, J. Korey

Associate Professors: L. Barton Jr., J.V. Elam, P. Interdonato, L.D. Jones

Assistant Professors: W. Hanff, A. Johnson, G.H. Smith, L. Smith, O. Vassell, D. Venne, R. Niyangoda, Steven Madkins

The Department of Mass Media, Visual and Performing Arts offers programs in Art, Graphic Design, Mass Media, Journalism and Television Production, Music, Graphic Communications, and Theatre Arts. Discipline, technique, and skill are developed and nurtured. The distinguished faculty brings years of impressive, creative, artistic, and technical experience; international recognition, and academic credentials appropriate to their respective programs.

The Art Program offers the Bachelor of Arts degree in Art which has two options: 1) Studio Art; and 2) Art Education. The Bachelor of Arts degree in Studio Art has concentrations in painting, printmaking, drawing and graphic design. The Art Program also offers the Associate degree and a Bachelors of Fine Art in Graphic Design.

The Mass Media program offers four-year program options in Journalism and Television Production. All Bachelor's degree programs in mass media require a minimum of a one semester internship with public or commercial mass media institutions or an acceptable equivalent.

The Performing Arts component offers programs in Music and Theatre, as well as a non-degree Dance Arts sequence in the Theatre program. The Music program provides specialized professional training in various disciplines of music and general courses for cultural enrichment. Two degrees are offered in the Music program: the Bachelor of Music degree in Music and Music Education and the Associate in Arts degree in Music.

The Graphic Communications Program offers a B.S. and an A.A.S. in Technology. Utilizing the latest in computer software, students are prepared for a wide variety of career opportunities. These range from traditional print on paper to web internet publishing and new media such as interactive CD ROM.

The Theater Program offers undergraduate courses leading to the Bachelor of Arts degree. The Theater program prepares students to enter the profession as stage managers, actors, playwrights, and technical staff.

There are a number of computer laboratory facilities in the Department of Mass Media, Visual and Performing Arts designed to support instruction and to prepare students for work in internships and entry level positions, as well as to provide the necessary hands-on experience.

The majority of the offerings in the visual and performing arts satisfy the University-wide requirement in fine arts. Mass media courses do not apply.

The Department offers three Certificate Programs: Certificate in Desktop Publishing, Certificate in Multimedia, and Certificate in Photography.

All of the Department's programs provide practical experiences through student productions, exhibitions, performances, and publications.

ART PROGRAM

The Art Program is based on the premise that a solid foundation in technical skills and art theory strengthen growth and creativity. Some general objectives of the Department are: to provide students with marketable artistic skills, to increase awareness of the role of art and design in contemporary culture and throughout history, to inspire collaboration among student artists and designers, and to serve as an artistic resource for the community.

The Art Program offers several degree options: the Interdisciplinary Art Bachelor of Arts Degree (B.A.), the Interdisciplinary Art Bachelor of Arts: Specialization in Photography Degree (B.A.), the Graphic Design Associate of Arts Degree (A.A.), and the Graphic Design Bachelor of Fine Arts Degree (B.F.A.).

For students interested in Art Education, the B.A. and B.F.A. Degree programs may be supplemented by additional education courses. The teacher education programs in art and music are accredited by the National Council on Teacher Education (NCATE).

Interdisciplinary Art Bachelor of Arts Degree

The Interdisciplinary Art program prepares students for work as exhibiting studio artists, advanced study, positions in art museums/galleries, alternative spaces and art-related government agencies. Members of the Art Program faculty have participated in extensive local, national, and international gallery exhibits. The Art Program also manages Gallery 42, a non-profit art gallery for exhibitions of both professional and student artwork.

The art teacher education program is accredited by the National Association of State Directors of Teacher Education and Certification.

In addition to the listed studio courses, all Art and Graphic Design majors must complete the General Education requirements for their degree.

Semester One (Fall)
Foundations of Design
Introduction to Drawing
Digital Applications

Semester Two (Spring)
Visual Thinking
Figure Drawing
Basic Digital Photography

Semester Three (Fall)
Introduction to Painting
World Art History: Ancient to Renaissance
Introduction to Sculpture

OR

Introduction to Ceramics

OR

Three Dimensional Design

Semester Four (Spring)
Introduction to Printmaking
World Art History: Renaissance to Contemporary
Illustration Techniques

Semester Five (Fall)
Advanced Painting
Computer Art

OR

Computer Illustration
Art History Elective

Semester Six (Spring)
Advanced Figure Drawing
Advanced Printmaking

Semester Seven (Fall)
Level Interdisciplinary Art I
Art History Elective
Studio Elective

Semester Eight (Spring)
Level Interdisciplinary Art II

In addition to the listed studio requirements, Interdisciplinary Studio Art students must also take an additional 12 credits of elective courses. These may include additional Art History or Studio Art classes. Please note that these electives are not the same as the General Education Requirements.

**Credit Hours of College-Level Courses Required for Graduation: 120 credit hours, except for Art Education, which requires 133 credit hours.*

Interdisciplinary Art Bachelor of Arts Degree (Specialization In Photography)

Photography is another aspect of the Art Program at UDC. The Interdisciplinary Art/Photography program is based on the premise that a solid foundation in technical skills and the development of aesthetic awareness will help the photographer develop a personal creative style with the camera. The Interdisciplinary Art/Photography program provides students with marketable skills, increases awareness of the history of photography and visual cul-

ture, exposes students to both commercial and artistic applications of photography, inspires collaboration among student photographers, and serves as an artistic resource for the community.

The Interdisciplinary Art/Photography program prepares students for work as exhibiting fine art photographers, commercial photographers, photojournalists, teaching and photography instructors, and as artists working with government agencies that utilize and promote photography. Members of the Interdisciplinary Art/Photography program faculty have participated in extensive local, national, and international gallery exhibits. Faculty members also have wide experience in commercial photography.

In addition to the listed studio courses, all Art and Graphic Design majors must complete the General Education requirements for their degree.

Semester One (Fall)
Foundations of Design
Introduction to Drawing
Digital Applications

Semester Two (Spring)
Visual Thinking
Basic Digital Photography

Semester Three (Fall)
Introduction to Painting
World Art History (Ancient to Renaissance)
Intermediate Digital Photography

Semester Four (Spring)
World Art History (Renaissance to Contemporary)
Film Photography Processing and Wet Printing

Semester Five (Fall)
Computer Art
Advertising and Publication Photography
Photographic Lighting
Art History Elective

Semester Six (Spring)
Photojournalism
History of Photography

Semester Seven (Fall)
Art History Elective
Studio Elective
Advanced Digital Photography

Semester Eight (Spring)
Advanced Photography
Photography Portfolio Seminar

In addition to the listed studio requirements, Photography students must also take an additional 12 credits of elective courses. These may include additional Art History or studio art classes. Please note that these electives are not the same as the General Education Requirements.

**Credit Hours of College-Level Courses Required for Graduation: 120 credit hours, except for Art Education, which requires 133 credit hours.*

ART EDUCATION MAJORS for all Art and Design degrees must also complete the requirements of the Education Department for the intended teaching level. All students seeking the Art Education option must also take Creative Crafts (1105 271 - 3 credit hours). Students may prepare to teach at the elementary or secondary level. The art teacher education program is accredited by the National Association of State Directors of Teacher Education and Certification.

Professional Education (K-12 Certification Requirements):

1321 220	Foundations of Education	3
1321 222	Children and Youth in Urban Schools	3
1323 300	Educational Psychology	
1353 204	Introduction to Education of Exceptional Children	3
1351 314	Teaching Reading in the Elementary Schools	3
OR		
1351 315	Teaching Reading in the Secondary Schools	3
1319 105	Principles of Child Development (Elementary)	3
OR		
1323 244	Human Development and Behavior (Secondary)	3
1321 445	Methods of Teaching Art in Pre-K-12	3
1325 434	Observation and Student Teaching in the Elementary Schools	VC
OR		
1321 471	Observation and Student Teaching in the Secondary Schools	VC

Comments: Art Education is essentially a four and one-half-year program. Student teaching requires an entire semester. It is suggested that students attend summer sessions to alleviate heavy scheduling in the senior year when student teaching is taken. A minimum grade of "C" is required in all art and professional studies courses. Students must complete all required 200-, 300-, and 400-level courses prior to admittance to student teaching.

Graphic Design Associate of Fine Art & Bachelor of Fine Arts Degrees

The Graphic Design Program is a part of UDC's Art Program. The Graphic Design B.F.A. is the first professional degree for those seeking advanced study, and it prepares students for work as professional print and web designers. The curriculum helps students to develop a portfolio for professional design positions in commercial institutions, design studios, and government agencies. The Graphic Design Program provides a well-rounded education experience for students seeking creative and technical design skills. Graphic Design is offered as a two-year program (culminating in the Associate's degree), and a four-year program (culminating in the Bachelor's degree). Members of the UDC Graphic Design Program faculty have created design work that has

been printed, published, and viewed in local, regional, national, and international venues.

In addition to the listed studio courses, all Art and Graphic Design majors must complete the General Education requirements for their degree.

Semester One (Fall)
Foundations of Design
Introduction to Drawing
Digital Applications

Semester Two (Spring)
Computer Art
Photography
Desktop Publishing
Visual Thinking

Semester Three (Fall)
Graphic Design I
Computer Illustration
Typography
Digital Imaging

Semester Four (Spring)
Publication Design
Web Design
History of Graphic Design
Portfolio and Marketing Workshop

Students in the 2-year Graphic Design Associate's in Art program must also complete the University-wide General Education requirements for 2-year degrees. The A.A. program is open admission; the B.F.A. program is a selective admissions process. At the completion of the 2-year program, the graphic design student will submit an application and portfolio to be considered for admission into the 4-year Bachelor's Degree in Fine Arts/ Graphic Design program. The student must have a "B" average in all major courses. Entry into the B.F.A. program is granted to applicants who have successfully passed the portfolio review. To complete the B.F.A. degree:

Bachelor of Fine Arts in Graphic Design

The A.A. program has an open admissions policy; while the B.F.A. has a selective admissions process. The A.A. program is designed for Freshman and Sophomore years, culminating in an Associate of Arts (A.A.) Degree in Art, with a specialization in Graphic Design.

Required Core Courses:

Semester One (Fall)
Foundations of Design
Introduction to Drawing
Digital Applications

Semester Two (Spring)
Computer Art
Photography
Desktop Publishing
Visual Thinking

Semester Three (Fall)
Graphic Design I *(Prereq.: Foundations and Digital Applications)*
Computer Illustration *(Prereq.: Foundations and Digital Applications)*
Typography *(Prereq.: Foundations and Digital Applications)*
Digital Imaging I *(Prereq.: Foundations and Digital Applications or permission of Instructor.)*

Semester Four (Spring)
Publication Design
Web Design[1] *(Prerequisites: Digital Applications, Graphic Design I, Computer Illustration, Computer Art; or permission of instructor.)*
History of Graphic Design
Portfolio and Marketing Workshop

Completion of A.A. Requirements

At the completion of the above requirements, the student is eligible for the A.A. degree. Those who wish to continue with the B.F.A. program will be required to submit an application and portfolio to be considered for admission. The portfolio will contain examples of work indicating proficiency in the A.A. course of study with at least a 'B' average in the major courses. An admission essay will also be required, stating professional areas of interest and goals.

Semester Five (Fall)
Graphic Design II *(Prereq.: Graphic Design I)*
World Art History *(Prereq.: English Composition II)*
Color Management
Animation and Multimedia 1[1]

Semester Six (Spring)
Design to Print Practicum [2]
Figure Drawing
World Art History II
Digital Imaging II *(Prereq.: Digital Imaging I)*

Semester Seven (Fall)
Portfolio
Illustration Techniques
Animation and Multimedia II[1]
Introduction to Painting

Semester Eight (Spring)
Graphics Management
Graphic Design Practicum
Art History Elective
Graphic Design Elective

[1] Course titles and numbers under review by Art Program.

[2] New course up for approval (expected start date Fall 2008)

**Credit Hours of College-Level Courses Required for Graduation: 137 credit hours, except for Graphic Design Art Education, which requires 150 credit hours.*

MASS MEDIA PROGRAM

The Mass Media Program consists of a set of required core courses with two concentration options: journalism and television production. The Journalism Program prepares students to pursue careers in print media as reporters, copy editors, and editors. Some graduates enter the field of public relations as media or community relations specialists, while others utilize their background to prepare for careers in law and urban studies. The Television Program prepares students to pursue careers in television production and management, as well as in the government as media specialists. Some utilize this background for careers in marketing, promotions, and sales. After completing 15 credit hours in the major, the student's progress is reviewed by Departmental advisors. Students must maintain a 2.5 grade point average to continue in the major. Students are encouraged to do internships related to their disciplines.

Bachelor of Arts in Mass Media

Total Credit Hours of College-Level Courses Required for Graduation: 120

Required Core Courses for the Bachelor of Arts Degree in Mass Media:

1115 211	Fundamentals of Journalism	3
1117 105	Processes of Communication	3
1117 107	Introduction to Mass Media	3
1117 214	Introduction to Public Relations	3
1117 215	Advertising	3
1117 315	Writing for Media	3
1119 115	Public Speaking	3
TOTAL		**21**

Option 1: Television Production

Additional Required Courses for the option in Television Production:

1105 145	Basic Photography	3
1117 116	Audio Visual Foundations	3
1113 201	Fundamentals of Television	3
1113 211	Introduction to Studio T.V. Production	3
1113 212	Advanced Studio T.V. Production	
1113 234	Fundamentals of Film Production	3
1113 311	Introduction to Remote T.V. Production	3
1113 312	Advanced Remote T.V. Production	3
1121 281	Lighting I	3
1121 371	Directing I	3
1117 398	Directed Study Journalism/TV	3
1117 495	Independent Study in Mass Media	3
1117 497	Communicative Arts Seminar	3

Select two courses from the following: 6

1104 109	Digital Applications	3
1101 115	Graphic Design I	3
1121 111	Stagecraft I	3

Mass Media Electives: 12

Students may select four 3 credit hour courses from courses in Studio Art, Theatre, English, Political Science, or Graphic Communications.

Comments: A minimum grade of "C" is required in all major courses.

Option 2: Journalism

Additional Required Courses for the Print Journalism Option:

1115 212	Reporting	3
1115 213	Newspaper Production	3
1115 311	News and Journalism Lab I	3
1115 312	News and Journalism Lab II	3
1115 314	Feature Writing	3
1117 398	Directed Study Journalism/TV	3
1117 495	Independent Study in Mass Media	3
1117 497	Communicative Arts Seminar	3
1104 207	Introduction to Desktop Publishing	2
1104 227	Introduction to Desktop Publishing Lab	1
1105 110	Design Fundamentals	3
1133 219	Advanced Writing	3
1133 316	Advanced Grammar	3
	or	
1133 290	Grammar for Journalists	3

Electives: Students may select four courses from the following list (12 credit hours) or see advisor for alternative selection.

1163 101	U.S. History to 1865	3
1163 102	U.S. History (Since 1865)	3
1163 111	Introduction to African History I	3
1169 205	Introduction to Political Science	3
1169 206	Introduction to American Government	3
1169 285	Introduction to Political Ideologies	3
1171 201	Principles of Psychology I	3
2131 201	Principles of Economics I	3
1101	Art	3
1113	Television	3
1121	Theatre	3

Comments: A minimum grade of "C" is required in all major courses. To enroll in Independent Study, the student must have a cumulative GPA of 2.8.

GRAPHIC COMMUNICATIONS PROGRAM

The Graphic Communications Program offers two degree programs – an Associate in Applied Science in Graphic Communications Technology and a Bachelor of Science in Graphic Communications. The educational experience challenges the student's creativity using the latest in computer software. Students are prepared for a wide variety of career opportunities that range from traditional print on paper to web-internet publishing, as well as new media such as interactive CD ROM. Students are prepared to produce a variety of products as well as own or manage those industries.

Associate in Applied Science in Graphic Communications Technology

The Associates degree in Graphic Communications Technology involves the latest digital technology applied to both imaging and publishing. The degree prepares students for careers in the graphic communications industries through a wide variety of document and information preparation. This associate degree has a two plus two option that allows all earned credits to be applied towards a Bachelor's degree.

Associate in Applied Science in Graphic Communications Technology

Total Credit Hours of College-Level Courses Required for Graduation: 61-62

Required Course of Study:

Freshman Year

Semester One (Fall)

1101 105	Foundations of Design[1]	3
1104 107	Desktop Publishing	2
1104 108	Desktop Publishing Laboratory	1
1104 109	Digital Applications	3
1133 111	English Composition I	3
1535 101	General College Mathematics I	3
8800 101	Freshman Orientation (optional)	1

Semester Two (Spring)

1104 113	Digital Imaging	2
1104 114	Digital Imaging Laboratory	1
1101 115	Graphic Design I	3
1101 126	Typography	3
1133 112	English Composition II	3
1535 105	General College Mathematics I I (or Statistics)	3

Sophomore Year

Semester Three (Fall)

1106 307	Color Management	2
1106 308	Color Management Laboratory	1
1101 213	Publication Design	3
3523 235	Introduction to Web Page Dev. & HTML	2
3523 236	Introduction to Web Page Dev. & HTML Lab	1
	Program Core Elective (see advisor)	3
	Laboratory Science Lecture[2]	3
	Laboratory Science Laboratory[2]	1

Semester Four (Spring)

1104 209	Graphics Management	3
1101 203	Web Design	3
1104 214	Design to Print Practicum[3]	2
1104 215	Design to Print Practicum Laboratory[3]	1
1105 145	Basic Digital Photography	3
Social Science Elective		3
TOTAL CREDIT HOURS:		**61/62**

[1] *Satisfies the University Fine Arts Requirement*

[2] *Must be a laboratory science: Nutrition, Integrated Science, Chemistry, Physics*

[3] *New course awaiting final approval (expected start date Fall 2008)*

Bachelor of Science in Graphic Communications

The Bachelor's degree in Graphic Communications is a continuation of the Associate of Applied Science in Graphic Communication Technology. The degree, in addition to its core requirements, allows student to choose an area of concentration in their course of study from any of the following options: Multimedia – Web Publishing, Publications Management, Procurement, Photography or Information Technology. The program is intended to build upon knowledge learned at the Associate level and prepare the student for advanced technical, creative, management, or ownership positions within the industry.

Prerequisite: Associate in Applied Science in Graphic Design or Graphic Communications Technology.

This program adds two years of program requirements to the Associates program in Graphic Communications Technology.

Credit Hours of College-Level Courses Required for Graduation: 121/122.

Required Course of Study:

Junior Year

Semester Five (Fall)

1101 3xx	Animation and Multimedia I[1]	3
1106 301	Cost Estimating	2
1106 303	Cost Estimating Laboratory	1
1133 211	Literature and Advanced Writing I	3
2131 201	Principles of Macro Economics (or Micro 2131 202)	3
	Core Elective (Area of Concentration)	3

Semester Six (Spring)

2227 304	Introduction to Marketing Management	3
1106 325	Elements of Production Management	3
1133 212	Literature and Advanced Writing II	3
1106 309	Digital Imaging II	2
1106 310	Digital Imaging II Laboratory	1
	Core Elective (Area of Concentration)	3

Senior Year

Semester Seven (Fall)

1106 307	Design to Print Practicum II[2]	3
1106 4xx	Animation and Multimedia II[1]	3
2213 309	Introduction to E-Commerce	3
	Core Elective (Area of Concentration)	3
	Core Elective (Area of Concentration)	3

Semester Eight (Spring)

	Core Elective (Area of Concentration)	3
	Core Elective (Area of Concentration)	3
	Philosophy Elective	3
	Laboratory Science Lecture[3]	3
	Laboratory Science Laboratory[3]	1
	Speech, Physical Education or Health	2

TOTAL CREDIT HOURS: **121/122**

[1] Course Title and number under revision by Art Program

[2] New course up for approval (expected start date Fall 2008)

[3] Must be a laboratory science: Nutrition, Integrated Science, Chemistry, Physics

Graphic Communications BS

Areas of Concentration

Each Bachelor of Science degree candidate needs to declare an option upon entry into the program. The core electives listed in the above curriculum should be taken from those classes listed under the particular majors area of concentration. Some flexibility is acceptable with approval from a program advisor.

Multimedia – Web Publishing Concentration

1106 307	Color Management[1]	2
1106 308	Color Management Laboratory[1]	1
1105 101	Drawing	3
1101 206	Multimedia Authoring[2]	3
1101 411	3D Modeling and Animation2	3
1101	Design Elective (Advisor Approval Required)	3
1113 201	Fundamentals of TV **or**	
1117 336	Video Editing	3
1117 315	Writing for Media	3
1104 208	Advanced Desktop Publishing	2
1104 228	Advanced Desktop Publishing Laboratory	1
1106 495	Directed Independent Study (Senior Project/Internship)	3

[1] Required by Graphic Design majors entering the Graphic Communications BS

[2] Course titles and number currently under review by the Art Program

Management Concentration

2211 214	Legal Environment of Business	3
2201 201	Principles of Accounting	3
2213 304	Introduction to Management	3
2213 308	Entrepreneurship	3
2213 409	Organizational Theory & Behavior	3
1104 208	Advanced Desktop Publishing	2
1104 228	Advanced Desktop Publishing Laboratory	1
	Elective (Advisor Approval Required)	3
1106 495	Directed Independent Study (Senior Project/ Internship)	3

Procurement Concentration

2211 214	Legal Environment of Business	3
2211 305	Federal Acquisition Systems	3
2211 306	Formation of Government Contracts	3
2211 304	Purchasing and Materials Management	3
2211 404	Contract Administration	3
2211 408	Procurement Law	3
1104 208	Advanced Desktop Publishing	2
1104 228	Advanced Desktop Publishing Laboratory	1
	Elective (Advisor Approval Required)	3
1106 495	Directed Independent Study (Senior Project/ Internship)	3

Photography Concentration

1105 145	Basic Digital Photography	3
1101 2xx	Intermediate Digital Photography1	3
1105 2xx	Photo Journalism1	3
1105 3xx	Photographic Lighting1	3
1105 3xx	Advertising and Publication Photography1	3
1105 4xx	Advanced Digital Photography1	3
1105 4xx	Photography Portfolio Seminar1	3
	Concentration Elective (Advisor Approval Required)	3
	Concentration Elective (Advisor Approval Required)	3

[1] These courses are awaiting formal course numbers and course titles from the Art Program as a part of their recently approved BA in Art/Photography.

Information Technology Concentration

3523 104	Introduction to Data Processing	3
3523 131	Computer Network Fundamentals	2
3523 132	Computer Network Fundamentals Laboratory	1
3529 254	Introduction to Computer Graphics	3
3528 251	Database Fundamentals	2
3528 252	Database Fundamentals Laboratory	1
3528 341	Integrated Web Development	3
3528 351	SQL Programming	3
	Multimedia Elective (Advisor Approval Required)	3
	Graphic Communications or Design Elective	3
1106 495	Directed Independent Study (Senior Project/Internship)	3

Student interests in an area of specialization may be customized to include other coursework based upon the student abilities and willingness to take advanced classes.

Note: The program reserves the right to make changes to both the required core and the concentration electives based upon changes in technology as well as new curricular offerings as they become available to the University community. Students should work with their advisor in order to determine which concentration and electives would best suit their career objectives.

Qualifier: Given the nature of changing technologies, interested students should always consult with the program director to verify the latest course of study.

CERTIFICATE PROGRAMS GRAPHIC COMMUNICATIONS

Certificate in Desktop Publishing

A Certificate in Desktop Publishing can enhance the career options for someone with a degree or a person just entering the field of computer-assisted publishing. Graphic Communications is a major enterprise in the D.C. Metropolitan area. Persons with writing and editorial or creative skills should find this certificate option opens new career opportunities. The program is based on current computer applications used in the field and provides the student with "hands on" experiences designed to make them proficient in many forms of graphic communications.
The certificate also provides an avenue for matriculation in the two- and four- year Graphic Communication and Design programs.

Credit Hours of College-Level Courses Required for Certificate: 30

Course of Study

1101 105	Foundations of Design	3
1104 107	Desktop Publishing Lecture	2
1104 108	Desktop Publishing Laboratory	1
1104 109	Digital Applications	3
1104 113	Digital Imaging Lecture	2
1104 113	Digital Imaging Laboratory	1
1104 208	Advanced Desktop Publishing	2
1104 228	Advanced Desktop Publishing Laboratory	1
1101 213	Publication Design	3
1106 307	Color Management Lecture	2
1106 308	Color Management Laboratory	1
1104 212	Design to Print Practicum[1]	2
1104 214	Design to Print Practicum Laboratory[1]	1
1115 213	News Editing	3

[1] New course awaiting formal approval (expected start date Fall 2008)

Certificate in Multimedia

The Certificate in Multimedia provides concentrated content for students who want to upgrade their skill levels. Courses focus on interface design, animation, interactive CD and Web presentations. The Certificate also targets those who are currently working in the field, who desire to be certified in this specialized area. The curriculum is designed to give the aspirant a balanced content of design, interaction and technical skills. Flexibility in curriculum design allows students of varying background to proceed within a multimedia course sequence, tailored to their specific needs. The curriculum addresses beginning, technical, and design oriented students.

The certificate also provides an avenue for matriculation in the 2 and 4 year Graphic Design Programs.

Certificate in Multimedia

Credit Hours of College-Level Courses Required for Certificate: 30

Course of Study

1104 109	Digital Applications	3
1104 113	Digital Imaging	2
1104 114	Digital Imaging Laboratory	1
1101 115	Graphic Design I	3
1101 201	Computer Illustration	3
1101 203	Web Design	3
1101 3xx	Animation and Multimedia I[1]	3
1101 4xx	Animation and Multimedia II[1]	3
1101 4xx	Multimedia Authoring[1]	3
1101 411	3D Modeling and Animation[1]	3
3523 235	Introduction to Web Page Dev. & HTML	2
3523 236	Introduction to Web Page Dev. & HTML Laboratory	1

[1]Course titles and numbers currently under review by Art Program.

Certificate in Photography

The Certificate in Photography expands the content of popular courses while offering additional content for a specialization. The program provides new career opportunities for visual specialists and photographers. Digital concepts and digital imaging from an aesthetic as well as a production point of view are incorporated into course content. Lighting concepts taught are also useful in 3D modeling and set design. Digital photography and use of image manipulation software are standard parts of the curriculum. Content covers both the creative capture and the use of images as well as contemporary digital software and techniques used to enhance, publish and produce various types of media.

The certificate also provides an avenue for matriculation in the 4 year Interdisciplinary Art and 2 year and 4 year Graphic Design programs.

Credit Hours of College-Level Courses Required for Certificate: 30

Course of Study

1105 145	Basic Digital Photography	3
1104 113	Digital Imaging I	2
1104 114	Digital Imaging I Laboratory	1
1105 2xx	Intermediate Digital Photography[1]	3
1105 2xx	Photojournalism[1]	3
1106 309	Digital Imaging II	2
1106 310	Digital Imaging II Laboratory	1
1105 3xx	Photographic Lighting[1]	3
1105 3xx	Advertising and Publication Photography[1]	3
1105 4xx	Advanced Digital Photography [1]	3
1105 4xx	Advanced Photography[1]	3
1105 4xx	Photography Portfolio Seminar[1]	3

[1] Course numbers currently under review by Art Program.

THEATRE ARTS PROGRAM

The Theatre Program is a comprehensive Bachelor of Arts program for undergraduate students. Students are trained in the artistic, theoretical, and educational aspects of the theatre and drama. Both in a production and process-oriented manner methods are used. The program is committed to involving the community in the theatre and drama outreach as an important aspect of the academic mission.

After completing 15 credit hours in the theatre arts program, the student's record is reviewed by the program faculty. Students are allowed to continue in the program if their GPA in the major courses is at least 2.5. Students are encouraged to engage in internships related to the field of theatre arts.

Bachelor of Arts in Theatre Arts

Credit Hours of College-Level Courses
Required for Graduation: 120

Required Courses for the Bachelor of Arts Degree in Theatre Arts:

1117 105	Processes of Communication	3
1121 104	Introduction to Theatre Arts	3
1121 111	Stagecraft I	3
1119 115	Public Speaking	3
1121 144	Theatre Management	3
1121 231	Ritual Through Italian Renaissance Theatre	3
1121 232	Late Renaissance Through Romantic Theatre	3
1121 261	Acting Improvisation	3
1121 262	Acting II	3
1121 265	Performance Workshop	3

(One credit hour per course)

1121 281	Lighting	3
1121 321	Modern and Contemporary Theatre	3
1121 322	Theatre of the Black Experience	3
1121 324	Playwriting I	3
1121 371	Directing I	3
1121 300- or 400-level Electives*		9
1117 497	Communicative Arts Seminar	3

Theatre majors may select nine credit hours from the following electives:*

1121 264	Creative Dramatics	3
1121 325	Playwriting Seminar	3
1121 361	Acting III	3
1121 364	Advanced Problems in Acting	3
1121 495	Independent Study in Theatre	3
1111	Dance	1
1165	Voice	1

General Electives: (12)

Comments: A minimum grade of "C" is required in all major courses. Students must complete one credit hour in Performance Workshop per semester for three semesters before entering the senior year.

MUSIC PROGRAM

The Music Program provides specialized professional training in various disciplines of music and general courses for cultural enrichment. Two degrees are offered: Bachelor of Music and Associate in Arts in Music.

The Bachelor of Music degree is offered in two options: Music and Music Education. The Bachelor of Music (Music) degree offers five areas of concentration: voice; keyboard; orchestral instruments; jazz; and gospel music. This four-year degree program prepares students for performing careers and for graduate study leading to post-secondary academic music positions.

The Bachelor of Music (Music Education) degree offers three areas of concentration: vocal music education, piano music education, and instrumental music education. This five-year degree program prepares students for P-12 school teaching.

The two-year Associate in Arts in Music degree is available in two options - Music and Music Education with three areas of concentration: instrumental, keyboard, and vocal.

To be admitted to any of the degree programs, students must apply to the Music Program, audition in their performance area(s), and pass the Music Program's placement examinations.

Associate in Arts in Music

Credit Hours of College-Level Courses Required for Graduation

Music: 65

Music Education: 72

Core Courses: For All Two-Year Options in Music:

1165	Performing Ensemble Courses*	4
1165 100	Materials of Music I	3
1165 101	Materials of Music II	3
1165 102	Ear Training and Sight Singing I	2
1165 103	Ear Training and Sight Singing II	2
1165 106	History of African-American Music .	3
1165 200	Materials of Music III	3
1165 201	Materials of Music IV	3
1165 202	Ear Training and Sight Singing III	2
1165 203	Ear Training and Sight Singing IV	2
1165 270	Computer Applications to Music I	3
1539 115	Physics of Music	3
1539 117	Physics of Music Lab	1

**Specific performing ensemble courses are required in certain programs.*

Applied Major

Select one of the following eight credit hour sequences: (8)

Applied Major Keyboard: 1165 115, 115, 215, 215

Applied Major Voice: 1165 125, 125, 225, 225

Applied Major Instrument: 1165 135, 135, 235, 235

Applied Minor

Select one of the following four credit hour sequences: (4)
If Applied Major Voice or Applied Major Instrument is selected:
Applied Minor Keyboard: 1165 116, 116, 216, 216

If Applied Major Keyboard is selected, select one of the following four credit hour sequences:

Applied Minor Keyboard: 1165 116, 116, 216, 216, or

Applied Minor Voice 1165 126, 126, 226,226, or

Applied Minor Instrument: 1165 136, 136, 236, 236

Option I: Associate in Arts in Music

Concentration: Instrumental; Keyboard/Instrumental; Keyboard/Keyboard.

Additional Required Courses:

1165 130	Jazz Improvisation	2
	Note: (1165 130 Requires Two Semesters)	
1165 210	Directed Study (A.A. Seminar)	2
	*Or recommended alternative course(s).	

Concentration: Vocal; Keyboard/Vocal

Additional Required Courses:

1165 210	Directed Study (A.A. Seminar)	2
1147 114	Italian Diction for Voice Majors	2

Comments for Option I: A grade point average of 2.0 is required for all music courses and 3.0 for all applied major courses.

Option II: Associate in Arts in Music - Music Education

Additional Core Courses for all Music Education Options:

1165 275	Dominant Trends in Music Education	2
1321 220	Foundations of Education	3
1321 244	Human Development and Behavior	3

Concentration: Instrumental; Keyboard/ Instrumental

Additional Required Courses:

1165 020	Voice Group Instruction	1
1165 240	String Methods	2

Concentration: Vocal; Keyboard/Vocal

Additional Required Courses:

1145 114	German Diction for Voice Majors	2
1147 114	Italian Diction for Voice Majors	2

Comments for Option II: A grade point average of 2.5 is required for all music courses and 3.0 for all applied major courses.

Bachelor of Music

Credit Hours of College-Level Courses Required for Graduation

Music: 130

Music Education: 144-155

Core Courses for All Four-Year Options in Music:

1165	Performing Ensemble Courses*	8
1165 100	Materials of Music I	3
1165 101	Materials of Music II	3
1165 102	Ear Training and Sight Singing I	2
1165 103	Ear Training and Sight Singing II	2
1165 106	History of African-American Music	3
1165 200	Materials of Music III	3
1165 201	Materials of Music IV	3
1165 202	Ear Training and Sight Singing III	2
1165 203	Ear Training and Sight Singing IV	2
1165 270	Computer Applications to Music I	3
1165 410	Directed Studies (B.M. Seminar)	2
1539 115	Physics of Music	3
1539 117	Physics of Music Lab	1

** Specific Performing Ensemble Courses are required in certain programs.*

Applied Major: (16)

Select one of the following three sequences:
Applied Major Keyboard:
1165 115, 115, 215, 215, 315, 315, 415, 415
Applied Major Voice
1165 125, 125, 225, 225 325, 325, 425, 425
Applied Major Instrument
1165 135, 135, 235, 235, 335, 335, 435, 435

Applied Minor: (4)

If Applied Major Voice or Applied Major Instrument is selected:
Applied Minor Keyboard: 1165 116, 116, 216, 216

If applied Major keyboard is selected, select one of the following four credit hour sequences:
Applied Minor Keyboard: 1165 116, 116, 216, 216 or
Applied Minor Voice: 1165 126, 126, 226, 226 or
Applied Minor Instrument: 1165 136, 136, 236, 236

Option I: Four-year Program in Music

Concentration 1 in Music: Gospel Music

Additional Required Courses

1165 181	Gospel Music Improvisation I	2
	Note: *(1165 181 Requires Two Semesters)*	
1165 281	Gospel Music Improvisation II	2
	Note: *(1165 281 Requires Two Semesters)*	
1165 290	Keyboard Harmony I	1
1165 291	Keyboard Harmony II	1
1165 372	Choral Conducting	3
1165 381	Gospel Music Improvisation III	2
	Note: *(1165 381 Requires Two Semesters)*	
1165 382	Gospel Arranging I	2

1165 383	Gospel Arranging II	2
1165 384	History and Aesthetics of Gospel Music I	2
1165 385	History and Aesthetics of Gospel Music II	2
1165 386	Principles of Gospel Music Pedagogy	2
1165 481	Gospel Music Improvisation IV	2
	Note: *(1165 481 Requires Two Semesters)*	
1163 165	History of Black America II	3
1165	Music Electives	3

Concentration 2 in Music: Jazz

Additional Required Courses

1165 107	Jazz History	3
1165 130	Jazz Improvisation I	2
	Note: *(1165 130 Requires Two Semesters)*	
1165 230	Jazz Improvisation II	2
	Note: *(1165 230 Requires Two Semesters)*	
1165 271	Computer Applications to Music II	3
1165 330	Jazz Improvisation III	2
	Note: *(1165 330 Requires Two Semesters)*	
1165 331	Jazz Arranging I	2
1165 332	Jazz Arranging II	2
1165 374	Instrumental Conducting	3
1165 430	Jazz Improvisation IV	2
	Note: *(1165 430 Requires Two Semesters)*	
1165 431	Jazz Compositional Techniques and Advanced Arranging	2
1165	Music Electives	3

Concentration 2 in Music: Keyboard

Additional Required Courses:

1165 119	Piano Sight-Reading	1
1165 290	Keyboard Harmony I	1
1165 291	Keyboard Harmony II	1
1165 300	History of Western Music I	3
1165 301	History of Western Music II	3
1165 318	Ensemble Accompanying	2

For instruction in Conducting, select the appropriate course from:

1165 372	Choral Conducting	3
	or	
1165 374	Instrumental Conducting	3
1165 390	Form and Analysis I	2
1165 391	Form and Analysis II	2
1165 392	Orchestration I	2
1165 397	Counterpoint II	2
1165 418	Piano Literature	2
1165 419	Piano Pedagogy	2
1165	Music Electives	3

Concentration 4 in Music: Orchestral Instrument

Additional Required Courses

1165 087	Chamber Ensemble	2
1165 300	History of Western Music I	3
1165 301	History of Western Music II	3
1165 374	Instrumental Conducting	3
1165 391	Form and Analysis II	2
1165 392	Orchestration I	2
1165 396	Counterpoint I	2
1165 406	Symphonic Literature	2
1165 438	Applied Literature	2
1165 450	String Pedagogy I (String Majors Only)	2
1165 451	String Pedagogy II (String Majors Only)	2
1165	Music Electives	3

Concentration 5 in Music: Voice

Additional Required Courses:

1165 260	German Vocal Literature	2
1165 300	History of Western Music I	3
1165 301	History of Western Music II	3
1165 360	French Vocal Literature	2
1165 361	Opera Workshop	2
1165 372	Choral Conducting	3
1165 390	Form and Analysis I	2
1165 391	Form and Analysis II	2
1165 460	Vocal Pedagogy I	2
1165 461	Vocal Pedagogy II	2
1165	Music Elective	1
1143 114	French Diction for Voice Major I	2
1143 115	French Diction for Voice Major II	2
1145 114	German Diction for Voice Major I	2
1145 115	German Diction for Voice Major II	2
1147 114	Italian Diction for Voice Major I	2
1147 115	Italian Diction for Voice Major II	2
1119 115	Public Speaking	3

Comments for Majors in Option I: A grade point average of 2.0 is required for all music courses and 3.0 for all applied major courses. A recital in the junior and senior year is required. The student must complete the appropriate 400-level applied major course each fall and spring semester until the senior recital is performed and accepted.

Option II: Five-year program in the Bachelor of Music - Music Education

Core courses are the same as those listed for Option I: Music

Additional Required Courses for all Music Education Concentrations:

1165 275	Dominant Trends in Music Education	2
1165 300	History of Western Music I	3
1165 301	History of Western Music II	3
1165 391	Form and Analysis II	2
1321 220	Foundations of Education	3
1323 244	Human Development and Behavior	3
1323 300	Educational Psychology	3
1353 204	Introduction to Education of Exceptional Children	3
1351 419	Teaching Reading in Content Areas	3
1321 458	Music for the Specialist (P-12)	3
1321 443	Student Teaching in the Elementary School (Music)	3
1321 470	Observation and Student Teaching in Secondary Schools (Music)	3

Concentration 1 in Music Education: Instrumental; Keyboard/Instrumental

Additional Required Courses

1165 240	String Methods	2
1165 338	Woodwind Methods	2
1165 348	Brass Methods	2
1165 368	Percussion – Guitar Methods	2
1165 374	Instrumental Conducting	3
1165 379	Teaching/Administration of Instrumental Music in the Public Schools	3
1165 392	Orchestration I	2

Concentration 2 in Music Education: Vocal; Keyboard/Vocal

Additional Required Courses

1165 307	Vocal Arranging	2
1165 370	Foundations of Teaching Band and Orchestral Instruments	3
1165 372	Choral Conducting	3
1143 114	French Diction for Voice Major I	2
1145 114	German Diction for Voice Major I	2
1147 114	Italian Diction for Voice Major I	2

Additional Required Course for the Vocal Concentration:

1165 428	Vocal Literature	2

Additional Required Course for the Keyboard Vocal /Instrumental Concentration:

1165 417	Piano Literature and Pedagogy Laboratory	2

Comments for Option II: A grade point average of 2.5 is required for all music courses and 3.0 for all applied major courses. A recital in the senior year is required. The student must complete the appropriate 400-level applied major course each fall and spring semester until the senior recital is performed and accepted.

COURSE DESCRIPTIONS

1101 105 Foundations of Design (3)
Students are introduced to the basic fundamentals of graphic communications and design. Core principles, aesthetics, conceptualization and visualization processes are the focus of this class. Rapid viz drawing is taught as an integral part of the problem solving process; students are required to investigate, synthesize, and problem solve. They are introduced to perspective, abstraction, and shape/symbol creation with an introduction to the proper use of color. Students focus on developing visualization skills as a means to communicate thoughts, ideas, and messages. Lec. 3 hrs.

1101 115 Graphic Design I (3)
Students apply basic design concepts to a variety of graphic communication formats. Layout and design form the foundation for graphic design problem solving techniques. Shape, composition, division of space, combined with type, art and color become a primary focus. Students produce advertising pieces, desktop designs, posters, cover, and other graphics. These concepts are applied to print and other forms of digital media. Lec. 3 hrs., Lab. 2 hrs.; Prereq.: 1101 105; 1104 207; 1104 109 or permission of instructor.

1101 124 Computer Art I (3)
An introductory course in the creation and production of art using the computer as a creative tool. Students explore the computer as a graphic tool. The course provides an overview and exploration of graphic and paint software in a workshop atmosphere. Students utilize templates while learning computer basics, aesthetics and composition building. The focus is on paint programs, such as Painter and Photoshop. Projects, course objectives, and assignments result in the production of posters and other creative employing various experimental techniques. The use of hardware, software, and other peripheral equipment is explored in this class.

1101 126 Typography (3)
This class is a comprehensive survey of type used as a graphic design element. Type selection, classifications, font usage, and type controls become a focus in this course. A further exploration of type/font dynamics, creative manipulation, and special effects as they are applied to pages and publications, titles, web, media, and information designs. The course also combines technical requirements and rules of typesetting using proper style guides in conjunction with the aesthetics of good typography. Prereq.: 1101 105, 1104 207, 1104 109 or permission of instructor.

1101 201 Computer Illustration I (3)
Students learn the fundamentals of picture making and image building techniques that are applied to visual communications. The course focuses on developing vector drawing skills while exploring the dynamics of color. Students learn composition, object construction, illustration techniques, and software manipulation to produce graphics for both publications and web/multimedia applications. Primary software used is Macromedia, FreeHand. Prereq: 1101 105; 1101 124; 1104 109.

1101 203 Animation and Motion Graphics (3)
Students are introduced to basic fundamentals of animation used in multimedia and web graphics. Basic concepts in frame and character animation are reviewed. Students use Adobe Premier to create and edit graphic and digital video sequences. Shockwave, QuickTime, Flash, Director, and contemporary techniques are explored in the class. Prereq.; 1101 209; 1101 206; or permission of instructor.

1101 206 Multimedia (Authoring) (3)
Introduces basic fundamentals of authoring and scripting multimedia productions, using Director software or special scripting language(s). Students combine graphic elements, text, audio, video and animated sequences to produce interactive products and materials. Storage and transfer formats include CD ROM, video, Jag, and Zip formats. Primary Multimedia software is Director 7, Authorware and other software are explored. Students design interactive prototype schemes, navigation elements, and graphic interfaces after formulating overall design and content-flow charts or diagrams. Prereq.: 1101 115; 1101 201 or permission of instructor.

1101 207 Multimedia (Web) (3)
Students apply multimedia concepts to web page and site design, along with advanced multimedia project emphasis. CD ROM media is used as primary format. Advanced graphic techniques and interface design utilize Adobe PhotoShop, 3D solid modeling, and special effects programs. Macromedia Director becomes the primary authoring software. Prereq.: 1101 206; 1101 201; or permission of instructor.

1101-208 History of Graphic Design (3)
Surveys the development of the graphic arts (design, typography, illustration, photography, film, industrial design, architecture, and electronic media) in world culture from the dawn of civilization through the rise of industrialism and into to the current era. Independent reading and study will be necessary, as well as field trips to local museums. Prereq: None.

1101 209 Interactive Multimedia (3)
Explores basic concepts in interactive multimedia and information design. Fundamental concepts include scripting, organizing, and planning the information design. Students manipulate digital media to communicate using text, graphics, animation, sound, and new media. Research and audience analysis become critical. Retrieval techniques and image databases are also important. The course teaches students to interface good digital design with a focus on interactivity, navigational, and linking concepts/procedures that create a good flow of the information used in the projects. Prereq.: 1101 115; 1101 201; or permission of instructor.

1101 212 Graphic Design II (3)
Teaches students how to apply intermediate design concepts to various communication formats. Course focuses on marketing concepts, visualization, and more complex design problem solving. Information and advertising design layout concepts utilize contemporary grid systems to compose a wide variety of formats. Students apply concepts to web, Internet, publication, and promotion graphics. Document "pre-flighting" concerns are also addressed. Prereq.: 1101 115 or permission of the instructor.

1101 213 Publication Design (3)
Covers concepts in publication design that include both traditional and digital applications. Students perform intermediate level page, brochure, newsletter, and visual communication design. The class stresses typographic control and image manipulation. An introduction to electronic pre-press. Camera-ready preparation for printing technology will prepare students a good prospect for an overall job assignment. Prereq.: 1101 115 or 1101 126 or permission of instructor.

1101 245 Visual Communication Photography (3)
Emphasizes studio concepts in photography as a visual communication course. Gives special attention to studio lighting, backgrounds, and small, medium, and large format camera work. Provides students work in advertising, illustration, editorial, photo-journalism, and fashion photography. Teaches Digital computer concepts. Prereq.: 1101 145 or permission of the instructor.

1101 247 Digital Photography (3)
Teaches the basic principles and concepts of digital photography. Students learn how to optimize the camera and files to fit the end use, as well as the artistic requirement of the project. Students will capture the images and down load them onto a computer for image editing in PhotoShop and printing in both color and black and white. Composite image, single image manipulation, and special effects are incorporated with color editing, resulting in projects applicable to web, multimedia and print information design. Group projects are encouraged. Prereq.: Basic Photography or permission of instructor.

1101 248 Photo Journalism (3)
The student will use the camera to create "strong" individual images, as well as good picture sequences in a variety of events and situations. Working with a writer or being the writer, the student will learn that as a photojournalist, the process to research picture content with great care. Students will also learn the essentials of how picture editing can support or help craft the story or article. Prereq.: Basic Photography or permission of instructor.

1101 249 Large Format Photography (3)
Teaches the parts and operational features of large format cameras and how to overcome the limitation of monocular vision with the understanding that photography reduces images to a two dimensional form. The student will also discover how to apply the same principles of light and shadows mastered by the great painters to acquire the appearance of the third dimension and the realism that accompanies those techniques. Prereq.: Basic Photography or permission of instructor.

1101 275 Portfolio and Marketing Workshop (3)
Focuses on preparing students for the job market through portfolio preparation and presentation. This course is taken at the senior level in the AAS or BS program. Students prepare portfolios by revising, re-doing or creating new assignments. Career guidelines, job pricing, and marketing tips are discussed. Portfolio review and resume are required.

1101 295 3D Modeling and Animation (3)
Students explore the world of three-dimensional graphic environments utilizing basic, and intermediate modeling techniques. Primitives are transformed into complex object models. Other topics focus on scene building, texture mapping, and animation procedures. The course includes motion analysis, project prototypes, and application to web, gaming, multimedia, and Quicktime videos are addressed. Additional light and camera techniques are taught to enhance student production. Prereq.: 1101 203; or permission of instructor.

1101 296 Digital Photography (3)
Students utilize digital camera technology to produce rich and complex imagery for aesthetic and communication graphic usage. Composite image, single image manipulation, and special effects are incorporated with color editing in yielding projects applicable to web, multimedia, and print information design. Group projects are encouraged. Prereq.: 1101 209; 1101 206; or permission of the instructor.

1101 494 Graphic Design Practicum (3)
Provides intern/apprenticeship experience with a local ad agency, design studio, or communications media entity for one semester to gain first-hand experience in the graphic design communications community. Prereq.: 1105 310 or permission of instructor.

1101 496 Graphic Design Seminar (3)
Applies knowledge to advanced project assignment related to job environment conditions. Emphasizes total job assignment concept, including initial concepts, design comprehensive, electronic pre-press, production, and final presentation. Instructs students to prepare a professional portfolio. Prereq.: 1101 411 or permission of instructor.

1105 115 Visual Thinking (3)
An introduction to conceptual visual thinking and the development of *visual literacy* as it applies to communication design and the fine arts. This is an idea-oriented course designed to help students solve visual and artistic problems through invention and interpretation. Emphasis is placed on imagination and experimentation with concepts and ideas, as well as exploring

interdisciplinary approaches to art and design. Value is placed both on individual problem solving as well as working in groups to produce creative work. Prereq: .None.

1105 375 Tools and Materials of the Artist (3)
Focuses on traditional and experimental tools and materials used in the creation of art and encourages exploration of personal expression through alternate media. Prereq.: 1105 112, 1105 102 and 200-level studio sequence or permission of instructor.

1105 385 African Art History (3)
Surveys the styles of the people of western and central Africa with reference to cultural influences on the art and styles. Assigns readings, field trips, and written reports. Prereq.: None.

1105 387 Contemporary World Art (3)
Examines visual expressions of the world, including painting, sculpture, and other forms created after World War II to contemporary times presented in a cultural and historical context. Assigned readings, field trips, and written reports. Prereq.: None.

1105 394 Illustration Techniques (3)
Students will explore traditional and experimental media and techniques used for illustration. Students will develop compositional strategies for a variety of black-and-white and color illustrations. Students learn about the integration of text and image. This course is an exploration of visual style, narrative, and communication. Students work on concept development, gathering visual reference, and the use of craft in making intellectually and aesthetically pleasing images. Prereq: 1105 101

1105 431 Painting (Various Media) (3)
Emphasizes advanced development of a personal style in the student's choice of a variety of painting media. Prereq.: 300-level painting studio sequence or permission of instructor.

1105 435 Mural Painting (3)
Covers the process of modern mural painting on interior and exterior surfaces and its use to artists as a mode of personal expression and to artist/teachers. Prereq.: 300-level painting studio sequence or permission of instructor.

1105 441 Advanced Printmaking (3)
Explores contemporary and experimental printmaking techniques, including photocopying, mixed media, and use of new technologies. Prereq.: 300-level print-making studio sequence or permission of the instructor.

1105 477 Independent Study in Art (3)
Provides for independent study in any phase of art for studio and art education majors under the direction and supervision of art faculty. Offers the advanced student a more in-depth study of area of specialization. 300-level studio sequence in area of specialization and permission of Department Chair.

1105 101 Introduction to Drawing (3)
Provides a general introduction to the fundamentals of drawing, including the study of line, value, texture, space, linear perspective, and experimental approaches to making drawings using a variety of media. Open to all students. Prereq.: (None).

1105 102 Figure Drawing (3)
Explores drawing through the study of the human figure, using the muscular and skeletal structure as a foundation, using a variety of media and including color. Prereq.: 1105 101 or permission of instructor.

1105 110 Design Fundamentals I (3)
Investigates two- and three-dimensional space and color through the utilization of the elements and principles of art as foundation for visual expression. Applies design theory through assigned projects in a variety of media. Open to all students. Prereq.: (None).

1105 145 Photography (3)
Introduces a comprehensive approach to black and white photography as both a graphics, as well as a fine arts tool; use of the adjustable camera; the development of the negative, and the production of the photographic print. Studies techniques in composition, lighting, films, and dark room processing. Applies digital photography concepts. Prereq.: A 35mm camera is required for the course.

1105 History of Photography (3)
In this course students will survey the development of photography from the inception of daguerreotypes through the development of digital image-making. Students will examine the impact of photography on culture by learning of the medium's influence on culture, society, and the arts. Independent reading and study will be necessary, as well as field trips to local museums.

1105 184 Fundamentals of Art Appreciation (3)
Presents basic tools for understanding and discussion of visual expression from a variety of perspectives. Discusses design elements and various media with reference to social and historical context. Includes assigned reading, field trips, and written reports. Open to all students. Prereq.: (None).

1105 205 Advanced Figure Drawing (3)
Focuses on intensive study of the human figure, with particular emphasis upon muscular, skeletal, and surface anatomy. Allows students to draw directly from draped and undraped figures, as well as human skeletons, and create drawings as finished statements using the figure as primary subject. Prereq.: 1105 101, 1105 102.

1105 231 Introduction to Painting (3)
Introduces techniques and theory of working in oil, watercolor, and acrylic paints and an exploration of the elementary techniques in creative painting. Prereq.: 1105 102, 1105 110 or permission of instructor.

1105 241 Introduction to Printmaking (3)
Explores the fundamentals of basic fine art printmaking through a variety of techniques and media, with emphasis on relief processes. Prereq.: 1105 102, 1105 110 or permission of instructor.

1105 251 Introduction to Sculpture (3)
Introduces basic sculpture materials and methods, including plaster, clay, armature building, and casting. Additive and subtractive methods of sculpture are explored. Includes additional outside work, readings, and field trips. Lec. and Lab. Prereq.: 1105 102, 1105 112, or permission of instructor.

1105 261 Introduction to Ceramics (3)
Introduces students to the practice of ceramics techniques. Focuses on non-functional forms. Designed for ceramics and art education majors. Includes additional outside work, readings, and field trips. Prereq.: 1105 101, 1105 110, 1105 112 or permission of instructor.

1105 271 Creative Crafts (3)
Provides experience in techniques and design in a variety of media such as weaving, paper-mache, mosaics, fabric hangings, collages, graphics, and other areas of crafts and introduces the student to procedures in presenting art projects for educational and recreational purposes. Open to all students. Prereq.: (None).

1105 281 World Art History I (3)
Presents a chronological survey of art and visual expression across cultures. Emphasizes purposes of creating and the role of the creator in an historical and cultural context from prehistory to c. 1400. Assigns reading, field trips, and written reports. Open to all students. Prereq.: (None).

1105 282 World Art History II (3)
Presents a chronological survey of art and visual expressions across cultures. Emphasizes purposes of creating and the role of the creator in an historical and cultural context from c. 1400 to the present. Assigns readings, field trips, and written reports. Open to all students. Prereq.: (None).

1105 Art, Culture, and the Brain (3)
Visual expression across time and geographic boundaries will be studied to understand variations in purpose and meaning of visual creations, and how works from one time and culture may be perceived and interpreted in another. Information from neuroscience, psychology, anthropology, art history and other relevant disciplines will be presented so that critical linkages can be understood, and definitions of art explored. Includes assigned reading, field trips and written work. Prereq.: None.

1105 Museums and Monuments (3)
Much of the lecture/discussion in this course will take place in various museums and monuments in Washington, D.C. The focus will be on both the architectural structures of the monuments and the content and meaning of the artistic and historical collections. The Museum of American Art, the Museum of African Art, the Museum of the American Indian, the Library of Congress, the Lincoln Memorial, and the Viet Nam Memorial are among the field trips. Includes assigned reading, and written papers, as well as class discussion. Prereq.: None.

1105 285 African-American Art History (3)
Provides an historical survey of African-American art and its global influences in a variety of styles and visual expressions. Emphasizes social and historical context. Assigns readings, field trips, and written reports. Open to all students. Prereq.: (None).

1105 288 Multicultural Traditions in American Art (3)
Examines the contributions of American artists from various cultural and ethnic traditions that are often neglected in traditional art history courses. Includes outside work, readings, field trips, and written reports. Prereq.: (None).

1105 294 Directed Studies (3)
Provides a structure for independent studio work at the sophomore level under the close supervision and direction of an art faculty member. Provides independent studio time equal to the amount of time required of all three credit studio courses. Requires weekly conferences with instructor. Prereq.: 1105 110, 1105 102 and permission of Department Chair.

1105 301 Advanced Drawing and Design I (3)
Explores the principles advanced in the freshman foundation sequence and provides an opportunity to work with more complicated drawing and design problems. Emphasizes working toward original and personal means of visual expression using a variety of drawing media. Prereq.: 1105 205 or permission of instructor.

1105 302 Advanced Drawing and Design II (3)
Explores further the work of Advanced Drawing and Design I with the same emphasis, but expands the range of materials used and further explores original and personal means of visual expression using drawing media. Prereq.: 1105 205 or permission of instructor.

1105 309 Advanced Visual Design I (3)
Studies advanced concepts and applications of graphic design principles in print graphics. Focuses on corporate imaging, special projects, and advanced computer applications, exploring techniques in scanning, texture-making, and special effects. Applies objectives to publication and other printable formats. Prereq.: 1101 213 or permission of instructor.

1105 310 Advanced Visual Design II (3)
Focuses on advanced concepts and applications in media related graphics. Gives attention to multimedia formats, special projects, and advanced computer applications exploring techniques in animation and authoring programs. Allows students to design special presentations to include slide and interactive shows with sound effects, animation, and pictorial libraries. Prereq.: 1105 309 or permission of instructor.

1105 325 Graphic Design Lab (3)
Provides students the opportunity to select a design specialty area and graphic problem. Generates assignments from instructor that combine student computer/traditional skills to accomplish objectives, with special focus on software mastery. Explores additional concepts in typography, print, and media graphic techniques with exposure to contemporary hard/software. Prereq.: 1105 309 or permission of instructor.

1105 331 Advanced Painting I (3)
Continues exploration of techniques presented in Introduction to Painting with focus on study of a specific medium, including watercolor, oil, or acrylic. Prereq.: 1105 231 or permission of instructor.

1105 332 Advanced Painting II (3)
Continues exploration of techniques presented in Introduction to Painting with focus on study of specific medium, including watercolor, oil, or acrylic. Prereq.: 1105 231 or permission of instructor.

1105 333 Advanced Painting III (3)
Continues exploration of techniques presented in Introduction to Painting with focus on study of specific medium, including watercolor, oil, or acrylic. Prereq.: 1105 231 or permission of instructor.

1105 334 Portrait Painting (3)
Focuses on developing the skills of portrait painting through the use of more complex techniques and compositions and builds on the foundation acquired in Introduction to Painting (1105 231). Prereq.: 1105 231, 1105 102 or permission of instructor.

1105 341 Advanced Printmaking I (3)
Continues exploration of techniques presented in Introduction to Printmaking with focus on study of a specific medium, including silkscreen, etching, or lithography. Prereq.: 1105 241 or permission of instructor.

1105 342 Advanced Printmaking II (3)
Continues exploration of techniques presented in Introduction to Printmaking with focus on study of a specific medium, including silkscreen, etching, or lithography. Prereq.: 1105 241 or permission of instructor.

1105 343 Advanced Printmaking III (3)
Continues exploration of techniques presented in Introduction to Printmaking with focus on study of a specific medium, including silkscreen, etching, or lithography. Prereq.: 1105 241 or permission of instructor.

1105 394 Directed Studies (3)
Provides an opportunity for independent studio work at the junior level under the close supervision and direction of an art faculty member. Independent studio time is equal to the amount required of all three credit studio courses. Requires weekly conferences with instructor. Prereq.: 1105 110, 1105 102 and per-mission of Department Chair.

1105 411 Package and Graphic Design 3-D (3)
Explores three-dimensional concepts as applied to package design, exhibit design, and other 3-D commercial formats. Covers traditional and computer-aided design techniques and reviews 2-D and 3-D software, utilizing concepts of color, type, materials, and presentation methods. Prereq.: 1105 310 or permission of instructor.

1105 471 Advanced Studio Project I (3)
Provides a structure for advanced work. Allows the student, in collaboration with an art faculty member, to develop a problem in an area of specialization and resolve the problem through visual projects that eventually culminate in a student exhibition. Prereq.: Completion of required 300-level courses in area of specialization and permission of Department Chair.

1105 472 Advanced Studio Project II (3)
Continues Advanced Studio Project I. Course culminates in senior art exhibition by student and involves all aspects of mounting an exhibition. Prereq.: 1105 471 and permission of Department Chair.

1105 485 Museum Techniques (3)
Provides an introduction to how a museum functions, including conservation of art works, display techniques, hanging, and exhibits, and general aspects of gallery operation. Includes theory and practical experience through cooperation with local museums and galleries. Prereq.: Art history sequence, 200-level studio sequence, and permission of Department Chair.

1105 Interdisciplinary Art I (3)
Students will engage a variety of media including two-dimensional, three-dimensional, digital and time-based techniques. Students learn about the integration of form and content. Students will explore the boundaries between art and community, art and anthropology, art and politics, art and sociology, art and narrative, etc. Prereq: 1105 231; 1105 241; 1105 102.

1105 Interdisciplinary Art II (3)
Using various art media, students will perform media experiments and develop artwork in a studio setting. The focus of this course is gathering visual data, refining art content, and honing craftsmanship. Students will integrate the procedures, materials and discourses of differing art disciplines. This course exposes students to collaborative art processes, an exploration of cultural identity through art, and the making of art within contemporary social context. Prereq: Interdisciplinary Art I

Graphic Communications BS

1106 301 Cost Estimating (2)
The basic course teaches the principles and procedures for estimating the cost of various stages of the print, design and related publishing processes. Students will analyze written contract specifications. They will determine best planning method for production; evaluate the costs of materials and outside services; and determine productive time. Students will learn how to calculate hourly costs and hourly productive rates, and will review profit margins and pricing practices in the industry. Lec. 3 hrs., Prereq.: 1104 214/215.

1106 303 Cost Estimating Lab (1)
Applied experiences in a laboratory setting to be taken concurrently with 1106 301. Lab. 2 hrs, Co-req.: 1106 301.

1106 305 Statistical Quality Control (2)
Introduction to applied statistics and instruments used in data collection for quality control processes in the graphic communications industry. Students will explore basic descriptive and applied statistical techniques used in quality control, operate instruments used in paper testing, ink testing, color analysis, and ink film control. Emphasis will be placed on evaluation of data in accordance with the systems approach to quality control. Lec. 3 hrs. Prereq.: Junior standing or permission of the instructor.

1106 306 Statistical Quality Control Lab (1)
Applied experience in a laboratory setting to be taken concurrently with 1106 305. Lab 2 hrs., Co-req.: 1106 305.

1106 307 Color Management (2)
A course that deals with concepts related to the theory of color, its perception, measurement and specification. A host of topics, including the creation and use of color profiles, color working spaces, color gamut's, and color sync in various software applications will all be introduced. Densitometers, colorimeters and spectrophotometers are utilized in conjunction with a number of software programs to help measure, specify, and control color, from "soft proofing," to producing color separations. Issues associated with ink film control, the fingerprinting of printing presses, along with color standards such as SWOP, GRACOL and SNAP will all be introduced. Lec. 2 hrs., Co-req.: 1106 308

1106 308 Color Management Lab (1)
Applied experience in a laboratory setting to be taken concurrently with 1106 307. Lab 3 hrs., Co-req.: 1106 307.

1106 309 Digital Imaging II (2)
Advanced Adobe Photoshop course using advanced digital imaging techniques. Students will use advanced masking techniques with advanced color correction to process images to meet the needs of the graphic communications industry. Topics include advanced

masking techniques, compositing images, advanced color correction and retouching photographs. Lec. 2 hrs., Prereq.: 1104 113, 1104 214 or with permission of instructor.

1106 310 Digital Imaging II Lab (1)
Applied experiences in a laboratory setting to be taken concurrently with 1104 216. Lab. 3 hrs, Co-req.: 1106 309

1106 311 Graphics Management (3)
An introductory applied management course. Student learning focuses on production, workflow, and the various stages of graphic communications, freelance design, and e-commerce. Various topics include quality control, cost factors, human resource issues, government regulations, and other managerial and financial techniques. Students learn basic applied concepts of contracting and specifications writing. The course requires writing a business plan and is primarily lecture-oriented. Lec. 3 hrs., Prereq.: Sophomore standing.

1106 325 Elements of Production Management (3)
A continuing study of the production management function. The theory, practices, and application of four subject areas are stressed; methods of engineering measurement and analysis; systems concepts in the Graphic Communications industry; operations planning and control; and design of printing processes. An emphasis on cost saving techniques is central to the class. Primarily a lecture-oriented course, technical report writing and case study methods will be an integral part of this course. Lec. 3 hrs., Prereq.: Junior Standing, or permission of the instructor.

1106 407 Production of Book Publishing (3)
A comprehensive introduction to the processes, procedures, production and management issues related to book production. Lec. 3 hrs, Prereq.: Permission of the Instructor. Junior standing or permission of the instructor.

1106 409 Ink and Substrates (3)
The theory associated with the manufacture and production of ink and various substrates and their importance in the Graphic Communications industry. Lec. 3 hrs., Prereq.: Junior standing or permission of the instructor.

1106 414 Design to Print Practicum II (3)
A design to print environment where students work with clients, produce functional designs, make production decisions and proceed to output and produce actual production work utilizing various output devices including wide format, direct to plate and direct to press. Lab. 6 hrs., Prereq.: 1104 214 Design to Print Practicum I or with Permission of Instructor

1106 484 Recent Technological Development (3)
A special topics class reserved for the teaching of materials associated with innovations in the Graphic Communications Industry. Lec. 3 hrs., Prereq.: Senior Standing, or permission of the instructor.

1106 495 Directed Independent Study (3)
With the approval of the department chairperson and under the direction of a member of the Graphic Communications faculty, the student will select a specific problem or subject in management, technology, or multi media/web design and study it in-depth. A formal plan of study is required. Prereq.: Junior standing.

Graphic Communications Technology AAS

COURSE DESCRIPTIONS

1104 102 Digital Typography (3)
A course dealing with the concepts, techniques, and skills needed to understand and utilize type as a typographic medium for design and print. Lec. 2 hrs.

1104 104 Digital Typography Lab (1)
Applied experiences in laboratory setting to be taken concurrently with 1104 102. Lab 3 hrs, Co-req.: 1104 102.

1104 105 Introduction to Graphic Communications (2)
A course that introduces students to opportunities available in the Graphic Communications industry. Designed as an overview course for students before taking other specialized courses. The class introduces students to the various printing and publishing processes. Lec. 2 hrs.

1104 106 Introduction to Graphic Communications Lab (1)
Applied experiences in laboratory setting to be taken concurrently with 1104 105. Lab. 3 hrs, Co-req.: 1104 105.

1104 107 Desktop Publishing (2)
Introduces students to the basic fundamentals of desktop publishing using page layout software. Topics include basic page formatting, composition, proofreading, and layout skills in combination with the use of peripheral hard ware, such as scanners, printers and digital storage devices. Tutorial lessons and problem solving projects are the primary instructional technique. Font management, color models, graphic formats, use of stock photography, etc. are also discussed. Lec. 2 hrs.

1104 108 Desktop Publishing Lab (1)
Applied experiences in laboratory setting to be taken concurrently with 1104 207. Lab. 3 hrs, Co-req.: 1104 207.

1104 109 Digital Applications (3)
An entry-level course that introduces students to a series of digital applications used in the graphic communications, design and publishing fields: Adobe Photoshop, Adobe Illustrator and QuarkXPress. The course is a studio class with the objective of providing beginning students with the software and computer skills needed for more advanced classes in the curriculum. Lab. 6 hrs.

1104 111 Digital Assembly (2)
Introduces the student to an area of print production that involves the preparation of digital files for output to film, plate, or direct to press in a pre-imposed format. Topics and activities will include signature and bookwork, folding techniques, the use of binder dummies, sheet size calculations, along with trim and press related decision-making. Digital imposition" and image trapping related software programs will be employed. Lec. 2hrs.

1104 112 Digital Assembly Lab (1)
Applied experiences in a laboratory setting to be taken concurrently with Digital Assembly (1104 111). Lab. 3hrs, Co-req.: 1104 111.

1104 113 Digital Imaging (2)
This is an introductory class utilizing Photoshop as an image editing tool. Students manipulate photographs and graphic attributes, including color, contrast, and other digital darkroom techniques. Photo retouching, use of filters, duotones, color, scanning, masking and scaling are all topics learned by students. The course uses lectures to transmit relevant concepts and theory and laboratories to learn techniques that use Photoshop as a creative tool for problem solving. File formats, size and resolution factors are also addressed. The course focuses on both web and traditional publishing issues. Lec. 2 hrs.

1104 114 Digital Imaging Lab (1)
Applied experiences in a laboratory setting to be taken concurrently with 1104 113. Lab. 3hrs, Co-req.: 1104 113.

1104 135 Basic Offset Press Operations (2)
Introduces the fundamentals of offset press concepts as they relate to setting up and running small to medium sheet-fed offset equipment. Concepts relating to web offset, ink, paper and general press problems will also be introduced. Combines theory and problem solving with a "hands on" approach to learning. Lec. 2 hrs.

1104 136 Basic Offset Press Lab (1)
Applied experiences in a laboratory setting to be taken with Basic Offset Press Operation 1104 135. Lab. 3 hrs

1104 204 Finishing Operations Lab (1)
Applied experiences in a laboratory setting to be taken concurrently with Finishing Operations 1104 205. Lab. 3 hrs

1104 205 Finishing Operations (2)
Provides a basic understanding of a number of topics: paper and its manufacture, its properties and its relationship to print, and post press production. Emphasis will be focused upon basic paper terms, paper classifications, basic and standard sizes, weights and general mathematical concepts needed for determining paper requirements. Additional topics include the paper pricing catalog, ordering paper, and understanding mailing operations and postal regulations. Problem-solving issues in relationship to time required to perform various operations to complete the job are included in the class. Lec. 2 hrs. Prereq.: 1104 111.

1104 208 Advanced Desktop Publishing (3)
This is an advanced page layout course utilizing professional page layout software. Advanced issues relating to styles sheets, web based publishing, large documents as well as issues associated with the preparation of files for digital output would all be discussed. An emphasis on creative design will also be an integral part of the course. Lec. 2 hrs, Prereq.: 1104 107, 1104 108.

1104 214 Design to Print Practicum I (2)
An introduction to the concepts and skill sets necessary to produce functional designs for digital output and print production. Students will learn theoretical as well as production skills as they relate to prepress, digital imposition, preflighting and digital output of files to various output devices including direct to plate, direct to press and wide-format ink jet printers. Lec. 2 hrs, Prereq.: 1101 105; 1104 107/108; 1104 113/114; 1101 115 or with permission of the Instructor.

1104 215 Design to Print Practicum I Lab (1)
Applied experiences in laboratory setting to be taken concurrently with 1104 214 Lab. 3 hrs, Co-req.: 1104 214.

1104 217 Offset Color Printing (2)
This course will deal with the theory, techniques, and problems associated with printing multi-color and full color work. Emphasis is placed on running of critical color work on sheet-fed offset press equipment. Students refine the skills learned in previous press classes, along with developing more experience in press operations. Lec. 3 hrs, Prereq.: 1104 235.

1104 219 Offset Color Printing Lab (1)
Applied experiences in laboratory setting to be taken concurrently with 1104 217 Lab. 3 hrs, Co-req.: 1104 217.

1104 225 Scanning and Computer Imaging (2)
This course is intended for students with significant prior experience using image manipulation software such as Adobe Photoshop. It is a continuation of the digital imaging course. The course applies advanced theory and techniques to traditional and electronic (digital) publishing materials. Students will work with a wide variety of image requirements and output to various proofing media. Students review issues involved with desktop scanning technology as well as high end scanning devices. Lec. 2 hrs., Prereq.: 1104 113, or permission of the instructor.

1104 226 Scanning and Computer Imaging Lab (1)
Applied experiences in a laboratory setting to be taken concurrently with 1104 225. Lab. 3 hrs, Co-req.: 1104 225.

1104 228 Advanced Desktop Publishing Lab (1)
Applied experiences in a laboratory setting to be taken concurrently with 1104 208. Lab. 3 hrs, Co-req.: 1104 208.

1104 235 Advanced Offset Press Operation (2)
Students will be concerned with running of basic line and halftone work on single color press equipment. Emphasis will be placed on press operations, whereby students will be required to run and submit various projects for evaluation. In the theory portion of the course, students will be introduced to lithographic plates and ink as related to offset press; offset press problems, and multi-color sheet-fed and offset web press concepts. Lec. 2 hrs. Prereq.: 1104 135.

1104 236 Advanced Offset Press Operation Lab (1)
Applied experiences in a laboratory setting to be taken concurrently with 1104 235. Lab. 3 hrs, Co-req.: 1104 235.

1104 290 Seminar-Practicum (4)
A simulated production atmosphere will be created for the student. This prepares the learner for future occupations within this multi-faceted industry. Each student will spend time doing production work while playing some management role within the organization. This course will utilize all previous knowledge acquired by the student in a summary or capstone activity. The class meets for 8 hrs. per week. Lab. 8 hrs., Prereq.: Sophomore standing.

1104 295 Directed Independent Study (3)
With the approval of the department chairperson and under the direction of a member of the Graphic Communications faculty, the student will select a specific problem or subject in technology or multi media/web design and study it in-depth. A plan of study is required. Prereq.: Sophomore standing.

1111 101 Modern Dance I (1)
Introduces the basic principles of modern dance, which include gravity, posture, balance, gesture, centering, rhythm, spatial relationships, movement dynamics, and breathing. Exposes students to the historical background of modern dance and to dance performances by local and professional companies. Requires studio work and studio performance.

1111 102 Modern Dance II (1)
Continues Modern Dance I. Emphasizes the development of body placement, movement dynamics, strength, flexibility, and endurance. Requires studio work and studio performance. Prereq.: Modern Dance I or permission of the instructor.

1111 110 Ballet I (1)
Explores ballet as it relates to the human anatomy and dance history. Introduces basic ballet techniques.

1111 201 Modern Dance III (1)
Emphasizes advanced dance principles and techniques. Prereq.: 1111 102.

1111 202 Modern Dance IV (1)
Continues techniques learned in Advanced Modern Dance I. Prereq.: 1111 201 or permission of instructor.

1111 224 Jazz I (1)
Explores jazz dance as it relates to the human anatomy, jazz music, and dance history. Introduces dance techniques necessary to perform jazz idioms.

1115 211 Fundamentals of Journalism (3)
Surveys the journalism profession and practice of journalism with emphasis on news, gathering, writing, and editing according to format and stylebook rules. Provides practice in basic writing skills and daily assignments that emphasize accuracy and deadlines with skill development drills in note-taking and interviewing. Focuses on classroom assignments that are geared to the mandatory use of the VCT's in the News and Journalism Lab. Prereq: 1133 212, 1104 207 or 1104 277, plus examination by the Department or permission of the instructor.

1115 212 News Reporting (3)
Introduces students to specialized news gathering, writing, and editing by way of beat reporting and rewrite assignments. Introduces techniques of developing news contacts; and writing stories by research and intensive interview (controlled aggression). Teaches editing stories according to the AP/UPI Stylebook. Provides off-campus assignments; deadlines-oriented stories have to be composed and edited on the VDT's in the News and Journalism Lab. Prereq.: 1115 211.

1115 213 Newspaper Production (3)
Emphasizes practical aspects of print media production, including copy editing, photo cropping, headline writing, copy fitting, electronic composition, design, and layout. Emphasizes measuring columns, gallery proofing, and manual paste-up, as well as exposure to electronic page design and layout methods using the News Lab computers. Prereq: 1115 211 or permission of the instructor.

1115 311 News and Journalism Lab I (3)
Provides practical experiences for students as news reporters, researchers, copy editors, make-up editors, layout editors, editorial writers, reviewers, columnists, and critics for the News and Journalism Laboratory newspaper, the *FREE VOICE.* Prereq: 1115 213, 1115 312.

1115 312 News & Journalism Lab II (3)
Continues Lab I, with participants being rotated in several editorial positions during the semester. Focuses on developing theme-centered issues of *FREE VOICE.* Allows the entire class to work as newsroom staff of a small weekly newspaper, learning collective responsibility, as well as professionalism and workplace ethics. Develops skills in troubleshooting most of the normal newsroom problems. Prereq.: 1115 311 or permission of the instructor.

1115 314 Feature Writing (3)
Provides advanced writing course in feature length non-fiction for magazines and newspapers. Emphasizes generating article ideas, focusing research on the topic, stylistic writing, and close editing in this advanced writing course in feature length non-fiction for magazines and newspapers. Studies magazine analysis and market research with heavy writing assignments for publication. Includes practice writing query letters to editors. Emphasizes developing a personal filing system of source materials collected via research for articles. Prereq.: 1115 211.

1117 105 Processes of Communication (3)
Introduces factors involved in human communication; study of the human being as receiver and sender of information; methods of encoding and decoding in-formation; mechanics of communication, and the nature of communication systems from the intra-personal to mass communication. (Required of all Mass Media and Theatre majors.)

1117 107 Introduction to Mass Media (3)
Introduces history and development of mass communication. Studies the effect of mass media upon society and the corresponding effect of economic, social, and political structures upon the nature and function of mass communications. May be taken concurrently with 1117 105.

1117 116 Audio Visual Foundations (3)
Surveys physical principles of sound, light, optics, and basic electronics essential to understanding television, motion pictures, and other methods of information storage and retrieval.

1117 214 Introduction to Public Relations (3)
Surveys public relations as a management function, using the media approach for free positive publicity. Emphasizes PR writing skills and news management by developing media and community relations. Provides a comparative study of the structure, functions, and strategies of major local PR organizations. Gives writing assignments which include news releases, public service spots, media coverage requests, fund-raising letters, print and electronic ad copy, PR campaigns, and crisis management program. Prereq.: 1117 107.

1117 215 Advertising (3)
Surveys the advertising industry, with emphasis on advertising as a marketing tool. Emphasizes organizational objectives, target market determination; the market and media mix and client and agency aspects of advertising; designing, executing, and evaluating the advertising campaign. Prereq.: 1117 107.

1117 315 Writing for Media (3)
Teaches writing for film and television. Focuses on script formats and writing requirements for both mediums; fiction and nonfiction treatments, screenplays, teleplays, and shooting scripts. Prereq.: Permission of instructor.

1117 398 Directed Study Journalism/TV (3)
Allows for project proposals approved by the instructor, planned and executed in the student's area of interest. Requires weekly progress meetings. Prereq.: Junior standing, 2.8 GPA in major courses, and permission of Department Chair.

1117 495 Independent Study of Mass Media (3)
Allows for thesis proposal, project, or internship under supervision of instructor with approval of Department Chairperson. Prereq.: Junior standing, 2.8 GPA in major, and permission of Department Chair.

1117 497 Communicative Arts Seminar (3)
Allows for an interdisciplinary seminar focusing on problems of creation and communication common to theater, dance, and mass media. Allows the student to draw heavily on course work in area of concentration. Explores through reading, class reports, journals, and relevant individual projects the relationships between the public, the artist, or the mass communicator. Provides a larger and more unified perspective of the individual's major field. Prereq.: Junior standing, 2.5 GPA in major and permission of Department Chair.

1165 003 Introduction to Jazz Improvisation (1)
Focuses on the fundamentals of jazz improvisation, nomenclature, chord construction, scale construction, analytical listening, and their application to performance. Provides fundamental exercises in improvisation. Prepares students for acceptance into Jazz Improvisation I. Course may be repeated. Prereq.: Audition.

1165 005 Fundamentals of Music Theory (2)
Provides the students with background information and skills necessary for the advanced study of music. Satisfies requirement for music majors who do not pass the placement examination in music theory to gain admittance to 1165 100, 1165 102. Also open to non-majors. Prereq.: None.

1165 010 Keyboard Group Instruction (1)
Provides group class instruction for non-majors or students needing preparation for acceptance into 100-level applied keyboard classes. Prereq.: (None).

1165 020 Voice Group Instruction (1)
Provides group class instruction for non-majors or students needing preparation for acceptance into 100-level applied vocal classes. Students are encouraged to enroll concurrently in either 1165 005 or 1165 010. Prereq.: None.

1165 025 UDC Chorale (1)
Develops musicianship and vocal skills through the study and performance of choral literature of various styles and periods. Satisfies elective course for general student body and a required course for voice majors. Prereq.: Audition.

1165 026 The Voices (1)
Develops musicianship and vocal skills through the study and performance of gospel music literature. Prereq.: Audition.

1165 027 Chamber Singers (1)
Provides an opportunity for students to prepare and perform chamber works for various combinations of voices and periods of music. Allows public performances. Prereq.: Audition.

1165 028 Vocal Workshop (2)
Studies and performs various vocal ensemble media, including oratorio, opera, musicals, and other genres. Prereq.: Audition.

1165 033 Small Jazz Ensemble (1)
Studies and performs music in the jazz idiom through small jazz ensembles. Provides instruction to qualified students with demonstrated performance capabilities. Prereq.: Audition.

1165 035 Woodwind Ensemble (1)
Studies and performs representative literature of various periods and styles for woodwind instruments. Allows public performances. Prereq.: Audition.

1165 045 Brass and Percussion Ensemble (1)
Studies and performs representative literature for brass and percussion instruments. Allows students to perform for the public. Prereq.: Audition.

1165 055 Symphonic Ensemble for Strings (1)
Provides rehearsal and performance literature, including original works from the Baroque through the Contemporary period. Allows for public performances by this Department to the University-wide and community service organization. Prereq.: Audition.

1165 070 Instrumental Group Instruction (1)
Provides group class instruction for non-majors or students needing preparation for acceptance into 100-level applied instrumental classes. Students may select instruction on a single woodwind, brass, string, or percussion instrument. Prereq.: None.

1165 085 UDC Pep Band (1)
Emphasizes selected literature appropriate for a variety of activities, including sports events and other University functions. Is open to all university students. Prereq.: Audition.

1165 086 Jazz Lab Band (1)
Studies and performs music in the jazz idiom through a Big Band ensemble. Provides instruction to qualified students with demonstrated performance capabilities. Prereq.: Audition.

1165 087 Chamber Ensemble (1)
Provides experience in chamber ensemble performance and reacquaints the student with a knowledge of literature for the respective genre. Allows public performances. Prereq.: Audition.

1165 088 UDC Marching Band (1)
Emphasizes development of performance skills through the study of a wide variety of music of various styles and periods. Requires mandatory performance for appropriate University functions. Prereq.: Audition. Open to all University students.

1165 089 UDC Concert Band (1)
Focuses on the development of performance skills through the study of music of various styles and periods. Requires mandatory performance for appropriate university functions. Prereq.: Audition. Open to all university students.

1165 100 Materials of Music I (3)
Studies harmony and melody in the diatonic style, focusing on concepts of intervals, scales, melodic form, four-part harmony, and contrapuntal writing. Emphasizes analysis, keyboard application, written examples, and exercises. Prereq.: 1165 005 or placement exam in music theory. Co-req.: 1165 102.

1165 101 Materials of Music II (3)
Continues Materials of Music I. Prereq.: 1165 100. Co-req.: 1165 103.

1165 102 Ear Training and Sight Singing I (2)
Applies materials concurrently studied in Materials of Music I to the keyboard and to the skills of ear training and sight singing. Teaches melodic and simple harmonic diction. Prereq.: 1165 005 or placement exam in music theory. Co-req.: 1165 100.

1165 103 Ear Training and Sight Singing II (2)
Continues Ear Training and Sight Singing I. Prereq.: 1165 102. Co-req.: 1165 101.

1165 105 Music Appreciation (3)
Increases student's appreciation and understanding of music in the Western classical tradition. Requires students to supplement the classroom lecture-discussions and text readings with required listening and reports of outside concert attendance. Prereq.: None.

1165 106 History of African American Music (3)
Studies the roots and influence of African—and early American contributions up to the present day. Focuses on traditional music of Black composers and per-formers as compared to existing Western forms, from folk songs and jazz to sonatas and symphonies. Prereq.: None.

1165 107 Jazz History (3)
A musical and historical survey of the development of jazz, from the early roots to the present day styles. Prereq.: None.

1165 115 Applied Major Keyboard (2)
Offers individually arranged lessons of prescribed literature of various periods of music and problems of technique and performance in course designed for piano majors only. Requires recital performance. Allows substitution of a master class for the first semester freshman. Requires two semesters. Prereq.: Audition.

1165 116 Applied Minor Keyboard (1)
Offers individually arranged and/or classroom (group) lessons, prescribed literature of all periods, and techniques and problems of performance. Encourages recital performance. Two semesters required. Prereq.: Audition.

1165 119 Piano-Sight Reading (1)
Offers step-by-step approach to sight-reading techniques for the piano major. Prereq.: Piano majors or permission of instructor.

1165 125 Applied Major Voice (2)
Offers individually arranged lessons of prescribed literature of various periods of music and problems of technique and performance in course designed for voice majors only. Requires recital performance. Allows substitution of a master for the first-semester freshman. Requires two semesters. Prereq.: Audition.

1165 126 Applied Minor Voice (1)
Offers individually arranged lessons, prescribed literature of all periods, and techniques and problems of performance. Encourages recital performance. Re-quires two semesters. Prereq.: Audition.

1165 130 Jazz Improvisation I (1)
Provides student training in the application of improvisational techniques encompassing all standard forms and styles in the jazz idiom. Allows a student in a small group to apply the techniques and approaches discussed in class. Requires two semesters. Prereq.: Audition.

1165 135 Applied Major Instrument (2)
Offers individually arranged woodwind, brass, string, or percussion lessons of prescribed literature of various periods of music and problems to technique and performance in the course designed for instrumental majors only. Requires recital performance. Allows substitution of a master class for the first semester freshman. Requires two semesters. Prereq.: Audition.

1165 136 Applied Minor Instrument (1)
Offers individually arranged woodwind, brass, string, or percussion lessons of prescribed literature of various periods of music and problems of technique and performance. Encourages recital performance. Requires two semesters. Prereq.: Audition.

1165 181 Gospel Music Improvisation I (1)
Teaches improvisation techniques basic to the study of performance in Black American gospel music. Emphasizes replication of standard improvisatory patterns. Requires two semesters. Prereq.: Audition.

1165 200 Materials of Music III (3)
Studies harmony and melody in the chromatic style, including modulation as a formal procedure. Introduces harmonic practices and analytical systems of the 20th Century. Prereq.: 1165 101. Co-req.: 1165 202.

1165 201 Materials of Music IV (3)
Continues Materials of Music III. Prereq.: 1165 200. Co-req.: 1165 203.

1165 202 Ear Training and Sight Singing III (2)
Applies materials concurrently studied in Materials of Music III to the keyboard and to the skills of ear-training and sight-singing. Emphasizes melodic and harmonic dictation. Prereq.: 1165 103. Co-req.: 1165 200.

1165 203 Ear Training and Sight Singing IV (2)
Continues Ear Training and Sight Singing III. Prereq.: 1165 202. Co-req.: 1165 201.

1165 210 Directed Studies (VC)
Offers opportunities for supervised independent study. Prereq.: Permission of Program/Area faculty.

1165 215 Applied Major Keyboard (2)
Continues Applied Major Keyboard. Requires recital performances. Requires two semesters. Prereq.: Two semesters of 1165 115.

1165 216 Applied Minor Keyboard (1)
Continues Applied Minor Keyboard. Requires two semesters. Prereq.: Two semesters of 1165 116.

1165 225 Applied Major Voice (2)
Continues Applied Major Voice. Requires recital performance. Requires two semesters. Prereq.: Two semesters of 1165 125.

1165 226 Applied Minor Voice (1)
Continues Applied Minor Voice. Requires two semesters. Prereq.: Two semesters of 1165 126.

1165 230 Jazz Improvisation II (1)
Continues Jazz Improvisation I. Requires two semesters. Prereq.: 1165 130.

1165 235 Applied Major Instrument (2)
Continues Applied Major Instrument. Requires recital performance. Requires two semesters. Prereq.: Two semesters of 1165 135.

1165 236 Applied Minor Instrument (1)
Continues Applied Minor Instrument. Requires recital performance. Requires two semesters. Prereq.: Two semesters of 1165 135.

1165 240 String Methods (2)
Introduces and analyzes common string method publications and identification of instructional objectives based on their approaches; practical application of string methodological techniques and lessons in the playing of the violin, viola, violoncello, double-bass, and harp. Prereq.: Sophomore standing in music.

1165 260 German Vocal Literature (2)
Surveys vocal literature of primarily eighteenth and nineteenth century Germany. Studies various techniques of interpretation and presentation as a basis for artistic performance and comprehensive teaching. Prereq.: 1165 114.

1165 270 Computer Applications to Music I (3)
Acquaints the student with basic materials and techniques of a computer-assisted workstation and applications for music composition, performance, recording, and music publishing. Prereq.: Sophomore standing in music.

1165 271 Computer Applications to Music II (3)
Continues Computer Applications to Music I with an emphasis on individually assigned projects. Prereq.: 1165 270.

1165 275 Dominant Trends in Music Education (2)
Surveys philosophies, materials, methods, and approaches of Suzuki, Orff, Kodaly, Carabo-Cone, Montessori, Dalcroze, and others. Introduces basic approaches to electronic music in the computer. Studies and discusses their implementation in methodology to public school music. Prereq.: Sophomore standing in music.

1165 281 Gospel Music Improvisation II (1)
Continues Gospel Improvisation I. Prereq.: Two semesters of 1165 181.

1165 285 Business of Music (3)
Acquaints the student with every aspect of the music business and provides a background study into the related areas of the music industry and the institutions through which it operates. Includes a guest lecturer series which brings industry professionals to discuss a variety of topics, including careers in the music business, publishing, operation of a record label, promotions, negotiations of a record deal, and independent record distribution. Prereq.: None.

1165 290 Keyboard Harmony I (1)
Teaches practical skills at the keyboard in melodic harmonization, transposition, chord movement and voicing, figured bass realization, accompanying skills to instrumental and vocal ensembles, and creative improvisation. Prereq.: Two semesters of 1165 215 or 1165 216.

1165 291 Keyboard Harmony II (1)
Continues Keyboard Harmony I. Prereq.: 1165 290.

1165 300 History of Western Music I (3)
Studies history, literature, performance practices, and compositional styles of music from antiquity to 1750. Discusses the relationship between music and parallel movements in various areas. Involves recorded listening and score analyses. Prereq.: Junior standing or permission of instructor.

1165 301 History of Western Music II (3)
Studies history, literature, performance practices, and compositional styles of music from 1750 to present. Discusses the relationship between music and parallel movements in various areas. Involves listening to recorded music and score analyses. Prereq.: 1165 300.

1165 307 Vocal Arranging (2)
Studies techniques of scoring for vocal ensembles of specific ages, abilities, and sizes. Develops arrangements, from simple unaccompanied unison songs to more complex accompanied writing, with emphasis on stylistic and constructional features unique to particular kinds of music. Prereq.: 1165 201, 1165 203.

1165 315 Applied Major Keyboard (2)
Continues Applied Major Keyboard. Requires two semesters. Prereq.: Two semesters of 1165 215.

1165 318 Ensemble Accompanying (2)
Explores fundamental techniques of accompanying solo voice or instruments and training accompanying and chamber music performance skills. Provides instruction for students who will be coached in various historical styles and periods. Requires one student recital or master class performance. Prereq.: 1165 115 or permission of instructor.

1165 325 Applied Major Voice (2)
Continues Applied Major Voice. Recital performance required each semester. Requires two semesters. Jury required each semester. Prereq.: Two semesters of 1165 225.

1165 330 Jazz Improvisation III (1)
Continues Jazz Improvisation II. Prereq.: Two semesters of 1165 230.

1165 331 Jazz Arranging I (2)
Studies arranging for ensembles of varying sizes and instrumentation. Analyzes representative works and acquaintance with Fundamentals of Orchestration. Prereq.: Junior standing in music-jazz studies or permission of instructor.

1165 332 Jazz Arranging II (2)
Continues Jazz Arranging I. Prereq.: 1165 331.

1165 335 Applied Major Instrument (2)
Continues Applied Major Instrument. Recital performance required. Requires two semesters. Prereq.: Two semesters of 1165 235.

1165 338 Woodwind Methods (2)
Introduces methods and materials used in the teaching and playing of woodwind instruments. Prereq.: Junior standing in music.

1165 348 Brass Methods (2)
Introduces methods and materials used in the teaching and playing of brass instruments. Prereq.: Junior standing in music.

1165 360 French Vocal Literature (2)
Surveys French vocal literature of the nineteenth and twentieth centuries. Discusses techniques of interpretation and presentation for performance and studio teaching purposes.

1165 361 Opera Workshop (1)
Introduces and exposes the vocal performance major to the art of singing and acting via study and practical experience. Provides instruction in body movement for the stage, study in interpretation and characterization, and a study of selected operas. Prereq.: 1165 100, 1165 225.

1165 368 Percussion-Guitar Methods (2)
Introduces methods and materials used in the teaching and playing of percussion instruments and the guitar. Prereq.: Junior standing in music.

1165 370 Foundations of Teaching Band & Orchestral Instruments (3)
Surveys methods and materials on band and orchestral instruments in the field of school music and their application in performance. For Music Education, Vocal and Keyboard-Vocal Option majors only. Prereq.: Junior standing in music.

1165 372 Choral Conducting (3)
Introduces choral conducting techniques, basic concepts of choral tone, diction in choral singing, rehearsal techniques, basic elements of musical style and interpretation, and representative choral literature. Prereq.: Junior standing in music.

1165 374 Instrumental Conducting (3)
Concentrates on applied baton technique. Discusses representative literature, which includes school music materials. Concentrates on interpretation of style. Prereq.: Junior standing in music.

1165 379 Teaching/Administration of Instrumental Music in Public Schools (3)
Discusses typical problems in the administration and teaching of instrumental music in public schools for human and public relations, personal contacts, and curriculum. Requires practicum experiences. Prereq.: Junior standing in music education.

1165 381 Gospel Music Improvisation III (1)
Continues Gospel Music Improvisation II. Prereq.: Two semesters of 1165 281.

1165 382 Gospel Music Songwriting and Arranging I (2)
Teaches techniques of scoring, voicing, and designing appropriate arrangement and instrumental accompaniments for gospel music. Prereq.: 1165 201, 1165 203.

1165 383 Gospel Music Songwriting and Arranging II (2)
Continues Gospel Music Songwriting and Arranging I. Prereq.: 1165 382.

1165 384 History & Aesthetics of Gospel Music I (2)
Studies the socio-cultural and historical setting of gospel music in the context of the Black American experience in Western culture. Studies of the major stylistic periods and major composers of gospel music from 1920-1970. Discusses problems in the development of value criteria relevant to the gospel idiom. Prereq.: Sophomore standing in music.

1165 385 History & Aesthetics of Gospel Music II (2)
Continues History and Aesthetics of Gospel Music I from 1970 to the present. Prereq.: 1165 384.

1165 386 Principles of Gospel Music Pedagogy (2)
Studies the methodology for teaching gospel music performance. Prereq.: Junior standing in music.

1165 390 Form and Analysis I (2)
Studies form as an evolutionary process from early church monody, secular polyphony, up through the Baroque period in music history, with analysis of appropriate literature from these early periods. Prereq.: 1165 201, 1165 203.

1165 391 Form and Analysis II (2)
Studies the various forms in music, including the classical, romantic, and modern periods. Surveys the contemporary analytical technique of form. Analysis will be stressed in this section of the course. Prereq.: 1165 390 or 1165 301, 1165 203.

1165 392 Orchestration I (2)
Provides practical application of orchestration principles to elementary and secondary school teaching. Discusses techniques in scoring and arranging for small ensembles, as well as score reading and transcribing. Prereq.: 1165 201, 1165 203.

1165 393 Orchestration II (2)
Continues Orchestration I with a primary focus on the orchestration of large scale compositions. Prereq.: 1165 390.

1165 394 Music Composition I (2)
Teaches creative writing of small forms in various idioms, approached through analysis and stylistic emulation of contemporary scores, selected listening and critical appraisal of original creative work. Offers an advanced seminar for several students or on an individual basis. Prereq.: 1165 201, 1165 203.

1165 395 Music Composition II (2)
Continues Music Composition I. Prereq.: 1165 394.

1165 396 Counterpoint I (2)
Teaches the compositional style and technique of vocal polyphony in the 16th century, approached through species counterpoint, analysis, selective listening, and creative writing or performing. Prereq.: Junior standing in music.

1165 397 Counterpoint II (2)
Investigates the compositional style and technique of 18th Century instrumental forms which found their culmination in the works of J. S. Bach; emphasizes the metamorphosis of such forms through the romantic period into 20th Century neo-classical style. Prereq.: Junior standing in music.

1165 398 Electronic Music Laboratory (2)
Acquaints the student with materials, equipment, and techniques of the computer-assisted electronic music studio as applied to all facets of music composition/ arranging. Prereq.: 1165 271.

1165 406 Symphonic Literature (2)
Studies the chronological development of symphonic literature and the orchestra from the 18th Century to the present. Studies representative composers through the analysis of scores and recorded performances. Prereq.: 1165 301.

1165 410 Directed Studies (VC)
Provides an upper level course (under this designation) not included in the present Departmental offerings, as well as supervised independent study. Prereq.: Permission of Department Chair.

1165 415 Applied Major Keyboard (2)
Continues Applied Major Keyboard. Requires two semesters. Prereq.: Two semesters of 1165 315.

1165 417 Piano Literature and Pedagogy Laboratory (2)
Surveys piano literature from the pre-Baroque to the twentieth-century periods and provides supervised student teaching in the piano laboratory. Focuses on analysis, research, listening, performance, and emphasis on piano pedagogical principles for various ages. Prereq.: Piano majors with senior standing in Music Education.

1165 418 Piano Literature (2)
Surveys piano literature from the Baroque to the contemporary periods. Concentrates on analysis, re-search, listening, performance, and student teaching demonstration with special emphasis on pedagogical techniques. Prereq.: Senior standing; piano majors only.

1165 419 Piano Pedagogy (2)
Explores the concepts and practical applications of piano performance and pedagogy. Prepares the piano major for professional teaching in the private piano studio with emphasis on beginning and intermediate instruction. Provides supervised student teaching in the piano laboratory. Prereq.: 1165 418.

1165 425 Applied Major Voice (2)
Continues Applied Major Voice. Recital performance required. Requires two semesters. Prereq.: Two semesters of 1165 325.

1165 428 Vocal Literature (2)
Surveys vocal literature from early treatises to contemporary songs. Discusses techniques of interpretation and presentation for performance and teaching purposes. Prereq.: Senior standing, voice majors only.

1165 430 Jazz Improvisation IV (1)
Continues Jazz Improvisation III. Prereq.: Two semesters of 1165 330.

1165 431 Jazz Compositional Techniques and Advanced Arranging (2)
Continues Jazz Arranging II. Prereq.: 1165 332.

1165 435 Applied Major Instrument (2)
Continues Applied Major Instrument. Requires recital performance for two semesters. Prereq.: Two semesters of 1165 335.

1165 438 Applied Literature (2)
Teaches instrumental literature from the twentieth century periods. Concentrates on analysis, research, listening, and performance. Prereq.: Senior standing; orchestral instrument majors only.

1165 450 String Pedagogy I (2)
Designed for the string major. Examines theory and development of string pedagogy as traced through available sources. Emphasizes methods of research. Requires a paper on a topic approved by the instructor. Prereq.: Two semesters of 1165 235.

1165 451 String Pedagogy II (2)
Continues String Pedagogy I. Applies research to applied teaching with particular emphasis on the physiological aspects of string instrument performance. Requires teaching simulations and demonstrations. Prereq.: 1165 450.

1165 460 Vocal Pedagogy I (1)
Acquaints students with the fundamentals of voice production and provides them with opportunities for research into, and comparative analysis of the various schools and methods of teaching singing from the establishment of the Italian Schola Cantorum to date. Prereq.: 1165 325.

1165 461 Vocal Pedagogy II (1)
Continues Vocal Pedagogy I. Prereq.: 1165 460.

1165 462 History of Opera (2)
Explores in-depth background of opera beginnings, its development, national styles, various elements, types of opera, literary sources and influences, use of ballet, and production components. Prereq.: 1165 226, 1165 301.

1165 463 Oratorio Literature (2)
Explores literature for solo voice and small ensembles in the standard oratorios, cantatas, masses, etc. Exposes operatic works no longer being staged but now being performed primarily in concert versions (e.g., operas of Handel). Prereq.: 1165 226, 1165 301.

1165 464 English and American Vocal Literature (2)
Surveys classical vocal literature of England and America from the pre-Elizabethan period to the present. Prereq.: Voice majors only.

1165 466 Italian Vocal Literature (2)
Explores Italian vocal literature for the solo voice and small ensembles from the Renaissance to the present. Prereq.: 1165 225.

1165 481 Gospel Music Improvisation IV (1)
Continues Gospel Music Improvisation III. Prereq.: Two semesters of 1165 381.

1165 490 Music Composition III (2)
Continues Music Composition II. Prereq.: 1165 390.

1165 491 Music Composition IV (2)
Continues Music Composition III. Prereq.: 1165 490.

1165 492 Music Theory History (2)
Provides an overview of the development of tonal or harmonic concepts in Western classical music through the study of selected treatises and music scores representative of specific historical developments in music theory/history. Prereq.: Senior standing; music theory majors only.

1165 493 20th Century Music Literature (2)
Studies 20th century compositional practice through score reading, listening and analysis; surveys important composers, their compositional styles, socio-political influences on their work, and their own impact on the musical scene, from 1900 to present. Prereq.: Senior standing; music theory majors only.

DIVISION OF SCIENCE AND MATHEMATICS

Department of Biological and Environmental Sciences

Freddie Dixon, Ph.D., Chairperson
Building 44, Room 104
(202) 274-7401

FULL-TIME FACULTY

Professors: C. Cousin, D. Demeyers, F. Dixon, M.A. Elhelu, R. Fergusson, P. Ganganna, C. Jiles, A.K. Olowofoyeku, C. Ramsundar, H. Sekon, R. Singh

Associate Professors: B.S. Harvey, T. Kakovitch, R. Sneed

Assistant Professor: B.M. Harris, D. Kumar

The Department of Biological and Environmental Sciences offers programs leading to the Bachelor of Science degree in Biology, Environmental Science, and Nutrition and Food Science, and a Master of Science Degree in Cancer Biology Prevention and Control. Also offered is an Associate in Applied Science degree in Water Quality and Marine Science. The baccalaureate degree programs prepare students for careers as marine scientists, research assistants, environmental analysts, technicians, dieticians, food technologists, and biotechnologists. Many of our students enter and complete graduate and professional schools (e.g., medical, dental, law). The two-year Associate in the Applied Science degree program is designed to provide students with academic and laboratory skills needed to develop, monitor, and maintain water quality, and to extract and use natural resources of the oceans.

The Department has facilities that support faculty/ student research and student training. The research in the Department utilizes state-of-the-art equipment and addresses problems that are of major concern to mankind. Research laboratories in the Department include: a molecular biology laboratory, a transmission electron microscopy suite, atomic absorption spectrophotometry, and environmental sciences laboratories, among others. Faculty members publish their results in refereed journals; procure research grants from private, state, and federal agencies; and perform a variety of public service activities. Consistent with the mission of the University, the Department of Biological and Environmental Sciences offers educational opportunities to students who seek academic preparation to meet the demands of a changing technological world.

BIOLOGY PROGRAM

The Biology Program offers the Bachelor of Science degree with two options: Biology and Biology Education. The Biology option prepares students to enter professional careers and graduate or professional schools. The Biology Education option is designed for students seeking to qualify for teacher certification in elementary or secondary education.

Bachelor of Science Degree in Biology

Option I: Biology

Total Credit Hours of College-Level Courses Required for Graduation: 120

Core Courses: (All students in the Biology option must take the core courses.)

1401 101	Biological Science Lec I	3
1401 102	Biological Science Lec II	3
1401 103	Biological Science Lab I	1
1401 104	Biological Science Lab II	1
1401 226	Zoology Lecture	3
1401 228	Zoology Laboratory	1
	or	
1401 225	Invertebrate Zoology Lec	3
1401 224	Invertebrate Zoology Lab	1
1401 235	Botany Lecture	3
1401 234	Botany Laboratory	1
1401 241	General Microbiology Lec	3
1401 240	General Microbiology Lab	1
1401 361	General Genetics Lecture	3
1401 360	General Genetics Lab	1
1401 493	Senior Seminar I	2
	or	
1401 494	Senior Seminar II	2
1507 111	General Chemistry Lecture I	3
1507 112	General Chemistry Lecture II	3
1507 113	General Chemistry I	1
1507 114	General Chemistry II Lab	1
1507 231	Organic Chemistry Lecture I	3
1507 232	Organic Chemistry Lecture II	3
1507 233	Experimental Organic Chemistry I	2
1507 234	Experimental Organic Chemistry II	2
1535 113	Precalculus w/Trigonometry I	3
1535 114	Precalculus w/Trigonometry II	3
1535 215	Calculus for Business, Social, and Life Sciences	4
1539 101	Introduction to College Physics I	3
1539 102	Introduction to College Physics II	3
1539 103	Introduction to College Physics Lab I	1
1539 104	Introduction to College Physics Lab II	1

Other Required Courses

1401	Biology Electives (300-level or above or permission from chairperson)	16
	Other Electives	4
1143 101	Beginning French I	3
1143 102	Beginning French II	3
	or	
1157 101	Beginning Spanish I	3
1157 102	Beginning Spanish II	3

(Two semesters in the same language are required at or above the 100-Level.)

Additional Comments or Requirements

Only grades of "C" (2.00 G.P.A.) or better in major courses accepted towards a B.S. degree in Biology.

ENVIRONMENTAL SCIENCE PROGRAM

The Environmental Science Program offers the Bachelor of Science degree in Environmental Science and the Associate in Applied Science degree in Water Quality and Marine Science. The Environmental Science Program is designed to prepare graduates for professional positions in the field of air and water quality control, coastal zone management, and marine science. The Associate in Applied Science degree programs in Water Quality and Marine Science prepare students to use the natural resources of the oceans and to monitor and maintain water quality.

Bachelor of Science in Environmental Science

Total Credit Hours of College-Level Courses Required for Graduation: 124

Required Courses:

1415 145	Introduction to Environmental Science Lecture	3
1415 146	Introduction to Environmental Science Lab	1
1401 241	General Microbiology Lecture	3
1401 240	General Microbiology Lab	1
1415 247	Environmental Statistics	3
1415 107	Integrated Science I Lec	3
1415 109	Integrated Science I Lab	1
1419 116	Marine Biology	3
1419 119	Marine Biology Lab	1
1419 216	Geological Oceanography Lecture	3
1419 218	Geological Oceanography Lab	1
1417 121	Chemical Analysis of Water Quality I Lecture	3
1417 123	Chemical Analysis of Water Quality I Lab	1
1417 122	Chemical Analysis of Water Quality II Lecture	3
1417 124	Chemical Analysis of Water Quality II Lab	1
1417 221	Wastewater Technology Lecture	3
1417 223	Wastewater Technology Lab	1
1409 324	General Soils Lecture	3
1409 325	General Soils Lab	1
1415 448	Environmental Field Problems	4
1415 450	Environmental Health Lecture	3
1415 451	Environmental Health Lab	1
1415 452	Air Pollution Lecture	3
1415 453	Air Pollution Lab	1
1415	Departmental Elective	3
1401 101	Biological Science I Lecture	3
1401 103	Biological Science I Lab	1

Other Required Courses

3528 104	Introduction to Application of Computers	2
3528 105	Introduction to Applications of Computers Lab	1
1507 111	General Chemistry I Lecture	3
1507 112	General Chemistry II Lecture	3
1507 113	General Chemistry I Lab	1
1507 114	General Chemistry II Lab	1
1507 231	Organic Chemistry I	3
1507 232	Organic Chemistry II	3
1507 233	Experimental Organic Chemistry I	2
1507 234	Experimental Organic Chemistry II	2
1535 112	Technical Mathematics II	4
1535 215	Calculus for Business and Science	3
1539 101	Introduction to College Physics I	3
1539 103	Introduction to College Physics I Lab	1
1539 102	Introduction to College Physics II	3
1539 104	Introduction to College Physics II Lab	1

Additional Comments or Requirements

Only grades of "C" (2.00 G.P.A.) or better in major courses are accepted towards a B.S. degree in Environmental Science.

Associate in Applied Science in Water Quality & Marine Science

Total Credit Hours of College-Level Courses Required for Graduation: 64

1415 145	Introduction to Environmental Science Lecture	3
1415 146	Introduction to Environmental Science Lab	1
1415 107	Integrated Science I Lecture	3
1415 109	Integrated Science I Lab	1
1401 241	General Microbiology Lecture	3
1401 240	General Microbiology Lab	1
1419 116	Marine Biology Lecture	3
1419 119	Marine Biology Lab	1
1419 216	Geological Oceanography Lecture	3
1419 218	Geological Oceanography Lab	1
1417 121	Chemical Analysis of Water Quality I Lecture	3
1417 123	Chemical Analysis of Water Quality I Lab	1
1417 122	Chemical Analysis of Water Quality II Lecture	3
1417 124	Chemical Analysis of Water Quality II Lab	1
1417 221	Wastewater Technology Lecture	3
1417 223	Wastewater Technology Lab	1
1401 101	Biological Science I Lecture	3
1401 103	Biological Science I Lab	1
1507 111	General Chemistry I Lecture	3
1507 112	General Chemistry II Lecture	3
1507 113	General Chemistry I Lab	1
1507 114	General Chemistry II Lab	1
3528 104	Introduction to Applications of Computers Lecture	2
3528 105	Introduction to Application of Computers Lab	1
1535 111	Technical Mathematics I	4
1535 112	Technical Mathematics II	4
1539 101	Introduction to College Physics I	3
1539 102	Introduction to College Physics II	3

1539 103	Introduction to College Physics I Lab	1
1539 104	Introduction to College Physics II Lab	1

Additional Comments or Requirements

Only grades of "C" or better (2.00 GPA) in major courses are accepted towards an A.A. S. degree in Water Quality and Marine Science.

NUTRITION & FOOD SCIENCE PROGRAM (NFSC)

The Department of Biological and Environmental Sciences offers a Bachelor of Science degree in Nutrition and Food Science program. The program is designed to prepare students to maximize their qualifications for entrance into the dietetic and/or food processing and food technology industry. The program offers two areas of emphasis: dietetics and food science. Each program provides for competencies in several areas of work; however, each option is designed specifically for certain professional careers.

The baccalaureate degree in Nutrition and Food Science with a dietetics option fulfills the requirements of the Didactic Program in Dietetics (DPD) and is accredited by the Commission on Accreditation/Approval for Dietetics Education (CAADE) of the American Dietetic Association (ADA) American Dietetic Association 120 South Riverside Plaza, Suite 2000 Chicago, Illinois 60606-6995 Phone: 800/877-1600. The Dietetics major develops an understanding and competency in food, nutrition, dietetics, management, clinical nutritional care, nutrition education, community nutrition and supportive courses in physical and biological sciences (biochemistry, anatomy & physiology, microbiology, statistics, and chemistry). The curriculum is developed within the conceptual framework of the accreditation standards and knowledge competencies for the dietetic profession set and published by the American Dietetic Association. The completion of the Bachelor's degree with dietetics option qualifies students to enter post-baccalaureate internship program , which leads to eligibility to take the nationally administered examination to become a Registered Dietitian (RD).

Mission Statement:

Upon successful completion of the DPD program the students will be issued the "Verification Statement" signed by the Director of DPD Program

The Food Science option is concerned with the application of the fundamental principles of the physical, biological, and behavioral sciences and engineering to understand the complex and heterogeneous materials recognized as food. The food science program is designed to meet the requirements within the conceptual framework of the profession set and published by the Institute of Food Technologists and prepares students for careers in food industry and food safety.

The Nutrition and Food Science graduates in both of these options frequently elect to go on to graduate studies in Nutrition or Food Science. Dietetics graduates are prepared for wide scope of rewarding careers such as dietitians, licensed nutritionists, educators, consultants, researchers, food columnists, and entrepreneurs. The graduates with food science option are prepared to enter careers as food research specialists, food columnists, food technologists, health inspectors, food analysts, product developers, and quality control staff.

Bachelor of Science in Nutrition & Food Science

Dietetics Option

Total Credit Hours of College-Level Courses Required for Graduation: 127

Required Departmental Courses (54 credits)

1333 103/105	Introduction to Food Science Lecture/Laboratory	4
1333 104/106	Introduction to Nutrition Lecture/Laboratory	4
1333 209/211	Food Processing Lecture/Laboratory	4
1333 313	Nutrition in the Life Cycle	3
1333 314/316	Community Nutrition Lecture/Laboratory	3
1333 315/319	Food Economics Lecture/Laboratory	3
1333 317	Advanced Nutrition	3
1333 320/321	Nutrition Education Lecture/Laboratory	3
1333 374/375	Geriatric Nutrition Lecture/Laboratory	3
1333 421/423	Therapeutic Nutrition I Lecture/Laboratory	4
1333 422/424	Therapeutic Nutrition II Lecture/Laboratory	4
1333 426/428	Food Systems Management I Lecture/Laboratory	3
1333 427/429	Food Systems Management II Lecture/Laboratory	3
1333 442/444	Food Chemistry Lecture/Laboratory	4
1333 453/455	Food Analysis Lecture/ Laboratory	4
1333 490	Senior Seminar and Research	2

Required Supporting Courses: 37 credits

1507 111	General Chemistry I	3
1507 112	General Chemistry II	3
1507 113	General Chemistry I Lab	1
1507 114	General Chemistry II Lab	1
1507 231	Organic Chemistry Lecture I	3
1507 232	Organic Chemistry Lec. II	3
1507 233	Organic Chemistry Lab I	2
1507 234	Organic Chemistry Lab II	2
1507 260/261	Biochemistry Lecture/Lab	4
1535 247	Elementary Statistics	3
1401 111/113	Fundamentals of Human Anatomy and Physiology I Lecture/Lab	4
1401 112/114	Fundamentals of Human Anatomy and Physiology II Lecture/Lab	4
1401 244/245	Clinical Microbiology, Lecture/Lab	4

University-wide Requirements: 36 credits

	Social Science	6
	Fine Arts	3
	Foreign Language	6
1167 105	Introduction to Logic	3
1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Lit & Advanced Writing I	3
1133 212	Lit & Advanced Writing II	3

1535 113	Precalculus with Trigonometry I	3
1535 114	Precalculus with Trigonometry II	3

Bachelor of Nutrition And Food Science

Food Science Option

Total Credit Hours of College Level Courses Required For Graduation: 125

Required Departmental Courses: 56 credit hours

1421 103/105	Introduction to Food Science Lecture/Laboratory	4
1421 104/106	Introduction to Nutrition Lecture/Laboratory	4
1421 209/211	Food Processing Lecture/Laboratory	4
1421 313	Nutrition in the Life Cycle	3
1421 314/316	Community Nutrition Lecture/Laboratory	3
1421 317	Advanced Nutrition	3
1421 320/321	Nutrition Education Lecture/Laboratory	3
1421 324/325	Food Sanitation Lecture/Lab	4
1421 326/328	Food Microbiology Lecture/Laboratory	4
1421 415/416	Food Engineering Lecture/Laboratory	4
1421 426/428	Food Systems Management I Lecture/Laboratory	3
1421 427/429	Food Systems Management II Lecture/Laboratory	3
1421 444/442	Food Chemistry Lecture/Laboratory	4
1421 454	Food Quality Control Lecture/Laboratory	4
1421 453/455	Food Analysis Lecture/Laboratory	4
1421 490	Senior Seminar and Research	2

Supporting Courses: 32 credits

1507 111/112	General Chemistry I, II Lecture	6
1507 113/114	General Chemistry I, II Laboratory	2
1507 231	Organic Chemistry I Lecture	3
1507 233	Organic Chemistry I Laboratory	2
1507 261/260	Biochemistry Lecture/Laboratory	4
1401 240/241	General Microbiology Lecture/Laboratory	4
1539 101/103	Introduction to College Physics I Lecture/Laboratory	4
1401 101/103	Biological Science I Lecture/Laboratory	4
1535 247	Elementary Statistics	3

Note: Recommended social sciences courses: a) Introduction to Psychology and b) Introduction to Sociology.

University-wide Requirements: 37 credits hours

	Social Sciences	6
	Fine Art	3
	Foreign Language	6
1167 105	Introduction to Logic	3
1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature and Advanced Writing I	3
1133 212	Literature and Advance Writing II	3
1535 113	Precalculus with Trigonometry I	3
1535 215	Calculus for Business Social and Life Sciences	4

Recommended Electives

1333 210/212	Food Processing II Lecture/Laboratory	4
2213-306	Human Resource Management	3

Additional Comments and Requirements

Majors who intend to apply for dietetic internship upon completion of Bachelor of Science degree in Nutrition and Food Science with dietetic option will be eligible to receive a Verification Statement duly attested by the Director of the DPD Program.

The students are required to complete comprehensive examination and exit interview prior to the issuance of the Verification Statement.

Only grades of "C" or better in major courses (2.00 G.P.A.) Are accepted towards a Bachelor of Science degree in Nutrition and Food Science.

MASTER'S DEGREE IN CANCER BIOLOGY, PREVENTION AND CONTROL

The Department of Biological and Environmental Sciences in partnership with the Lombardi Comprehensive Cancer Center at Georgetown University Medical Center offers a Master's Degree in Cancer Biology Prevention and Control. This intense MS program focuses on the causes and treatment s of cancer. The goal of the Master's Degree Program is to educate students as master-level cancer researchers who are capable of conducting research in cancer biology, prevention and control or to further advance their education by pursuing doctoral studies. The graduates of this Program will be the individuals best suited for translating basic science knowledge into cancer prevention and control practices. The Program has as its philosophy "the best Cancer Prevention and Control researchers are those with a sound understanding of cancer biology."

Total credit hours of college-level courses required for graduation: 36

Admission Requirements

Students must meet the following criteria:

- Hold a Bachelor's Degree from an accredited education institution in science, science related discipline or psychology.
- Have a minimum overall grade point average of 3:00
- Submit Three letters of recommendation from individuals having knowledge of the applicant's potential to complete the MS Program.
- Demonstrated proficiency in writing is required of all graduate students. Students must take the Graduate Record Examination (GRE) Analytical Writing Subtest as a requirement of admission. The minimal acceptable score is a 4.0. Students failing to meet the criterion score may be admitted conditionally. If admitted conditionally, a student must enroll in and pass (with a grade of B or better) the University's graduate writing proficiency course 1133-290 during their semester of admission to the university.
- Written Essay- Explain/describe why you want to pursue a MS Degree in Cancer Biology, Prevention , and Control.

Course Requirements:

First Year/Fall

1401 508	Tumor Biology	4
1401 545	Cancer Epidemiology	3
1401 500	Research Methods & Career Dev.	1
1401 502	Biostatistics	3
1401 534	Research & Applied Ethics	2
1401 581	Molecular Epidemiology Seminar	1

First Year/ Spring

1401 535	Prin. & Prac. of Behavior Sci. in Cancer Control	2
1333 500	Dietary Cancer Prevention	2
1401 531	Cell and Molecular Biology Lab	3
1401 585	Cancer Education, Outreach & Field Study	4
1415 550	Environmental Health	2

Second Year/ Fall

1401 601	Research 1	3-6
1401 660	Molecular Genetics	3
1401 690	Topics in Epidemiology	3

Second Year/Spring

1401 602	Research II	3-6

COURSE DESCRIPTIONS

1401 101 Biological Science I (3)
Introduces the concepts of modern biological principles, with emphasis on the physical and chemical basis of life processes. Lec. 3 hrs., Co-req.: 1401 103.

1401 102 Biological Science II (3)
Presents the structural and functional features of animal and plant systems, including interactions existing between major groups of organisms. Lec. 3 hrs., Prereq.: 1401 101, 103. Co-req.: 1401 104.

1401 103 Biological Science I Laboratory (1)
Focuses on the experimental principles of the physical and chemical processes of life. Lab 3 hrs., Co-req.: 1401 101.

1401 104 Biological Science II Laboratory (1)
Examines unifying relationships between living organisms through dissection of a representative vertebrate. Emphasis is also placed on energy, respiration, structure, and function of organs, organ systems, and the total organism. Lab 3 hrs., Prereq.: 1401 101, 103. Co-req.: 1401 102.

1401 111 Fundamentals of Human Anatomy & Physiology I (3)
Focuses on the human body as it relates to function, organization, and interrelationship of body structures as they form an integrated functional organism. Lec. 3 hrs., Co-req.: 1401 113.

1401 112 Fundamentals of Human Anatomy and Physiology II (3)
Details a continuation of Fundamentals of Human Anatomy and Physiology I. Emphasizes body systems and how they contribute to homeostasis. Lec. 3 hrs., Prereq.: 1401 111, 113. Co-req.: 1401 114.

1401 113 Fundamentals of Human Anatomy and Physiology I Laboratory (1)
Examines the cellular, tissue, and organ levels of the organization of the human body and how these units coordinate activities and function in the living organism. Lab 3 hrs., Co-req.: 1401 111.

1401 114 Fundamentals of Human Anatomy and Physiology II Laboratory (1)
Focuses on detailed examination of the structure and function of the body systems with emphasis on balanced coordination of the living organism. Lab 3 hrs., Prereq.: 1401 111, 113. Co-req.: 1401 112.

1401 122 Essentials of Human Biology (3)
Introduces basic concepts and principles of body structure and function. Special emphases are given to transport mechanisms and the dynamics of steady state equilibrium. Lec. 3 hrs., Prereq.: Permission of Department chair. Co-req.: 1401 123.

1401 123 Essentials of Human Biology Laboratory (1)
Focuses on the basic organizational and principal functions of the human body in a hierarchal manner. Emphasis is also placed on the microscopic and macroscopic components of the human body. Lab 3 hrs., Co-req.: 1401 122.

1401 195 Independent Study/Biology (1-4)
Provides an opportunity for students to arrange with an instructor in the Department to work on a topic selected prior to registration. Prepares reports on laboratory, library, and/or field research topics approved by the instructor on subjects not regularly covered in the Department. Lec. and/or Lab 6 hrs. Prereq.: Permission of Department chair.

1401 215 Histological Techniques (3)
Exposes students to the procedures used in the preparation of various animal tissues for histochemical studies. The lecture presentations correlate the structural and functional features of animal cells and tissues. Lec. 3 hrs., Prereq.: 1401 102, 104 and 1401 112,114. Co-req.: 1401 216.

1401 216 Histological Techniques Laboratory (1)
Prepares and stains tissue samples for microscopic examination. Applies histochemical stains to label specific chemical components of cells and tissues. Lab 3 hrs., Prereq.: 1401 102, 104 and 1401 112, 114. Co-req.: 1401 215.

1401 224 Invertebrate Zoology Laboratory (1)
Examines prepared slides and specimens of invertebrates and classifies them based on the taxonomical nomenclature. Lab 3 hrs., Prereq.: 1401 102, 104. Co-req.: 1401 225.

1401 225 Invertebrate Zoology (3)
Studies selected invertebrates with special attention to those of the local area. Emphasis is placed on the morphology and physiology of organisms. Lec. 3 hrs., Prereq.: 1401 102, 104. Co-req.: 1401 224.

1401 234 Botany Laboratory (1)
Details laboratory exercises that address plant anatomy and functions. Lec. 3 hrs., Prereq: 1401 102, 104. Co-req.: 1401 235.

1401 235 Botany (3)
Introduces the fundamental concepts of the scientific investigation of life, ranging from the cell as a living unit to the more complex plant life. Lec. 3 hrs., Prereq.: 1401 102, 104. Co-req.: 1401 234.

1401 240 General Microbiology I Laboratory (1)
Focuses on exercises involved with isolation and identification of bacteria, yeast, and molds. Lab 3 hrs., Prereq.: 1401 102, 104. Co-req.: 1401 241.

1401 241 General Microbiology I (3)
Examines the basic principles concerning microbial life and its relationship to human welfare. Lec. 3 hrs., Prereq.: 1401 102, 104. Co-req.: 1401 240.

1401 245 Clinical Microbiology (3)
Emphasizes the structure, function, and pathogenic nature of various microorganisms as they relate to infection, body resistance, and diagnostic testing. Lec. 3 hrs., Prereq.: 1401 102, 104 or permission of instructor. Co-req.: 1401 246.

1401 246 Clinical Microbiology Laboratory (1)
Focuses on exercises that involve the use of micro-biological techniques in culturing select groups of microorganisms. Prereq: 1401 102, 104. Co-req.: 1401 245.

1401 295 Independent Study Biology (1-4)
Provides an opportunity for students to arrange with an instructor in the Department to work on a topic selected prior to registration. Students prepare reports on laboratory, library, and/or field research topics approved by the instructor on subjects not regularly covered in the Department. Lec. and/or Lab 6 hrs., Prereq.: Permission of Department Chairperson.

1401 317 General Physiology Laboratory (1)
Provides experiments on the functioning of animal cells, tissues, and organs. Lab 3 hrs., Prereq.: 1401 102, 104; 1507 112, 114. Co-req.: 1401 319.

1401 319 General Physiology (3)
Details the principles of animal physiology presented with references to the functioning of cells, tissues, and organs. Emphasizes basic cell functions and biological control systems, such as membrane phenomena, energy and cellular metabolism, protein synthesis, muscle contraction, and other areas of functional biology. Lec. 3 hrs., Prereq.: 1401 101, 102; 1507 112, 114. Co-req.: 1401 317.

1401 325 Human Anatomy (3)
Presents general study of the structure and organization of organs and organ systems of the human body. Studies the skeletal, muscular, circulatory, digestive, and nervous systems. Lec. 3 hrs., Prereq.: 1401 102, 104; 1401 226, 228. Co-req.: 1401 328.

1401 326 Mammalian Histology (3)
Presents the basic concepts of the structure of tissues and organs of mammals at the light and ultrastructure levels. Lec. 3 hrs., Prereq.: 1401 102, 104. Co-req.: 1401 327.

1401 327 Mammalian Histology Laboratory (1)
Includes identification of cells, tissues, and organs of mammals at the light microscopic and electron microscopic levels. Lab 3 hrs., Prereq.: 1401 102, 104. Co-req.: 1401 326.

1401 328 Human Anatomy Laboratory (1)
Emphasizes dissection of organisms for studying the various systems: skeletal, muscular, digestive, urinary, cardiovascular, and nervous system. Lab 3 hrs., Prereq.: 1401 102, 104; 1401 226, 228. Co-req.: 1401 325

1401 330 Cell Biology I Laboratory (1)
Includes the principles and techniques of cell biological experimentation, involving chemical and molecular structure of cells, cellular respiration, and structure of cells. Lab 3 hrs., Prereq.: 1401 240, 241; 1401 360, 361; 1507 112, 114. Co-req.: 1401 331.

1401 331 Cell Biology I (3)
Introduces the molecular basis of cell structure and functions with consideration of subcellular organelles, including the processes of cellular metabolism and oxidative regulation of control mechanisms in cell metabolism. Lec. 3 hrs., Prereq.: 1401 240, 241; 1401 360, 361; 1507 112, 114. Co-req.: 1401 330.

1401 332 Cell Biology II (3)
Focuses on the molecular aspects of mitosis and meiosis, including molecular models of intergenic and intragenic recombination, DNA repair, and mutation. Discusses cellular biology, such as inborn errors of metabolism, the role of vitamins, cell transformation, and related subjects, and understanding of the major lines of research in the area. Lec. 3 hrs., Prereq.: 1401 330, 331. Co-req.: 1401 333.

1401 333 Cell Biology II Laboratory (1)
Includes techniques of recombinant DNA and principles of cell biological experimentation. Lab 3 hrs., Prereq.: 1401 330, 331. Co-req.: 1401 332.

1401 335 Mycology (3)
Focuses on characteristics, reproductive structures, and medically important fungi. Emphasis is placed on nutritional adaptations and fungal diseases of plants, animals, and humans. Lec. 3 hrs., Prereq.: 1401 240, 241; Co-req.: 1401 336.

1401 336 Mycology Laboratory (1)
Examines prepared slides and specimen of yeasts, molds, and fleshy fungi. Includes exercises involving isolation and identification of mildews, rusts, smuts, yeasts, and mushrooms. Lab 3 hrs., Prereq.: 1401 240, 241; Co-req.: 1401 335.

1401 337 Biostatistics (3)
Introduces the principal statistical techniques used in the analysis of biological data. Lec. 3 hrs., Prereq.: 1401 224, 225 or 1401 240, 241, or 1401 234, 235. Co-req.: 1401 338.

1401 338 Biostatistics Laboratory (1)
Analyzes data from experiments in biology and ecology with computers. Prereq.: 1401 224, 225 or 1401 240, 241, or 1401 234, 235. Co-req.: 1401 337.

1401 344 Immunology Laboratory (1)
Emphasizes the fundamentals of serologic procedures and their roles in a variety of infectious and non-infectious conditions; presents a series of diagnostic tests to detect specific antibodies in sera and biological fluids. Lab 3 hrs., Prereq.: 1401 240, 241. Co-req.: 1401 346.

1401 346 Immunology (3)
Introduces the principles involved with the immune response in man and higher animals. Emphasizes antibody formation and antibody-antigen reactions. Lec. 3 hrs., Prereq.: 1401 240, 241. Co-req.: 1401 344.

1401 360 General Genetics Laboratory (1)
Identifies modes of inheritance utilizing alleles of various characteristics to show phenotypic expression. Lab 3 hrs., Prereq.: 1401 102, 104. Co-req.: 1401 361.

1401 361 General Genetics (3)
Presents the mechanisms of inheritance and expression of hereditary traits of representative microorganisms, plants, and animals; includes the structure and function of the gene at the molecular level. Lec. 3 hrs., Prereq.: 1401 102, 104. Co-req.: 1401 360.

1401 362 Advanced Genetics (3)
Examines the chemical basis of gene expression, the mechanism of nucleic acid replication, the genetic code, protein synthesis, and phenotype variation due to gene mutation. Lec. 3 hrs., Prereq.: 1401 360, 361; 1507 112. Co-req.: 1401 363.

1401 363 Advanced Genetics Laboratory (1)
Examines phenotypic expression utilizing alterations to typical Mendelian ratios such as gene mutations, chromosomal aberrations, and novel phenotypes. Lab 3 hrs., Prereq.: 1401 360, 361. 1507 112. Co-req.: 1401 362.

1401 364 Embryology Laboratory (1)
Details the fetal development in selected organisms from gamete formation to organogenesis. Lab 3 hrs., Prereq.: 1401 224, 225 or 1401 226, 228. Co-req.: 1401 365.

1401 365 Embryology (3)
Introduces selected vertebrates with emphasis on gametogenesis, morphogenesis, organogenesis, and developmental physiology. Lec. 3 hrs., Prereq.: 1401 225, 224 or 1401 226, 228. Co-req.: 1401 364.

1401 395 Independent Study (4)
Provides an opportunity for students to arrange with an instructor in the Department to work on a topic selected prior to registration. Prepares reports on laboratory, library and/or field research topics approved by the instructor on subjects not regularly covered in the Department. Lab 6 hrs., Prereq: Permission of the Department chairperson.

1401 401 Undergraduate Research I (4)
Supervises the planning, conducting, and reporting of independent laboratory and/or library research as part of an honors program in the biology unit; analyzes reports on data obtained as a result of independent laboratory and/or library research; work designed to encourage students to pursue graduate studies. Lab 6 hrs., Prereq.: Permission of Department Chairperson.

1401 402 Undergraduate Research II (4)
Continues Undergraduate Research I. Lab 6 hrs., Prereq.: Permission of Department Chairperson.

1401 405 Electron Microscopy (3)
Presents techniques of specimen preparation and use of the electron microscope in a study of the ultrastructure of animal and plant cells. Lec. 3 hrs., Prereq.: 1401 326, 327 or Permission of Department Chair. Co-req.: 1401 406.

1401 406 Electron Microscopy Laboratory (1)
Prepares specimens for examination with the electron microscope. Lab 3 hrs., Prereq.: 1401 326, 327 or permission of Department Chairperson. Co-req.: 1401 405.

1401 443 Principles of Virology Laboratory (1)
Involves the preparation of bacteriological media, cultivation of bacteria, and growth of bacteriophages. Applies immunological techniques used in assaying viruses; and includes a special project involving limited research on a related topic. Lab. 3 hrs., Prereq.: 1401 240, 241. Co-req.: 1401 445.

1401 444 Principles of Parasitology Laboratory (1)
Examines the life cycle of parasites in the animal kingdom via preserved specimen, light microscopy, and live specimen. Emphasizes life cycles with vertebrate and invertebrate hosts. Lab 3 hrs., Prereq.: 1401 224, 225 or 226, 228. Co-req.: 1401 446.

1401 445 Principles of Virology (3)
Presents the chemical, physical, and biological properties of animals, plants, bacteria and viruses. Includes cultivation and purification of animal viruses and determination of viral titer. Lec. 3 hrs., Prereq.: 1401 240, 241. Co-req.: 1401 443.

1401 446 Principles of Parasitology (3)
Involves primarily the parasite-host relationship. Includes also the variations of permanency of the association, degree of intimacy, and degree of pathogenicity. Lec. 3 hrs., Prereq.: 1401 224, 225 or 226, 228. Co-req.: 1401 444.

1401 490 Molecular Biology (3)
Introduces students to the basic concepts of molecular biology with emphasis on nucleic acid structure, gene expression, and recombinant DNA methodology. Lec. 3 hrs., Prereq.: 1401 240, 241; 1401 361, 360. Co-req.: 1401 491.

1401 491 Molecular Biology Laboratory (1)
Emphasizes electrophoretic separation of nucleic acids and proteins. Introduces purification and enzymatic digestion of nucleic acids, principles of agarose and polacrylamides gel electrophoresis; Southern, Northern, and Western blotting, DNA sequencing and finger-printing, RFLP's, PCR and other applications in biotechnology. Lab 3 hrs., Prereq.: 1401 490. Co-req.: 1401 490.

1401 493 Senior Seminar I (2)
Involves the preparation, presentation, and discussion of current scientific topics and original research papers. Includes a series of articles to be discussed and presented to students. Lec./demo. 2 hrs., Prereq.: Senior standing in biology.

1401 494 Senior Seminar II (2)
Continuing activities of Senior Seminar I. Lec./demo. 2 hrs., Prereq: Senior standing in biology.

1401 495 Independent Study (1-4)
Provides an opportunity for students to arrange with an instructor in the Department to work on a topic selected prior to registration. Prepares reports on laboratory, library, and/or field research topics approved by the instructor on subjects not regularly covered in the Department. Lab 6 hrs., Prereq.: Permission of Department Chair.

1415 107 Integrated Science I Lecture (3)
Emphasizes the usefulness of science by presenting specific scientific information concerning the urban environment. Includes interdisciplinary topics, such as plants, soil formation, basic chemistry, soil chemistry, measurements, human functions, nutrition, environmental diseases, and the history of African Americans in the development of science. Lec 3 hrs., Co-req.: 1415 10/9.

1415 108 Integrated Science II Lecture (3)
Provides information that will show the importance of science in understanding basic human functions and in analyzing and solving human problems. Emphasizes the human body in a disease and non-disease state. Co-req.: 1415 110.

1415 109 Integrated Science I Laboratory (1)
Presents information on measurements, plants, chemistry, nutrition, soil science, energy, air pollution, water pollution, and environmental diseases. Lab 3 hrs., Co-req.: 1415 107.

1415 110 Integrated Science II Laboratory (1)
Includes energy production, air pollution, water pollution, urban living and disorders. Co-req.: 1415 108.

1415 145 Introduction to Environmental Science (3)
Introduces the environment by studying the atmosphere, hydrosphere, lithosphere, biosphere, and the natural cycles which influence man. Provides information on the impact of man on these spheres through water and air pollution, solid waste disposal and noise. Lec. 3 hrs., Co-req.: 1415 146.

1415 146 Introduction to Environmental Science Lab (1)
Investigates the principles of environmental science with emphasis on the ecosystem. Lab 3 hrs., Co-req.: 1415 145.

1415 246 Environmental Microbiology (3)
Introduces the fundamentals of microbiology with emphasis on the comparative nature of various groups of microorganisms, their distribution and activities. Presents the interrelationships of individual microbial populations with their macro and micro environments. Lec. 3 hrs., Prereq.: 1401 102, 104 equivalent or permission of Department chairperson. Co-req.: 1415 249.

1415 247 Environmental Statistics (3)
Introduces concepts and application of statistics to environmental science problems. Provides problem sessions that are intended to give a thorough knowledge of basic graphic and statistical techniques for drawing inferences from sets of data. Prereq: 1535 111, 1535 112 or equivalent.

1415 249 Environmental Microbiology Laboratory(1)
Provides techniques in isolating, cultivating, and identifying microbes found in soil, air, and water. Lab 3 hrs., Prereq.: 1401 102, 104 equivalent or per-mission of Department Chairperson. Co-req.: 1415 246.

1415 347 Environmental Law (3)
Provides a general background on the controlling laws applicable to private and public rights to a healthful and clean environment. Includes the national environmental policy acts, regulatory laws (state, national, and international) on commercial fisheries, marine resources, sports fisheries, forestry, and wildlife. Prereq.: Permission of the Department Chair.

1415 350 Conservation of Natural Resources (3)
Details the functioning of organisms and their inter-relationship with the environment. Provides ecological concepts, biochemical cycles, productivity, com petition, predator-prey relations, basic ecological variables, growth patterns, biotic communities, and genetic diversity. Surveys natural resources of water, soil, forest, grasslands, minerals, wildlife, and re-creation areas. Lec. 3 hrs., Prereq.: 1415 145, 146. Co-req.: 1415 351.

1415 351 Conservation of Natural Resources Laboratory (1)
Details laboratory experiments in the principles of ecology and conservation of natural resources. Lab 3 hrs., Prereq.: 1415 145, 146. Co-req.: 1415 350.

1415 445 Applied Thermodynamics (3)
Provides information on the first and second laws of thermodynamics for control volumes and fixed-gas systems. Emphasizes properties of liquids, vapors, and gases. Lec. 3 hrs., Prereq.: 1507 112.

1415 448 Environmental Field Problems (4)
Involves field and laboratory research in environmental problems, collection of data, statistical analysis, and preparation of comprehensive final report. Prereq.: Permission of the Department Chair.

1415 450 Environmental Health (3)
Examines the effect of gaseous particulate pollutants on human health. Provides the epidemiology, pathogenesis, diagnosis, and etiologic agents of diseases, including other topics: hazardous wastes, pests, pest control, food additives, air-borne, water-borne, and soil-borne organisms. Lec. 3 hrs., Prereq.: 1419 246, 249, 1507 112. Co-req.: 1419 451.

1415 451 Environmental Health Laboratory (1)
Provides exercises that examine disease agents and diseases related to the environment. Studies computer models on air and water pollutants. Lab 3 hrs., Prereq.: 1415 246, 249, 1507 112. Co-req.: 1415 450.

1415 452 Air Pollution (3)
Examines meteorological and air pollution control theories. Includes atomic absorption analysis and computer data handling techniques. Emphasizes sampling methods and techniques of analysis. Lec. 3 hrs., Lab 3 hrs., Prereq.: 1539 102, 1415 145, 146. Co-req.: 1415 453.

1415 453 Air Pollution Laboratory (1)
Includes atomic absorption analysis and computer data handling techniques. Lab 3 hrs., Prereq.: 1539 102, 1415 145, 146. Co-req.: 1415 452.

1415 454 Waste Management (3)
Examines current problems in the management of wastes, with particular emphasis on the solid waste disposal crisis, including legal requirements, waste treatment and disposal technology, toxicological methods, risk assessment techniques, and hazardous waste plan development. Lec. 3 hrs., Prereq.: 1507 233. Co-req.: 1415 455.

1415 455 Waste Management Laboratory (1)
Includes atomic absorption spectrophotometry for heavy metals and gas-liquid chromatography for toxic organic compounds, statistical and site assessment methods and examination of new technology for waste disposal and recycling. Lab 3 hrs., Prereq.: 233. Co-req.: 1415 454.

1415 495 Independent Study (1-4)
Focuses on special topics under supervision of a faculty member. The subject and extent of work must be agreed upon in advance. Prereq.: Senior standing and permission of Department Chair.

1415 550 Environmental Health (2)
Examines the effect of gaseous particulate pollutants on human health. Provides the epidemiology, pathogenesis, diagnosis, and etiologic agents of diseases, including other topics: hazardous wastes, pests, pest control, food additives, air-borne, water-borne, and soil-borne organisms.

1407 302 Geomorphology (3)
Provides an overview of the dynamic processes responsible for the origins and evolution of various landforms and landscapes for the earth and other planetary bodies. Emphasizes the genetics of land-forms quantitatively and qualitatively and a mix of various theories and application which combines with field observation and measurement. Lec. 3 hrs., Prereq.: 1415 145, 146. Co-req.: 1415 104.

1407 303 Geomorphology Laboratory (1)
Provides a series of investigations on the evolution of land forms and processes from maps and math calculations on field explorations. Lab 3 hrs., Prereq.: 1415 145, 146. Co-req.: 1415 102.

1407 304 Air Photo Interpretation and Remote Sensing (3)
Provides information on the use of mosaics, photos, photo mapping, and electromagnetic systems in gathering environmental and resource data. Interprets the imagery of the earth taken from air-imagery in developing methods of data gathering for multi-disciplinary studies. Lab 3 hrs., Prereq.: Permission of the Department Chair. Co-req.: 1415 306.

1407 306 Air Photo Interpretation and Remote Sensing Laboratory (1)
Provides students with skill in interpretation and analysis of numerous satellite imagery, air photo, and geophysical methods of underground exploration. Lab 3 hrs., Permission of the Department Chair. Co-req.: 1415 304.

1419 111 Introduction to Aquatic and Marine Sciences (3)
Provides an introduction to the aquatic and marine environment through sciences used to investigate these environments. Presents the ecology of mining and impounded fresh water. Lec. 3 hrs., Co-req.: 1419 112.

1419 112 Introduction to Aquatic and Marine Science Laboratory (1)
Provides laboratories that will study the inhabitants of aquatic and marine environments, as well as their physical, chemical, and biological impact on these biomes. Lab 3 hrs., Co-req.: 1419 111.

1419 114 Environmental Instrumentation Laboratory (1)
Emphasizes the instrumentation necessary for obtaining oceanographic samples and their analysis. Lab 3 hrs., Co-req.: 1419 115.

1419 116 Marine Biology (3)
Acquaints students with plant and animal life in the marine environment. Emphasizes the biological, physical, and chemical processes affecting marine life in the intertidal waters, the open ocean, and the benthic habitats. Prereq.: 1401 101, 103 and permission of Department Chair. Co-req.: 1419 118.

1419 117 Scuba Diving (2)
Provides those academic skills which will enable students to function successfully and safely under water. Introduces the student to basics in the pool and in open water, thereby providing the knowledge and skill to investigate the underwater world (upon completion, a personalized I.D. card and a national certification from the Professional Association of Diving Instructors (PADI), Santa Ana, California, will be received.) Prereq.: Swimming test, physical check up. Co-req.: 1415 120.

1419 119 Marine Biology Laboratory (1)
Investigates the plants and animals found in the sea and their relationship to one another and their environment. Lab 3 hrs., Co-req.: 1419 116.

1419 120 Scuba Diving Laboratory (1)
Emphasizes swimming, snorkeling, and scuba techniques utilized in recreational and research diving and pool training. Lab 3 hrs., Co-req.: 1419 117.

1419 214 Physical Oceanography Laboratory (1)
Emphasizes the nature and extent of physical properties of the oceans. Lab 3 hrs., Prereq.: 1539 101. Co-req.: 1415 215.

1419 215 Physical Oceanography (3)
Provides information on the nature and extent of the oceans and the causes and effects of its physical properties. Lec. 3 hrs., Prereq.: 1539 101. Co-req.: 1415 214.

1419 216 Geological Oceanography (3)
Provides an understanding of the formation and bottom topography of the continental shelf, the continental slope, and the ocean basin. Studies the environments of marine dominated shorelines. Prereq.: 1415 108, 110; 1415 114, 115 and 1415 117. Co-req.: 1415 218.

1419 217 Advanced Scuba Diving (2)
Provides certified divers with a structured, well-supervised means to gain practical experience needed after initial certification. Enables students to participate in various underwater tasks to broaden their awareness of the environment and their capabilities as divers. Lec. 2 hrs., Prereq.: Open Water Scuba Certification and permission of the instructor. Co-req.: 1415 220.

1419 218 Geological Oceanography Laboratory (1)
Emphasizes the analytical and applied methods of sampling of geological data. Lab 3 hrs., Prereq.: 1415 108, 110; 1415 114, 115 and 1415 116, 117. Co-req.: 1415 216.

1419 220 Advanced Scuba Diving Laboratory (1)
Demonstrates diving techniques practiced by recreational and research divers which are practiced and mastered under pool situations prior to open-water checkouts. Prereq.: Open Water Scuba Certification and permission of the instructor. Co-req.: 1415 217.

1333 103 Introduction to Food Science Laboratory(1)
Focuses on basic laboratory exercises dealing with characteristics of raw materials, food development, preparation, and preservation. Lab 3 hrs., Co-req.: 1333 105.

1333 104 Introduction to Nutrition Laboratory (1)
Emphasizes laboratory exercises on analyzing the nutrients of the food consumed in a day by using computer software and skills to conduct basic nutrition assessment. Lab 3 hrs., Co-req.: 1333 106; Prereq: None

1333 105 Introduction to Food Science Lecture (3)
Explores food science and technology, the early history of food, and the development of the industry. Examines the future opportunities, with emphasis on general characteristics of raw materials, harvesting, processing, and the methods of food preparation to preserve the color, flavor, and nutrient content of food. Lec. 3 hrs., Co-req.: 1333 103; Prereq: None

1333 106 Introduction to Nutrition (3)
Provides basic information on nutrients, their ingestion, digestion, absorption, transportation, metabolism, interaction, storage, functions, effects of deficiency, requirements, and dietary sources. This course also provides an understanding of how scientific facts in nutrition relate to the well-being of the human body. Lec. 3 hrs., Prereq: None; Co-req.: 1333 104.

1333 209 Food Processing I Laboratory (1)
Provides laboratory exercises in canning, freezing, dehydration, and fermentation. Lab 3 hrs., Prereq.: 1333 103, 105. Co-req.: 1333 211.

1333 210 Food Processing II Laboratory (1)
Provides laboratory exercises in the manufacture of fabricated foods, snack foods, cereals, mayonnaise, and in the preservation of fruits and vegetables. Lab. 3 hrs., Prereq.: 1333 209, 211. Co-req.: 1333 212.

1333 211 Food Processing I Lecture (3)
Explores the fundamental principles involved in food processing, refrigeration, freezing, thermal processing, dehydration, fermentation, emulsions, and others. Lec. 3 hrs., Prereq: 1333 105, 103. Co-req.: 1333 209.

1333 212 Food Processing II Lecture (3)
Explores the fundamental principles and major unit operations involved in the technology and commercial manufacture of fabricated foods, snack foods, cereals, mayonnaise, salad dressings, and food plant layouts. Lec. 3 hrs., Prereq.: 1333 209, 211. Co-req.: 1333 210.

1333 313 Nutrition in the Life Cycle (3)
Focuses on how the effects of nutrition and nutrient needs change steadily throughout life into old age. Emphasizes the special nutritional problems from conception to old age. Prereq.: 1333 106, 104.

1333 314 Community Nutrition Laboratory (1)
Emphasizes developing the required skills to understand the complexities of external environment to achieve health outcomes and develop strategic approaches and effective programs to improve dietary patterns of all segments of society. Lab 3 Hrs., Prereq: 1333 313, Co-req: 1333 316.

1333 315 Food Economics Lecture (2)
Emphasizes interrelating basic food principles with practice to achieve functional laboratory capability and to develop scientific knowledge of and skills in the preparation and evaluation of food, cost control, time management, and energy conservation. Emphasizes food serving for special occasions in relation to meal planning. Prereq.: 1333 105, 103. Co-req.: 1333 319.

1333 316 Community Nutrition Lecture (2)
Emphasizes developing the skills required to use the scientific facts of nutrition and related science to help individuals, families, and communities to identify and apply information to their daily lives. Identifies and discusses the governmental agencies and organizations that provide food and nutrition services. Prereq.: 1333 315.

1333 317 Advanced Nutrition (3)
Emphasizes the significance of recent advances of fundamental concepts in the science of nutrition. Presents basic biochemical cytology from the viewpoint of the nutritionist, bringing the nutrients to their locus of physiological and biochemical action. Prereq.: 1333 106, 104, 1507 135, 136.

1333 318 Child Health and Nutrition (3)
Evaluates ways of achieving excellent nutritional status in children. Discusses nutrient needs for optimal growth and health during early years of life and application of nutrition knowledge to the daily challenges of feeding children and forming lasting dietary patterns that will serve them well throughout their lives. Prereq.: None.

1333 319 Food Economics Laboratory (1)
Emphasizes understanding the various foods and their behaviors alone and in combinations during food preparation. Identifies food assistance and nutrition resources available and accessible to groups with special needs. Develop skills in menu planning based on the policies of food assistance program guidelines, resources of human energy, controlling food costs, establishing food budgets, and reviewing menus to ensure nutritional adequacy. Lab 3 Hrs., Prereq.: 1333 313, Co-req.: 1333 315.

1333 320 Nutrition Education Lecture (2)
Emphasizes correlating nutrition with everyday teaching. Explores broad projects and activities. Evaluates developing appropriate teaching tools for nutrition education. Concentrates on developing skills to adapt to individual, group, and community interests and needs. Prereq.: 1333 317 and/or permission from instructor. Co-req.: 1333 321.

1333 321 Nutrition Education Laboratory (1)
Develops nutrition education projects, lesson plans, activities, and teaching tools. Concentrates on implementing the learned skills to adapt to individual, group, and community interests and needs. Emphasizes developing curriculum, learning objectives, and goals for nutrition programs. Prereq.: 1333 317. Co-req.: 1333 320.

1333 324 Food Sanitation and Waste Disposal Laboratory (1)
Stresses laboratory exercises for GMP and the main tenets of sanitary conditions in the food processing and preservation industry. Lab 3 hrs., Prereq.: 1333 211, 209. Co-req.: 1333 325.

1333 325 Food Sanitation and Waste Disposal Lecture (3)
Examines the fundamental principles involved in maintaining sanitary standards in a food plant, including water and waste disposal. Focuses on the conditions and factors necessary to comply with regulatory agencies. Lec. 3 hrs., Prereq.: 1333 211, 209. Co-req.: 1333 324.

1333 326 Food Microbiology Lecture (3)
Explores the relationship of the habitat to the occurrence of microorganisms in foods; the microbiology of food spoilage and food manufacturing; the physical, chemical and biological spoilage and destruction of microorganisms in foods, a microbial examination of foodstuffs; and public health sanitation and bacteriology. Lec. 3 Hrs., Prereq: 1401 240, 241; Co-req: 1333 328.

1333 328 Food Microbiology Lab (3)
Focuses on laboratory exercises that identify food pathogens and their control in producing wholesome foods. Examines microbes of foodstuffs and their public health significance and bacteriology. Lab 3 Hrs., Prereq: 1401 240, 241; Co-req: 1333 326.

1333 374 Geriatric Nutrition Lecture (2)
Provides discussion of the social, physical, and financial problems which affect the nutritional status of the elderly. Focuses on the theories of aging, the pathophysiological changes that accompany the aging process, and the common diseases associated with aging. Prereq.: Permission of Department chairperson. Co-req.: 1333 375.

1333 375 Geriatric Nutrition Laboratory (1)
Provides students an opportunity to work with the geriatric population in various settings and conduct surveys to establish their nutritional status. Lab. 3 hrs., Prereq: Permission of Department chairperson. Co-req.: 1333 374.

1333 415 Food Engineering Lecture (3)
Examines engineering concepts and unit operations applied to food processing. Engineering principles include mechanics, fluid mechanics, transfer and rate processes, and process control instrumentation. Lec. 3 hrs., Co-req.: 1333 416.

1333 416 Food Engineering Laboratory (1)
Analyzes laboratory exercises dealing with fluid mechanics, heat transfer, mass transfer, energy and material balances, and refrigeration and thermal process evaluations. Lab 3 hrs., Prereq.: 1539 101, 1535 215. Co-req.: 1333 415.

1333 421 Therapeutic Nutrition I Lecture (3)
Discusses medical terminology, the nutritional care process, the biochemical functions of vitamins, nutrition intervention and care of the patient, Medical Record Documentation, diet modifications, and interactions between drugs and nutrients. Emphasizes nutritional care in diseases of the gastrointestinal, liver, and biliary system, allergies, neoplastic diseases and methods of nutritional support. 2 hrs., Prereq.: 1333 317, 1507 135. Co-req.: 1333 422, 423.

1333 422 Therapeutic Nutrition II Lecture (3)
Provides information on the physiology, pathology, nutritional treatment, and management of diabetes mellitus, cardiovascular diseases, renal diseases, AIDS, metabolic diseases, diseases of the nervous system, and test diets. Lec. 2 hrs., Prereq.: 1333 421, 423. Co-req.: 1333 424.

1333 423 Therapeutic Nutrition I Laboratory (1)
Performs nutritional assessment on a homogeneous population, analyzes the data, and presents the results. Plans, modifies, prepares meals, and develops instructional materials for patients with gastrointestinal, liver, biliary neoplastic diseases, and allergies. Analyze the menus for nutritional adequacy. Lab. 3 hrs., Prereq.: 1333 317, 1507 135. Co-req.: 1333 421.

1333 424 Therapeutic Nutrition II Laboratory (1)
Plans, modifies, and prepares meals and develops diet instructional materials for patients with diabetes, cardiovascular, renal, and metabolic diseases. Emphasizes nutritional support for patients with AIDS and various test diets. Lab 3 Hrs., Prereq.: 1333 421, 423. Co-req.: 1333 422.

1333 426 Food Systems Management I Lecture (2)
Discusses the concept of the food service system, the marketing of food service operations, the types of food service delivery systems, and the menu, food selection, storage, receiving, procurement, specifications, inventory records, recipe standardization, production control, personnel management, and planning the physical layout. Lec. 2 hrs., Prereq.: 1333 315, 319. Co-req.: 1333 428.

1333 427 Food Systems Management II Lecture (2)
Discusses the processes and tools used in effective management, theories of management, and administrative leadership. Emphasizes Quality Management, mechanics of cost control, Quality Assurance in food production, and use of computers in food service operations. Lec. 2 Hrs., Prereq: 1333 426, 428; Co-req: 1333 429.

1333 428 Food Systems Management I Laboratory (1)
Visits various food service institutions to observe food service operations, maintains visitation records, and analyzes and critiques the operations. Provides opportunities to complete a portfolio, simulates interviewing, and performs evaluation exercises in a classroom setting. Provides opportunities to network with representatives of Consumer and Regulatory Affairs to observe commercial food service operation's licensing procedures. Lab. 3 hrs., Prereq.: 1333 315, 319. Co-req.: 1333 426.

1333 429 Food Systems Management II Laboratory (1)
Provides laboratory experiences in developing mission statements, slogans, objectives, scheduling, organizational charts, communication strategies, budgets, and work simplification methods. Lab 3 Hrs., Prereq: 1333 426, 428; Co-req: 1333 427.

1333 442 Food Chemistry Laboratory (1)
Emphasizes laboratory exercises that deal with changes occurring during the processing and utilization of food. Lab 3 hrs., Prereq.: 1333 209, 211, 1507 135. Co-req.: 1333 444.

1333 444 Food Chemistry Lecture (3)
Focuses on the basic composition, structure, and properties of food, and the chemistry of changes occurring during processing and utilization. Lec. 3 hrs., Prereq.: 1333 209, 211, 1507 135. Co-req.: 1333

1333 453 Food Analysis Laboratory (1)
Performs quantitative physical and chemical analysis of food and food products using various analytical procedures and instrumentations. Lab. 3 hrs., Prereq.: 1333 442, 444. Co-req.: 1333 455.

1333 454 Quality Control Lecture (3)
Focuses on analytical and statistical applications to the control of food and food products; acceptability, uniformity, appeal, health hazards, aesthetic factors, and consumer acceptance testing. Lec 3 Hrs., Prereq: 1333 442, 444; Co-req: 1333 456.

1333 455 Food Analysis Lecture (3)
Provides the study of the principles, methods, and techniques necessary for the quantitative physical and chemical analysis of food and food products. The analysis will be related to the standards and regulations for food processing. Lec. 3 hrs., Prereq.: 1333 442, 444. Co-req.: 1333 453.

1333 456 Quality Control Laboratory (1)
Focuses on laboratory exercises to control food and food products during production in meeting the buyer's specifications. Lab 3 hrs., Prereq.: 1333 209, 211. Co-req.: 1333 454.

1333 490 Senior Seminar and Research (2)
Critical review of literature on recent research in nutrition and food science and acquiring competency in writing proposals, assisting in conducting research, and presenting the findings of research. This course is also designed to develop teaching tools, and to conduct panel discussions, seminars, and symposia. Prereq.: Senior standing and permission of the Department Chairperson; Co-req: None.

1409 324 General Soils (4)
Provides information on soil texture, organic matter, plant nutrients and their relationship to fertilizers, lime, peat, and soil conditions. Lec. 3 hrs., Prereq. 1507 112. Co-req.: 1415 325.

1409 325 General Soils Laboratory (1)
Provides information on soil analysis, including organic matter, texture, structure, nutrients and cation exchange capacity. Lab. 3 hrs., Prereq.: 1507 112. Co-req.: 1415 324.

1417 121 Chemical Analysis of Water Quality (3)
Introduces the chemical procedures employed in the analysis of water and waste and wastewater. Employs procedures commonly used in a wastewater treatment plant, including instrumental methods of analysis. Lec. 3 hrs., Prereq.: 1507 111. Co-req.: 1417 123.

1417 123 Chemical Analysis of Water Quality Laboratory (1)
Emphasizes the chemical procedures employed in the analysis of water and wastewater, including laboratory methods for instrumental analysis. Lab 3 hrs., Co-req.: 1417 121.

1417 126 Introduction to Water Quality (3)
Conveys an understanding of the ecology of moving and impounded fresh water under various conditions. Provides knowledge of the importance of physical and chemical properties and the effects of dissolved materials in water. Lec. 3 hrs., Co-req.: 1415 127.

1417 127 Introduction to Water Quality Laboratory (1)
Emphasizes the physical and chemical properties of water. Lab 3 hrs., Co-req.: 1401 126.

1417 221 Wastewater Technology (3)
Details the fundamental principles of wastewater collection, treatment, and disposal. Stresses mathematical principles relevant to water plant operations. Emphasizes wastewater aeration with newest technologies available. Provides for problem-solving sessions which will treat flow methods and wastewater reactors at different stages. Provides new concepts of tertiary treatment. Lec. 3 hrs., Prereq.: 1415 126, 127, 145, 146; Co-req.: 1417 223.

1417 223 Wastewater Technology Laboratory (1)
Emphasizes the principles of wastewater collection and wastewater aeration. Lab 1 hr., Prereq.: 1415 145, 146. Co-req.: 1417 221.

1417 245 Water Quality Practicum (3)
Provides students with practical experience by direct observation of plant operations in wastewater treatment plants, emphasizes maintenance of a daily log of activities, as well as periodic written reports prepared by the student and evaluated by the instructor. Nine (9) hours per week on plant site. Prereq: Permission of Department Chairperson.

GRADUATE COURSE DESCRIPTIONS

1401 508 Tumor Biology - Cellular and Molecular Aspects of the Transformed Cell (3)
This course is designed to provide students with an integrative overview of mechanisms of growth control and malignant transformation by physical, chemical, and viral mechanisms. Introduction to growth factors, oncogenes, and suppressor genes. Includes an introduction to means of reverting or blocking malignant behavior with a particular emphasis on biochemical and molecular mechanisms.

1415 550 Environmental Health (2)
This course stresses understanding of the basic principles governing the behavior of toxic agents in the environment and their effects on humans. Emphasis will be on environmental agents that cause cancer

1401 545 Cancer Epidemiology (3)
This course will provide an introduction to epidemiological methods with a focus on methodological issues relevant to cancer research. Examples from "real" studies and issues will be used throughout the course. There will be "homework" assignments given each week for students to put into practice some of the material introduced in class. (Typically assignments will be given on Thursdays and either turned in or discussed in class on Tuesdays.) Completing assignments and/or participating in class discussions will be considered a requirement of the class and comprise at least 20% of the grade. Two short papers will be assigned as part of the class that will require the students to read and evaluate published epidemiology studies.

1401 500 Research Methods and Career Development (1)
This course introducing students to methods in responsible conduct of research, procedures in searching scientific literature, preparing presentation and participating in scientific meeting. Also, sources, drafting, and submitting grants and fellowships will be discuss, also with career information

1401 502 Biostatistics (3)
This course will address statistical analysis needed in research. Probability, distribution I and II, graphical approaches to data analysis, estimation and hypothesis testing, categorical data, linear and logistic regression and epidemiological statistics are some of the topics covered.

1401 534 Research and Applied Ethics (2)
This course addresses responsible conduct in research and applied ethics. It details the proper ethical methods in conducting research (e.g., data sharing, ownership, publication issues, null results, credit, plagiarism) human subjects, conflict of interest, genetic counseling and policy issues.

1401 535 Principles and Practices of Behavioral Science in Cancer (2)
This course provides an understanding of general principles and practices involved in cancer control through behavior and behavior change at the individual and population levels. In addition, it covers theory and applied aspects in this field.

1333 500 Dietary Cancer Prevention (2)
Consists of presentations primarily by the faculty and postdoctoral fellows, and class discussions of any materials provided to the students in advance. Students may be required to read up to 2 papers per week, and to participate in all class discussions.

1401 531 Cell and Molecular Biology Laboratory (3)
Introduction to the basic tissue culture techniques, microscopy, cancer cell lines and molecular biological principles and procedures that will help them in understanding of the subject and prepare them for the research assignment in the second year of the program.

1401 585 Cancer Education, Outreach and Field Study (4)
This course is designed to acquaint students with the techniques and methods required to carry out cancer prevention and control activities. Health education theories and models, a basic overview of cancer, behavior changes and its connection to cancer prevention and control, basic counseling skills and communication techniques, life-style modifications and cancer prevention and control and organizing and implementation of cancer outreach projects will be presented and implemented.

1401 690 Topics in Epidemiology (3)
Focuses on the latest developments in the field of cancer risk assessment and explore how inter-individual variation contributes to cancer risk.

1401 660 Molecular Genetics (3)
Introduces the fundamentals of the molecular genetics and molecular cytogenetics of cancer. In addition, it covers, diagnostic, clinical, and population-based aspects of this rapidly advancing field.

1401 581 Molecular Epidemiology (1)
Designed to familiarize the student with literature sources and specific laboratory tests used in determination of risk factors involved in cancer and disease susceptibility. The criteria used assess molecular epidemiological studies will be discussed. The course will incorporate a first year journal club and students will make presentations in that forum.

Department of Chemistry and Physics

Isadora J. Posey, Ph.D., Chairperson
Building 44, Room 200-18
(202) 274-7408

FULL-TIME FACULTY

Professors: G. Eng, R.L. Johnson, D.S. Khatri, N.S. Kondo, W.C. Nottingham, S.S. Pannu, I.J. Posey, E.H. Rogers Jr., H.M. Seyoum, L.C. Speller, P.C. Thorstenson

Associate Professor: M.H. Hajiyani

Assistant Professor: X. Song

The Department of Chemistry and Physics provides education and training in the physical sciences of chemistry and physics, both for students majoring in these disciplines and for those majoring in other science and nonscience areas. Its course offerings include, as well, those needed for many interdisciplinary fields (e.g., biophysics, biochemistry, premedicine, chemical physics). The courses in the Department are designed to prepare students to reason about physical events and to develop technical skills. Students learn to solve problems, perform experiments, collect and analyze data, and report findings. The programs prepare students for advanced study, and for scientific careers in government, industry, and educational institutions.

CHEMISTRY PROGRAM

The Bachelor of Science degree in Chemistry has two options: the Chemistry option and the Chemistry with American Chemical Society (ACS) Certification option. The ACS Certified Chemistry option meets the guidelines of the ACS Committee on Professional Training. Many chemistry majors are admitted to medical, dental, and other professional schools. Graduates of the Chemistry Program go on to earn the Master's and Ph.D. degrees or to seek employment immediately after graduation. In either case, chemistry graduates have been very successful in their careers with the federal government, private industry, and in education. All faculty members hold the Ph.D. degree and are committed to teaching and research and to providing students both a challenging environment for learning and opportunities for growth and development. The Chemistry Program offers excellent research opportunities for undergraduate majors.

Bachelor of Science in Chemistry

Total Credit Hours of College-Level Courses Required for Graduation:
120 (Options 1 and 2)

Required Core Courses:

1507 111	General Chemistry I	3
1507 112	General Chemistry II	3
1507 113	General Chemistry I Lab	1
1507 114	General Chemistry II Lab	1
1507 225	Descriptive Inorganic Chemistry	2
1507 231	Organic Chemistry I	3
1507 232	Organic Chemistry II	3
1507 233	Experimental Organic Chemistry I	2

1507 234	Experimental Organic Chemistry II	2
1507 245	Quantitative Analysis	3
1507 247	Quantitative Analysis Lab	2
1507 351	Physical Chemistry I	3
1507 352	Physical Chemistry II	3
1507 353	Physical Chemistry I Lab	2
1507 354	Physical Chemistry II Lab	2
1507 355	Physical Chemistry Calculations I	1
1507 356	Physical Chemistry Calculations II	1
1507 445	Instrumental Methods of Analysis	3
1507 447	Instrumental Analysis Lab	2
3528 104	Introduction to Computers with Applications	2
3528 105	Introduction to Computers with Applications Lab	1
1535 151	Calculus Lecture I	3
1535 155	Calculus I Lab	1
1535 152	Calculus Lecture II	3
1535 156	Calculus II Lab	1
1535 253	Calculus Lecture III	3
1535 255	Calculus III Lab	1
1539 201	University Physics I	3
1539 202	University Physics II	3
1539 205	University Physics I Lab	1
1539 206	University Physics II Lab	1
1401 101	Biological Science I	3
1401 102	Biological Science II	3
1401 103	Biological Science I Lab	1
1401 104	Biological Science II Lab	1

Additional Required Courses:

Option 1: Chemistry

General Electives: 17

Option 2: Chemistry (with American Chemical Society Certification)

1507 411	Senior Research I	2
1507 412	Senior Research II	2
1507 425	Inorganic Chemistry	3
1507 426	Inorganic Chemistry Lab	2
1507 461	Biochemistry I	3
1507 463	Experimental Biochemistry I	2
1507	Chemistry Electives (approved by Department)	3

Additional Comments or Requirements

A grade point average of 2.00 is required in major courses. A minimum grade of "C" is required in chemistry courses.

Students who successfully complete Option 2 will receive a certificate from the American Chemical Society.

PHYSICS PROGRAM

The Physics Program offers a Bachelor of Science degree in Physics. Graduates of the Physics Program enroll in some of the finest graduate schools in the country. Some are currently enrolled in graduate school, and many have received Master's or Ph.D. degrees in physics and work as research scientists.

The Physics Program has a diverse faculty, all of whom hold the Ph.D. degree. Faculty members are strongly committed to teaching and research and offer students a rich environment for learning and opportunities for growth and development. The Physics Program provides excellent research opportunities for undergraduate majors enrolled at the University.

Bachelor of Science in Physics

Total Credit Hours of College-Level Courses Required for Graduation: 120

Required Core Courses

1539 201	University Physics I	3
1539 202	University Physics II	3
1539 203	University Physics III	3
1539 205	University Physics I Lab	1
1539 206	University Physics II Lab	1
1539 211	Laboratory Techniques I	1
1539 212	Laboratory Techniques II	1
1539 331	Mechanics I	3
1539 332	Mechanics II	3
1539 341	Advanced Physics Lab I	1
1539 342	Advanced Physics Lab II	1
1539 345	Optics	3
1539 346	Thermodynamics	3
1539 471	Introduction to Quantum Mechanics I	3
1539 472	Introduction to Quantum Mechanics II	3
1539 451	Senior Project I	2
1539 452	Senior Project II	2
1539 461	Electricity and Magnetism I	3
1539 462	Electricity and Magnetism II	3
1539 499	General Examination in Physics	1
1539	Physics Electives	9

Additional Required Courses:

1507 111	General Chemistry I Lec	3
1507 112	General Chemistry II Lec	3
1507 113	General Chemistry I Lab	1
1507 114	General Chemistry II Lab	1
3528 231	Introduction to Computer Science I	3
3528 232	Introduction to Computer Science II	3
3528 233	Introduction to Computer Science I Lab	1
3528 234	Introduction to Computer Science II Lab	1
1535 151	Calculus I Lecture	3
1535 155	Calculus I Lab	1
1535 152	Calculus II Lecture	3
1535 156	Calculus II Lab	1
1535 253	Calculus III Lecture	3
1535 255	Calculus III Lab	1

1535 225	Linear Algebra	3
1535 254	Differential Equations	3
	Elective	3

Additional Comments or Requirements Registration for physics electives requires prior departmental approval. A physics major must earn a grade of "C" or better in each required course.

COURSE DESCRIPTIONS

1507 105 Fundamentals of Chemistry (3)
Surveys the essential concepts of inorganic chemistry with emphasis on health-related applications. 1507 105 is not acceptable for credit toward graduation for students majoring in chemistry. When taken as a prerequisite for 1507 111 (General Chemistry I Lecture), there is no co-requisite. When taken to satisfy the University-wide science requirement, concurrent enrollment in 1507 106 (Fundamentals of Chemistry Laboratory) is required. Lec. 3 hrs., Prereq: High School Algebra (2 yrs.) or equivalent.

1507 106 Fundamentals of Chemistry Laboratory (1)
Introduces basic laboratory techniques through a collection of experiments designed for students who have little or no laboratory experience. Introduces basic laboratory techniques. Requires concurrent enrollment in 1507 105. Lab 3 hrs.

1507 111 General Chemistry I (3)
Examines atomic structure, stoichiometry, periodic table, chemical bonding, molecular structure, properties of gases, liquids and solids, acids and bases, and oxidation-reduction reactions. Lec 3 hrs., Prereq.: High school chemistry or 1507 105, two years of high school algebra. Co-req.: 1507 113.

1507 112 General Chemistry II (3)
Examines chemical thermodynamics, chemical kinetics, chemical equilibria, electrochemical reactions, nuclear chemistry, coordination complexes. Lec 3 hrs., Prereq.: 1507 111; Co-req: 1507 114.

1507 113 General Chemistry I Laboratory (1)
Concentrates on the principles of chemistry with emphasis on statistical treatment of experimental data. Requires concurrent enrollment in 1507 111. Lab 3 hrs.

1507 114 General Chemistry II Laboratory (1)
Emphasizes the experimental principles of solution chemistry. Requires concurrent enrollment in 1507 112. Lab 3 hrs., Prereq.: 1507 113.

1507 135 Essentials of Organic and Biochemistry (3)
Studies classes of organic compounds, their structure, nomenclature, and characteristic reactions; structure, function, and metabolism of proteins, carbohydrates, lipids, and nucleic acids. Requires concurrent enrollment in 1507 136. Lec 3 hrs., Prereq.: 1507 105 or 1507 111.

1507 136 Essentials of Organic and Biochemistry Laboratory (1)
Illustrates the basic properties of organic and biological compounds and some of the reactions they undergo, including functional group analysis through experimental exercises. Requires concurrent enrollment in 1507 135. Lab 3 hrs.

1507 225 Descriptive Inorganic Chemistry (2)
Discusses the descriptive chemistry of the elements and their compounds in depth with trends, similarities, and comparisons among their properties being emphasized. Lec 2 hrs., Prereq.: 1507 112.

1507 231 Organic Chemistry I (3)
Studies the structure, nomenclature, stereochemistry, reactions, and reaction mechanisms of hydrocarbons, alkyl halides, and alcohols. Lec 3 hrs., Prereq.: 1507 112. Co-req.: 1507 233.

1507 232 Organic Chemistry II (3)
Examines the preparation and reactions of alkyl halides, alcohols, phenols, ethers, aldehydes, ketones, amines, carboxylic acids and their derivatives, carbohydrates and other biologically important compounds. Lec 3 hrs., Prereq.: 1507 231. Co-req.: 1507 234.

1507 233 Experimental Organic Chemistry I (2)
Experiments in the techniques of separation, purification, and identification of pure substances; preparations and reactions of selected organic families; and introduction to infrared spectroscopy. Lab 6 hrs., Prereq.: 1507 114. Co-req.: 1507 231.

1507 234 Experimental Organic Chemistry II (2)
Introduces nuclear magnetic resonance, ultraviolet and mass spectroscopy; preparations and reactions of oxygenated organic compounds; introduction to qualitative organic analysis. Lab 6 hrs., Prereq.: 1507 233. Co-req.: 1507 232.

1507 245 Quantitative Analysis (3)
Discusses the theories of volumetric and gravimetric analysis with particular emphasis on acid-base, precipitation, complex formation and oxidation-reduction reactions. Lec 3 hrs., Prereq: 1507 112.

1507 247 Quantitative Analysis Laboratory (2)
Includes experiments illustrating volumetric, gravimetric, and potentiometric methods of analysis. Lab 6 hrs., Co-req.: 1507 245.

1507 351 Physical Chemistry I (3)
Examines the physicochemical systems with application to the first, second, and third laws of thermodynamics; thermochemistry; homogeneous and heterogenous equilibria; electrochemistry; ionic equilibria; liquids and surface chemistry. Lec 3 hrs., Prereq.: 1507 112, 1535 152, 1539 201. Co-req.: 1507 353.

1507 352 Physical Chemistry II (3)
Discusses the kinetic theory of gases; kinetics and mechanism; molecular structure and symmetry; quantum theory and spectroscopy; statistical mechanics; irreversible processes in solution; crystal structure and solid state. Lec 3 hrs., Prereq.: 1507 351. Co-req.: 1507 354.

1507 353 Physical Chemistry I Laboratory (2)
Provides laboratory instruction in experimentation; treatment of experimental data and error analysis; report writing; and theory and operation of instruments. Lab 4 hrs., Co-req.: 1507 351.

1507 354 Physical Chemistry II Laboratory (2)
Examines the techniques of physical measurements; error analysis. Explores thermodynamic measurements; chemical dynamics; spectroscopy; physical property measurements; electrochemical and conductivity measurements. Lab 4 hrs., Prereq.: 1507 353. Co-req.: 1507 352.

1507 355 Physical Chemistry Calculations I (1)
Teaches calculations based on the application of theories as studied in Physical Chemistry I Lec 1 hr., Co-req.: 1507 351.

1507 356 Physical Chemistry Calculations II (1)
Teaches calculations based on the application of theories as studied in Physical Chemistry II. Lec 1 hr., Co-req.: 1507 352.

1507 411 Senior Research I (2)
Provides directed research in chosen area of chemistry. Includes techniques in literature searching, utilization of basic and specialized instrumentation, and preparation of scientific reports. Primarily for chemistry majors; other qualified majors may be considered. Lab 6 hrs., Prereq.: Permission of Department chair.

1507 412 Senior Research II (2)
Continues research project begun in 1507 411. The student analyzes and interprets data, and prepares a final written report. Requires presentation of a seminar to the Department. Lab 6 hrs., Prereq.: 1507 411.

1507 425 Inorganic Chemistry (3)
Studies atomic structure related to the periodic arrangement of elements. Discusses modern theories of bonding and acid-base systems. Includes structure, molecular symmetry, and group theory of inorganic compounds. Lec 3 hrs., Prereq.: 1507 351.

1507 426 Inorganic Chemistry Laboratory (2)
Examines the preparation of inorganic and organometallic compounds, illustrating advanced preparation techniques, including characterization by spectroscopic methods. Includes equilibrium and kinetics of related reaction systems. Lab 4 hrs., Prereq.: 1507 353.

1507 435 Qualitative Organic Analysis (3)
Illustrates the systematic identification of organic compounds. Includes separation of mixtures; functional group analysis; and preparation of derivatives for characterization and identification. Lec. 1 hr., Lab 4 hrs., Prereq.: 1507 232 and 1507 234.

1507 436 Advanced Organic Synthesis (2)
Provides an advanced laboratory course in organic chemistry. Discusses the techniques for the preparation, purification, and identification of organic compounds, with emphasis on newer developments. Determines mechanisms of reactions by kinetic and product analysis. Lab 4 hrs., Prereq.: 1507 234.

1507 437 Advanced Organic Chemistry (3)
Examines theoretical organic chemistry. Discusses inductive, steric, and resonance effects; kinetic methods for determining reaction mechanisms; molecular rearrangements; and basic concepts in molecular orbital theory. Lec 3 hrs., Prereq.: 1507 232.

1507 445 Instrumental Methods of Analysis (3)
Studies the theory of instrumental methods of analysis, including potentiometry, coulometry, polarography, absorption spectrophotometry, chromatography, atomic spectroscopy, and nuclear magnetic resonance. Lec 3 hrs., Prereq.: 1507 247 and 1507 352.

1507 447 Instrumental Analysis Laboratory (2)
Provides practice in electroanalytic methods, including potentiometry, coulometry, and polarography; optical methods, including visible, ultraviolet, infrared, and atomic absorption spectroscopy. Gas and high performance liquid chromatography and nuclear magnetic resonance are also discussed. Lab 4 hrs., Co-req.: 1507 445.

1507 461 Biochemistry I (3)
Discusses the chemistry and function of biologically important compounds (amino acids and proteins, enzymes, carbohydrates, lipids, nucleic acids), membrane structure and transport, and the thermodynamics of biological systems. Lec 3 hrs., Prereq.: 1507 232.

1507 462 Biochemistry II (3)
Studies the chemistry and regulation of major metabolic pathways, and fundamentals of molecular biology (replication of DNA, transcription, the genetic code, protein biosynthesis, and modern genetic technology) including a discussion of the ethical implications of contemporary practices. Lec 3 hrs., Prereq.: 1507 461.

1507 463 Experimental Biochemistry I (2)
Introduces techniques and applications of modern biochemistry, such as physicochemical studies of amino acids, purification, characterization, and kinetic study of an enzyme, isolation and characterization of DNA, utilization of chromatographic and electrophoretic methods. Lab 6 hrs., Prereq.: 1507 234. Co-req.: 1507 461.

1539 101 Introduction to College Physics I (3)
Introduces laws of motion and the concept of energy, thermal and elastic properties of matter, and theories of waves and sound. Fulfills physics requirement for biology, premed, and other science majors. Includes one additional hour per week for problem solving. Lec 3 hrs., Prereq.: 1535 105 or equivalent. Co-req.: 1539 103.

1539 102 Introduction to College Physics II (3)
Continues Introduction to College Physics I Lecture. Includes the study of electricity and magnetism, electronics, geometrical and physical optics, and a description of atomic and nuclear structure. Fulfills physics requirement for biology, premed, and other science majors. Includes one additional hour for problem solving. Lec 3 hrs., Prereq.: 1539 101, Co-req.: 1539 104.

1539 103 Introduction to College Physics I Laboratory (1)
Accompanies Introduction to College Physics I Lecture and must be taken concurrently with this lecture course. Lab 2 hrs. Laboratory section must correspond to the lecture section.

1539 104 Introduction to College Physics II Laboratory (1)
Accompanies Introduction to College Physics II Lecture and must be taken concurrently with this lecture course. Lab 2 hrs. Laboratory section must correspond to the lecture section.

1539 114 Astronomy and Space Science (3)
Introduces the principles of astronomy, which includes a discussion of the origin of the universe, theories of the nature of the universe, fundamental principles of solar and stellar systems, stellar phenomena, and space flight dynamics. Lec 3 hrs., Co-req.: 1539 116.

1539 115 Physics of Music (3)
Introduces acoustics and the theory of wave phenomena as related to the physical aspects of music. Primarily for music majors. Lec 3 hrs. Prereq.: 1535 105. Co-req.: 1539 117.

1539 116 Astronomy and Space Science Laboratory (1)
Accompanies Astronomy and Space Science Lecture. Includes experiments in physics as related to topics covered in the lecture. Includes visit to a planetarium located in the area. To be taken concurrently with 1539 114. Lab 2 hrs.

1539 117 Physics of Music Laboratory (1)
Accompanies Physics of Music Lecture. To be taken concurrently with 1539 115. Lab 2 hrs.

1539 201 University Physics I (3)
Begins a sequence designed for physics majors and others who want a rigorous, calculus-level study on the general topics of classical and modern physics, with emphasis on problem solving. Includes Newtonian mechanics, with emphasis on the conservation laws of physics, fluid mechanics, heat, and thermodynamics. Lec 3 hrs. Requires a weekly two-hour discussion and problem solving session. Prereq.: 1535 151. Co-req.: 1539 205.

1539 202 University Physics II (3)
Continues University Physics I. Includes the study of wave motion, electric and magnetic fields, DC and AC electrical circuits, electromagnetic waves, and optics. Emphasizes problem solving. Requires a passing grade on a physics objective test to obtain credit for the course. Lec 3 hrs. Requires a weekly two-hour discussion and problem solving session. Prereq.: 1539 201, 1535 152. Co-req.: 1539 206.

1539 203 University Physics III (3)
Continues University Physics II. Includes the study of relativity, quantum theory, atomic, molecular and nuclear physics, and an introduction to solid state physics. Required for physics and engineering majors. Lec 3 hrs. Requires a weekly two-hour discussion and problem solving session. Prereq.: 1539 202. Co-req.: For engineering majors, 1539 207.

1539 205 University Physics I Laboratory (1)
Concentrates on experiments in the principles of physics and must be taken concurrently with 1539 201. Lab 2 hrs.

1539 206 University Physics II Laboratory (1)
Continues University Physics I Laboratory and must be taken concurrently with 1539 202. Lab 2 hrs.

1539 207 University Physics III Laboratory (1)
Acc mpanies University Physics III Lecture and must be taken concurrently with 1539 203. Lab 2 hrs.

1539 211 Laboratory Techniques I (1)
Introduces techniques of importance to physical scientists including electronic circuit construction and the use of science instruments. Provides instruction for science majors and students interested in experimentation. Lab 2 hrs., Prereq.: 1539 101 or 1539 201.

1539 212 Laboratory Techniques II (1)
Continues Lab Techniques I. Introduces instruments and methods used in research laboratories in the physical sciences. Explores the use and calibration of standard electrical and electronic instruments. Provides instruction for science majors and others interested in instrumentation. Lab 2 hrs., Prereq.: 1539 211.

1539 331 Mechanics I (3)
Studies mechanics using Newton's laws of motion. Includes a discussion of velocity and acceleration in plane polar coordinates, cylindrical coordinates, and spherical coordinates; simple harmonic motion, damped harmonic motion and forced harmonic resonance, and constrained motion of a pendulum; Kepler's three laws of motion; and dynamics of systems of many particles. Lec 3 hrs., Prereq.: 1539 202, 1535 152.

1539 332 Mechanics II (3)
Continues Mechanics I. Includes a discussion of mechanics of rigid bodies in two and three dimensions; physical pendulum, and Lagrange's and Hamilton's equations of motion; and dynamics of oscillating systems, coupled harmonic oscillators. Lec 3 hrs., Prereq.: 1539 331.

1539 341 Advanced Physics Laboratory I (1)
Concentrates on laboratory experiments in modern physics and various experiments using scientific apparatus in laser spectroscopy, magnetics, ultra-sonics, x-rays, or nuclear physics. Designed for science majors. Lab 2 hrs., Prereq.: Permission of Department chair.

1539 342 Advanced Physics Laboratory II (1)
Continues Advanced Physics Laboratory I in an area of study other than the one chosen in Advanced Physics Laboratory I. Lab 2 hrs., Prereq.: 1539 341.

1539 345 Optics (3)
Studies the techniques and instruments of both classical and modern optics from lenses to lasers. Provides instruction for science majors. Lec 3 hrs., Prereq.: 1539 202.

1539 346 Thermodynamics (3)
Studies thermodynamic systems making use of equations of state. Covers the first, second, and third laws of thermodynamics. Includes a discussion of some engineering applications and topics for physical chemistry. Lec 3 hrs., Prereq.: 1539 202, 1535 152.

1539 381 Mathematical Methods in Science I (3)
Studies various mathematical techniques, including series, complex variable theory, vector calculus, and differential equations, with emphasis on solving practical problems in chemistry, engineering, and physics. Lec 3 hrs., Prereq.: 1539 202, 1535 152.

1539 382 Mathematical Methods in Science II (3)
Continues Mathematical Methods in Science I. Applies applications to more advanced problems in differential equations, boundary value problems, etc. Lec 3 hrs., Prereq.: 1539 381

1539 418 Statistical Mechanics (3)
Discusses the development of certain thermodynamic concepts from the statistical point of view. Uses kinetic theory of gases where applicable. Lec 3 hrs., Prereq.: 1539 346.

1539 451 Senior Project I (VC)
Investigates research problems using facilities of the laboratory and library. Requires approval and super-vision by designated physics faculty. Prereq.: Permission of chairperson.

1539 452 Senior Project II (VC)
Continues Senior Project I. Requires each major to write a scientific paper based on senior project research and make an oral presentation of the paper to the physics faculty and students. Prereq.: 1539 451.

1539 461 Electricity and Magnetism I (3)
Provides mathematical treatment of the theory of electricity and magnetism with emphasis on electro static fields, the electric potential, and an introduction to the laws of magnetic interaction. Lec 3 hrs., Prereq.: 1539 202, 1535 254.

1539 462 Electricity and Magnetism II (3)
Continues Electricity and Magnetism I, including the study of electromagnetic induction, linear networks, dielectric and magnetic materials, Maxwell's equations, and electromagnetic waves. Lec 3 hrs., Prereq.: 1539 461.

1539 471 Introduction to Quantum Mechanics I (3)
Introduces the origins of quantum mechanics, the one-dimensional Schrodinger equation for simple systems, the formalism of quantum mechanics, quantum mechanics for three-dimensional systems and identical particles. Lec 3 hrs., Prereq.: 1539 203, 1535 254.

1539 472 Introduction to Quantum Mechanics II (3)
Continues Introduction to Quantum Mechanics I covering time-independent perturbation theory, time-dependent perturbation theory, the variational principle, the WKB approximation, and scattering theory. Lec 3 hrs., Prereq.: 1539 471.

1539 481 Mathematical Methods of Physics I (3)
Provides a treatment of several topics in mathematics of special importance in physical science. Includes vector and tensor analysis, integration in the complex plane, boundary value problems, and special functions. Emphasizes the physical interpretation of problem solution. Lec 3 hrs., Prereq.: 1539 382.

1539 482 Mathematical Methods of Physics II (3)
Continues Mathematical Methods of Physics I with applications of the topics related to real physical systems. Lec 3 hrs., Prereq.: 1539 481.

1539 499 General Examination in Physics (1)
Involves reading problems and a weekly discussion in a seminar setting. Requires a passing grade on the Department's general examination. Lec 1 hr., Prereq.: Permission of Chairperson.

Department of Mathematics

Vernise Steadman, Ph.D., Chairperson
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FULL-TIME FACULTY

Professors: B.J. Anderson, L. Blagmon-Earl, A. Borpujari

Associate Professors: V. Bejleri, B. Brown, T. Edwards, W. Hawkins, L. Hilliard, W.H. Jones, M.S. Phua, W. Rice III, V.Y. Steadman, K. Viehe

Assistant Professors: R. Cohen, S. Farmer, J. Fleming, R. Goward, J. Griffin, L. Horton,

The Department of Mathematics offers the degrees of Bachelor of Science and Master of Science in Teaching.

All new students, including transfer students transferring 26 hours or less, are required to take the Placement Test before enrolling in classes. Based on the results of this test, a student enrolls in Basic Mathematics (1535 005), Introductory Algebra (1535 015), or a college level mathematics course (numbered 1535 100 or higher). Students should consult with their major departments to determine the college level course required in that discipline.

The Department also offers mathematics courses for students in other majors and professional in-service courses to the Washington community. The primary objectives of every mathematics course are to develop students' mathematical skills and to inculcate good habits of rigorous and critical thinking. The Department continues to emphasize the application of technology to enhance learning. Our goal is to have technology-driven learning activities as a part of all our courses.

To support instruction, the Department provides laboratories for students at all levels. For students in developmental mathematics courses, the MathPower Lab, located in Building 32, B-Level, provides tutorial and proficiency testing services. Audio, video, and computer-aided, as well as peer tutoring services, are also available in the laboratory.

For students in calculus or statistics courses, the Calculus Laboratory, located in Building 32, B Level, has 30 networked student stations providing DERIVE, Minitab, MDEP, and Gyrographics. In addition to regularly scheduled class meetings in the laboratory, the Department provides over 30 hours of supervised availability for student use. The MAC (Mathematics and Statistics Activity Center) located in Building 42, 2nd Floor, provides person-to -person and computer-aided-tutoring for all college-level mathematics and statistics courses up through Differential Equations (and beyond as resources permit). MAC provides a setting for further training, mentoring, and guidance for Mathematics majors.

The Mathematics Education option and the M. S. T. program are accredited by the National Council for Teacher Education (NCATE).

MATHEMATICS PROGRAM

The Bachelor of Science degree program offers three options: Mathematics, Statistics, and Mathematics Education. Each program option will afford students an excellent preparation for a career in a mathematically-related field or for graduate study in mathematics, mathematics education, or in a related field. Advanced mathematics classes are generally small, enabling faculty to give each student personal attention as needed.

Bachelor of Science in Mathematics

Minimum Number of Credit Hours of College Level Courses Required: 120

Core Requirements (Required in all Degree Options):

1167 105	Introduction to Logic	3
3528 231	Introduction to Computer Science I	3
3528 233	Introduction to Computer Science I Lab	1
1535 151,155	Calculus I, Calculus I Lab	4
1535 152,156	Calculus II, Calculus II Lab	4
1535 225	Linear Algebra	3
1535 253, 255	Calculus III, Calculus III Lab	4
1535 176	Introduction to Mathematical Concepts	3

1535 254	Differential Equations	3
	or	
1535 260	Differential Equations w/Linear Algebra	4
1535 351	Advanced Calculus I	3
1535 411	Abstract Algebra I	3
1535 490	Senior Seminar	1

Option 1: Mathematics

Additional Courses Required

1535 461	Complex Analysis I	3

At least one (1) on the following three courses:

1535 352	Advanced Calculus II	3
1535 412	Abstract Algebra II	3
1535 462	Complex Analysis II	3

Four Mathematics Electives must be chosen from the following list and must be approved by the Department of Mathematics:

1535 316	Number Theory	3
1535 335	Classical Geometry*	3
1535 352	Advanced Calculus II	3
1535 381	Probability and Statistics	3
1535 382	Probability With Applications	3
1535 385	Regression Analysis With Applications	3
1535 409	History of Mathematics*	3
1535 412	Abstract Algebra II	3
1535 425	Advanced Linear Algebra	3
1535 431	Modern Geometry I*	3
1535 432	Modern Geometry II*	3
1535 435	Differential Geometry	3
1535 445	Topology	3
1535 451	Real Analysis I	3
1535 452	Real Analysis II	3
1535 462	Complex Analysis II	3
1535 475	Mathematical Logic	3
1535 480	Mathematical Statistics I	3
1535 481	Mathematical Statistics II	3
1535 482	Numerical Analysis I	3
1535 483	Numerical Analysis II	3
1535 485	Mathematical Modeling	3
1535 495	Independent Study	VC
1535 499	Special Topics in Mathematics	3

*At most, two of these may be chosen in the Mathematics Option.

Option 2: Statistics

Additional Courses Required

1535 381	Probability and Statistics	3
1535 382	Probability With Applications	3
1535 385	Regression Analysis w/Application	3
1535 386	Analysis of Variance w/Application	3
1535 480	Mathematical Statistics I	3
1535 481	Mathematical Statistics II	3

Option 3: Mathematics Education

Additional Courses Required

1535 315	Number Structures with Applications	3
1535 381	Probability and Statistics	3
1535 409	History of Mathematics	3

And Two of the following three (3) courses:

1535 335	Classical Geometry	3
1535 431	Modern Geometry I	3
1535 432	Modern Geometry II	3

Education Courses required for Mathematics Education Option: (**Note:** The education course requirements are subject to change according to teacher certification criteria.)

1321 220	Foundations of Education	3
1351 315	Teaching Reading In Secondary Schools	3
1323 300	Educational Psychology	3
1353 204	Introduction to Education of Exceptional Children	3
1321 454	Methods and Materials of Teaching Mathematics In Secondary Schools	3
1321 471	Observation and Teaching in the Secondary Schools	(VC)
1321 222	Children and Youth in Urban Schools	3
1323 244	Human Development and Behavior	3
	or	
1319 105	Principles of Child Development	3
1163 279	History of D.C. (1163-279)	3

Additional Comments or Requirements

Mathematics majors must earn a grade of "C" or better in each required course in the Mathematics major program, and for the Mathematics Option, in each mathematics elective course. Students must earn a grade of "C" or better in all required education courses except Observation and Student Teaching which requires a grade of "B" or better.

MASTER OF SCIENCE IN TEACHING MATHEMATICS

The M.S. In Teaching Mathematics is designed to provide quality graduate training for 1) in-service secondary teachers who wish to pursue full certification in mathematics, 2) secondary mathematics teachers who wish to update their mathematics and mathematics teaching skills, and 3) recent college graduates who wish to pursue a degree in teaching mathematics at the secondary level. In-service secondary mathematics teachers who wish to enroll in mathematics courses for "refresher" purposes are welcome to enroll in the program courses for which they qualify. The program emphasizes both advanced mathematical content and the development and reinforcement of effective pedagogy. Successful degree candidates will have satisfied the licensing requirements for secondary school teachers of mathematics in the District of Columbia Public Schools.

Admission Requirements

An applicant for admission to the M.S.T. program in mathematics must hold a bachelor's degree from an accredited college or university and have completed the equivalent of Calculus III (1535

253). An applicant who does not satisfy the latter requirement may be admitted provisionally until the requirement is met.

Submit to the Office of Graduate Admissions an application package which includes official transcripts, three letters of recommendation from persons acquainted with the applicant's professional competence or potential for graduate study, an essay, and Graduate Record Exam scores, including the GRE writing assessment.

Complete all requirements for admission to graduate studies.

Comprehensive Examination: Required

Thesis: None Required

Under the direction of an advisor, candidates for the Master of Science in Teaching Mathematics (MST) degree must:

1. Complete a minimum of 30 credit hours of graduate credits, 24 of which must be in mathematics. The remaining six hours will normally be taken in mathematics, mathematics education, and/or education. Students who have not been licensed to teach in the District of Columbia must satisfy the licensing requirements for secondary school teachers of mathematics in the District of Columbia. Depending on work completed prior to admission to the MST Program, the licensing requirements may extend a student's program far beyond the 30 credit hours minimally required for the completion of the program.
2. Pass a final comprehensive examination based on the courses completed in the program. Students may satisfy this requirement by enrolling in the course, 1535 600, which is a one-credit course designed exclusively for this purpose. The final exam for the course serves as the comprehensive examination for the program. A student must perform at the level of "B" in order to pass the examination.
3. Satisfy the certification requirements for secondary teachers of mathematics in the District of Columbia.
4. Complete the requirements for the MST degree within five years from the time admitted to the degree program.

Graduate Writing Proficiency Examinations:
Demonstrated proficiency in writing is required of all graduate students. Students must take the GRE Analytical Writing Subtest as a requirement for admission. The criterion score is **4**. Students failing to meet the criterion must enroll in and pass (with a grade of 'B' or better) English Graduate Writing Proficiency course 1133-290 in their first semester of admission.

Course Requirements
Under the direction of an advisor, candidates for the MST degree are required to complete the following courses:

1535 551	Probability and Statistics I for Teachers	3
1535 581	Seminar I for Mathematics Teachers	3
1535 582	Seminar II for Mathematics Teachers	3
1535 541	History of Mathematics for Teachers	3
1535 525	Number Theory for Teachers	3
1535 546	Computers in the Secondary Classroom	3
1535 600	Comprehensive Summary	1

At least one course from each of the following categories:

Geometry		
1535 511	Classical Geometry for Teachers	3
1535 515	Modern Geometry I for Teachers	3
1535 516	Modern Geometry II for Teachers	3
Algebra		
1535 501	Linear Algebra for Teachers	3
1535 521	Abstract Algebra I for Teachers	3
1535 522	Abstract Algebra II for Teachers..	3
Analysis		
1535 505	Advanced Calculus I for Teachers	3
1535 506	Advanced Calculus II for Teachers	3
1535 502	Differential Equations for Teachers	3
1535 565	Complex Analysis I for Teachers	3
1535 566	Complex Analysis II for Teachers	3
Electives		
1535 575	Numerical Analysis I for Teachers	3
1535 576	Numerical Analysis II for Teachers	3
1535 552	Probability and Statistics II	3
1535 547	Mathematics Modeling for Teachers	3
1535 599	Topics in Mathematics	VC

COURSE DESCRIPTIONS

1535 005 Basic Mathematics (3)
Develops the decimal numeration system; arithmetic of whole numbers; rational numbers as common fractions and as decimals; percents; ratios and proportions; arithmetic of integers; properties of order; and geometric formulas. Provides basic mathematics skills for beginning college students who have not demonstrated competency in arithmetic computation. Lec. 3 hrs.

1535 015 Introductory Algebra (3)
Develops properties of whole numbers, integers, rational numbers, and real numbers; graphing; solution of equations and inequalities; exponents; polynomials and factoring; rational expressions; scientific notation; roots and radicals. Lec. 3 hrs., Prereq.: 1535 005 or appropriate scores on the Mathematics Placement Test. Provides basic algebraic skills for students who have not demonstrated competency in algebra.

1535 101 General College Mathematics I (3)
Provides mathematical skills, knowledge, and understanding necessary to function in a technological society. Topics include: problem solving; sets and logic; numeration and mathematical systems; linear equations and inequalities; and graphing. Lec. 3 hrs., Prereq.: 1535 015 or appropriate scores on the Mathematics Placement Test. Students whose major requires specific mathematical skills should not enroll in 1535 101 or 1535 102. Consult your academic department.

1535 102 General College Mathematics II (3)
Continues 1535 101. Explores measurement and geometry; trigonometry of right triangles; consumer mathematics; and an introduction to probability and statistics. Lec. 3 hrs., Prereq.: 1535 101.

1535 105 Intermediate Algebra (3)
Develops basic geometric ideas, the real number system and algebraic expressions, factoring, exponents, radicals, rational expressions, first degree equations and inequalities, quadratic equations, the Cartesian plane, and systems of equations. Provides intermediate algebra instruction for students with competence in introductory algebra but who require additional preparation prior to enrollment in courses that lead to calculus (e.g., 1535 113 or 1535 116). Lec. 3 hrs., Prereq.: 1535 015 or appropriate score on the Mathematics Placement Test.

1535 111 Technical Mathematics I (4)
Provides introduction to algebraic concepts, definitions, notations, operations and symbols with emphasis on analysis and solution of applied problems. Includes algebraic fractions; exponential notation; linear and quadratic equations; simultaneous equations; inequalities; graphing; and linear programming. Lec. 4 hrs., Prereq.: 1535 015 or appropriate scores on the Mathematics Placement Test. Provides instruction primarily for students in two-year technology programs. **Important note:** credit will be awarded for only one of: 1535 111, 1535 113 or 1535 115.

1535 112 Technical Mathematics II (4)
Continues 1535 111. Provides introduction to concepts, notations, operations, and symbols used in geometry, trigonometry, and calculus with emphasis on analysis and solution of applied problems. Includes exponential and logarithmic functions; geometry; trigonometric functions; solution of right and oblique triangles; radian measure; vectors; continuous functions and limits; derivatives and applications; integrals; and graphing functions. Lec. 4 hrs., Prereq.: 1535 111. **Important note:** credit will be given for only one of: 1535 112, 1535 114 or 1535 115.

1535 113 Precalculus With Trigonometry I (3)
Examines algebraic notation and symbolism; exponents and radicals; algebraic functions; solution of linear and quadratic equations and inequalities; relations and functions; rational functions and their graphs; conic sections; exponential and logarithmic functions and their graphs. Provides instruction primarily for students preparing to take calculus. Lec. 3 hrs., Prereq.: 1535 105 **Important note:** credit will be given for only one of: 1535 111, 1535 113 or 1535 115.

1535 114 Precalculus With Trigonometry II (3)
Continues 1535 113. Studies trigonometric functions, identities, and their applications; solution of trigonometric equations; systems of equations and inequalities; operations with complex numbers; polynomials; and mathematical induction. Lec. 3 hrs., Prereq.: 1535 113. **Important note:** credit will be given for only one of 1535 112, 1535 114 or 1535 115.

1535 115 Precalculus-Intensive (4)
Covers all the material in 1535 113 and 1535 114. A course for students who have had three or four years of secondary school mathematics. Includes a technical laboratory as an integral part of the course. Students taking 1535 115 must take the same section of 1535 120. Lec. 3 hrs., Co-req: 1535 120; Prereq: Completion of algebra, geometry and trigonometry in high school and permission of the Department of Mathematics. **Important note:** Credit will be awarded for only one of the following sequences: 1535 111, 1535 112 or 1535 113, 1535 114 or 1535 115.

1535 116 Finite Mathematics (3)
Investigates systems of linear equations, matrices and linear programming; elementary functions, especially logarithmic and exponential functions; and applications to business situations. Lec. 3 hrs., Prereq.: 1535 105 or appropriate scores on the Mathematics Placement Test.

1535 117 Business Mathematics I (3)
Introduces applications of mathematical operations to problems involving sales, averages, time cards, stock market reports, and invoices; use of ratio and proportion with consumer price index, shares and percentages. Provides instruction primarily for students in two-year business programs. Lec. 3 hrs., Prereq.: 1535 015 or appropriate scores on the Mathematics Placement Test.

1535 118 Business Mathematics II (3)
Continues 1535 117. Investigates computation of simple and compound interest; interpretation of charts and graphs; construction of depreciation schedules; and computation of effective interest rate and true annual percentage rate. Lec. 3 hrs., Prereq.: 1535 117.

1535 120 Precalculus-Intensive Lab (1)
Uses technology to provide visual and/or numerical support when solving problems by algebraic methods and when algebraic methods are impossible or impractical. Students taking 1535 120 must take the same section of 1535 115. Lab 2 hrs., Co-req: 1535 115.

1535 151 Calculus I (3)
Develops concepts and skills for limits and continuity; derivatives and their applications; integrals; the Fundamental Theorem of Calculus; and elementary transcendental functions. Includes computer laboratory as an integral part of the course. Lec. 3 hrs., Co-req.: 1535 155; Prereq.: 1535 114 or permission of the Department of Mathematics.

1535 152 Calculus II (3)
Continues 1535 151. Explores further applications of the integral; techniques of integration; further topics in the calculus of one variable; analytic geometry; sequences and infinite series. Includes computer laboratory as an integral part of the course. Lec. 3 hrs., Co-req.: 1535 156. Prereq.: 1535 151 or permission of the Department of Mathematics.

1535 155 Calculus I Lab (1)
Explores theoretical concepts and applications of Calculus I (1535 151) in an experimental environment designed to employ symbolic, numerical, and graphics capabilities of a computer algebra system. Lab 2 hrs., Co-req.: 1535 151

1535 156 Calculus II Lab (1)
Explores theoretical concepts and applications of Calculus II (1535 152) in an experimental environment designed to employ symbolic, numerical, and graphics capabilities of a computer algebra system. Lab 2 hrs., Co-req.: 1535 152

1535 176 Introduction to Mathematical Concepts (3)
Examines elementary set theory and logic; axiomatic systems taken from both numbers and geometry; mathematical induction; basic techniques for structuring and performing elementary proofs; and mathematical systems. Provides instruction primarily for mathematics majors. Lec. 3 hrs., Prereq.: 1535 152 and 1167 105 or permission of the Department of Mathematics.

1535 185 Elementary Statistics I (3)
Provides introduction to concepts and techniques of probability and statistics, including measures of central tendency and dispersion; probability and probability distributions; correlation and regression; introduction to statistical inference; and computer applications using Minitab. Presents the first of a two-course sequence. Lec. 3 hrs., Prereq.: 1535 105.

1535 186 Elementary Statistics II (3)
Continues 1535 185. Develops concepts, skills, and applications for hypothesis testing; analysis of variance; the chi-square distribution; correlation and regression analysis; non-parametric statistics; and computer applications using Minitab. Lec. 3 hrs., Prereq.: 1535 185.

1535 215 Calculus for Business, Economics, the Social and Life Sciences (4)
Presents concepts and skills on limits and continuity; differential and integral calculus with applications from business, economics, and the social and biological sciences. Lec. 4 hrs., Prereq.: 1535 113, 1535 116 or equivalent.

1535 225 Linear Algebra (3)
Investigates systems of linear equations and methods of solution; matrices and matrix solutions of linear systems; matrix algebra; determinants; vectors and vector spaces; linear transformations; and inner products and norms. Lec. 3 hrs., Prereq.: 1535 151 or permission of the Department of Mathematics.

1535 253 Calculus III (3)
Continues 1535 152. Provides additional topics in the calculus of several variables; vector and analytic geometry in space; vector-valued functions; partial differentiation; multiple integration; integration of vector fields; and Green's, Stokes', and Gauss' Theorems. Includes computer laboratory as an integral part of the course. Lec. 3 hrs., Co-req.: 1535 255; Prereq.: 1535 152 or permission of the Department of Mathematics.

1535 254 Differential Equations (3)
Examines first order equations; linear and systems of linear differential equations; higher order equations; first order equations with non-constant coefficients; applications; series solutions; and Laplace Transform solution of partial differential equations; and elliptic and hyperbolic equations. Lec. 3 hrs., Prereq.: 1535 253 and 1535 225 or permission of the Department of Mathematics.

1535 255 Calculus III Laboratory (1)
Explores theoretical concepts and applications of Calculus III (1535 253) in an experimental environment designed to employ symbolic, numeral, and graphics capabilities of a computer algebra system. Lab 2 hrs., Co-req.: 1535 253.

1535 260 Differential Equations With Linear Algebra (4)
Covers ordinary differential equations and topics from linear algebra and their applications to differential equations. Examines first order equations; higher order equations systems of first order linear differential equations; matrices; determinants; vector spaces; eigenvalues; and other selected topics from Linear Algebra. Provides instruction for mathematics, science, and engineering students. Lec. 4 hrs., Prereq.: 1535 253 or permission of the Department of Mathematics.

1535 315 Number Structures With Applications (3)
Provides an introduction to the real number system, its subsystems, and applications; elementary number theory. Lec. 3 hrs., Prereq.: 1535 151 or 1535 215 or permission of the Department of Mathematics.

1535 316 Number Theory (3)
Examines divisibility; numerical functions; the arithmetic of congruency classes; solving congruences; theory of primitive roots; and quadratic reciprocity. Lec. 3 hrs., Prereq.: 1535 151 or permission of the Department of Mathematics.

1535 335 Classical Geometry (3)
Treats plane and solid Euclidean geometry from a theoretical and historical perspective, including congruence; parallel postulate and its consequences; similarity; area and area functions; constructions; volume; and elementary transformations of the plane. Lec. 3 hrs., Prereq.: 1535 151 or permission of the Department of Mathematics.

1535 351 Advanced Calculus I (3)
Studies completeness and order properties of the real numbers; sequences and their limits; the Bolzano-Weierstrass and Heine-Borel theorems; limits and continuity; and theory of differentiation and integration: infinite series of numbers and infinite series of functions. Lec. 3 hrs., Prereq.: 1535 253 and 1535 176, or permission of the Department of Mathematics.

1535 352 Advanced Calculus II (3)
Continues 1535 351. Examines n-dimensional Euclidean space and its topology; convergence of sequences; metric spaces; differentiation and integration of functions and several variables; and vector analysis. Lec. 3 hrs., Prereq.: 1535 351 or permission of the Department of Mathematics.

1535 381 Probability and Statistics (3)
Explores mathematical models of random phenomena; basic probability theory; discrete probability spaces; combinatorial methods; conditional probability; independent and dependent events; Bernoulli trials; Markov chains; fluctuations in coin-tossing and random walks; distribution functions; mean and variance of a probability law; notion of average; expectation of a function; the normal, Poisson, exponential, gamma, and related probability laws; and computer applications using Minitab. Lec. 3 hrs., Prereq.: 1535 152 or permission of the Department of Mathematics.

1535 382 Probability with Applications (3)
Continues 1535 381. Examines approximations of binomial and Poisson distributions by the normal distribution; probabilities of functions of random variables; law of large numbers; central limit theorem; related topics; statistical inference and hypothesis testing; and computer applications using Minitab. Lec. 3 hrs., Prereq.: 1535 381. Co-req.: 1535 253 or permission of Department of Mathematics.

1535 385 Introduction to Regression Analysis and its Application (3)
Introduces simple and multiple linear regression; stepwise regression procedure; regression diagnostics, including residual analysis, collinearity and scaling problems; and computer applications using Minitab or SPSSX. Lec. 3 hrs., Prereq.: 1535 381 or permission or the Department of Mathematics.

1535 386 Analysis of Variance and its Application (3)
Introduces and illustrates design of experiments and analysis of variance; randomized blocks, factorial analysis, and Latin Square designs; and analysis of covariance. Includes computer applications using Minitab or SPSSX. Lec. 3 hrs., Prereq.: 1535 385 or permission of the Department of Mathematics.

1535 393 Theory and Applications of Mathematics (3)
Explores structure of a mathematical system; sets and whole numbers; sets and arithmetic; system of whole numbers; base-ten arithmetic; arithmetic in bases other than ten; elementary number theory; system of integers; system of rational numbers; decimal expansions and real numbers; metric system; and probability and statistics. Provides instruction for students who intend to teach in elementary school. Lec. 3 hrs., Prereq.: 1535 102 or permission of the Department of Mathematics.

1535 394 Informal Geometry with Applications (3)
Investigates intuitive plane geometry; measurement and coordinate geometry; elementary logic; geometric constructions; and Pythagorean Theorem. Provides instruction for students who intend to teach in elementary school. Lec. 3 hrs., Prereq.: 1535 393 or permission of the Department of Mathematics.

1535 409 History of Mathematics (3)
Investigates, among other topics: mathematics of early humans; the real number system, and the role of the ancient civilizations in its development; mathematics during the Dark Ages of Europe; mathematics during the Renaissance; and contributions of Africans, Asians, and the non-Europeans to the development of mathematics. Lec. 3 hrs., Prereq.: 1535 152 or permission of the Department of Mathematics.

1535 411 Abstract Algebra I (3)
Studies binary operations; groups and subgroups; permutations; cyclic groups; isomorphisms; direct products; finitely generated Abelian groups; homomorphisms normal subgroups and factor groups; and series of groups. Lec. 3 hrs., Prereq.: 1535 176 and 1535 225 or per-mission of the Department of Mathematics.

1535 412 Abstract Algebra II (3)
Continues 1535 411. Studies rings, integral domains; fields and fields of quotients of integral domains; quotient rings and ideals; homomorphism of rings; polynomials; factoring polynomials over a field; extension fields; splitting fields; separable extensions; finite fields; and Galois Theory. Lec. 3 hrs., Prereq.: 1535 411 or permission of the Department of Mathematics.

1535 425 Advanced Linear Algebra (3)
Examines vector spaces, dual spaces, canonical forms; eigenvalues and eigenvectors; inner product spaces; and spectral theory and applications. Lec. 3 hrs., Prereq.: 1535 176 and 1535 225, or permission of the Department of Mathematics.

1535 431 Modern Geometry I (3)
Emphasizes foundation and structure of the development of geometry, including projective, Euclidean, non-Euclidean and finite geometries studied by means of their transformations and axiom systems. Lec. 3 hrs., Prereq.: 1535 176 and 1535 225 or permission of the Department of Mathematics.

1535 432 Modern Geometry II (3)
Continues 1535 431. Studies algebraic projective geometry; linear algebra; vector algebra; generalized coordinate systems, and linear transformations. Lec. 3 hrs., Prereq.: 1535 431 or permission of the Department of Mathematics.

1535 435 Differential Geometry (3)
Develops tangent vectors, normal planes; curvature; principal normals; torsion; Frenet equations; co-ordinate systems; tangent planes; normal lines; the first and second fundamental forms; normal and principal curves; Gaussian and mean curvature; the fundamental theorem of surfaces; applications of multilinear algebra to surfaces; geodesics; and differential forms. Lec. 3 hrs., Prereq.: 1535 254 or 1535 260, and 1535 352 or permission of the Department of Mathematics.

1535 445 Topology (3)
Examines open sets, topologies, closed sets, neighborhoods, limit points, and closures and interiors; derived sets; bases; continuity, homeomorphisms; and connectedness and compactness. Lec. 3 hrs., Prereq.: 1535 176 or permission of the Chairperson of the Department of Mathematics.

1535 451 Real Analysis I (3)
Examines metric spaces, the Bolzano-Weierstrass theorem, Cantor sets, sequences of functions, Borel sets and Baire functions, well-orderings, measure and measurable sets, and Lebesgue integration and Lebesgue measure. Lec. 3 hrs., Prereq.: 1535 352 or permission of the Chairperson of the Department of Mathematics.

1535 452 Real Analysis II (3)
Continuation of 1535 451. Includes Banach and Hilbert spaces, the Hahn-Banach theorem, the open-mapping theorem, operators, dual and double dual spaces, and reflexive Banach spaces. Lec. 3 hrs., Prereq.: 1535 451 or permission of the Chairperson of the Department of Mathematics.

1535 461 Complex Analysis I (3)
Studies complex numbers and their geometry; functions and limits; derivatives and elementary functions; line integrals; Cauchy's theorems and applications; power and Laurent series; and residues and applications. Lec. 3 hrs., Prereq.: 1535 351 or permission of the Department of Mathematics.

1535 462 Complex Analysis II (3)
Continues 1535 461. Further studies topics in power series; conformal mappings; and harmonic functions and their applications. Lec. 3 hrs., Prereq.: 1535 461 or permission of the Department of Mathematics.

1535 475 Mathematical Logic (3)
Includes propositional logic; predicate logic; the formalization of arithmetic and Godel's theorems; and applications to automata and data structures. Provides instruction for students who have had some experience proving theorems and desire a rigorous introduction to the foundations of mathematics. Lec. 3 hrs., Prereq.: 1535 411 or 1167 334 or permission of the Department of Mathematics.

1535 480 Mathematical Statistics I (3)
Explores distribution and functions of random variables; sampling theory; order statistics, point estimation, confidence intervals; and introduction to tests of hypothesis; and analysis of variance from mathematical point of view. Usually offered every fall. Lec. 3 hrs. Prereq: 1535 351 and 1535 382 or permission of department.

1535 481 Mathematical Statistics II (3)
Continues 1535 480. With genertating functions; maximum likelihood techniques; tests of hypothesis; analysis of variance and linear regression from mathematical point of view; special topics introducing Bayesian procedures and applications. Includes computer applications using MINITAB, SPSS or SAS. Usually offered every spring. LEC. 3 hrs. Prereq: 1535 480 or permission of the department.

1535 482 Numerical Analysis I (3)
Introduces basic computational methods for nonlinear equations; acceleration of convergence; interpolation; approximation; and numerical differentiation and integration. Supplements theoretical study with computer programming assignments. Presents the first of a two-course sequence. Lec. 3 hrs., Prereq.: 1535 152 and competency in a programming language or permission of the Department of Mathematics.

1535 483 Numerical Analysis II (3)
Continues 1535 482. Investigates initial value problems for ordinary differential equations; direct and iterative methods for solving systems of linear equations; the symmetric eigenvalue problem; and the least squares problem. Includes computer programming assignments. Lec. 3 hrs., Prereq.: 1535 225, 1535 482 and either 1535 254 or 1535 260 or permission of the Department of Mathematics.

1535 485 Mathematical Modeling (3)
Introduces mathematical techniques in modeling the behavior of various systems. Includes linear programming and differential equations. Lec. 3 hrs., Prereq.: 1535 254 or 1535 260 or permission of the Department of Mathematics.

1535 490 Senior Seminar (1)
Describes methods of presenting seminars; new mathematical discoveries; career opportunities in mathematics; other topics not covered in formal courses. Serves as a requirement for all senior mathematics majors. Lec. 1 hr., Prereq.: 1535 351, 1535 411, 3528 231 and senior status in mathematics or permission of the Department of Mathematics.

1535 495 Independent Study (1-6)
Studies a mathematical topic not covered in any other undergraduate course. May be repeated for credit, but no more than of six credit hours will be awarded. Offers independent study under the direction of a faculty member. Prereq.: An agreement with an instructor describing the subject matter and method of study and written approval of the Chairperson of the Department of Mathematics.

1535 499 Special Topics in Mathematics (3)
Covers topics determined by the Department of Mathematics. Open to all mathematics majors and other students with a sufficient background in mathematics. Serves as an extension of a regularly offered mathematics course. Prereq.: Permission of the Department of Mathematics.

GRADUATE COURSE DESCRIPTIONS

1535 501 Linear Algebra for Teachers (3)
Examines systems of linear equations and methods of solutions, matrices and matrix solutions of linear systems, matrix algebra, determinants, vectors and vector spaces, linear transformations, and inner products and norms. Prereq.: Either 1535 151 or permission of the Department of Mathematics.

1535 502 Differential Equations for Teachers (3)
Studies first-order differential equations, linear and systems of linear differential equations, higher order equations, equations with nonconstant coefficients, applications, series solutions, solution of partial differential equations, elliptic and hyperbolic equations; Laplace Transform. Prereq.: 1535 253 or permission of the Department of Mathematics.

1535 503 Fundamental Concepts of Mathematics for Elementary Teachers I (3)
Introduces topics on sets and logic, real numbers (properties and operations), numeration systems, elementary problem solving w/ appropriate applications for elementary classified activities. Prereq.: Permission of the Department of Mathematics.

1535 504 Fundamental Concepts of Mathematics for Elementary Teachers II (3)
Introduces topics from modern elementary algebra, linear equations and inequalities, systems of equations, and polynomials and functions. Prereq.: Permission of the Department of Mathematics.

1535 505 Advanced Calculus I for Teachers (3)
Studies completeness and order properties of the real numbers, n-dimensional Euclidean space and its topology, the Bolzano-Weierstrass and Heine-Borel theorems, limits and continuity, and the theory of differentiation. Prereq.: 1535 253 or permission of the Department of Mathematics.

1535 506 Advanced Calculus II for Teachers (3)
Continues 1535 505. Develops the theory of maxima and minima, inverse- and implicit-function theorems, the theory of integration, infinite series, uniform convergence, and vector analysis. Prereq.: 1535 505 or permission of the Department of Mathematics.

1535 507 Advanced Mathematics Concepts I for Mathematics Specialists (3)
Treats the development of methods and techniques for solving applied problems related to business, economics, and biological and physical sciences. The content includes the prerequisites for selected concepts of applied differential and integral calculus. Prereq.: Acceptable score on the placement test and permission of the director.

1535 510 Geometry for Elementary School Teachers (3)
Develops an understanding of those fundamental geometrical concepts necessary for elementary school teachers, including congruence, similarity and measurement, geometric constructions, deductive reasoning, plane and space figures, and elements of trigonometry. Prereq.: Permission of the Department of Mathematics.

1535 511 Classical Geometry for Teachers (3)
Treats topics in plane and solid Euclidean geometry from a theoretical and historical perspective, including congruence, the parallel postulate and its consequences, similarity, area and area functions, constructions, volume, and the elementary transformations of the plane. Examines applications to secondary school curricula. Prereq.: Either 1535 151 or permission of the Department of Mathematics.

1535 512 Foundations of Geometry for Teachers (3)
Presents an axiomatic treatment of Euclidean and non-Euclidean geometries, Legendre's attempt to prove Euclid's parallel postulate, methods of proof, models for axiomatic systems, Hilbert's axioms, neutral geometry, the Saccheri-Legendre theorem, hyperbolic and elliptic geometries, the Poincare and Beltrami-Klein models, and philosophical implications of non-Euclidean geometries. Prereq.: 1535 253 or permission of the Department of Mathematics.

1535 514 Topics from Calculus for Mathematics Specialists (3)
Allows mathematics specialists an opportunity to explore concepts of calculus through concrete examples. Realistic problems involving average and instantaneous rates of change, areas, volumes, and curve lengths are addressed and related to the concepts of differentiation and integration. Prereq.: Permission of program director and a placement test.

1535 515 Modern Geometry I for Teachers (3)
Develops geometry with an emphasis on foundations and structures, including the study of projective, Euclidean, non-Euclidean and finite geometries by means of their transformations and axiom systems. Prereq.: Either 1535 152 or permission of the Department of Mathematics.

1535 516 Modern Geometry II for Teachers (3)
Continues 1535 515. Studies algebraic projective geometry, linear algebra, vector algebra, generalized coordinate systems, and linear transformations. Prereq.: 1535 515 or permission of the Department of Mathematics.

1535 521 Abstract Algebra I for Teachers (3)
Studies binary operations, groups, subgroups, permutations, cyclic groups, isomorphisms, direct products, finitely generated Abelian groups, normal subgroups and factor groups, and series of groups, Sylow Theorems, and finite simple groups. Prereq.: 1535 501 or permission of the Department of Mathematics.

1535 522 Abstract Algebra II for Teachers (3)
Continues 1535 521. Examines rings, integral domains, fields and fields of quotients of integral domains; quotient rings and ideals, homomorphisms of rings, rings of polynomials, factoring polynomials over a field, extension fields, splitting fields, separable extensions, finite fields, and Galois theory. Prereq.: 1535 521 or permission of the Department of Mathematics.

1535 525 Number Theory for Teachers (3)
Examines characteristics counting of numbers, divisibility, numerical functions, the arithmetic of congruence classes, solving congruences, theory of primitive roots, and quadratic reciprocity. Prereq.: 1535 151 or permission of the Department of Mathematics.

1535 530 Methods for Elementary Mathematics School Specialists (3)
Treats traditional methods and materials topics, as well as curriculum trends and developments, organization for instruction and classroom management, and the use of media and calculators in elementary mathematics as related to supervision and instruction. Prereq.: Permission of the Department of Mathematics.

1535 531 Teaching Mathematics in Urban Secondary Schools (3)
Analyzes modes of teaching mathematics, the difficulty of some concepts in secondary school mathematics, and the learning difficulties of some students. Exposes teachers to various teaching strategies to facilitate learning in mathematics and test development strategies to measure instructional intent. Requires laboratory experience. Prereq.: Permission of the Department of Mathematics.

1535 532 Teaching Geometry in Secondary Schools (3)
Uses postulational approach to derive well-known geometrical facts and models of non-Euclidean geometries. Evaluates new curricular materials in geometry. Requires laboratory experience. Prereq.: 1535 511 or permission of the Department of Mathematics.

1535 533 Using the Computer in Elementary Mathematics (3)
Includes elementary programming techniques, computer/machine record keeping and use of the hand held calculator in the classroom. Provides "hands on" experience with computers. Explores ways in which the computer and calculator can be used effectively in the elementary school curriculum in mathematics. Prereq.: Permission of the Department of Mathematics.

1535 534 Problem Solving for Elementary School Teachers (3)
Presents the concepts and techniques of computation and applications of mathematics to solve real world problems, techniques of creating and assessing word problems, and development of problem solving strategies and attitudes. Prereq.: Permission of the Department of Mathematics.

1535 535 Methods of Problem Solving (3)
Includes learning to read mathematically and developing methods for solving various types of applied problems related to secondary school mathematics, with the emphasis on algorithmic approaches. Allows student to develop algorithms for use in classroom. Prereq.: Permission of the Department of Mathematics.

1535 540 History of Mathematics for Mathematics Specialists (3)
Includes topics related to the history of numbers and number systems, mathematics from ancient civilizations, Europe, Africa, and other relevant civilizations. Careful attention to the contributions of Blacks and other minorities will be emphasized. Prereq.: Permission of the program director.

1535 541 History of Mathematics for Teachers (3)
Examines, among other topics, the mathematics of early mankind, the real number system and the role of the ancient civilizations in its development, mathematics during the Dark Ages of Europe, and mathematics during the Renaissance. Discusses the contributions of Africans, Asians, and other non-Europeans to the development of mathematics. Prereq.: Either 1535 152 or permission of the Department of Mathematics.

1535 545 History of Teaching Mathematics (3)
Provides historical survey of educational theories, with emphasis on the teaching of mathematics. Prereq.: Permission of the Department of Mathematics.

1535 546 Computers in the Secondary Classroom (3)
Includes programming techniques, the use of contemporary computer packages, evaluation of software and the use of hand held graphing calculators in the classroom. Participants will be provided with "hands on" experience with computers. They will also explore ways in which the computer can be used effectively in the secondary school curriculum in mathematics. Prereq.: Permission of the Department of Mathematics.

1535 547 Mathematics Modeling for Teachers (3)
Introduces the techniques of mathematics modeling. Mathematics modeling is a special type of "problem solving," involving the following steps: problem identification, model construction or selection, identification and collection of data, model validation, calculation of solution to the model, and model implementation and maintenance. The course includes graph theory, system of equations and inequalities, numerical tables, algorithms, probability, and statistics. Prereq.: 1535 253 or equivalent, 1535 501, 1535 551 or permission of the Department of Mathematics.

1535 550 Probability and Statistics for Elementary School Teachers (3)
Treats permutations and combinations, outcomes, sample spaces and events and probability of an event, and elementary measures of central tendency dispersion, and relationship. Prereq.: 1535 502 or permission of the Department of Mathematics.

1535 551 Probability and Statistics for Teachers I (3)
Introduces concepts of probability, such as probability space, random variable, independence and conditional independence; the central limit theorem as a generalization of the asymptotic normality of the binomial, Poisson and other distributions; introduces basic concepts of statistics, such as estimation and hypothesis testing. Prereq.: Either 1535 152 or permission of the Department of Mathematics.

1535 552 Probability and Statistics for Teachers II (3)
Continuation of 1535 551. Students will make full use of computers, and heavy emphasis will be placed on statistical interpretation. Topics include regression, analysis of variance, and general multivariate techniques commonly used in the social sciences. Prereq.: 1535 551 or permission of the Department of Mathematics.

1535 555 Applications of Algebra and Probability (3)
Explores systems of equations, matrix techniques, maximizing and minimizing, networks and graphs, game theory, probability models, and computers and mathematics. Prereq.: 1535 552 or permission of the Department of Mathematics.

1535 561 Topology for Teachers (3)
Studies open sets, topologies, closed sets, neighborhoods, limit points, closures and interiors; derived sets; bases, Frechet, and Hausdorff spaces; continuity, homomorphisms; and connectedness and compactness, with examples drawn from Euclidean spaces. Prereq.: Either 1535 351 or 1535 505 or permission of the Department of Mathematics.

1535 563 Real Analysis I for Teachers (3)
Examines metric spaces, the Bolzano-Weierstrass theorem, Cantor sets, sequences of functions, Borel sets and Baire functions, well-orderings, measure and measurable sets, and Lebesgue integration and Lebesgue measure. Prereq.: Permission of the Department of Mathematics.

1535 565 Complex Analysis I for Teachers (3)
Studies complex numbers, limits and continuity of complex functions; derivatives and elementary functions; the Cauchy-Riemann conditions; contour integration, Cauchy's theorem and their applications. Prereq.: Either 1535 351 or 1535 505 or permission of the Department of Mathematics.

1535 566 Complex Analysis II for Teachers (3)
Continuation of 1535 565. The fundamental theorem of algebra, Morea's theorem, sequences, series, Laurent and Taylor series, meromorphic functions, the theory of residues and its applications, conformal mappings and their applications, fractional linear transformations, and the Schwarz-Christoffel transformation. Prereq.: 1535 565 or permission of the Department of Mathematics.

1535 571 Mathematical Logic for Teachers (3)
Teaches students who have had some experience proving theorems and desire a rigorous introduction to the foundations of mathematics. Includes propositional logic, predicate logic, the formalization of arithmetic and Godel's theorems; and applications to automata and data structures. Prereq.: Either 1535 411 or 1535 521 or 1535 334 or permission of the Department of Mathematics.

1535 575 Numerical Analysis I for Teachers (3)
Examines types of errors; errors from tables; differences; interpolation formulas of Gauss, Newton, Stirling, Everett, and Lagrange; double interpolation; numerical differentiation; and introduction to numerical integration. Prereq.: 1535 253 or permission of the Department of Mathematics.

1535 576 Numerical Analysis II for Teachers (3)
Continuation of 1535 575. More numerical integration, numerical solutions of polynomial equations with real and complex coefficients, numerical solutions of transcendental equations, root squaring, and numerical solutions of differential equations by the Euler, Milne, Runge-Kutta and series methods. Prereq.: 1535 575 or permission of the Department of Mathematics.

1535 580 Research Seminar for Elementary Mathematics Specialist (3)
Provides M.S.T. candidates in Elementary Mathematics an opportunity for individual research on current trends in mathematics curricula for elementary schools, with emphasis on review of literature in selected topics or issues. Prereq.: Permission of the Department of Mathematics.

1535 581 Seminar I for Mathematics Teachers (3)
Provides M.S.T. candidates in Mathematics an opportunity for individual research on current trends in mathematics curricula for secondary schools, with emphasis on review of literature in selected topics or issues. Introduces preparation of modern text materials relevant to teaching situation. Includes topics, such as computer-assisted and computer-managed instruction, constructing objectives from Bloom's affective domain, process-

oriented instruction, the role of geometry in the secondary school curriculum, and managing anxiety in the mathematics classroom. Prereq.: Permission of the Department of Mathematics.

1535 582 Seminar II for Mathematics Teachers (3)
Offers M.S.T. candidates in Mathematic a problem-oriented seminar. Includes topics such as techniques of computer-assisted instruction and the implications of computers in the mathematics classroom. Requires a project in computer-assisted instruction. Prereq.: 1535 581 or permission of the Department of Mathematics.

1535 595 Mathematics Department Leadership (3)
Provides instruction for those master teachers of mathematics who desire to become leaders of departments of mathematics in the secondary schools. Provides tools to facilitate leadership in mathematics instruction. Emphasizes evaluating the role of the leader in providing instructional, educational, organizational, supervisory, administrative, and team leadership in the school. Prereq.: Permission of the Department of Mathematics.

1535 599 Selected Topics in Mathematics (3)
Studies a mathematical topic not covered in any other graduate course. May be repeated for credit if the topics are different. Prereq.: Permission of the Department of Mathematics.

1535 600 Comprehensive Summary (1)
Summarizes the M.S.T. program's mathematical content in geometry, algebra, probability and statistics, analysis, topology, and problem solving. Prereq.: 18 credit hours of mathematics in courses numbered 500 or higher.

1535 679 Graduate Cooperative Education Internship (1-6)
Provides an approved alternative internship, generally from four to six months, whereby a learning contract is established prior to the work project. Allows the cooperative education coordinator, the student, and the employer to enter into a written agreement regarding the design and development of the cooperative education assignment. Prereq.: 12 credit hours of graduate study; a grade point average of at least 3.00; written permission of the Department of Mathematics cooperative education coordinator, and full-time enrollment in the semester when applying.

Department of Nursing and Allied Health

Dr. Connie M. Webster, Chairperson
Building 44, Room 102
(202) 274-5899

FULL-TIME FACULTY (NURSING)

Professor: C.M. Webster

AssociateProfessor: E.T.Asongwed, D.Caldwell, S.Cato, G. Green-Ridley, J. Joyner, D. Minor

Assistant Professors: S. Akpuaka, M. Anderson, T. Gantt

FULL-TIME FACULTY (ALLIED HEALTH)

Associate Professors: S. Abebaku, J. Akintola, E. Harrison, M. Kpadeh, S. Lockwood, D. Steinert, , L. Coles

Assistant Professors: L.T. McGuire, R. Dean, A. Koenig

The Department of Nursing and Allied Health (NAH) offers A.A.S. degrees in Medical Radiography, Mortuary Science, Nursing, and Respiratory Therapy, and the B.S. in Nursing (RN-BSN). The Nursing Program also has certificate level programs in Practical Nursing and Certified Nursing Assistant. All of the undergraduate programs in the Department of Nursing and Allied Health are accredited by their respective professional accrediting body. Both the Associate in Applied Science in Nursing (AASN) and the Bachelor of Science in Nursing (BSN) are accredited by the National League for Nursing Accrediting Commission (NLNAC) and are approved by the District of Columbia Board of Nursing.

NURSING
National League for Nursing Accrediting Commission (NLNAC)
61 Broadway - 33rd Floor
New York, NY 10006
Telephone: (212) 363-5555 x 153
Fax: (212) 812-0390
Web: http://www.nlnac.org

MEDICAL RADIOGRAPHY
Joint Review Committee on Education of Radiologic Technology (JRCERT)
20 North Wacker Drive, Suite 2850
Chicago, IL 60606-3182
Office: (312) 704-5300
Fax: (312) 704-5304
Web: www.jrcert.org

MORTUARY SCIENCE
American Board of Funeral Service Education
3432 Ashland Ave., Suite U
St. Joseph, MO 64506
Office: (816) 233-3747
Fax: (816) 233-3793
Cell: (816) 341-2573
Email: exdir@abfse.org
Web: www.abfse.org

RESPIRATORY THERAPY

Committee on Accreditation for Respiratory Care
1248 Harwood Rd
Bedford, Texas 76021-4244
Telephone: (817) 283-2835
Fax: (817) 354-8519
Web: http://www.coarc.com

The mission of the Department of Nursing and Allied Health is to provide exemplary educational experiences to an ethnically diverse population with a particular emphasis on the needs of citizens in the District of Columbia. The Department provides an intellectually challenging and nurturing environment that fosters the development of competent and compassionate practitioners who will assist individuals on the continuum from health - illness, dying - death, and care of human remains.

Students are assisted in the development of critical thinking skills, problem solving, technical, and social skills through active participation in classroom and practicum experiences. The curricula reflect high standards of professional practice and incorporate guidelines from practice trends, professional organizations, and accrediting agencies.

GENERAL INFORMATION/REQUIREMENTS FOR THE DEPARTMENT

Admission

Students may declare majors in the Department of Nursing and Allied Health upon admission to the University and take courses to satisfy University-wide requirements. Students are not automatically admitted to NAH courses. A second application to the specific program is required. Each program has additional requirements related to admission.

Progression

To progress in the Department of Nursing and Allied Health Programs, prerequisites must be completed, and any incomplete grade(s) must be removed before progressing to another course. In addition, an exit examination is required to graduate. Each program has additional requirements related to progression.

Academic Standing

The grade of "C" or better is required in all major courses. The various programs have additional requirements.

Criminal Background Clearance

Students taking clinical/practicum courses are required to provide a criminal background clearance before going to affiliating hospitals/agencies.

Drug Screening

Students taking clinical/practicum courses are required to pass drug screenings for any class or clinical placement upon request of the institution.

Professional Liability Insurance

All students except Mortuary Science must maintain professional liability insurance when beginning the clinical/practicum courses and throughout the curriculum. Insurance is purchased in the cashier's office (Bldg. 38, 2nd floor).

Health Clearance

An annual physical is required prior to clinical placement and any additional immunizations (i.e. Hepatitis B) required by the clinical agencies and D.C. law.

Cardiopulmonary Resuscitation Certification

All students enrolled in clinical/practicum courses are required to have and maintain current certification in cardiopulmonary resuscitation, CPR for Healthcare Providers.

Student Release Form

Students may be required to sign a Student Release Form. This form includes the following statement: "I hereby release the Nursing Program and the University of the District of Columbia from responsibility for any injury or illness to me (or if I am pregnant, my baby) while attending hospital or other clinical(s). I understand that risks do exist for me (and if pregnant, my unborn baby) while practicing nursing in the hospital setting or other clinical(s), and I do assume any and all risks involved."

Code of Conduct and Ethics

In addition to the University policy, violations of the Code of Conduct and Ethics in the department could result in dismissal from the programs. The various programs have identified additional expected behaviors specific to that program.

Grievance/Complaints and Grade Appeal Procedures

Students may express concerns regarding a faculty-student problem using the grievance/grade appeal procedure outlined in the Students' Program Handbook. Every effort should be made to resolve the issue at the level it occurred.

Program Changes

The faculty reserves the right to make needed or required curriculum revisions through the Curriculum Committee without prior notice or publication, provided these changes would at no time lengthen the period of time required to obtain the degree.

Policy Changes

Policies of the Department of Nursing and Allied Health Programs are subject to revision during the course of development, implementation, evaluation, and the revision of a curriculum. These changes may become effective prior to publication of the next Catalog or Student Handbook.

NURSING PROGRAM

The University offers the Associate in Applied Science in Nursing (AASN) and the Bachelor of Science in Nursing (BSN) for Registered Nurses to complete the BSN. The curricula reflect high standards of professional practice and incorporate guidelines from practice trends, professional organizations, and accrediting agencies. Both the AASN and the BSN are approved by the District of Columbia Board of Nursing and accredited by the National League for Nursing Accrediting Commission.

The AASN is designed to provide students with the necessary knowledge and skills for eligibility to attain licensure as a registered nurse. Successful completion of the registry examination allows the graduate to enter the health care delivery system as a registered nurse and to provide direct patient care in a variety of healthcare settings.

The Licensed Practical Nurse (LPN) to AASN Accelerated Program is designed to provide the LPN with educational mobility without unnecessary barriers. Upon successful completion of the validation courses and satisfying all other admission criteria, advanced placement into the AASN program can be sought. Once accepted, the program can be completed in one year. Successful completion of the validation courses does not ensure admission into the accelerated program.

The BSN is designed for Registered Nurses who have completed the Associate Degree in Nursing or completed a Nursing Diploma Program. The program builds on knowledge attained in previous nursing education and current practice. This program prepares nurses for employment in structured and unstructured settings; provide leadership/management in the coordination of care to individuals, families and communities; and preparation for graduate study in nursing and advance practice roles. After acceptance into the senior level, student can complete degree requirements in one year.

Academic Information

Admission
Students are not automatically admitted into the Nursing Program. Eligible students must make application to the Program and admission is competitive. Students can apply for admission after completing pre-requisite courses for non-licensed AASN students, Licensed Practical Nurse to AASN students, and Registered Nurse to BSN students.

The application is due on or before the third Friday in January for fall semester admission to AASN courses. The application is due on the third Friday in October for Licensed Practical Nurse students seeking admission to the spring semester LPN Validation Courses. The application is due on the third Friday in January for fall semester and the third Friday in October for spring semester admission for Registered Nurse students seeking admission to senior level BSN courses. Most students complete all non-nursing courses before applying for nursing admission. Application submission does not guarantee admission to the Nursing Program.

Applicants must be enrolled in UDC as regular students and have completed pre-nursing, general education, and support courses earning a minimum grade of C in each nursing course and a cumulative grade point average (CGPA) of 2.5 or higher. An admissions examination is required for entry into the AASN program. Nursing and science courses previously taken can be no older than seven years for AASN students and credit by examination can be used to validate prior learning. The Admission, Progression and Graduation (APG) Committee reviews all applications and recommends students for admission. Students not accepted must reapply for consideration for admission. Admission is once per year for the AASN program and twice per year for the RN-BSN program. Students will be numerically ranked based on the overall applicants' scores. The highest-ranking students will be selected as space permits to enroll in first year AASN courses, LPN Validation Courses, or senior level BSN courses.

LPN and RN students must hold valid licensure in the United States and be graduates of a NLNAC accredited program and/or state approved program.

Transfer Credits
Transfer students from other colleges must be in good academic standing, not on academic probation, not academically or administratively dismissed, and not barred from continuing enrollment in the Nursing Program at previous college(s). Transfer students from other colleges must be enrolled in UDC for at least one semester prior to application to the Nursing Program, meet the criteria for admission, and have earned a 2.5 or higher the CGPA to be considered for progression into clinical nursing courses.

Credit by Examination
Credit by examination is an option for nursing courses, except 1427-315 and 1427-316 Essentials of Professional Nursing (theory and practicum). The APG Committee processes applications for Credit by Examination.

Validation and Articulation
The Nursing Program supports the District of Columbia Educational Articulation Model. The Nursing Program supports students having the opportunity to validate prior learning and the articulation of the LPN into the AASN program of study and the RN into the BSN program of study.

LPN students may apply to take the LPN to RN Validation Courses at UDC or Howard University. LPN students who successfully complete the validation theory and laboratory and earn four (4) semester credit hours can receive 12-15 credit hours from any University in the District of Columbia in keeping with the DC Education Articulation Model. UDC awards thirteen (13) escrow credit hours to LPN students upon completion of the AASN program of study.

Bachelor of Science nursing students from other nursing programs can take a non-clinical BSN course and transfer the credit with permission of the home school. Non degree seeking RNs, with permission of the Director of Nursing, may take a course for continuing education or for license renewal.

Academic Standing
The grade of "C" or better is required in all courses. Only one nursing course may be repeated. Students whose transcripts show two grades below "C", either D or F, in 1425- and 1427- nursing courses will not be retained in nursing majors.
While students may not be retained in the Nursing Program, they are not dismissed from the University and are assisted with identifying another major. In special cases, a student may be readmitted to nursing courses (cases cannot involve failing grades).

Progression
To progress in the Nursing Program, prerequisites must be completed for each nursing course. Incomplete grade(s) must be removed before progressing to another nursing course. AASN students are required to take national achievement examinations at the end of selected nursing theory courses and an exit exam upon completion of program of study.

Class Attendance
Classroom attendance is expected. Clinical and laboratory attendance is mandatory.

Statute of Limitation
No student will be subject involuntarily to regulations and academic requirements introduced while continuously enrolled and in good standing in the Nursing Program, if the new regulations involve undue hardship or loss of academic credits earned to satisfy the requirements previously in effect. The following regulations are, however, in effect for all students:

A student, who ceased to attend the University for a period of one semester, whether voluntarily or not, is subject to all the regulations and requirements in force at the time studies are resumed unless the Director of Nursing has approved other arrangements and recorded the same in writing prior to the beginning of the absence.

Policies of the Nursing Program are subject to revision during the course of development, implementations, evaluation, and the revision of the curriculum. These changes may become effective prior to publication of the next Catalog or Student Handbook.

The faculty reserves the right to make curriculum revisions through the Curriculum Committee without prior notice or publication, provided these changes would at no time lengthen the period of time required to obtain the nursing degree.

Once admitted to the nursing program, AASN students have three (3) years to complete Associate in Applied Science in Nursing degree requirements. Once admitted to the nursing program, BSN students have two (2) years to complete Bachelor of Science in Nursing degree requirements.

Associate in Applied Science in Nursing

Total Credit Hours of College-Level Courses Required: 72

Pre-Nursing Courses and General Education Requirements (31 Credit Hours)

1133-111	English Composition I	3
1133-112	English Composition II	3
1535-101	College Math I	3
1535-102	College Math II	3
1171-201	Principles of Psychology **	3
1401-111	Fundamental of Anatomy** Physiology I	3
1401-112	Fundamental of Anatomy** Physiology II	3
1401-113	Fundamental of Anatomy and Physiology I Lab**	1
1401-114	Fundamental of Anatomy and Physiology II Lab**	1
1401-245	Clinical Microbiology**	3
1401-244	Clinical Microbiology Lab**	1
1507-105	Fundamentals of Chemistry	3
1507-106	Fundamentals of Chemistry Lab	1

** Required by the nursing program

Pre-Nursing Course Requirements

(Some pre-nursing courses listed above in Gen. Ed. req.)

1535	College Level Math I	3
1133 111	English Composition I	3
1401 111	Anatomy and Physiology I Lec.	3
1401 113	Anatomy and Physiology I Lab	1
1171 201	Principles of Psychology **	3

Required Nursing Courses (41 Credit Hours)

1425-100	Concepts Basic to Nursing Theory	2
1425-105	Nursing Pharmacology Theory	3
1425-111	Foundations of Nursing Theory	3
1425-112	Foundations of Nursing Practicum	2
1425-117	Mental Health Nursing Theory	3
1425-118	Mental Health Nursing Practicum	2
1425-119	Maternal Newborn Nursing Theory	3
1425-120	Maternal Newborn Nursing Practicum	2
1425-217	Nursing Care of the Child Theory	3
1425-218	Nursing Care of the Child Practicum	2
1425-219	Nursing Care of Adults I Theory	
1425-220	Nursing Care of Adults I Practicum	2
1425-221	Nursing Care of Adults II Theory	3
1425-222	Nursing Care of Adults II Practicum	5
1425-225	Nursing Process-Laboratory	1
1425-290	Nursing Seminar, A.A.S	2

Licensed Practical Nurse to Associate of Applied Science in Nursing (LPN to AASN) Accelerated

Total credit hours of college level courses required graduation: 72

Pre-Nursing Courses and General Education Requirements (31 Credit Hours)

1535-101	College Math I	3
1535-102	College Math II	3
1133-111	English Composition I	3
1133-112	English Composition II	3
1171-201	Principles of Psychology	3
1401-111	Anatomy and Physiology I Lecture	3
1401-113	Anatomy and Physiology I Lab	1
1401-112	Anatomy and Physiology II Lecture	3
1401-114	Anatomy and Physiology II Lab	1
1401-245	Clinical Microbiology**	3
1401-244	Clinical Microbiology Lab**	1
1507-105	Fundamentals of Chemistry	3
1507-106	Fundamentals of Chemistry Lab	1

Validation Courses

1425-198	*LPN Validation Theory	3
1425-199	*LPN Validation Laboratory	1

**13 Credits will be awarded upon successful of AASN Program (Total = 17 Credit Hours for Validation Courses (4) and Escrow (13)*

Required Nursing Courses (41 Credit Hours)

1425-105	Nursing Pharmacology Theory	3
1425-117	Mental Health Nursing Theory	3
1425-118	Mental Health Nursing Practicum	2
1425-217	Nursing Care of the Child Theory	3
1425-218	Nursing Care of the Child Practicum	2

1425-219	Nursing Care of Adults II Theory	3
1425-220	Nursing Care of Adults II Practicum	5
1425-225	Nursing Process Lab	1
1425-290	Nursing Seminar, AASN	2
1425-198, 1425-199 and Escrow Credits		13

BACHELOR OF SCIENCE IN NURSING

Registered Nurse to Bachelor of Science in Nursing Completion -RN to BSN

Total credit hours required for graduation: 120 credits

A maximum of 60 credits may be transferred from an accredited college or university. Non-nursing credits must include anatomy and physiology, microbiology, chemistry, math, psychology, and English composition.

General Education Requirements

1133-211	Literature and Advanced Writing I	3
1133-212	Literature and Advanced Writing II	3
1175-113	Introduction to Anthropology	3
	or	
1177-111	Introduction to Sociology	
1167-	Philosophy	3
1421-106	Nutrition Lecture	3
1421-104	Nutrition Lab	1
1121, 1165, 1105, 1111	Fine Arts	3
1507-135	Essentials of Organic and Biochemistry Lecture	3
1507-136	Essentials of Organic and Biochemistry Laboratory	1
	Elective Nursing Course	
1427-350	Ethical Issues in Health Care	3

Required Nursing Courses
Junior Level Nursing Courses (13 Credit Hours)

1427-315	Essentials of Professional Nursing Theory	2
1427-316	Essentials of Professional Nursing Practicum	2
1427-345	Pathophysiology for RN Theory	4
1427-354	Gerontological Nursing Theory	3
1427-355	Legal Issues in Nursing Practice Theory	2

All junior level nursing prerequisites must be completed prior to advancement to the senior level.

Senior Level Nursing Courses (24 Credit Hours)

1427-442	Care of the Acutely Ill Theory	3
1427-444	Acute Care and Rehabilitation Practicum	5
1427-445	Management/Leadership Theory	2
1427-455	Nursing Research Theory	3
1427-460	Community Health Nursing Theory	3
1427-461	Urban Community Health Issues Theory	3
1427-462	Community Based Nursing Care Practicum	5

Certificate Program for Practical Nursing

Betty T. Wooten, Nursing Director
4340 Connecticut Avenue, N.W. LL, B113
Washington, D.C. 20008
(202) 274-6950

The Practical Nursing Program is offered through the Department of Nursing and Allied Health, and is fully accredited by the District of Columbia's Board of Nursing.

The Practical Nursing Program was established in November 1996. It is designed for individuals with the desire and the ability to nurture and provide health care to persons in hospitals, clinics, long-term care facilities, and other health care settings under the supervision of a registered nurse or physician.

The University's Practical Nursing Program offers a twelve (12) month day program and a fifteen (15) month evening program. The day program is Monday through Friday from 8:30 AM to 2:00 PM. Clinical practicum begins at 7:00 AM to 2:00 PM, two to three times a week, based on the practicum. The evening program is Monday through Friday from 5:00 to 9:00 PM. Clinical practicum is at the same time (5-9) on designated evenings.

Admission Requirements

- Must be 18 years of age or older
- Must pass a written pre-admission exam/aptitude test

Applicants who successfully pass the pre-admission examination are required to submit:

- Official high school transcript and diploma or GED equivalency certificate
- A non-refundable application fee of $20.00 along with a completed application form,
- Three letters of reference (e.g. supervisor, clergy, teacher, etc.)
- Current cardiopulmonary resuscitation (CPR) card issued by the American Heart Association
- Criminal Investigation Clearance
- Current physical examination along with required immunizations (forms provided) signed by a physician
- Current passport-size picture

Students are not automatically admitted to the Program. Applicants are interviewed by the Director of Nursing, after which applications and the Director's recommendations are forwarded to the admissions committee. The admissions committee will review the Director's recommendations and select the most eligible candidates.

Tuition and fees

Tuition for the Practical Nursing Program is $6,900.00. Tuition may be adjusted annually based on required cost. A payment plan is available to qualified applicants. The stated tuition does not include the cost of books, uniforms or any other materials that may be needed during the course.

Code of Conduct and Ethics

In addition to the University policy, violations of the Code of

Conduct and Ethics in the department could result in dismissal from the programs.

Grievance/Complaints and Grade Appeal Procedure

Students may address concerns regarding a faculty-student problem using the grievance/grade appeal procedure outlined in the Program Student Handbook. Every effort should be made to resolve the issue at the level it occurred.

Academic Standing

The minimum grade of "C" or 75% is required in all courses.

Graduation

Students who complete the program will receive a certificate. Graduates are eligible to take the National Council Licensure Examination-Practical Nursing (NCLEX-PN) for licensure as a Licensed Practical Nurse (LPN).

Program of Study

Total number of hours – Clinical = 1032
Lecture = 670

Course:	Fundamentals of Nursing
Hours:	Theory -100 Clinical - 200
Placement:	First Quarter
Prerequisites:	None
Co-requisites:	Anatomy & Physiology, Nutrition for Nursing

Course Description: The first course focuses on the development of concepts of nursing and health. Identification of threats to a person's universal self-care requisites are explored through utilization of the nursing process. Appropriate scientific principles and basic nursing technologies are taught. Clinically, the student focuses on the assessment of the resident and performance of basic nursing skills. Integration and interrelationships of communication, cultural, ethical, legal, and nutritional concepts are explored in a variety of health care settings.

Course:	Anatomy & Physiology
Hours:	Theory - 60
Placement:	First Quarter
Prerequisites:	None -
Co requisites:	Fundamentals of Nursing, Nutrition for Nursing

Course Description: This course is designed for the student to acquire knowledge of the structure of the human body as it relates to its function; the organization and interrelationship of body structures as they form an integrated functional organism.

Course:	Nutrition for Nursing
Hours:	Theory - 45
Placement:	First Quarter
Prerequisites:	None
Co requisites:	Anatomy and Physiology, Fundamentals of Nursing

Course Description: This course focuses on the study of the nutrients in foods and of the body's handling of them, including ingestion, digestion, absorption, transport, metabolism, interaction, storage and excretion.

Course:	Medical Surgical Nursing I
Hours:	Clinical - 208 hours Theory-100 hours
Placement:	Second Quarter
Prerequisites:	Fundamentals of Nursing, Anatomy & Physiology, Nutrition for Nursing
Co requisites:	Nursing Pharmacology

Course Description: The course focuses on the nursing care of adults with selected health deviations within the acute care setting. Emphasis is placed on the pathophysiology, therapeutic modalities and the nursing management of selected medical-surgical health deviations. Dorothea Orem's conceptual model of nursing and the nursing process are used as a framework for implementation of specific nursing care requirements.

Course:	Nursing Pharmacology
Hours:	Theory - 55 hours
Placement:	Second Quarter
Prerequisites:	Fundamentals of Nursing, Anatomy & Physiology, Nutrition for Nursing
Co requisites:	Medical Surgical Nursing I

Course Description: The basic nursing pharmacology course was designed to present concepts in pharmacodynamics of drugs and their relation to the care of clients with selected pathology. . The scope of pharmacology, drug administration and the interaction of drugs on body systems will be discussed, as well as a review of the principles of basic math, administration of medications and mathematical dosage calculations.

Course:	Medical Surgical Nursing II
Hours:	Theory - 100 hours Clinical - 156 hours
Placement:	Third Quarter
Prerequisites:	Fundamentals of Nursing, Anatomy & Physiology, Med./Surg. I, Nursing, Pharmacology, Nutrition for Nursing, Mental Health Concepts and Geriatrics

Course Description: This course focuses on utilization of the nursing process, providing comprehensive care for adult clients with acute and chronic illness. This course presents content required for the practical nurse to care for clients who have self-care requisites resulting from health deviations.

Course:	Mental Health and Community Health Nursing
Hours:	Theory- 55 hours Clinical-91 hours
Placement:	Third Quarter
Prerequisites:	Fundamentals of Nursing I, Nursing , Pharmacology, Nutrition, Med./Surg. I, Anatomy & Physiology
Co requisites:	Med./Surg. II, Geriatrics

Course Description: This nursing course focuses on clients through the life cycle who display inappropriate behavior. Dynamics of mental disorders and modes of therapy are introduced. The

nursing process is utilized to help patients achieve and maintain an effective adaptation to their environment. Community health and basic concepts are introduced as it relates to the mentally challenged client.

Course:	Geriatrics and Community Health
Hours:	Theory - 65 hours
	Clinical-91 hours
Placement:	Third Quarter
Prerequisites:	Fundamentals of Nursing, Anatomy & Physiology, Nutrition for Nursing, Med./Surg. I, Nursing Pharmacology
Co requisites:	Mental Health Concepts, Med./Surg. II

Course Description: This course provides the theoretical background to understanding the physical, psychological and social changes associated with the aging process. Emphasis is placed on applying the nursing process to the special needs of older adults including the role of their family and significant other(s). Nursing care of the family and significant others are integral parts of this course. Identification of community resources for the patient and significant other(s) will be a primary focus.

Course:	Maternal/Newborn Nursing
Hours:	Theory - 45 hours
	Clinical - 143 hours
Placement:	Fourth Quarter
Prerequisites:	Fundamentals of Nursing, Anatomy & Physiology, Pharmacology Nursing, Nutrition for Nursing, Med./Surg. I, Med./Surg. Mental Health, Geriatrics and Community Health
Co requisites:	Pediatrics

Course Description: This course is designed to assist the student in developing an understanding of the care of the normal maternity patient throughout the stages of pregnancy, labor and delivery. Emphasis is placed on complications and antepartum, intrapartum and postpartum phases including the care of the normal newborn.

Course:	Pediatric Nursing
Hours:	Theory - 45 hours
	Clinical - 143 hours
Placement:	Fourth quarter
Prerequisites:	Fundamentals of Nursing, Anatomy & Physiology, Nursing Pharmacology, Nutrition for Nursing, Med./Surg. I, Med./Surg. II, Mental Health and Geriatrics and Community Health
Co requisites:	Maternal/Newborn Nursing

Course Description: This course has been designed to provide the practical nursing students with sufficient information to enable them to provide safe and competent nursing care to pediatric clients. Emphasis is on the use of the nursing process in the care of the well child and the child with health deviations

In addition to completion of the required courses, students will be required to satisfactorily complete clinical practicums in the following areas:

- Fundamentals of Nursing
- Medical Surgical Nursing I & II
- Geriatric Nursing
- Mental Health Nursing
- Pediatric Nursing
- Maternal & Newborn Nursing

Grade requirements of seventy-five percent (75%) must be maintained in every course in order for the student to continue in the program.

Certificate Program in Nursing Assistant

Carrol E. Daniels, Administrative Director
4340 Connecticut Avenue, N.W. LL, B113
Washington, D.C. 20008
(202) 274-6950

The Nursing Assistant Program requires 120 hours of instruction, which includes classroom, laboratory and clinical practicum.

Students who satisfactorily complete the program will be eligible to take the National Nurse Aide Assessment Program (NNAAP) examination. Successful completion of the NNAAP will enable work as a nurse's aide in health care facilities in the Metropolitan Washington area.

The Nursing Assistant Training Program is fully approved by the District of Columbia Regulatory Administration (DCRA).

Prerequisites:

- No previous nursing experience necessary
- Must be 18 years of age or older; speak, read, and write English at the sixth grade level.

Requirements:

- Perspective students are required to obtain American Heart Association Cardiopulmonary Resuscitation Card (CPR) Health Care provider.
- PPD or chest x-ray (no more than one (1) year old as certified in writing by a physician.
- Uniforms are required for Nursing Home clinicals. A lab coat or uniform is required for laboratory skills instruction.

Course length and schedule: The program is six weeks in duration. Classroom and laboratory instruction are Monday thru Thursday 9am - 1pm. Clinical is 7am - 3:30pm on designated days.

Tuition: Program tuition is $875.00, plus an additional $40.00 for the course's textbook. Prospective students will be required to pay $475.00 deposit at the time of registration. The balance of $400.00 is required by the third week of class. NNAAP examination fee is $117.00 and is not included in the tuition.

COURSE DESCRIPTIONS

1425-100 Concepts Basic to Nursing Theory (2)
Examines the developments and trends in nursing related to social, scientific, and technological influences. Ethical, legal and communication concepts impacting nursing and the organization of the health care delivery system is included. In addition, changing role functions, education, research, as well as, the philosophy of the Nursing Program is introduced. Emphasis is placed on man as a self-care agent, the health-illness continuum and the nursing process. Lec. 2 hrs. Prereq. 1133-112, 1401-112, 1401-114, 1171-201, 1535-101, 1507-105; 1507-106. Co-req.: 1425-105, 1425-111, 1425-112, 1401-244; 1401-245.

1425-105 Nursing Pharmacology Theory (3)
Presents concepts in the pharmacodynamics of drugs and their relation to the care of clients. Basic principles in the administration of medications and mathematical dosage calculations will be included. Lec. 3 hrs. Prereq. 1133-112, 1401-112, 1401-114, 1171-201, 1535-101; 1507-105, 1507-106. Co-req.: 1425-111, 1425-112, 1401-244, 1401-245, 1425-100

1425-111 Foundations of Nursing Theory (3)
Designed to provide content, which focuses on the development of basic concepts related to health, normal aging, and nursing practice. Principles of communication, legal, ethical, nutritional, and pharmacological content related to the basic technologies are introduced. Lec. 3 hrs. Prereq.: 1133-112; 1535-101; 1401-112, 1401-114, 1171-201; 1507-105, 1507-106. Co-req.: 1425-112, 1425-105, 1401-244, 1401-245, 1425-100.

1425-112 Foundations of Nursing Practicum (2)
This is the first nursing practicum course developed to provide opportunities for the student to use the nursing process when designing nursing systems, which assist individuals in meeting self-care requisites. This course focuses on the development of nurse agency with emphasis on assessment. Students learn basic nursing technologies and underlying scientific principles in the on-campus laboratory and apply them in long term care facilities. Lab/hosp 6 hrs. . Prereq.: 1133-111, 1401-114, 1535-101, 1171-201, 1507-105, 1507-106. Co-req. 1425-111, 1425-105, 1425-100.

1425-117 Mental Health Nursing Theory (2)
Focuses on the application of the nursing processes in the care of adults with selected psychiatric-mental health deviations. Dependent and independent modes of treatment related to each deviation in discussed. Emphasis is placed on assessment, planning, implementation, and evaluation. Scientific rationales for interventions are stressed. Lec. 2 hrs. Prereq: 1425-100, 1425-105; 1425-111; 1425-112; Coreq: 1425-118, 1425-119, 1425-120.

1425-118 Mental Health Nursing Practicum (2)
This practicum is structured to provide an opportunity for the student to apply therapeutic intervention and interpersonal and communication skills with clients in mental health settings. The planning and implementation phase of the nursing process is emphasized. Hosp. 6 hrs. Prereq: 1425-100, 1425-105; 1425-111; 1425-112. Coreq: 1425-117, 1425-119, 1425-120.

1425-119 Maternity-Newborn Nursing Theory (2)
Focuses on the trends, issues, child bearing, universal, developmental, and health deviations self-care requisites related to maternity nursing. Emphasis is placed on the nursing process, critical thinking, therapeutic intervention and communication. Lec. 2 hrs. Prereq: 1425-100, 1425-105; 1425-111; 1425-112; Coreq: 1425-117, 1425-118, 1425-120.

1425-120 Maternal-Newborn Nursing Practicum (2)
This nursing practicum provides opportunities for the student to use the nursing process in the promotion and maintenance of optimal family health within the maternity and neonatal setting. Hosp. 6 hrs. Prereq: 1425 100, 1425 105; 1425 111; 1425 112; Coreq: 1425 117, 1425 118, 1425 119.

1425-198 LPN Validation Theory (3)
Designed to validate and enhance integrative concepts of the Licensed Practical Nurse (LPN) that provide the foundation for registered nursing practice. Students explore selected theories, concepts, and issues that support professional practice, including therapeutic communication, problem solving, critical thinking, the nursing process, teaching-learning, planning nursing care, values clarification, and standards of professional nursing. Students refine and update previous learning in addition to defining goals for a successful transition into a Registered Nursing (R.N.) Program. Restricted Enrollment: LPN Students must apply in October for acceptance into this course. Lec 3 hrs. Prereq.: 1133-111, 1535-101, 1401-111, 1401-113, 1171-201. Co-req.: 1425-105, 1401-112, 1401-114, 1507-105, 1507-106.

1425-199 LPN Validation Laboratory (1)
Designed to validate the skills of the Licensed Practical Nurse (LPN) that provide the foundation for registered nursing practice. Students demonstrate competency in selected basic nursing skills in the on-campus laboratory. This course is the application of selected theories and concepts presented in the Validation Theory Course. The student refines and updates previous learning to facilitate a successful transition into a Registered Nursing (R.N.) Program.

Restricted Enrollment: LPN Students must apply in October for acceptance into this course. Lab 3 hrs. Prereq.: 1133-111, 1535-101, 1401-111, 1401-113, 1171-201. Co-req.: 1425-105, 1401-112, 1401-114, 1507-105, 1507-106.

1425-217 Nursing Care of the Child Theory (2)
Focuses on the theoretical foundations of pediatric nursing. The nursing process provides the foundation for pediatric health promotion and illness care of the child and family. Emphasis is placed on critical thinking, therapeutic interventions and communication. Lec. 2 hrs. Prereq: 1425-117, 1425-118, 1425-119, 1425-120; Coreq: 1425-218, 1425-219, 1425-220.

1425-218 Nursing Care of the Child Practicum (2)
Provides opportunities for the student to use the nursing process in health promotion and illness care of children and their families through adolescence in the pediatric setting. Hosp. 6 hrs. Prereq: 1425-117, 1425-118, 1425-119, 1425-120; Coreq: 1425-217; 1425-219; 1425-220.

1425-219 Nursing Care of Adults I Theory (2)
This is the first of two courses in the care of the adult. It provides the theoretical foundations needed to assist adults experiencing chronic health deviations. Emphasis is placed on diagnosis,

pathophysiology, dependent and independent modes of treatment. Pharmacological and nutritional concepts are integrated. Lec. 2 hrs. Prereq: 1425-117, 1425-118, 1425-119, 1425-120; Coreq: 1425-217, 1425-218, 1425-220.

1425-220 Nursing Care of Adults I Practicum (2)
This practicum is a Medical-Surgical experience in an acute and chronic care setting. It provides the student with an opportunity to learn and apply skills that will assist adults in meeting self-care deficits that arise from physical health deviations. Application of the nursing process is continued with an emphasis on evaluation. Hosp. 6 hrs. Prereq: 1425-117, 1425-118, 1425-119, 1425-120; Coreq: 1425-217, 1425-218, 1425-219.

1425-221 Nursing Care of Adults II Theory (3)
This is the second course in the nursing care of the adult client. The content emphasizes the pathophysiology, related diagnostic procedures and treatment modalities of specific health deviations including multi-system failure affecting the adult. Additional focus is given to critical thinking, and therapeutic interventions. Clinical learning experiences take place in acute and chronic health care settings. Lec. 3 hrs. Prereq: 1425-217, 1425-218, 1425-219, 1425-220; Co-req: 1425-222, 1425-225, 1425-290.

1425-222 Nursing of Adults II Practicum (5)
This course provides the student with the skills needed to manage the care of persons with complex multi-system health deviations. Emphasis is placed on interdisciplinary team functioning and small group patient assignments. Opportunity is provided for increased self-direction in the utilization of the nursing process with emphasis placed on evaluation as it applies to the practice of nursing. Practicum experiences facilitate the transition into nursing practice are provided. Hosp. 15 hrs. Prereq: 1425-217, 1425-218, 1425-219, 1425-220; Co-req: 1425-221, 1425-225, 1425-290.

1425-225 Nursing Process Lab (1)
This course is designed to assist the graduating student to prepare for the NCLEX examination. Computer instruction is used; student must know how to use the Internet. Lab. 3 hrs. Prereq: 1425-217; 1425-218; 1425-219; 1425-220. Co-req: 1425-221; 1425-222; 1425-290

1425-290 Nursing Seminar, A.A.S. (2)
This non-clinical nursing course explores issues and basic concepts essential to the role of the associate degree nurse in a variety of structured health care settings. Emphasis is placed on the graduate's entry into a first level nursing position. Lec. 2 hrs. Prereq: 1425-217, 1425-218, 1425-219, 1425-220. Co-req: 1425-221; 1425-222; 1425-225.

The following courses are offered to registered nurses in the RN-BSN Completion Program.

1427-315 Essentials of Professional Nursing Theory (2)
This is a nursing theory course designed for registered nurses pursuing a bachelor of science degree with a major in nursing. Strategies which facilitate progression through the B.S. Nursing Program are the primary focus. Emphasis is placed upon concepts of professional nursing, physical assessment, the self-care conceptual framework and professional ethical and legal issues related to client care. Lec. 2 hrs Prereq: Junior level standing in RN-BSN program. Co-req: 1427-316.

1427-316 Essentials of Professional Nursing Practicum (2)
This is a practicum course for the registered nurse student. The course builds on the nurse's prior knowledge to promote development of essential behaviors characteristic of the professional nurse. The role changes required for success in baccalaureate education will be emphasized. Students have the opportunity to apply the technological skills and the skills of physical assessment in the laboratory and clinical areas. Prereq.: Junior level standing in RN-BSN program. Co-req.: 1427-315.

1427-345 Pathophysiology for RNs Theory (4)
This course is designed specifically for registered nurses. Alterations from the norm and the dynamic processes in various disease states are examined. Emphasis is given to interrelationships among the pathological, and physiological factors related major health issues. Selected modes of diagnosis and treatment are presented. Lec. 4 hrs. Prereq.: Junior level standing in RN-BSN program.

1427-350 Ethical Issues in Health Care (3)
This multidisciplinary course is designed to introduce health science/health care majors to the ethical issues commonly encountered in health care and health care delivery systems. Important ethical issues will be reviewed and analyzed. Students are introduced to basic concepts of moral judgment, ethical theories and principles, and critical thinking processes that are necessary for analyzing and resolving ethical issues in the practice setting. A multidisciplinary team approach to case analysis and problem resolution is one of several approaches used to promote application of decision making models. Pre-req: Junior or higher level standing in RN-BSN, Allied Health or any field of health care. This is an elective and not a BSN degree requirement.

1427-354 Gerontological Nursing Theory (3)
This course is designed to expand the registered nurses' knowledge of the older adult in structured and unstructured environments. The course focuses on current health care and end of life issues affecting the aging population in the urban setting. The nursing process is used to identify self-care deficits to addressing complications, alleviating discomfort, and helping the older adult lead healthy lives. The essential foundations for practice of gerontological nursing and for advanced study are presented. Lec. 3 hrs. Prereq.: Junior level standing in RN-BSN program.

1427-355 Legal Issues in Nursing Practice Theory (2)
This course is designed to provide the RN an expanded understanding of the legal issues that can be confronted in practice and the responsibilities associated with various roles. A major focus is malpractice and negligence. Field trips to legislative bodies are required to understand the legislative process. Lec. 2 hrs. Prereq: Junior level standing in RN-BSN program.

1427-442 Care of the Acutely Ill Theory (3)
This course is designed to present content necessary to care for adults with acute health deviations requiring immediate interventions. The psychological impact on the individual and family are examined. Lec. 3 hrs. Prereq: 1427-315, 1427-316, 1427-345, 1427-354, 1427-355. Co-req: Senior level standing in RN-BSN program.

1427-444 Acute Care and Rehabilitation Nursing Practicum (5)

This is an advanced nursing practicum in acute and rehabilitation settings with a focus on the evaluation phase of the nursing process. Students are provided the opportunity to apply theories and principles of leadership and management. Hosp. 15 hrs. Prereq: 1427-315 1427-316, 1427-345, 1427-354, 1427-355. Co-req: Senior level standing in RN-BSN program.

1427445 Nursing Management/ Leadership Theory (2)

Designed to provide an introduction to the principles of management and theories of leadership to provide an understanding of the role and functions of first-level nurse managers. Student management and leadership style inventories are used for general awareness. Lec. 2 hrs., Prereq.: 1427-315, 1427-316, 1427-345, 1427-355, 1427-354. Co-req: Senior level standing in RN-BSN program.

1427-455 Nursing Research Theory (3)

Designed to provide the student with knowledge and understanding of the research process and its relationship to the nurse's role in providing care to clients. Emphasis is placed on developing a research proposal based on the research process. In addition, students are provided the opportunity to gain knowledge and skills in critiquing published research reports in refereed journals. Lec. 3 hrs., Prereq.: 1427-315, 1427-316, 1427-345, 1427-354, 1427-355. Co-req: Senior level standing in RN-BSN program.

1427-460 Community Health Nursing Theory (3)

This course is structured to provide a theoretical base for the practice of community health nursing and application of public health, community mental health, and home health nursing concepts. Content focuses on the analysis of family biophysical, psychosocial, structural/ functional, spiritual/religious, and ethnic/cultural diversity. The impact of the family health status on the community is explored using principles from epidemiology, levels of prevention, and nursing research. Lec. 3 hrs. Prereq.: 1427-315, 1427-316, 1427-345, 1427-354, 1427-355. Co-req: Senior level standing in RN-BSN program.

1427-461 Urban Community Health Issues Theory (3)

Designed to provide a holistic view of the community as client. Urban community health and its relation to international, national, state, suburban, and rural community morbidity and mortality trends are explored relative to the nurse's role. The impact of economic, social, cultural, ecological, and political factors on the community environment will be examined with emphasis on health care reform and excessive deaths, illnesses, and disabilities in African Americans. Lec. 3 hrs. Prereq: 1427-315, 1427-316, 1427-345, 1427-355, 1427-354. Senior level standing in RN-BSN program.

1427-462 Community Based Nursing Care Practicum (5)

The student develops competencies in direct and indirect nursing care for ambulatory, school, occupational, employee, student, home and institutional community-based practice settings. Emphasis is placed on developing skills in decision making, applying research findings, and using computerized databases to analyze nursing functions, community environments, services for special populations, and health care delivery systems. Hosp. 15 hrs. Prereq: 1427-315, 1427-316, 1427-345, 1427-355, 1427-354. Co-req.: Senior level standing in RN-BSN program.

ALLIED HEALTH PROGRAMS

Associate in Applied Science in Medical Radiography

The Associate of Applied Science degree in Medical Radiography is designed to provide in-depth study of radiography; augmented by extensive clinical experiences. The curriculum prepares graduates to enter and successfully pursue a career in medical imaging and/or continue studies in related technologies such as radiation therapy, nuclear, medicine, mammography, computed tomography, ultrasonography, magnetic resonance imaging and administration/supervision.

Upon successful completion of the Program, graduates are eligible to take the certification examination given by the American Registry of Radiologic Technologists.

Employment opportunities are in radiology departments of hospitals, HMO's, clinics, doctors' offices, research, and education

The program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT).

Medical Radiography

Total Credit Hours of College-Level Courses Required for Graduation: 69 credits

General Requirements/Prerequisites

1133-111	English Composition I	3
1133-112	English Composition II	3
1401-111	Fundamentals of Anatomy and Physiology I- Lecture	3
1401-113	Fundamentals of Anatomy and Physiology I-Lab	1
1401-112	Fundamentals of Anatomy and Physiology II-Lecture	3
1401-114	Fundamentals of Anatomy and Physiology II Lab	1
1535-101	General College Math I **	3
1535-102	General College Math II	3
1171-137	Psychology of Adjustment***	3

CPR (Health Care Provider – Card 'C')

** Any college level math course numbered 100 or above may substitute for this requirement such as Intermediate Algebra and Elementary Statistics.

*** Any college level psychology, sociology, or philosophy course numbered 100 or above may satisfy this requirement such as Introduction to Logic.

Required Radiography Courses

1429-120	Radiographic Image Production	3
1429-121	Radiography Patient Care	3
1429-122	Radiographic Procedures I	3
1429-123	Radiography Clinical Education I	2
1429-124	Radiographic Science & Equipment	3
1429-125	Radiographic Procedures II	3
1429-126	Radiography Clinical Education II	2
1429-224	Radiography Clinical Education Summer	3
1429-240	Radiographic Pathology	3
1429-270	Radiation Biology & Protection	3
1429-245	Radiography Clinical Education III	3
1429-250	Radiographic Quality Assurance	3
1429-255	Radiologic Computer	3
1429-260	Radiologic Advanced Imaging Modalities	3
1429-265	Radiography ARRT Exam Review	3
1429-280	Radiography Clinical Education IV	3

Additional Comments:

Program Admission Requirements

Admission to the Medical Radiography program is selective. In addition to the general requirements for the Department of Nursing and Allied Health, the following is required:

- Must be enrolled in medical radiography at UDC for a minimum of one academic semester.
- Completion of all pre-requisite courses with a " C " grade or better.
- Have a minimum cumulative GPA of 2.5.
- Must be 18 years old prior to assignment to clinical.
- Must be in good academic standing if transferring from another institution.
- Transfer students are accepted based on space availability.
- All medical radiography and natural science courses transferred or utilized for re-entry must have been completed within the last five years.
- Apply and be interviewed for admission to professional/ clinical phase.

1429 120 Radiographic Image Production (3)

Presents technical factors involved with the production of the radiographic image. . The basics of processing radiographic film and the automatic film processor including: density, contrast, recorded detail, distortion, film-screen combinations, grids, technique charts and manual versus automatic exposures. The evaluation of diagnostic quality radiographs, causes of poor radiographic quality and steps needed for improvement of suboptimal images are included in this course. Pre-req: Admission into the program. Co-req: 1429 121, 1429 122, 1429 123

1429 121 Radiography Patient Care (3)

Presents basic patient care and medical terminology related to the radiography profession. Topics include: A. Legal and professional responsibilities; B. Patient education, safety, and comfort; C. Prevention and control of infection; D. Patient monitoring; E. Contrast media. Some of the topics included in these course are patient confidentiality, communication and assessment; proper body mechanics for patient transfer, universal precautions and isolation procedures; medical emergency and monitoring equipment; contrast media administration , contraindications, complications and radiographer's response. Pre-req: Admission into the program. Co-req: 1429 120, 1429 122, 1429 123

1429 122 Radiographic Procedures I (3)

This course presents general procedural considerations involved with positioning patients for x-ray examinations and certain specific imaging procedures. Considerations include patient preparation, equipment capabilities, patient instruction and immobilization, technique and positioning variations such as for trauma or pediatric patients and adaptations for patient's body habitus. The specific imaging procedures presented, (including the positioning, technical factors, anatomy, physiology, and pathology) are as follows: chest & abdomen, hand & wrist, forearm & elbow, humerus, shoulder & scapula, clavicle & A. C. joints, toes & foot, os calcis & ankle, tibia, fibula, knee, patella, and femur. This course provides the student with a basic understanding of the practices required to perform these procedures on patients in a hospital, during the clinical education courses which require documentation of completion of clinical competency examinations. The course includes lectures, demonstrations, practice and evaluations utilizing x-ray machines. Pre-req: Admission into the program. Co-req: 1429 120, 1429 121, 1429 123

1429-123 Radiography Clinical Education I (2)

This is the first of five clinical education courses required during the five semester program. This course prepares radiography students to begin performing clinical competency exam requirements of the American Registry of Radiologic Technologist (A.R.R.T.).The first four weeks are instructed on campus, to explain the clinical competency based system, basic hospital protocol and specific radiology department requirements. .The remainder of the course requires students to attend an affiliate hospital 16 hours per week. The competency exams will include basic routine exams of the chest, abdomen and upper extremities. Pre-req: Admission into the program. Co-req: 1429 120, 1429 121 , 1429 122

1429 124 Radiographic Science & Equipment (3)

This course presents basic science terminology involving matter and mass, measurement standards, atomic structure, characteristics of electromagnetic radiation, and the principles of electricity and magnetism. Equipment operation is also presented to include the conditions necessary for the production of x-rays, x-ray machine circuitry, the x-ray tube, rectification, and the anode interactions of Brems and Characteristic radiations. Other imaging equipment are also presented, such as fluoroscopy, mobile radiography, and C-arm portable fluoro units. Pre-req: 1429-120, 1429 121, 1429 122, 1429 123. Co-req: 1429-125, 1429 126

1429 125 Radiographic Procedures 2 (3)

This course is the second in the sequence of two courses. Please refer to the Radiographic Positioning I course for general procedural considerations. The specific imaging procedures presented are as follows: spine (cervical, thoracic, lumbosacral, sacrum, coccyx); S.I. joints, pelvis & hip; head (skull, mastoid, facial, mandible, zygomatic arch, TMJ, nasal, optic foramina, orbit, paranasal sinuses, soft tissue neck); ribs & sternum; gastrointestinal (GI) studies and intravenous (IV) urography. Pre-req; 1429-120, 1429 121, 1429 122, 1429 123. Co-req: 1429-124, 1429 126

1429-126 Radiography Clinical Education 2 (2)
This is the second of a five-course series that requires students to complete competency exams at an assigned hospital for 16 hours per week. The competency exams required will include lower extremities and cervical, thoracic and lumbar spines. Refer to course 1429-123 description for additional information.
P re-req: 1429-120, 1429 121, 1429 122, 1429 123. Co-req: 1429 124, 1429 125

1429-224 Radiography Clinical Education Summer (3)
This is an eight-week summer semester course for students to complete competency exams in mandatory and elective categories, such as skull, facial, sinuses and bony thorax. Attendance includes 40 hours per week at an affiliate hospital.
Pre-req: 1429-120, 1429 121, 1429 122, 1429 123, 1429 124, 1429 125, 1429 126
Co-req: NONE

1429 240 Radiographic Pathology (3)
Emphasizes the major radiographic manifestations of medical and surgical diseases. Radiographs are presented to stress abnormal variants in human anatomy. The basic pathology principles presented include: classification and causes of diseases; injury, inflammation and repair; pathologies of the following body systems: skeletal, hepatobiliary, gastrointestinal, urinary, reproductive, respiratory, circulatory and lymph systems, nervous and endocrine systems; neoplasias, including cancers, tumors, lesions, and neoplasms. Pre-req: 1429 124, 1429 125, 1429 126 Co-req: 1429-245, 1429 270

1429-245 Radiography Clinical Education 3 (3)
Requires students to complete advanced competency exams in areas requiring the use of contrast media, such as barium and iodinated contrast studies. Exams include upper and lower gastrointestinal (UGI, BE, Esophagram), IVP, myelograms, arthrograms and other contrast studies. Surgical exams requiring mobile x-ray and C-Arm portable fluoroscopic machines will also be evaluated. Students are scheduled 24 hours per week at an affiliate hospital. Pre-req: 1429 124, 1429 125, 1429 126 Co-req: 1429-240, 1429 270

1429 250 Radiographic Quality Assurance (3)
This course introduces the basics of evaluating radiographic systems to assure consistency in the production of quality images. State and federal regulations on radiographic quality assurance are presented, including sample documentation forms, such as radiographic, fluoroscopic, and tomographic survey forms; HVL Evaluation forms; grid alignment Q.C. forms and other survey forms. Demonstrations and applications utilizing various components of a Q.A. system are performed with x-ray machines, film processors, densitometers and other Q.A. equipment. The CQI (Continuous Quality Improvement) Management system and the JCAHO "Cycle for Improving Performance" system are explained. Pre-req: 1429 240, 1429 245, 1429 270. Co-req: 1429-255, 1429 260, 1429 265, 1429 280

1429 255 Radiologic Computer Applications (3)
This course is an introduction to the fundamental principles of computer technology as related to medical imaging. Included in this course are the applications and functions in CT, MRI, DR (digital radiography), DF (digital fluoroscopy), US (ultrasound),CVT (Cardiovascular-Interventional Technology, and other imaging modalities. Instrumentation topics include: 1. CT: Components (detector! array processor); Image Processing and Display (reconstruction/pixel/voxel/ matrix fov/attenuation coefficient/window level/window width/x,y,z coordinates; Image Quality (spatial and contrast resolution/noise); Artifacts (partial volume/edge gradient). 2. MRI: RF (radiofrequency); Static and Gradient fields of magnetic strength; Imaging Options (gating/ dimensionality/bandwidth). 3. US: Scan converters/digital memories/ frequency/resolution. Pre-req: 1429 240, 1429 245, 1429 270. Co-req: 1429-250, 1429 260, 1429 265, 1429 280

1429 260 Radiologic Advance Imaging Modalities (3)
Offers introductory presentations in special procedures and in advanced imaging modalities. The special procedures include: Operative and T-tube cholangiography; Cholecystography; ERCP (Endoscopic Retrograde Cholangiopancreatography); Urologic studies (Cystography, Cystourethrography, Retrograde urography/urethrography);Tomography, Arthrography, Myelography, Venography, Bysterosalpingography. The modalities include: Computerized Tomography (CT); Magnetic Resonance Imaging (MRJ); Nuclear Medicine (NM); Radiation Therapy (T); Diagnostic Medical Sonography (US); Cardiovascular -Interventional Technology (CVT); Mammography (M); Positron Emission Tomography (PET) and other relevant new modalities as may be introduced to the profession.
Pre-req: 1429 240, 1429 245, 1429 270. Co-req: 1429-250, 1429 255, 1429 265, 1429 280

1429 265 Radiography ARRT Exam Review (3)
Prepares students for the national examination in radiography, which is given by the American Registry of Radiologic Technologists, to graduates of a JRCERT accredited program in Radiography. Review of the five categories specific to the exam are presented and students are tested in each category. Several composite exams, that simulate the ARRT exam are also included. Content areas include Radiation Protection, Equipment Operation and Maintenance, Image Production and Evaluation, Radiographic Procedures, and Patient Care and Management.
Pre-req: 1429 240, 1429 245, 1429 270. Co-req: 1429-250, 1429 255, 1429 260, 1429 280

1429 270 Radiation Biology & Protection (3)
Patient and personnel protection, as well as radiation exposure and monitoring of student radiographers are the basics of this course. Subjects include the biologic effects of radiation; minimizing patient exposure, NCRP and CFR-21 Regulations; ALARA and dosages; units of measurement and dosimeters (i.e. film badges). An important focus is on the effects of ionizing radiation on human cells in terms of radio-sensitivity and radio-resistance. Pre-req: 1429 124, 1429 125, 1429 126 Co-req: 1429-240, 1429 245

1429-280 Radiography Clinical Education (3)
This is the final course for students to complete all of the mandatory and elective competency exams required by the A.R.R.T. in Radiography. Students will also be rotated through advanced imaging modalities such as ultrasound, CT, MRI, nuclear medicine, radiation therapy, special procedures and/or mammography. Students are scheduled 24 hours per week at an affiliate hospital. Pre-req: 1429 240, 1429 245, 1429 270. Co-req: 1429-250, 1429 255, 1429 260, 1429 265

ASSOCIATE IN APPLIED SCIENCE IN MORTUARY SCIENCE

The Mortuary Science Program is accredited by the American Board of Funeral Service Education, Inc.
3432 Ashland, Suite U, St. Joseph, MO 64506;
Phone: (816) 233-3747; Cell: (816) 341-2573;
Fax: (816) 233-3793; Email: exdir@abfse.org;
Web: www.abfse.org

The Mortuary Science Program curriculum offers a course of study leading to the Associate of Applied Science Degree. It is designed to encompass the managerial and technical aspects of funeral service and its allied areas. It also provides the basis for further study in thanatology, pathology, grief counseling and postmortem examination.

During matriculation, students develop skills in embalming, cosmetizing, dressing, and casketing. In addition, students gain experience in directing funeral services. Students are required to maintain notebooks for each course in the curriculum. Scholarships from national and local funeral service associations and manufacturers are available for those who qualify. Students are required to take the National Board Examination prior to graduation. The annual passage rate of first-time takers on the National Board Examination for the most recent three year period for this institution and all ABFSE accredited funeral service education programs is posted on the ABFSE web site www.abfse.org.

Upon completion of the Mortuary Science curriculum and licensing requirements of the states in which students intend to practice, students are prepared to own and operate a funeral establishment or to serve as a pathologist's assistant, autopsy assistant, anatomical embalmer, anatomical technician, or thanatologists assistant.

Employment opportunities exist with funeral homes, hospitals, medical schools, health, and the offices of medical examiners or coroners.

The Aims and Purposes of the Mortuary Science Program are:

- To increase students' knowledge of funeral service and its professional ethics.
- To educate students in all phases of funeral service and to assist them in the development of skills necessary to meet and exceed the standards of care in dealing with health, safety, and welfare associated to the preparation and care of the deceased.
- To present students with a challenging curricula and facilities which will instill high standards of ethical, moral, community and personnel performance and integrity.
- To share educational facilities as a community resource.
- To encourage exploration, research, self directed discovery and participation in the improvement of the program.
- To relate educational outcomes to the national as well as local needs of the funeral profession.
- To educate it's students to the high standards of ethical conduct necessary to uphold and perpetuate the dignity of funeral service.
- To increase the student's capacity to share responsibility in the social, ethical and political processes of society.

Additional Comments or Requirements:

Academic Standing
To progress in the Mortuary Science Program, prerequisites must be completed for each Mortuary Science course. A student must pass each Mortuary Science course in the sequence in which it is identified in the program of study. Failure to pass any Mortuary Science or core course with a grade of a "C" or better will prevent the student from taking the next course in the sequence until this requirement is met. Also incomplete grade(s) must be removed before progressing to another Mortuary Science course.

A student is allowed only two attempts at all Mortuary Science core courses, and may repeat no more than two Mortuary Science courses to remain enrolled in the program.

All degree requirements for the A.A.S. in Mortuary Science must be completed within four (4) years of taking the first Mortuary Science course.

A student must maintain a Cumulative Grade Point Average (G.P.A.) of 2.5 to remain a Mortuary Science major.

Mortuary Science and core courses can be no older than five years at the time of completion from the Mortuary Science Program.

Grading Scale

100 – 95 = A	94 – 87 = B	86 – 75 = C
74 – 70 = D	69 – 0 = F	

Class Attendance
Classroom attendance is required and Clinical and Practicum attendance in Mortuary Science is mandatory.

Security Clearance
A security clearance may be required for practicum assignments.

Health Clearance
An annual physical is required as well as certain immunizations such as the Hepatitis B series, Tetanus, and Tuberculosis.

Transfer Credits
Transfer students from other colleges must be in good academic standing, not on academic probation, not academically or administratively dismissed, and not barred from continuing enrollment in the Mortuary Science Program at previous college(s). Transfer students from other colleges must meet the criteria for admission, and have earned a 2.5 or higher C.G.P.A. to be considered for progression into the Mortuary Program. Also, credit by examination may be used to validate prior learning.

Credit by Examination
Credit by examination is at the discretion of the Mortuary Science Program Director.

Withdrawal/Dismissal
Mortuary Science students with two grades less than "C" in Mortuary Science courses or core courses will not be retained in the Mortuary Science Program. While students may be dismissed from the Mortuary Science Program, they are not dismissed from the University and are assisted with identifying another major. In

special cases, a student may be readmitted (cases cannot involve failing grades).

Statue of Limitation

No student will be subject involuntarily to regulations and academic requirements introduced while continuously enrolled and in good standing in the Mortuary Science Program, if the new regulations involve undue hardship or loss of academic credits earned to satisfy the requirements previously in effect.

The following regulations are, however, in effect for all students:

A student, who ceased to attend the University for a period of one semester, whether voluntarily or not, is subject to all the regulations and requirements in force at the time studies are resumed unless the Director of the Mortuary Science Program has approved other arrangements and recorded the same in writing prior to the beginning of the absence.

Policies of the Mortuary Science Program are subject to revision during the course of development, implementations, evaluation, and the revision of the curriculum. These changes may become effective prior to publication of the next catalog.

The faculty reserves the right to make curriculum revisions through the Curriculum Committee without prior notice or publication, provided these changes would at no time lengthen the period of time required to obtain the Mortuary Science Degree.

Mortuary Science

Total Credit Hours of College-Level Courses Required for Graduation: 72 credit hours

Pre-Mortuary Science Courses

1535-101	General College Math I	3
1535-102	General College Math II	3
1133-111	English Composition I	3
1133-112	English Composition II	3
1401-111	Anatomy and Physiology I-Lecture*	3
1401-113	Anatomy and Physiology I- Lab*	1
1401-112	Anatomy and Physiology II - Lecture*	3
1401-114	Anatomy and Physiology II - Lab*	1
1119-115	Public Speaking*	3

General Requirements

2131-201	Principles of Macroeconomics	3
3528-104	Intro to Application of Computers*	2
3528-105	Intro to Application of Computers-Lab*	1
2201-201	Principles of Accounting I*	3

**Must achieve a grade of "C" or better.*

Required Courses

1423-104	Funeral Service Orientation	3
1423-105	Descriptive Pathology	3
1423-107	History and Sociology of Funeral Service	3
1423-124	Theories of Embalming and Disposition	3
1423-131	Restorative Art I – Lecture	3
1423-135	Funeral Service Law	3
1423-155	Small Business Management for Funeral Service	3
1423-205	Funeral Service Management and Principles Lecture	2
1423-206	Funeral Service Management and Principles Practicum	3
1423-213	Restorative Art II- Lecture	2
1423-214	Restorative Art II- Lab	2
1423-220	Embalming and Disposition Principles I – Lecture	1
1423-223	Embalming and Disposition Principles I - Lab	2
1423-230	Embalming and Disposition Principles II - Lecture	1
1423-232	Embalming and Disposition Principles II - Lab	2
1423-254	Psychology of Grief	3
1423-294	National Board Seminar	1

COURSE DESCRIPTIONS

1423-104 Funeral Service Orientation (3)
An analysis of the trends and traditions of funeral service, its inception, organizational structure, and avenues of expansion. Lec. 3 hrs., Pre-req.: All Pre-Mortuary Science Courses; Co-req.: 1423-107; 1401-112 and 114; 2131-201; Mortuary Science Majors Only.

1423-105 Descriptive Pathology (3)
Studies medical terminology, various types of communicable diseases and how they may be isolated, the nature and causes of diseases, disturbances in circulation, neoplasia, cysts, forensic pathology, and the diseases of the blood and body systems. Lec. 3 hrs., Pre-req.: 1423-104; 1423-107; Co-req.: 1423-135; 1507-105 and 106; 3528-104 and 105; 2201-201; Mortuary Science Majors Only.

1423-107 History and Sociology of Funeral Service (3)
Discusses the history of funeral service with emphasis on ethnic groups that have influenced contemporary funeral principles and practices. It also involves the study of those social phenomena that affect all elements of funeral service. Lec. 3 hrs., Pre-req.: 1535-101; 1133-111; Co-req.: 1423-104; 1401-112 and 114; 2131-201; Mortuary Science Majors Only.

1423-124 Theories of Embalming and Disposition (3)
An analysis of the objectives of embalming, disposition, signs and tests for death, post mortem changes of the body, pre-embalming techniques, and embalming practices from 4,000 B.C. to present. Pre-req.: 1423-105 and 1423-135. Co-req.: 1423-131, 1423-155. Mortuary Science Majors only. Approval of Program Director.

1423-131 Restorative Art I (3)
An introduction to the physiognomy, surface bones of the cranium and face, modeling techniques, head shapes, facial profiles, structures of the ear, nose, mouth, and eyes. Pre-req.: 1423-105, 1423-135. Co-req.: 1423-124, 1423-155. Mortuary Science Majors only. Approval of Program Director.

1423-135 Funeral Service Law (3)
Legal ramifications concerning the sources of mortuary law, legal status of a dead human body, rights and duties of disposal, the rights of parties obligated for disposal of human remains. Rights and duties of the mortician, liability for funeral expenses, and the laws governing interment and disinterment. Lec. 3 hrs., Pre-req.: 1423-104; 1423-107; Co-req.: 1423-105; 1507-105 and 106; 3528-104 and 105; 2201-201.

1423-155 Small Business Management for Funeral Service (3)
A comprehensive analysis of small business management including the role of small businesses in the United States; problems and risks of business ownership; buying an existing business; starting a new business and marketing. Legal forms of business ownership, contract law, Uniform Commercial Code, laws governing negotiable instruments, and funeral service software applications will also be introduced. Pre-req.: 1423-104, 1423-105, 1423-107, 1423-135. Co-req.: 1423-124, 1423-131. Mortuary Science Majors only. Approval of Program Director.

1423-205 Funeral Service Management and Principles (2)
A concentration on the responsibilities of licensure and professional practices with specific emphasis regarding management of personnel, facilities and other resources. Descriptive as well as field study of implementation and direction of funerals according to sociological, theological and psychological needs of the persons being served. Lec. 2 hrs., Prereq.: 1423-213 and 214; 1423-220 and 223; 2201-202; 2131-201; Co-req.: 1423-206; 1423-230 and 232; 1423-254. Mortuary Science students must be graduating in the spring semester.

1423-206 Funeral Service Management and Principles Practicum (3)
Field experience in the technical and administrative aspects of the funeral service profession. Lab 6 hrs., Co-req.: 1423-205. Mortuary Science students graduating in the spring semester.

1423-213 Restorative Art II (Lecture) (2)
Restorative treatment outlines for burns, bullet wounds, excisions, fractures, decapitations, etc. in conjunction with a full exploration of the color theory with emphasis on waxes and cosmetics. Lec. 2 hrs., Pre-req.: 1423-131. Co-req.: 1423-214. Mortuary Science Majors only.

1423-214 Restorative Art II (Laboratory) (2)
Performing restoration techniques regarding correct form, contour, color and shape. Lab. 4 hrs., Pre-req.: 1423-131. Co-req.: 1423-213. Mortuary Science Majors only.

1423-220 Embalming and Disposition Principles I (Lecture) (1)
Theory and application of the instruments, accessories and materials necessary for embalming and disposition. Methods for case analysis, positioning of the body, posing of features, injection, raising and selecting arteries. Classification of anatomical and linear guides, embalming chemical solutions, dilutions, and drainage types. Lec. 1 hr., Pre-req.: 1423-124. Co-req.: 1423-223. Mortuary Science Majors only. Approval of Program Director.

1423 223 Embalming and Disposition Principles I (Laboratory) (2)
The embalming of dead human remains, the theory of embalming practices, and laboratory management. Lab. 6 hrs., Pre-req. 1423-124. Co-req.: 1423-220. Mortuary Science Majors only. Approval of Program Director.

1423-230 Embalming and Disposition Principles II (Lecture) (1)
A study of the embalming process involving cavity treatment, autopsies, necropsies, or postmortem examinations, postmortem conditions and their embalming treatments, and disaster management related to embalming. Lec. 1 hr., Pre-req.: 1423-213 and 214; 1423-220 and 223. Co-req: 1423-232. Mortuary Science Majors only. Approval of Program Director.

1423-232 Embalming and Disposition Principles II (Laboratory) (2)
The embalming of dead human remains, the theory of embalming practices, and laboratory management. Lab 6 hrs., Co-req.: 1423-230. Mortuary Science Majors only. Approval of Program Director.

1423-254 Psychology of Grief (3)
Mental processes associated with the role of the funeral director in grief counseling, death, dying, immortality, normal and abnormal grief reactions including the concepts of "grief work" and the impact of death on the bereaved. Lec. 3 hrs. Pre-req.: 1423-124, 1423-131 and 1423-155. Mortuary Science Majors only. Approval of Program Director.

1423-294 National Board Seminar (1)
A methodical review of all areas of funeral service with emphasis on specific competencies necessary for passing the National Board Examination as well as State Licensure Examinations. Lec. 1 hr., Pre-req.: Mortuary Science students graduating in the spring semester only. Approval of the Program Director.

ASSOCIATE IN APPLIED SCIENCE IN RESPIRATORY THERAPY

The University offers the A.A.S. Degree in Respiratory Therapy. The curriculum reflects high standards of professional practice and incorporates guidelines from practice trends, professional organizations and accrediting agencies. Students develop the knowledge base and clinical competencies required to meet the health care needs of patients with cardiopulmonary disorders. Respiratory Therapists treat patients along the age and health-care continuums - from premature infants to the aged in critical care, acute care, rehabilitation, and home care settings.

The Respiratory Therapy program is accredited by the Committee on Accreditation for Respiratory Care (CoARC).

Academic Information

Admission
The UDC Office of Admissions processes applications to the University, and upon admission, students identifying Respiratory Therapy as a major, are assigned to a Respiratory Therapy faculty member for ongoing advisement. A separate application, however, is required to enroll in the Professional/Clinical Division (P/CD) of the program. Admission to the P/CD is competitive.

To be considered for admission to the P/CD, eligible students must first be enrolled at the University, complete prerequisites of 14 semester hours earning a minimum grade of 'C' in each identified course, and have a cumulative grade point average (CGPA) of 2.5 or higher. Transfer students must also demonstrate a 2.5 GPA, and have their official transcript(s) evaluated by the University prior to their application to the P/CD. The prerequisite courses are: College Math I (3 credits), English Composition I (3 credits), Anatomy and Physiology I Lecture and Lab (4 credits). Anatomy and Physiology II Lecture and Lab

The application for admission to the P/CD is due on or before the March 1st for the Fall semester. Application submission does not guarantee admission to the P/CD. The Respiratory Therapy Admissions and Progression Committee reviews all applications and recommends students for admission. Students who are not accepted must reapply for consideration for admission.

Admitted students are subject to the program requirements, policies and regulations as identified in the Respiratory Therapy Program Handbook in effect at the time they begin their P/CD coursework.

Readmission
Students in the P/CD who have not been enrolled in a sequential Respiratory Therapy course for one or more semesters, must submit a letter requesting readmission for the following term. Students applying for readmission, must have a GPA of 2.5 and may be required to repeat some or all of the Respiratory Therapy courses previously completed. Readmission to the P/CD is contingent upon space availability, and acceptance by the Respiratory Therapy Admissions and Progression Committee. Readmitted students are subject to the program requirements, policies and regulations as identified in the Respiratory Therapy Program Handbook in effect at the time of their return to the P/CD.

Academic Standing
Achievement of a grade of "C" or better is required in all courses identified in the program of study. Students must pass each Respiratory Therapy course in the sequence in which it is offered. Failure to pass any Respiratory Therapy course with a grade of "C" or better prevents the student from taking the next course in the sequence. Students may repeat a Respiratory Therapy course only once and may repeat no more than two Respiratory Therapy courses.

Progression and Graduation
The Associate Degree requires 70 semester hours, the final 15 of which must be in residence at the university.

Progression to the Third (Summer) Semester requires completion of Fundamentals of Anatomy and Physiology I and II and Fundamentals of Chemistry prior to enrollment in the Summer semester.

Progression to the final semester prior to graduation requires successful performance on the National Board for Respiratory Care (NBRC) Certified Respiratory Therapist Self Assessment Examination (CRT-SAE).

Graduation clearance requires performance on the NBRC Written Registry Self-Assessment Exit Examination (WRRT-SAE) at a cut score set by the CoARC.

Additional Requirements

Health Clearance: An annual physical is required prior to clinical placement as well as any additional immunizations required by the clinical agencies and DC Law.

CPR Certification: All students enrolled in clinical Respiratory Therapy are required to have and maintain current certification in cardiopulmonary resuscitation, CPR for Health Care Providers (card "C").

Professional Liability Insurance: Students are required to maintain professional liability insurance throughout their clinical enrollment. Insurance is purchased in the cashier's office (Bldg. 39, 2nd Floor).

Criminal Background Check: Students taking clinical/practicum courses may be required to provide a criminal background check by the hospital/agency.

Class Attendance: Classroom and laboratory attendance are required and clinical attendance in Respiratory Therapy is mandatory.

Code of Ethics: In addition to University policy, students are expected to follow the Code of Ethics as adopted by the American Association for Respiratory Care (AARC). Violations could result in dismissal from the Respiratory Therapy Program.

Curriculum Revisions: The faculty reserves the right to make curriculum revisions through the Curriculum Committee, without prior notice or publication, provided these changes would not lengthen the time required for a student enrolled in the P/CD to obtain the Respiratory Therapy degree. Such changes would be reflected in the Respiratory Therapy Program Handbook, and may become effective prior to publication of the next Catalogue.

Associate in Applied Science in Respiratory Therapy

Total Credit Hours of College-Level Courses Required For Graduation: 70

General Education Requirements

1535 101	General College Math I	3
1535 102	General College Math II	3
1133 111	English Composition I	3
1133 112	English Composition II	3
1401 111	Fundamentals of Anatomy and Physiology I	3
1401 113	Fundamentals of Anatomy and Physiology I Lab	1
1401 112	Fundamentals of Anatomy and Physiology II	3
1401 114	Fundamentals of Anatomy and Physiology II Lab	1
1507 105	Fundamentals of Chemistry Lecture	3
1507 106	Fundamentals of Chemistry Lab	1
1401 245	Clinical Microbiology	3
1401 244	Clinical Microbiology Lab	1
Elective:	Psychology or Sociology	3

Pre-Respiratory Therapy Course Requirements

1535 101	General College Math I	3
1535 111	English Composition I	3
1401 111	Fundamentals of Anatomy and Physiology I	3
1401 113	Fundamentals of Anatomy and Physiology I Lab	1
1401 112	Fundamentals of Anatomy and Physiology II	3
1401 114	Fundamentals of Anatomy and Physiology II Lab	1

Required Respiratory Therapy Courses:

1431 170	Introduction to Health Sciences	2
1431 171	Principles and Practice of Respiratory Therapy I	4
1431 172	Principles and Practice of Respiratory Therapy II	5
1431 173	Ventilation and Gas Exchange Physiology	2
1431 250	Introduction to Mechanical Ventilation	3
1431 269	Neonatal/Pediatric Respiratory Therapy	1
1431 270	Critical Care and Ventilator Management	5
1431 273	Cardiopulmonary Diagnostics	3
1431 274	Acid-Base and Hemodynamic Physiology	2
1431 276	Respiratory Disease Management	3
1431 277	Adjunctive Respiratory Therapies	2
1431 278	Respiratory Clinical Preceptorship	3
1431 280	Respiratory Therapy Seminar I	1
1431 290	Respiratory Therapy Seminar II	1

RESPIRATORY THERAPY COURSE DESCRIPTIONS

1431-170 Introduction to Health Sciences (2)
The student will be introduced to the contemporary systems of delivering and paying for medical care, the roles of the members of the health care team, communication within the health care setting, medical terminology, professional ethics, hospital records, and legal considerations. (2 Hours lecture) Co-requisite: 1431-171, 1431-173.

1431- 171 Principles and Practice of Respiratory Therapy I (4)
Topics include the chemistry and physics of medical gases, and their application and therapeutic delivery with an emphasis on oxygen administration modalities. Assessment of the patient and an introduction to infection control are included. Laboratory skills are developed in non-invasive assessment techniques, medical gas administration and the principles of humidity/nebulization therapy, which are then translated to the clinical setting. (2 hours lecture, , 3 hours lab, 5 hours clinical) Co-requisite: 1431-170, 1431-173.

1431- 172 Principles and Practice of Respiratory Therapy II (5)
This course focuses on the following principles: pharmacologic aerosol therapy, chest physiotherapy, airway management, hyperinflation therapy and gas monitoring techniques. CPR management in the hospitalized patient builds on the student's Basic Life Support Certification. Laboratory and clinical experiences develop competency in the application of these principles. (3 hours lecture, 3 hours lab, 12 hours clinical) Prerequisites: 1431-170, 1431-171, 1431-173 Co-requisite: 1431-274.

1431- 173 Ventilation and Gas Exchange Physiology (2)
This course discusses the normal physiology of the pulmonary system. It includes the physics of gas flow, the mechanics of breathing, the effects of static and dynamic lung characteristics on ventilation, ventilation-perfusion relationships, gas diffusion and transport. (2 hours lecture) Prerequisites: 1431-170, 1431-171, Co-requisite: 1431-172

1431- 250 Introduction to Mechanical Ventilation (3)
This course provides a transition from general floor therapy to the intensive care unit. Students are introduced to the common modes and equipment utilized in providing ventilatory support to hospitalized adult patients. Laboratory and clinical assignments offer a "hands-on" experience preparing students for assuming ventilatory care responsibilities in subsequent clinical courses. (2 hours lecture, 3 hours lab, 6 hours clinical) Prerequisites: 1431-172, 1431-173. Co-requisite: 1431- 274, 1431- 274.

1431- 269 Neonatal/Pediatric Respiratory Therapy (1)
This course presents normal prenatal development followed by assessment of the neonate. Perinatal lung disease and intervention is included with emphasis on management of neonatal ventilation. Respiratory care procedures unique to the pediatric population are included. (1 hour lecture) Prerequisites: 1431-250, 1431-274, Co-requisites: 1431-270, 1431- 273, 1431- 276, 1431- 280

1431- 270 Care and Ventilator Management (5)
This course builds on the student's basic ventilatory care skills to develop expertise in the management of critically ill patients. Emphasis is placed on the therapist's role as a critical care team member stressing advanced ventilatory options as well as familiarity with the following pharmacologic classifications: cardiovascular drugs, neuromuscular blocking agents and drugs affecting the central nervous and renal systems. (2 hours lecture, 3 hours lab, 12 hours clinical) Prerequisites: 1431-250, 1431-274. Co-requisites: 1431- 269, 1431- 273, 1431-276, 1431-280.

1431- 273 Cardiopulmonary Diagnostics (3)
This course includes the techniques involved in blood gas analysis, as well as the diagnostic measures of EKG'S, radiographic interpretation, bronchoscopy, pulmonary function studies, and polysomnography. Laboratory skills will include the application, calculation and interpretation of diagnostic pulmonary analysis. Equipment familiarity will be stressed as well as calibration and quality control procedures to reinforce the didactic content. (2 hours lecture, 3 hours laboratory) Prerequisites: 1431-250, 1431-274. Corequisites: 1431-269, 1431-270, 1431-276, 1431- 280.

1431-274 Acid-Base and Hemodynamic Physiology (3)

This course builds on the gas exchange physiology and chemistry courses with an emphasis on physiologic acid-base balance and blood gas interpretation. Additional content explores the cardiovascular and renal systems as they relate to both homeostatic and pathologic acid base and hemodynamic regulation. (3 hours lecture) Prerequisites: 1431-171, 1431-173, 1507-105/106. Corequisite: 1431-172.

1431- 276 Respiratory Disease Management (3)

This course includes the study of the etiology, pathophysiology, clinical manifestations and management of pulmonary disease processes, exploring in detail the medical management of conditions manifesting in pulmonary dysfunction. (3 hours lecture) Prerequisites: 1431- 250, 1431-274, Co-requisites: 1431-269, 1431-270, 1431- 273, 1431- 280

1431- 277 Adjunctive Respiratory Therapies (3)

This course emphasizes the sub-specialty areas of Respiratory Care, to include, but not limited to pulmonary rehabilitation, home care, smoking cessation, transport, hyperbarics, ECMO, metabolic and exercise testing, nitric oxide, heliox, partial liquid ventilation, and assisting with thoracentesis, cardioversion, chest tube insertion and management. (3 hours lecture) Prerequisites: 1431-269, 1431- 270, 1431-273, 1431-276, 1431-280. Co-requisites: 1431- 278, 1431- 290.

1431- 278 Respiratory Therapy Clinical Preceptorship (3)

This course allows for reinforcement of skills and the development of judgment and independence as the student assumes greater Respiratory Care responsibilities. Additional critical care experience will solidify ventilator management acumen. Specialized clinical rotations in the areas of diagnostic pulmonary functions, EKG's, hemodynamics, sleep lab, home care, and pulmonary rehabilitation are provided. (16 hours clinical) Prerequisites: 1431-269, 1431-270, 1431- 273, 1431-276, 1431-280. Co-requisites: 1431- 277, 1431- 290.

1431- 280 Respiratory Therapy Seminar I (1)

The goal of the course is to prepare the student for the entry level self assessment evaluation examination given by the National Board for Respiratory Care. Objectives will be met by small group exam review and analysis, computer programmed instruction, and frequent testing. (3 hours seminar) Prerequisites: 1431-250, 1431- 274, Co-requisites: 1431-269, 1431- 270, 1431- 273, 1431- 276

1431-290 Respiratory Therapy Seminar II (1)

This is a seminar course in which the National Board for Respiratory Care advanced practice examination matrices are explored. The methodical review of all areas of respiratory care services provides the framework with emphases on specific competencies necessary for passing the advanced National Board Examinations. (3 hours seminar) Prerequisites: 1431- 269, 1431- 270, 1431- 273, 1431-276, 1431- 280. Co-requisites: 1431-277, 1431- 278

DIVISION OF URBAN AFFAIRS, BEHAVIORAL AND SOCIAL SCIENCES

Department of Urban Affairs, Social Sciences and Social Work

Shiela Harmon Martin, Ph.D., Chairperson
Building 41, Room 413-09
(202) 274-7403

FULL-TIME FACULTY

Professors: B. Ausbrooks, J. Burton, M. El-Khawas, A. Flowers, S. Hill, S. Martin, L. Richards, L. Stewart

Associate Professor: W. Redmond

Assistant Professors: L. Buck, S. Harkness, G. Jackson, S. Jeter, S. Jowers, J. Murphy, G. Musgrove

The Department of Urban Affairs, Social Sciences and Social Work (UASSSW) is an interdisciplinary program that serves students interested in studying urban issues and the social sciences. It provides a problem-solving orientation that is central to the mission of an urban land-grant university. The Department prepares students with conceptual and analytical skills required in a variety of professions, from public safety and social work to academic careers. Students are also prepared for graduate study in their respective disciplines, or related disciplines, and for careers in research, law, government, and other fields. See the program descriptions for further details.

The Department offers instruction leading to the Bachelor of Arts degree in Administration of Justice, Urban Studies, History, Political Science, and Sociology as well as the Bachelor of Social Work degree. The Department also offers the Associate of Applied Science in Law Enforcement and the Associate of Applied Science in Corrections Rehabilitation. The Department also offers courses in Anthropology, Geography and Philosophy that fulfill general education requirements. Faculty engage in interdisciplinary teaching, and students are encouraged to take courses from several programs.

The Urban Studies Program offers a Certificate in Nonprofit Leadership through its affiliation with American Humanics, a national alliance of colleges, universities, and nonprofit agencies preparing undergraduates students for careers in youth and human service agencies. Certification enables students with any major to prepared for a professional career in the expanding nonprofit sector of the urban economy. It also enables those with baccalaureate degrees seeking career advancement or change to acquire additional knowledge and skills. Leadership practitioners from the vibrant nonprofit sector of the District of Columbia serve as guest lecturers and mentors as well as provide internship opportunities.

The programs of UASSSW provide majors and non-majors a variety of courses basic to a liberal arts education. As a group,

they are useful in increasing a student's understanding of self, of social interactions, and of the institutions in which all of us live and work. UASSSW partnerships with public and private agencies, institutions of higher education in the metropolitan area, and programs of professional development instruction for Metropolitan Police and DC Corrections help academic faculty fulfill its commitment to the unique urban land-grant mission of the University.

CRIMINAL JUSTICE PROGRAM

Criminal Justice is the scientific and humane study of crime, the criminal justice system, criminals, and society's reactions to crime. The Criminal Justice Program offers an interdisciplinary course of study leading to associate and baccalaureate degrees in criminal justice. It awards the Bachelor of Arts in the Administration of Justice, as well as the Associate of Applied Science in Law Enforcement, and the Associate of Applied Science in Corrections Rehabilitation.

The curriculum emphasizes public policy analysis and human relations skills supported by qualitative and quantitative research, legal analysis and administrative procedures. It integrates writing, computer and verbal communications skills throughout the program. Computer-based research and analytical methodologies play a pivotal role in the criminal justice field.

The Criminal Justice Program encourages self-directed intellectual inquiry, problem solving, ethics, and a commitment to human rights as important professional values by offering opportunities for experiential learning both in the classroom and in a variety of criminal justice agencies.

Criminal justice is ranked in the top 100 for employment opportunities with both public and private sector career options available. While undergraduate degrees offer entry-level opportunities, upward mobility requires advanced degrees.

Associate in Applied Science in Corrections Rehabilitation and The Associate in Applied Science in Law Enforcement

Total Credit Hours of College-Level Courses Required for Graduation: 60

General Requirements

1133 111	English Composition I	3
1133 112	English Composition II	3
	Mathematics, 100 Level or above	6
	*Natural Science with Lab	4

Required Courses

1169 206	Introduction to American Government	3
1171 201	Principles of Psychology	3
1179 310	Ethics and Public Service	3
1125 100	Criminal Justice Systems	3
1125 102	Criminology	3
1125 175	Introduction to GeoSpatial Analysis	3
1125 203	Introduction to Forensic Investigations	3
1125 222	Criminal Procedures	3
1125 224	Issues in Criminal Law	3
1125 232	Criminal Behavior	3
1125 234	Juvenile Delinquency	3
1125 271	Dynamics of Human Relations	3
1125 272	Conflict Resolution & Mediation Techniques	3

Select one Concentration

Corrections Rehabilitation Concentration:

	Corrections Electives or Special Topics	9

Law Enforcement Concentration:

	Law Enforcement Special Topics	9

Additional Comments or Requirements

A grade of "C" or above is required in each major course.

Bachelor of Arts in Administration of Justice

Total Credit Hours of College-Level Courses Required for Graduation: 120

General Requirements: 41

1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature and Advanced Writing I	3
1133 212	Literature and Advanced Writing II	3
1535	Mathematics, College-Level	6
	Foreign Language	6
1167	Philosophy	3
	*Natural Science with Lab	8
	Fine Arts Elective	3
	**Social Science Electives	0
1119 115	Public Speaking	3
	or	
	Personal and Community Health *and*	2
	Physical Education	1

**Biology, Chemistry, Environmental Science, Physics or Fundamentals of Anatomy & Physiology will satisfy Major and University-wide requirements.*

***Satisfied in Program Major*

****Required for Criminal Justice Majors*

Required Core Courses: 64

1169 206	Introduction to American Government	3
1171 201	Principles of Psychology	3
1179 310	Ethics and Public Service	3
1161 103	World Regional Geography	3
1125 100	Criminal Justice Systems	3
1125 101	Criminology	3
1125 175	Introduction to Geospatial Analysis	3
1125 203	Introduction to Forensic Sciences	3
1125 271	Dynamics of Human Relations	3
1125 222	Criminal Procedures	3
1125 224	Issues in Criminal Law	3
1125 232	Criminal Behavior	3
1125 234	Juvenile Delinquency	3
1125 272	Conflict Resolution & Mediation Technique	3

1125 300	Constitutional Law	3
1125 309	Justice in a Multicultural Society	3
1125 390	Practicum	3
1163 410	History of Crime and Punishment	3
1125 450	Research in Justice Systems	3
1125 451	Research in Justice Statistical Lab	1
1125 491	Senior Seminar	3
1125 497	Program Design & Evaluation	3

Required Criminal Justice Elective Courses: 15

Can include the 6 hours of concentration courses taken for the AAS in Corrections Rehabilitation or the AAS in Law Enforcement, as well as concentrations approved in consultation with the Advisor. All elective courses must be approved by the Advisor.

Additional Comments or Requirements

A grade of "C" or above is required in each major course.

URBAN STUDIES PROGRAM

The Urban Studies Program offers courses leading to a Bachelor of Arts in Urban Studies. This interdisciplinary social science program draws on the talents of faculty trained in the fields of economics, history, sociology, anthropology, social work, criminal justice, political science, public administration, and urban affairs.

The program's curriculum focuses on the socio-economic relations of urban areas and the linkages between urban development issues and the aspects of racism, gender issues, poverty, income, wealth, and ethnicity.

The program is organized around four areas:

1. the history and nature of the urbanization process;
2. the analysis of urban social issues and problems;
3. the acquisition of basic and applied research skills; and
4. policy analysis.

The undergraduate courses provide knowledge of the history of urban growth, the organization and structure of the urban economy; social structure of the urban political system; administrative structures of urban governments; the decision-making process of urban policy making, and development, implementation and evaluation. The program prepares undergraduate students for graduate and professional studies.

Bachelor of Arts in Urban Studies

Total Credit Hours of College-Level Courses Required for Graduation: 120

General Requirements: 43

8800 101	Freshman Orientation	1
1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature and Advanced Writing I	3
1133 212	Literature and Advanced Writing II	3
1535	Mathematics, College-Level	6
	Foreign Language	6
	Philosophy	3
	Natural Science with Lab	8
	Fine Arts Elective	3
	*Social Sciences	0
1119 115	Public Speaking and	3
	Physical Education	1
	or	
	Personal and Community Health and	3
	Physical Education	1

**Satisfied in Program Major*

Required Courses: 51

1179 101	Urban Experience	3
1161 103	World Regional Geography	3
1179 105	Introduction to Social Science	3
1179 106	District of Columbia	3
1179 205	Urban Poverty	3
1179 304	Urban Government	3
1179 307	Race, Class and Ethnicity	3
1179 310	Ethics and Public Service	3
1179 335	Urban Political Economy	3
1179 336	Municipal Budgetary Process	3
1179 384	Advanced Research Techniques	3
1179 405	Urban Policy Analysis	3
1179 494	Senior Seminar	3

Three (3) hours in Comparative Urbanization may be selected from the following:

1179 311	Comparative Urbanization: U.S	3
1179 312	Comparative Urbanization: Europe	3
1179 313	Comparative Urbanization: Third World	3

Required Urban Studies Electives Courses: 9

All elective courses must be approved by an Advisor.

CERTICATE IN NONPROFIT LEADERSHIP

The Certificate in Nonprofit Leadership prepares students for professional careers in the growing nonprofit sector through academic courses, co-curricular activities, a national management institute, and internship/volunteer experience. The certificate program is open to majors in any discipline and to holders of baccalaureate degrees interested in career development or change.

Certificate in Nonprofit Leadership Total Credit Hours Required for Certification: 13

Required Courses

1179 305	Introduction to Nonprofit Organizations	3
1179 306	Fundraising	3
1179 308	Volunteer & Staff Management	3
1179 299	American Humanics Management Institute	1

Elective courses*

1179	Nonprofit Challenges: Topic Varies	3
1179	Program Development & Evaluation	3
3528 104	Introduction to Application Of Computers	3
2209	Financial Management for Nonprofits	3

**Students are also encouraged to select elective courses from introductory courses offered in Administration of Justice, Political Science, Sociology, Social Work and Environmental Sciences to fulfill elective requirements.*

Additional Comments or Requirements

A minimum grade point average of 2.0 is required for all urban studies courses.

HISTORY PROGRAM

The History Program offers two options leading to the Bachelor of Arts degree. The first option prepares majors for graduate study or for entering fields such as journalism, politics, law, and government. The second option prepares majors for professional work as teachers in secondary schools. History courses provide non-majors the opportunity to increase their awareness of the significance of historical change in society.

Bachelor of Arts in History

Total Credit Hours of College-Level Courses Required for Graduation: 120

General Requirements: 43

8800 101	Freshman Orientation	1
1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature and Advanced Writing I	3
1133 212	Literature and Advanced Writing II	3
1535	Mathematics, College-Level	6
	Foreign Language	6
	1167 Philosophy	3
	Natural Science with Lab	8
	Fine Arts Elective	3
	*Social Science Electives	0
1119 115	Public Speaking	
	Physical Education	
	or	
	Health Personal and Community	
	or	
	Natural Science with Lab	4

**Satisfied in Program Major*

Option 1: History

Required Courses for Option 1: 39

1163 101	U.S. History I	3
1163 102	U.S. History II	3
1163 164	History of Black America	3
1163 171	World Civilization I	
	or	
1163 172	World Civilization II	3
1163 394	Philosophy and Methods of History	3
1163 491	Research Seminar in History	3

Select one of the following

1163 274	History of Socialism and Communism	3
1163 276	Colonialism and Imperialism	3
1163 278	History of Women in the World	3
1163 279	History of D.C	3
1163 490	Selected Topics in History	3

Select at least one course from three of the following areas: (9 Credits)

Asian History
African History
European History
Latin American History
Middle Eastern History

Required History Electives: 9

All elective courses must be approved by an Advisor.

Option 2: History/Social Studies Teacher Certification

Required Courses for Option 2: 72

1163 101	U.S. History I	3
1163 102	U.S. History II	3
1163 171	World Civilization I	3
	or	
1163 172	World Civilization II	3
1163 279	History of D.C	3
1163 394	Philosophy and Methods of History	3
1163 491	Research Seminar in History	3
1163	History Electives	12

Education Courses Required for Option 2:

1321 220	Foundations of Education	3
1321 222	Children and Youth in Urban Schools	3
1321 244	Human Development and Behavior	3
1353 204	Introduction to Education of Exceptional Children	3
1323 300	Educational Psychology	3
1321 452	Methods of Teaching in Secondary Schools	3
1351 315	Teaching of Reading in Secondary Schools	3
1321 471	Student Teaching	3

Additional Required Courses for Option 2:

1161 104	World Physical Geography	3
1161 206	World Cultural Geography	
	or	
1161	Geography Elective	3
2131 201	Principles of Economics I	3
1169 206	Introduction to American Government	3
1119 115	Public Speaking	3
	or	
1119 116	Voice and Articulation	3

Select 3 credit hours in any one of the following:

Political Science (Law) Philosophy
Psychology
Social Science
Sociology

TOTAL CREDIT HOURS **72**

Additional Comments or Requirements
A minimum grade of "C" is required in all history courses.

POLITICAL SCIENCE PROGRAM

The Political Science Program offers the Bachelor of Arts degree. Consonant with the mission of the University of the District of Columbia, the Political Science Program is committed to using its resources to help solve the urban problems of the District of Columbia metropolitan area.

Toward this end, the program provides students with a broad knowledge of political institutions, processes and political and social problems. Central to the program are the objectives: to promote awareness of the diverse perceptions of the realities of politics in the United States and internationally; to provide assistance to individuals in community programs and political activities which promote the welfare of the citizens of the Washington, DC area; and to assist students in developing an understanding of racial, minority, socio-economic, psycho-political, and other major issues in the contemporary society.

The Political Science Program prepares students for advanced studies in graduate school and law school, as well as entry into the government service. The program also provides supportive services through opportunities for practical experiences (internships) that enhance student development.

Bachelor of Arts in Political Science

Total Credit Hours of College-Level Courses Required for Graduation: 120

General Requirements: 43

8800 101	Freshman Orientation	1
1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature and Advanced Writing I	3
1133 212	Literature and Advanced Writing II	3
*1535	Mathematics, College-Level	6
	Foreign Language	6
1167	Philosophy	3
	Natural Science with Lab	8
	Fine Arts Elective	3
	**Social Science Electives	0
1119 115	Public Speaking/Physical Education/ Health/Natural Science with Lab	4

**Elementary Statistics, major requirement also fulfills math requirement.*

***Satisfied by Program Major*

Required Courses for the Political Science Program: Total Credits 33

1169 205	Introduction to Political Science	3
1169 206	Introduction to American Government	3
1169 207	Black Politics	3
1169 285	Political Ideologies	3
1169 295	Political Research Skills	3
1169 497	Methods of Political Science	3
1169 498	Senior Seminar	3
	Political Science Electives	9
	Elementary Statistics	3

Additional Requirements
A minimum grade of "C" is required in all required political science courses.

SOCIOLOGY PROGRAM

The Sociology Program offers the Bachelor of Arts Degree. The curriculum provides a comparative analysis of cultures, institutions, and social interaction. Students acquire knowledge of social processes and policy issues as they study social units ranging in size from small groups to global systems. Courses focus on such aspects of society as belief systems, socialization practices, the family, bureaucratic organizations, social control, and social movements and change. Students are trained to conduct research and are provided opportunities for hands-on experience through field placement in the community. The research component is a central part of the program, providing knowledge based on direct experience developing research skills which are in demand.

The curriculum prepares its majors for graduate training in sociology and several related disciplines, and for careers in a variety of professions. The courses also serve other students, providing an understanding of social interaction and social institutions and leading to increased self-awareness and understanding of others. Consequently, students learn to work more effectively with others and with the organizations in which they work and live.

Bachelor of Arts in Sociology

Total Credit Hours of College-Level Courses Required for Graduation: 120

General Requirements: 43

8800 101	Freshman Orientation	1
1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature and Advanced Writing I	3
1133 212	Literature and Advanced Writing II	3
*1535	Mathematics, College-Level	6
	Foreign Language	6
1167	Philosophy	3
	Natural Science with Lab	8
	Fine Arts Elective	3
	**Social Science Electives	0
1119 115	Public Speaking Physical Education **or** Health Personal and Community **or** Natural Science with Lab	4

**Students are advised to take a second required math course prior to taking Statistics for Social Research.*

***Satisfied by Program Major*

Required Courses for Sociology Program

1177 111	Introduction to Sociology	3
1175 113	Introduction to Anthropology	3
1177 320	Research Methods	3
1177 321	Statistics for Social Research	3
1177 394	Critical Analysis and Writing in the Social Sciences	3
1177 470	Development of Social Theory	
	or	
1175 474	Anthropological Theories in Perspective	3
	Sociology and Anthropology Electives	15
TOTAL		**33**

Additional Requirements

A minimum grade of "C" is required in all sociology and anthropology courses. Students are advised to take the Elementary Statistics course as their second required mathematics course before taking Statistics for Social Research.

SOCIAL WORK PROGRAM

The Social Work Program offers a course of study leading to the Bachelor of Social Work (B.S.W.) degree for students who elect to pursue careers in social work and social welfare services. The program prepares professionally competent, ethically based entry level social work generalists who have the skills required to effectively respond to issues and resolve problems in contemporary urban living. Emphasis is on knowledge and skills for effective practice in collaboration with client systems of diverse size and types. Skills for multi-level assessment and intervention with individuals, families, groups, communities, or organizations are presented. Program emphasis is on empowering client systems, eradicating oppression and discrimination and bringing about change that promotes social and economic justice. The worth and dignity of client systems, client self-determination, respect for diversity and responsibility for one's own professional development are represented as critical values. The program also prepares students for graduate study in Social Work and related fields. The undergraduate Social Work program is accredited by the Council on Social Work Education.

Bachelor of Social Work

Total Credit Hours of College-Level Courses Required for Graduation: 120

General Requirements: 43

8800 101	Freshman Orientation	1
1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature and Advanced Writing I	3
1133 212	Literature and Advanced Writing II	3
1535	Mathematics 100-Level	6
	Foreign Language	6
	Philosophy	3
	Natural Science with Lab (2)	8
	Fine Arts Elective	3
	Public Speaking	
or	Physical Education	
or	Health Personal and Community	
or	Natural Science with Lab	4

Pre-professional Foundation:

1179 105	Introduction to Social Science	3
1167* 105	Introduction to Logic	3
1169 205	Introduction to Political Science	3
1175 115	Introduction to Anthropology	3

Select from below for Human Biology requirement:

1401 **101	Biological Science I	3
1401 **102	Biological Science II	3
1401 103	Biological Science I, Lab	1
1401 104	Biological Science, II, Lab	1
	or	
1401 111**	Fundamentals of Anatomy and Physiology I	3
1401 112**	Fundamentals of Anatomy and Physiology II	3
1401 113	Fundamentals of Anatomy and Physiology I, Lab	1
1401 114	Fundamentals of Anatomy and Physiology II, Lab	1

Select one of the following:

1161 104	World Physical Geography	3
1161 105	World Cultural Geography	3
1161 244	Economic Geography	3
1161 347	Urban Geography	3
	or	
1179 106	The District of Columbia	3

Professional Foundation: 42

1173 310	Social Welfare as a Social Institution I	3
1173 311	Social Welfare as a Social Institution II	3
1173 320	Human Behavior and Social Environment I	3
1173 321	Human Behavior and Social Environment II	3
1173 330	Approaches to Interviewing	3
1173 331	Approaches to Group Work	3
1173 332	Social Work Methods I	3
1173 433	Social Work Methods II	3
1173 340	Research in Social Welfare I	3
1173 341	Research in Social Welfare II	3
1173 342	Statistical Lab I	1
1173 343	Statistical Lab II	1
1173 490	Practicum I	5
1173 491	Practicum II	5

**This course also meets the general education requirement in Philosophy.*

***These courses will also meet the general education requirement in Natural Science.*

Above pre professional foundation courses are social work requirements and will also meet general education requirements. Twenty-five (25) credit hours of electives are also required.

Additional Comments or Requirements

Students begin their core social work courses after completion of a minimum of 45 college level semester hours including all English requirements and all pre professional social work requirements. A grade point average of 2.5 must be maintained in social work courses. A grade of "C" or better is required in each practicum course.

GEOGRAPHY COURSES

Geography courses are a core set of spatial analytical courses and computer software application classes to enhance the curriculum of students in other majors. While students cannot major in geography, they may select courses that strengthen their understanding of the role of physical and cultural factors in the development of societies in the world. Students majoring in any field may also acquire competencies in the application of geographic information systems (GIS) and computer cartography.

1161 103	World Regional Geography	3
1161 104	World Physical Geography	3
1161 105	World Cultural Geography	3
1161 258	Geography of the District of Columbia	3
1161 347	Urban Geography	3
1161 370	Introduction to Computer Mapping and Cartography	3
1161 375	Introduction to Desktop GIS	3
1161 470	Advanced Desktop GIS	3
1161 475	Urban & Environmental Geographic Information Systems (GIS)	3

PHILOSOPHY COURSES

While students cannot major in Philosophy, courses are offered that provide students with an understanding of major problems that have occupied philosophers in various traditions. Specific objectives are to teach students to raise fundamental questions about society, its institutions, policies, and objectives; and to train students to examine critically the philosophical assumptions of a body of thought and to develop and articulate alternative philosophical frameworks. The course in logic develops analytical and inferential skills.

1167 105	Introduction to Logic	3
1167 106	Introduction to Problems in Philosophy	3
1167 107	Introduction to Philosophy of Religion	3
1167 108	Introduction to Social Ethics	3
1167 109	Philosophy of Human Nature	3
1167 110	Critical Reasoning	3
1167 206	Introduction to Modern Logic	3
1167 207	World Religions	3
1167 214	Social and Political Philosophy	3

COURSE DESCRIPTIONS

1175 113 Introduction to Anthropology (3)
Introduces the fields of anthropology, with main emphasis on cultural anthropology. Covers basic concepts, approaches, and findings of anthropologists studying the development of human cultures of the present and past.

1175 234 Black Societies in the New World (3)
Studies Black societies in North, Central, and South America, and the Caribbean from an historical and comparative perspective. Examines the institutions and culture of the colonial and post-colonial periods.

1175 235 People and Cultures of Africa (3)
Studies the economic, social, political, and religious features, examining the relationship between traditional and contemporary social forms.

1175 246 Ethnicity (3)
Studies the interaction, cultural differences, and adaptive features of selected ethnic groups. Covers interaction between dominant and minority groups in the United States and other societies.

1175 313 Physical Anthropology (3)
Studies the biological and cultural evolution and the interaction of the two. Shows how human biology makes culture possible, and how culture makes human beings, taking account of human behavior as both genetic and learned. Traces the development of differences among human populations and examines the concept of race.

1175 474 Anthropological Theories In Perspective (3)
Studies major contemporary social theories, emphasizing the critical analysis of original sources and the comparison of different approaches to the study of human groups in society. Prereq.: Junior standing or permission of the instructor.

1125 100 Criminal Justice System (3)
Provides an overview of the criminal justice system, its main elements and their functions. The course also examines the social, political, and cultural considerations that have influenced and shaped system functions and institutions.

1125 102 Criminology (3)
Introduces students to the study of crime using computer software applications. Students are introduced to different types of crime and the problems of crime analysis. This course is designed to present students with the importance of a geographical and demographic analysis of the incidence of crime.

1125 111 Contemporary Police Systems and Problems (3)
Examines the philosophy of modern police systems in the U.S.A.; includes an evaluation of the purposes of the organization, jurisdiction, and law enforcement methods of specific law enforcement agencies.

1125 115 History and Philosophy of Corrections (3)
Traces the evolution of modern-day correctional thought in the United States, the development of institutional programs and architectural design, and the impact of theoretical and practical research on correctional standards and practices.

1125 150 Justice Issues in Society (3)
Examines a variety of contemporary justice issues in order to study the economic, political, and social basis of crime. Using a critical reasoning model, students develop a methodology of analytical reading and writing in order to study how social problems relate to crime and public safety issues.

1125 175 Introduction to Geo-Spatial Analysis (3)
Introduces students to the study of crime using mapping and special analysis to understand the relationship between geo-spatial environment and human habitation. Students will utilize crime mapping techniques as well as quantitative and qualitative methodologies to explore topics of crime causation and analysis from a geo-spatial perspective.

1125 203 Introduction to Forensic Investigations (3)
Introduces students to the field of forensic science. Examines the application of science and technology to crime scene analysis. Students may utilize computers, as well as be exposed to more traditional laboratory equipment in their analysis. Prereq.: 1125 100, 102.

1125 221 Investigations (3)
Investigation methods and techniques, with emphasis on criminal investigations. Covers crime scene search, development of leads, recognition, handling and preservation of evidence, witness identification, and techniques of interview. Prereq.: 1125 100, 102, 111, 232.

1125 222 Criminal Procedure (3)
Focuses on the procedural requirements of the fourth, fifth, and sixth amendments to the U.S. Constitution through a study of leading Supreme Court cases.

1125 224 Issues in Criminal Law (3)
Examines issues and principles in criminal law utilizing legal concepts. These issues and principles will be examined not only from the perspective of what is required (or prohibited), but from the implications and impact of the requirement or prohibition. This will involve an examination not only from a systemic perspective, but also from the manner in which various societal groups are advantaged or disadvantaged. In addition to general introductory concepts, this course will also examine issues involving: conditions of pretrial release, grand jury, elements of offenses, affirmative defenses (such as insanity, entrapment), sentencing. Contemporary issues in criminal law will also be explored. Prereq.: 1125 100, 102 and 232.

1125 232 Criminal Behavior (3)
Introduces students to the scientific study of behavior. Using a variety of behavioral problems, students will examine how criminologists study crime and criminal behavior. Satisfies the University's social science requirement.

1125 234 Juvenile Delinquency (3)
Studies the complexity of juvenile delinquency as a behavioral pattern through the examination of contemporary cultural and ecological environments and by study of the differing theories of delinquent behavior. The student examines the juvenile court and focuses on special constitutional and legal concerns facing juvenile offenders.

1125 235 Probation, Classification and Parole (3)
Covers general probation and parole objectives, methods, and procedures to include a working knowledge of the duties of the correctional treatment specialist. Includes the review and formulation of typical case studies and understanding of the principles and methods involved. Prereq.: 1125 100, 102, 115, 232.

1125 271 Dynamics of Human Relations (3)
Introduces students to theoretical analysis, current research findings, models of helping methods, intervention designs and follow-up evaluations for the adult and juvenile in criminal justice settings. Students will have an opportunity to role play and assess their behavior, as well as interact with other students in evaluation and feedback. Prereq.: 1125 100, 102, 232.

1125 272 Conflict Resolution and Mediation Techniques (3)
Examines the characteristics of these two approaches as a prerequisite for analysis of their effective utilization as both prevention and intervention techniques in avoiding or reducing the likelihood of violent confrontations. In addition, the student will develop an understanding of how appropriate use of these approaches can facilitate interaction between the criminal justice system practitioner and individuals involved in one-on-one engagements with that practitioner. Students will have an opportunity to role play and assess their behavior, as well as interact with other students in evaluation and feedback. Prereq.: 1125 102, 232, 271.

1125 294 Special Topics (3)
Topical course offerings include: Homicide; Technology, Privacy and Justice in the 21st Century; Victimology; Female Offenders; Domestic Violence; Gangs and Gang Behavior; and Cybercrime & Terrorism in the United States; and Weapons of Mass Destruction.

1125 300 Constitutional Law (3)
Through a study of leading U.S. Supreme Court cases, students will study federalism and separation of powers issues. Students will also analyze the authority to promulgate criminal laws and policy initiatives in relationship to these issues. Prereq.: 1125 102, 222, 224.

1125 301 Correctional Operations (3)
Studies basic organization and objectives of a department of corrections. Specific administrative principles required for the effective conduct and operation of a correctional organization. Relationships among the following institutional units: custodial force, treatment staff, clerical, culinary, maintenance staffs, and residents. Prereq.: 1125 115.

1125 302 Police Community Relations (3)
Examines various approaches to community-based policing and the relative advantages and disadvantages of each approach. Also examined will be the implications of the diversity within the Washington, D.C. community; the operations of the various community organizations in the city; and the barriers existing which hinder effective community policing. Emphasis will be placed on the development of methodologies for increasing constructive interaction between the police and residents. Prereq.: 1125 111, 232, 271, 272.

1125 303 Comparative Criminal Justice Systems (3)
Examines and compares the criminal justice system in the United States with those of a selected group of other nations. Prereq.: 1125 100.

1125 305 Administration in Criminal Justice (3)
Examines the organizational design, mission statements, staff roles, and the relationship between administrative processes and outcome objectives in criminal justice agencies. Emphasis is placed on the interrelationship of program goals, organizational design, and budget preparation. Prereq.: 1125 100, 102.

1125 309 Justice in a Multicultural Society (3)
Examines in broad historical outline the great importance of race and similarly categorical distinctions (such as sex and religion) on the patterns of American society and how those patterns have affected the criminal justice system. A practical model for understanding racism is developed for application in a variety of settings. Junior or senior classification.

1125 390 Practicum (3)
Designed to provide a conceptual framework for reality testing of curriculum-related assumptions and strategies with cooperating public and private agencies. In addition to the regularly scheduled class, a ninety hour internship is required. Prereq.: 1125 100, 102, 232 and Junior or senior classification.

1125 402 Community-Based Correctional Programs (3)
Examines problems of work-release and school-release programs and institutional inmates; administration of half-way houses, nonresidential programs for probationers, parolees, and drug abusers; community residences for juvenile offenders; and supervision of foster care programs. Prereq.: 1125 115

1125 405 Organized Crime in the United States (3)
Examines the historic origins, organizational structure and method of operation, and goals and objectives of organized crime in the United States.

1125 450 Research in Justice Systems (3)
Covers the logic of scientific inquiry and its relationship to qualitative and quantitative research methodologies as applied to the justice field. Since emphasis is placed on the use of computer-based statistical programs, as well as other computer-based criminal justice research programs, this course is conducted in a computer laboratory. Co-req.: 1125 451. Prereq: 1125 100,102,232,234, Junior Standing.

1125 451 Research in Justice\ Statistical Lab (1)
Designed to introduce students to the advanced statistical techniques used in criminal justice research. Co-req.: 1125 100, 102, 232, 234, Junior Standing.

1125 460 Theories of Planned Change: Society, the Environment, and Justice (3)
Examines theories and practices of both institutional and social change as they apply in the area of criminal justice. Through the utilization of computer-based forecasting and prediction methodologies, students will have an opportunity to analyze and critique a variety of intervention models applicable to criminal justice. Through examination of the manner in which change in one segment of the criminal justice system has tremendous impact on other segments of the system, students will develop an understanding for the necessity of thorough anticipation of both manifest and latent functions of any planned change. Prereq.: Junior standing.

1125 464 Evidence (3)
Covers the rules of evidence applicable in criminal cases which derive from a statutory or case law background, such as hearsay, presumptions and inferences, documentary evidence, etc. Excluded are those evidentiary exclusions based upon the U.S. Constitution. Prereq.: Junior or senior standing.

1125 491 Senior Project (3)
Requires students to write, in consultation with faculty, a senior thesis paper on a criminal justice topic of their choice. Prereq.: Criminal Justice seniors only and 1125 450, 451, 497.

1125 495 Independent Study (VC)
Involves a program of reading and reporting planned and carried out under the guidance of a faculty member. The topic, issue, or area of student interest must concern a problem in the administration of justice, constitutional or criminal law or procedure, corrections (including probation and parole), or law enforcement. Prereq.: Junior or senior standing and a 3.2 average in courses in the field.

1125 496 Reading Course in Justice Systems (3)
Utilizes a seminar format. Students are responsible for completing a series of individual readings from an assigned reading list and subsequently engaging in discussion and analysis of issues raised by the readings and their relationship to the criminal justice system. Prereq.: Junior or senior standing.

1125 497 Program Design and Evaluation Techniques (3)
Provides practical guidance in the techniques of designing, implementing, and presenting results of justice program evaluation research. Prereq.: 1125 450, 451.

1161 103 World Regional Geography (3)
Introduces students to global regions by integrating the environment, cultural, and economic spatial frame-works. The geography of individual regions will be considered, along with the interactions between them and the resulting systems of interdependence.

1161 104 World Physical Geography (3)
Presents a spatial systematic view of the earth and relates certain selected physical phenomena to the human-nature complex of the earth. These relation-ships emphasize the roles of the physical elements in man's environment. Topics include; geographic tools, earth-sun relationships, atmosphere, lithosphere, hydro-sphere, and biosphere.

1161 105 World Cultural Geography (3)
Investigates the spatial organization of human beings and their societies. Students will have the opportunity to explore world distributions and patterns of population, cultural elements, settlements, livelihoods, and political orders as they are spatially related to the physical environment and to one another. The locational perspective examines where and why people occupy and utilize some portions of the earth's surface in preference to others.

1161 258 Geography of the District of Columbia (3)
Emphasizes the physical, cultural, and economic geographical framework of the Washington metropolitan area, with consideration given to its development in a historical context. Particular stress is placed upon the spatial factors which are significant in Washington's functioning urban area.

1161 347 Urban Geography (3)
Involves the principles governing the origin, structure, and growth of urban agglomerations. Emphasis is placed upon the phenomena of the institution and establishment and renewal of physical and cultural areas within and without metropolises. 1161 103, 104, 105, suggested, but not required.

1161 370 Introduction to Computer Mapping & Cartography (3)
Introduces students to computer mapping hardware and software and cartography (the making and understanding of maps). The course will be pertinent to anyone planning to utilize current mapping software and hardware in other University courses or disciplines, positions in city and regional planning or urban policy agencies, research centers, and public and private sector employment positions.

1161 375 Introduction to Desktop GIS (3)
Introduces students to advanced software and hardware in the GIS technology. This can be used for scientific investigations, resource management, and development planning. The student will learn to assemble, store, manipulate, and display geographically referenced information, that is, data identified according to their location.

1161 470 Advanced Desktop GIS (3)
Requires the student to apply her or his computer mapping skills to real research or projects working with the University administration or research centers, outside research centers or groups, city and federal government agencies, and private sector activities.

1161 475 Urban and Environmental Information Systems (GIS) (3)
Provides the student the opportunity to utilize extensive databases to conduct research or work on projects and use work stations to analyze data and display the data in geographic form.

1163 101 United States History I (To 1865) (3)
Studies the interaction and conflict between American Indians, Africans, and Europeans; social and economic structure of the English colonies; the war for independence and nation building; slavery and the emergence of the cotton kingdom; the development of political parties in the Age of Jackson; sectional conflict in the West; and the coming of the Civil War.

1163 102 United States History II (Since 1865) (3)
Studies the Reconstruction and the emergence of the urban industrial order; immigration; populism; and the rise of segregation and disenfranchisement; progressivism; the new imperialism and the coming of World War I; social and cultural change in the 1920's. Also covers the Depression; the New Deal and the origins of World War II; the cold war and McCarthyism; the civil rights movement, Vietnam and urban race riots; the rise of the new conservatism, and the Cold War and its aftermath.

1163 111 African History (3)
Focuses on the broad history of continental Africa up to 1875. Provides an introductory view of African cultural traditions; state building in various regions of Africa; the coming of the white man, and the slave trade in East and West Africa.

1163 121 Pre-Columbian and Colonial Latin American History (3)
Surveys the indigenous civilizations of the Americas and Africa, the slave trade, and the Iberian civilizations that became the third ingredient in the formation of modern Latin America and the Caribbean. Discusses the economic, political, and social overview of four centuries of existence as Iberian colonies.

1163 122 Modern Latin American History (3)
Surveys the 19th century independence movement and the development of national identity; twentieth century revolutions, especially Mexico and Cuba, and the contemporary history of the area.

1163 144 History of the Islamic Peoples (3)
Discusses life in pre-Islamic society; Mohammed and the rise of Islam; Islamic culture and institutions; the spread of Islam in Asia, Africa, Europe, and the United States.

1163 154 Asian Civilization (3)
Surveys the cultural, political, economic, social, and intellectual developments in China, Japan, Korea, and Southeast Asia; communications among the Asian countries in ancient and medieval periods; Western domination in Asia from the 15th to 20th Century, and contemporary issues.

1163 164 History of Black Americans I (3)
Discusses the impact of the European slave trade on African civilization; the establishment of slavery in Latin America, the Caribbean, and North America; the economic and political nature of slavery; the position of free Black people in a slave society up to, and including, the Reconstruction. Emphasizes the importance of early Black community and organizational development.

1163 165 History of Black Americans II (3)
Discusses the disenfranchisement of Black America; the beginning of urban migratory experience, and group protests, including the Nationalist Movement. Course concludes with the "New Negro" movement and an examination of the Civil Rights and Liberation movements, highlighting Black intellectual leaders and the current status of Affirmative Action.

1163 171 World Civilization I (3)
Presents the broad characteristics of traditional, classical, and feudal civilizations, examined in a chronological and comparative order. Introduces students to the basic concepts of the humanities and social sciences.

1163 172 World Civilization II (3)
Analyzes the changes produced in the West by science, technology, industrialism, and political ideologies contributing to the formation of modern culture. Examines the transformation of the non-Western world, both from within and without, by such forces as colonialism, nationalism, revolutionary ideologies, independence, and development.

1163 224 History of the Caribbean (3)
Surveys the culture of the indigenous people of the area, including the sugar-slavery-based socio-economic system of the colonial era, abolition, and emancipation; the Caribbean as a sphere of United States influence, and the development of the modern nations of the area, including Guyana.

1163 233 Emergence of Western Europe (3)
Analyzes dynamic changes produced in the West by the Middle Ages, Renaissance exploration, and Reformation. Considers the major forces of change contributing to the formation of modern Western culture.

1163 235 Age of Revolution (3)
Studies revolutions, with special emphasis on socio-economic developments in the world since the 18th century. Emphasizes the impact of revolutionary ideas on other societies and their relevance today.

1163 244 History of the Middle East to 1800 (3)
Discusses early Islam, the Byzantine Empire, the Ottoman Turks, and the rise of the Ottoman Empire to world power.

1163 245 The Middle East Since 1800 (3)
Discusses the development of modern Egypt, the rise of nationalism, the fall of the Ottoman Empire, European colonialism, and the impact of World War I and World War II on the Middle East.

1163 265 Black Women in America (3)
Discusses the history of African-American women in the United States and the Third World, from the African experience to the present. Emphasizes diverse roles and activities in the African-American community and in the development of the U.S. Examines certain themes, such as the myth of the Black matriarch, the economic roles of Black women, and the participation of Black women in the liberation movement.

1163 274 History of Socialism and Communism (3)
Discusses the Socialist movement from the French Revolution to Perestroika and the demise of communism in Eastern Europe. Discussions focus on the writings of Fourier, Saint-Simon, Owen, Marx, Engels, Lenin, Stalin, MaoZedong, Ho Chi Minh; Ernesto Che Guevara, Nkrumah, Nyerere, and others.

1163 276 Colonialism and Imperialism (3)
Examines the ideology and practices of imperialism and colonialism; patterns of colonial government and administration; impact of colonial rule; analyses of successes and failures of these systems.

1163 278 History of Women in the World (3)
Introduces women's studies and the role of women in society through different historical stages; women's involvement with the political and educational processes in selected countries in the Americas, Europe and the Third World; and an examination of the ideals and issues of women of different classes, occupations, races, and ethnic groups.

1163 279 History of the District of Columbia (3)
Discusses the District of Columbia from its founding to the present. Special attention is given to the development of social structures, forms of government, and urban patterns as they reflect changes in the local community. Encourages students to develop individual research projects which will contribute further to the historical understanding of the Washington, D.C. community.

1163 305 United States Social History (3)
Explores the rapidly changing nature of society in the United States concentrating on ethnic, regional, religious, and economic shifts, with special attention to immigration, migration, and urbanization.

1163 333 Expansion of the West (3)
Discusses the dynamics of the nation-state, the Industrial Revolution, and the changes associated with it; the origins and results of the great wars; the rise of totalitarian systems, and the development and decline of Western imperialism.

1163 344 Contemporary History of the Middle East (3)
Discusses the political, cultural, and social developments in the Middle East since the end of World War II.

1163 354 History of Modern China (3)
Discusses the Confucian heritage and the Qing Empire (1644-1911); China's response to Western and imperialist challenges and the Chinese Revolution, as well as the cultural changes, in the light of current Chinese scholarship and Western interpretations.

1163 355 History of Modern Japan (3)
Discusses the political, cultural, and social development of modern Japan since the Meiji Restoration (1867); the rise and fall of the Japanese Empire; and foreign and trade relations since World War II.

1163 394 Philosophy and Methods of History (3)
Discusses aspects of the discipline of history; theories of history and historical explanations. Emphasis is placed on the ways by which historians explain the past and the similarities and differences between historical and other forms of explanation and understanding. Selected topics in speculative and analytical philosophy of history interpretation. Prereq.: Junior standing.

1163 395 Independent Study (3)
Is a reading course for history majors under the direction of a history faculty member. Prereq.: Junior standing or permission of the department chair.

1163 404 United States Intellectual History (3)
Provides selective examination of philosophical, scientific, social, and religious thought in the United States, with emphasis upon the interaction of European origins and American development.

1163 410 History of Crime and Punishment in the U.S. (3)
This course covers the 300-year period from colonial times to the present with the constantly changing definitions of both crime and punishment. The focus is placed on the great importance crime has had in the way in which politics, economics, and social values have become structured in the United States. Special attention is paid to ethnic groups and the way in which crime has provided them with mobility in American society.

1163 490 Selected Topics in History (3)
Deals with selected topics in one of the following fields of history: Latin America, United States, Afro-Americans, Africa, Europe, Middle East, and Asia. The choice of topic in a selected area will depend upon faculty availability and student interest and need.

1163 491 Research Seminar History (3)
Required of history majors. Provides the student with experience in research and writing in a field of concentration with supervision by faculty member. Prereq.: 1163 394.

1167 105 Introduction to Logic (3)
Discusses the principles of correct reasoning, with emphasis on acquisition and strengthening of basic skills, such as recognizing arguments and analyzing them into their parts; distinguishing

between inductive and deductive arguments; distinguishing between deductively valid and invalid arguments, and recognizing informal fallacies.

1167 106 Introduction to Problems in Philosophy (3)
Introduces critical and dialectical methods in philosophy as applied to some basic issues—knowledge, freedom, morality, happiness, rights, and beauty. Emphasizes the range of positions on any given issue and develops the ability to examine these positions in a reasoned and systematic manner.

1167 107 Introduction to Philosophy of Religion (3)
Clarifies and discusses some major philosophic positions regarding religion, centering on the concept of God; life after death, and mysteries. Focuses on the unique features of religious language vis-a-vis ordinary language; how religious concepts and claims can be evaluated; and the possibility of the rational defense of traditional religious views.

1167 108 Introduction to Social Ethics (3)
Studies the theories people have held about the nature of morality and the ways these theories can be justified. Applies these theories to such social problems as abortion, sexual and racial discrimination, war, and poverty.

1167 109 Philosophy of Human Nature (3)
Studies the conflicting beliefs about the nature and the purpose of human life. Discusses the theories of Plato, Jesus, Marx, Freud, Sartre, Skinner, and Wilson.

1167 110 Critical Reasoning (3)
Discusses the basic concepts of critical thinking, with emphasis on the acquisition and strengthening of skills, such as the ability to identify the ultimate conclusion of a complex argument and the major premises offered in support of it; the ability to distinguish between valid and invalid arguments; the ability to recognize informal fallacies; the ability to evaluate the strength of non-deductive arguments, and the ability to write critical essays.

1167 206 Introduction to Modern Logic (3)
Covers the basic elements of modern deductive and inductive logic. Discusses the use of "not," "and," and "if and then" operators, truth tables, proof construction, Mill's Methods of Agreement and Difference, and probabilistic reasoning.

1167 207 World Religions (3)
Presents the basic tenets of major world religions and the similarities and differences among them. Aims to increase understanding and appreciation for different religions in the present-day global society.

1167 206 Social and Political Philosophy (3)
Examines the origin and nature of the state, the basis of natural rights, and the tension between the individual and the state. Includes a discussion of individualism versus collectivism.

1169 205 Introduction to Political Science (3)
Introduces the scope and range of the discipline of political science; the role of politics in society; the nature of power and legitimacy; political functions and institutions. Also treats the enduring issues of equality, justice, and freedom as they are discussed in classical political thought, social contract theory, and contemporary ideologies.

1169 206 Introduction to American Government (3)
Introduces the major principles of American government and politics. Focuses on major national institutions of the Presidency, Congress, and the courts; federalism; civil rights and civil liberties; and political behavior and dynamics.

1169 207 Black Politics (3)
Introduces the study of the participation of African Americans in the American political system. Focuses on the historical and contemporary struggle of African Americans to become equal participants in the political process. Examines political strategies developed and used by Blacks in response to their minority status, including issues of affirmative action.

1169 285 Political Ideologies (3)
Introduces the content and historical development of contemporary ideologies, such as communism, socialism, fascism, liberalism, and conservatism, and examines the nature of nationalism and imperialism.

1169 295 Political Research Skills (3)
Introduces the fundamental concepts of political inquiry, with particular emphasis on empirical research methods. Special attention given to research problem formulation, writing, and reading comprehension skills and acquaintance with bibliographical and other research sources. Prereq.: 1169 205 or 1169 206.

1169 306 Political Parties and Interest Groups (3)
Analyzes the structure, operations, and ideology of political parties and interest groups. A consideration of questions of conflict of interest, the extent of the power of private groups in the political system, and the impact of private power upon the community and the individual. Prereq.: 1169 205 or 1169 206

1169 307 The Legislative Process (3)
Studies the process of policy formulation by the legislative branch of American government, with consideration to such topics as legislative leadership, legislative behavior, the executive impact on legislation, and the role of parties and interest groups in the legislative process. Prereq.: 1169 205 or 1169 206.

1169 308 The Presidency (3)
Studies the Presidency of the United States from the perspectives of historical development, constitutional power and limits, and behavioral characteristics. Analyzes power relationships involving the Presidency and the other political subsystems. Prereq.: 1169 205 or 1169 206.

1169 336 Seminar in Practical Politics (3)
Offers an opportunity to students to interact with people who are engaged in government and politics at the local, state, and national levels. Features resource speakers and exposes students to practical aspects of government and politics through attendance at public hearings, City Hall, the U.S. Congress, and the White House. Prereq.: 1169 206.

1169 345 Introduction to Public Administration (3)
Introduces the basic concepts and scope of public administration with particular emphasis on the federal level, viewed from the descriptive-structural perspective and the political and social dimensions of public administration in action. Analyzes the impact of bureaucratic institutions on contemporary society, the individual, and groups. Prereq.: 1169 205 or 1169 206.

1169 346 Bureaucracy and Policy-Making (3)
Studies the role of bureaucracies in policy-making and their interactions with the other elements of the political system. Discusses such topics as the sources of bureaucratic power, the bureaucratic policy process, and the interactions of the bureaucracy with the executive, legislative, and non-governmental structures, and the public. Prereq.: 1169 205 or 1169 206.

1169 355 Constitutional Law (3)
Discusses the constitutional and legal framework of American political institutions and the major decisions of the United States Supreme Court which have an impact on the separation of powers, the federal system, and the role of the judicial system itself. Prereq.: 1169 205 or 1169 206.

1169 356 Civil Rights and Liberties (3)
Studies the issues and problems of constitutional law, with particular emphasis on matters related to the Bill of Rights, such as freedom of speech and religion, right to privacy, due process, desegregation, voting rights, and public accommodations. Prereq.: 1169 205 or 1169 206.

1169 365 Introduction to Comparative Politics (3)
Provides a comparative study of political systems using institutional, functional, and other perspectives, with an emphasis on the construction of systematic theory. Examines political systems, ranging from simple to differentiated structures, to illustrate theoretical and substantive issues and problems. Prereq.: 1169 205 or 1169 206.

1169 366 Politics of Emerging Nations (3)
Discusses a cross-national analysis of the common problems of political development of the emerging nations. Gives attention to the impact of colonization, the role of tradition, ideologies of social change, and the role of modernizing groups and institutions, such as the military, the intelligentsia, and the party system. Discusses the economic, social, and psychological concomitants of political development. Prereq.: 1169 205 or 1169 206.

1169 375 Introduction to International Relations (3)
Examines the basic concepts, issues, and institutions of international relations, such as the nature of sovereignty, balance of power, spheres of influence, the nation-state, and supranational organizations. Treats the nature of diplomacy and war. Prereq.: 1169 205 or 1169 206.

1169 376 International Law and Organizations (3)
Focuses on international law and the basic theories of the structure and function of various international organizations, including their administrative operations, with particular reference to the United Nations and its related agencies. Prereq.: 1169 205 or 1169 206.

1169 377 United States Foreign Policy (3)
Examines the decision-making processes of American foreign policy, including the role of Congress, the federal bureaucracy, the executive, corporations, the military, and the people in the formulation of policy. Discussion of historical and contemporary issues to illustrate these processes. Prereq.: 1169 205 or 1169 206.

1169 385 Western Political Thought (3)
Discusses a selection of the major writers, issues, and traditions of Western political philosophy and their relevance to the theoretical and practical concerns of contemporary political thought. Discusses topics such as relation of man to the state, the nature of government, and the distribution of power. Prereq.: 1169 205 or 1169 206.

1169 386 Third World Political Thought (3)
Introduces the major political theories and systems of thought of the Third World countries, including historical development and socio-economic dimensions. Focuses on selected thinkers in Latin America, Africa, and Asia and their responses to the issues and problems of the Third World. Prereq.: 1169 205 or 1169 206.

1169 387 American Political Thought (3)
Surveys the major intellectual influences on the political and constitutional systems of the United States. Discusses the origins of American political thought in Europe and elsewhere and the basic principles of significant political philosophies in the United States. Prereq.: 1169 205 or 1169 206.

1169 406 Selected Topics in American Politics (3)
Examines certain aspects of American politics, selected according to student need and availability of instructor. Examples of topics to be explored: the politics of the mass media; federal legislation relating to minority interests; and an in-depth study of influential works in contemporary American politics. Prereq.: 1169 205 or 1169 206.

1169 465 Selected Topics in Comparative Politics (3)
Analyzes certain areas of comparative politics selected according to student need and availability of instructor. Example of topics to be explored: a comparative study of selected political subsystems, such as the legislative and executive, and problems of selected areas such as Latin America, Africa, the Middle East, and Eastern Europe. Prereq.: 1169 205 or 1169 206.

1169 475 Selected Topics in International Relations (3)
Examines certain aspects of international relations, international organizations, and foreign policy, selected according to student need and availability of instructor. Deals with such topics as power, peace, war, terrorism, arms control. Cross-national analysis of the foreign policies of the major powers, and the role of the Third World in international politics. Prereq.: 1169 205 or 1169 206.

1169 485 Selected Topics in Political Theory (3)
Analyzes certain political issues and thinkers selected from the broad range of political theories and political philosophies. Examples of topics to be explored: contemporary issues in behavioral theory and normative philosophy, utopian theory, the theory of the open society, and anthropological political thought. Prereq.: 1169 205 or 1169 206

1169 495 Independent Study (VC)
Investigates a subject or problem not covered by the specifically-titled courses. Available only to political science majors. Prior approval of faculty supervisor and Department Chair required. Enrollment in a second independent study course without having completed the first one is not permitted. Prereq.: Two 300-level political science courses.

1169 497 Methods of Political Science (3)
Involves an advanced study of the nature of political inquiry, covering a brief history of the discipline of political science, the philosophical problems underlying political science research, and

the major conceptual schemes or approaches of contemporary political analysis. Requires the formulation of a project research design with attention given to the choice of technique. Prereq.: 1169 295.

1169 498 Senior Seminar (3)
Applies research skills learned in 1169 295 and 1169 497, involving completion of a research project. Requires students to demonstrate understanding and knowledge of the scientific method as it is applied in the analysis of a manageable research problem in political science. Prereq.: 1169 497.

1177 111 Introduction to Sociology (3)
Studies society at the levels of direct interaction, institutions, and whole social systems. Presents the basic concepts and methods of sociology. Focuses on the U.S. and other advanced industrial societies.

1177 244 The Family (3)
Studies families in their social and historical context. Considers the various forms of the family appearing in different stages of societal development and the relationships to other social institutions. Attention is given to the internal dynamics of families through the life cycle, such as the role of elderly family members.

1177 245 Sociology of the Black Community (3)
Considers the major social structures and institutions of Black communities as a result of racism, as creative responses within the racial context, and as independent cultural developments.

1177 254 Black Social Movements (3)
Studies the dynamics of social movements—their origins, development, and institutionalization or demise. Examines the conditions leading to social mobilization, the internal dynamics and external alliances, and the effects on the larger society. Emphasizes African-American movements.

1177 264 Small Group Dynamics (3)
Studies the face-to-face interaction that forms the basic unit of all social institutions. Increases the student's self-awareness and effectiveness in working with others. Affords students an opportunity to learn from their experience in small groups, and to gain an understanding of group dynamics.

1177 265 Sociology of Urban Youth (3)
Focuses on children and youth in primarily urban settings to achieve an understanding of youth as they struggle with the stresses of maturing in an urban setting. Uses international and cross-cultural perspectives in discussion on children and youth in an urban setting. Gives special attention to D.C. youth.

1177 320 Research Methods (3)
Deals with the meaning, purposes, and basic techniques of social research. Development of research plans and of research designs using quantitative and qualitative measures. Emphasis on survey research and on participant observation. Prereq.: 1177 111 and completion of math requirement.

1177 321 Statistics for Social Research (3)
Covers inferential statistics and sampling, including the following areas: hypothesis testing using parametric and non-parametric methods, analysis of variance, multiple correlation, and experimental designs.

1177 346 Social Stratification: Power and Inequality (3)
Studies structured social inequalities, unequal distributions of power and social mobility in societies stratified by caste, class, race, sex, and age. Includes data from feudal, slave, and capitalist societies and from the U.S. and other societies.

1177 354 Deviance and Social Control (3)
Discusses deviant behavior and social control of individuals and groups in class and non-class societies; also discusses processes of social control and resistance, and the roles of institutions including family, work, church, and state.

1177 356 Population Dynamics (3)
Explores the social and cultural causes and consequences of population dynamics, drawing heavily on illustrations from past and contemporary studies of the population of the U.S. Examines the effects of factors such as population growth, migration, and increase in longevity, on the society. Prereq.: Junior standing.

1177 365 Sex Roles (3)
Discusses sex and gender identities in class and non-class societies, with emphasis on modern economic, political, and cultural structures that determine the positions of men and women in contemporary society. Examines theories of sex roles. Students observe and discuss examples of sex role behavior in daily life.

1177 394 Critical Analysis and Writing in the Social Sciences (3)
Focuses on developing the skills of reading, critical thinking, and effective writing in the humanities and social sciences, using a variety of reading materials and assignments. Requires junior standing and completion of English requirement.

1177 395 Selected Topics (3)
Provides the opportunity to offer courses of special interest not normally a part of the sociology curriculum. Prereq.: Junior standing or permission of instructor.

1177 470 Development of Social Theory (3)
Discusses major theories which define the subject matter, concepts, and methods of the study of society. Prereq.: Junior standing or permission of the instructor.

1177 496 Practicum (3)
Examines a selected aspect of society through practical experience gained in field work. Places students in an organization; students presently working in an organization may receive credit for the work they are doing upon approval of the instructor. Prereq.: Junior standing and permission of Department chair.

1177 497 Senior Seminar (3)
Provides students the opportunity to apply their knowledge and skills to research in their areas of interest. Prereq.: Senior standing or permission of instructor.

1177 498 Independent Study (VC)
Allows the student to study a subject of special interest. Requires that the student make arrangements with a faculty member to supervise his/her work before registering for this course. Prereq.: Junior standing and permission of Department chair.

1173 110 Introduction to Social Welfare and Social Work (3)
Introduces the fields of social welfare and social work. The course is designed as a survey exploration of the nature, purpose, and

processes of social welfare as a public and private enterprise. Major attention given to the philosophical, theoretical, and operational aspects of social work as a professional practice.

1173 264 Concepts of Alcohol Abuse: Preventive Intervention Strategies (3)

Designed to acquaint the student with the basic issues surrounding the problem of alcoholic beverage abuse. Explores ideas concerning the use of terms "alcoholism," "alcoholic," "disease," and "treatment." Emphasis upon an historical perspective on beverage alcohol distillation, attitudes toward drinking, and the politics surrounding the production and sale of liquor. Current treatment approaches and methods of control considered.

1173 265 Theories of Drug Abuse: Preventive and Intervention Strategies (3)

Examines the nature, history, and selected theories of drug use and drug abuse in the United States. Attention given to the chemical properties and actions of narcotics, hallucinogens, and other consciousness altering substances. Attention given to the various attempts to control, treat, and prevent drug use and drug abuse.

1173 274 Introduction to Aging Studies and Special Problems of the Black Elderly (3)

Designed to introduce students to the field of Gerontology. Basic terminology, theories, and definitions used in the field of gerontology and current perspectives on scientific and social issues in aging are examined. Demographic data on the Black aged and their needs and problems are examined as a major focus in explicating issues of concern.

1173 275 Ecology of Health, Illness and Aging (3)

Considers the physical and psychosocial aspects impacting on the health of the aged individual. Epidemiology of disease patterns, norms of mental and physical health, morbidity, mortality and chronic illness rates, and common pathologies and impairment associated with aging will be presented. Social and economic implications in future health care for the elderly will be explored.

1173 276 Introduction to the Economics of Aging (3)

Introduces the problem of economic security in later years; a comparison of past, present, and future trends in income maintenance for the elderly; A review of current insurance, pension, and annuity plans; an introduction to income supplements as special services and benefits. Provides an overview of public laws and policies relating to income and services for the elderly, implications for planning changes which will influence the economic status of elderly Americans.

1173 277 Working with Older People (3)

Familiarizes students with counseling services needed by older persons as they prepare for new careers, plan for retirement, and face the possibility of death. A description of some of the developmental crises of adulthood and methods of intervening. Theories and techniques of counseling will be presented along with interviewing techniques.

1173 310 Social Welfare as a Social Institution I (3)

Provides a framework for examining the historical, political, and economic influences of social welfare policy development as well as understanding of their implications of the social work generalist within the context of the values of the profession of social work. Course also focuses on an historical and contemporary analysis of social welfare policy and forces that influence policy development as well as the roles of social workers in developing, evaluating and shaping social welfare policy and subsequently, service delivery. Students acquire knowledge to analyze and assess social welfare policy utilizing critical thinking skills and social work values and ethics. The function of professional social workers in contemporary society and their activities to prevent, alleviate, and ameliorate social problems through the development of relevant social welfare policy are also examined. The impact of ideology, attitudes, and values including those related to social and economic injustice are examined in the context of the evolution of the social welfare institution and the profession of social work. Prereq.: General education requirements in English, math, philosophy, natural science, and all pre-professional foundation courses required by Social Work.

1173 311 Social Welfare as a Social Institution II (3)

Builds upon the knowledge base and skills acquired in Social Welfare as a Social Institution I. Major emphasis is placed on residual and institutional concepts of social welfare and their role influencing the formulation, implementation and execution of social welfare policy and program. Course content provides students with knowledge and skills to understand major policies that form the foundation of social welfare; analyze organizational, local, state, national and international issues in social welfare policy and social service delivery; analyze and apply the results of policy research relevant to social service delivery; understand and demonstrate policy practice skills in regard to economic, political, and organizational systems, and use them to influence, and advocate for policy consistent with social work values; and identify financial, organizational, administrative, and planning processes required to deliver social services and ameliorate social and economic. Prereq.: 1173 310.

1173 320 Human Behavior and Social Environment I (3)

Focuses on the development of the individual from conception through middle childhood and the impact of various aspects (i.e., family, groups, organizations, and community) of the social environment on the course of that development. Within the bio-psychosocial context of the person, each stage of development is examined from the psychosocial theory and other selected theoretical perspectives, including empowerment and strengths-based perspectives. Also examines various environmental factors at the micro, mezzo and macro levels that influence and shape the physiological, psychological, and social aspects of human development and behavior, and how the individual affects these systems. Specific emphasis is given to the importance of recognizing and understanding how discrimination and oppression impact human development and behavior amongst minority groups and persons from culturally diverse, socio-economic, and urban backgrounds. Prereqs.: General education requirements in English, math, philosophy, natural science, and all pre-professional foundation courses required by Social Work.

1173 321 Human Behavior and Social Environment I (3)

Continuation of 1173 320 focusing on studying the development of the individual from early adolescence through very old age and the impact of various (i.e., family, groups, organizations, and community) social environments on human development. Within the bio-psychosocial theory and other selected theoretical

perspectives, including the empowerment and strengths-perspectives. It also examines various environmental factors at the micro, mezzo and macro levels that influence and shape the physiological, psychological, and social aspects of human development and behavior, and how the individual affects these systems. Specific emphasis is given to the importance of recognizing and understanding how discrimination and oppression impact human development and behavior amongst minority groups and persons from culturally diverse, socio-economic and urban backgrounds. Prereq.: 1173 310 and 1173 320.

1173 332 Social Work Practice I (3)
Focuses on empowering client systems using a strengths-based perspective by providing the foundation for generalist practice with individuals, families, and small groups. The ecological systems perspective is also presented as the overarching approach and is integrated with systems theory, human development, and human diversity perspectives. It incorporates a value-centered approach with emphasis on respect for the individual, client self-determination and promotion of social justice. Emphasis is placed upon a problem-solving model that stressed an empowering process and includes problem identification and assessment, goal setting and planning, implementation, evaluation and termination. Content and skill related to evaluation and termination are examined in 1173 Practice II. Prereq: 1173 must be taken concurrent with or following 1173 321.

1173 333 Social Work Practice II (3)
Designed to describe and elaborate the nature and purposes of the interactional process in generalist social practice. Presents the interactional process as a collaborative partnership between worker and client. Primary focus is on method: the core process and skills used by the social work practitioner in the interview. Use of interpersonal skills is introduced in the context of implementing social work roles in generalist practice with individuals, families and in professional contacts with system representatives. The time-phases of the process are utilized as an organizing framework. Students have the opportunity to explore practice issues and situations with diverse populations and examine the use of values and ethics as a guide to professional social workers in their practice. It also emphasizes identification and utilization of client strengths. Prereq.: 1173 332 and concurrent with or before 1173 490.

1173 334 Approaches to Group Work (3)
Provides an overview of group theory that includes group development, leadership styles, group roles, communication, non-verbal behavior, and types of groups. It also familiarizes students with group leadership skills as well as group dynamics through the use of experiential group activities focuses on the use of groups in generalist social work practice provides student with an overview of group work theory that include group development, leadership styles, group formation, group roles, communication, non-verbal behavior, types of groups and through the use of experiential group activities. Major themes include social work values, the different roles of social workers, human diversity, cultural competence, and empowerment through classroom lectures, group interactions, reading assignments and case scenarios. Attention is also given to preparing beginning generalist social workers to work in settings where race, gender, sexual orientation, social class of the client populations may be different than that of the worker. Pre-req./ Co-req: This course must be taken following 1173 332 and prior to or concurrent with 1173 490.

1173 340 Research in Social Welfare I (3)
Course is the first of two (2) required courses on social work research and supports the generalist framework of practice. It provides qualitative and quantitative research content enabling students to understand scientific, analytic and ethical approaches to building knowledge for practice. Course also familiarizes students with the role(s) of theory, the nature of evidence, research problems, research design, the nature and sources of research data, and the use of research as a tool for effective practice. These tools will equip students with the knowledge and skill needed to critically evaluate literature and conduct survey research. In addition, research knowledge is used to provide high-quality services, to initiate change, to improve practice, policy, and social service delivery; and to evaluate their own practice. Course content areas include: political and ethical concerns when conducting research; problem formulation and generation of research questions/ hypotheses; data gathering techniques; critical evaluation of research studies; qualitative modalities; and empirically-based research methodology and design. Attitudes and values regarding gender and cultural diversity are also discussed with regard to theoretical context of research design and sample selection. Co-req./Pre-req.: This course must be taken concurrent with or after 1173 311 and 1173 321.

1173 341 Research in Social Welfare II (3)
Course is the second of two (2) required courses on social work research and supports the generalist framework of practice and provides qualitative and quantitative research content enabling student to understand a scientific, analytic, and ethical approach to building knowledge for practice. The course culminates in the conceptualization, design, implementation and reporting of the student's original research. Students are equipped with the knowledge and skill needed to critically evaluate literature, conduct survey research and evaluate program efficacy. In addition, they use research knowledge to provide high-quality services; to initiate change; to improve practice, policy, and social service delivery; and to evaluate their own practice. Course content areas include: political and ethical concerns when conducting research; problem formulation and generation of research questions/hypotheses; data gathering techniques; critical evaluation of research studies; qualitative versus quantitative modalities; and empirically-based research methodology and design. Attitudes and values regarding gender and cultural diversity are also discussed with regard to theoretical context of research design and sample selection. Prereq: 1173 340.

1173 342 Research in Social Welfare Statistical Lab I (1)
Laboratory course to 1173 340 and provides practical experience the nature, forms, and applications of parametric statistics. It also presents content on the practice in the use of selected statistical models, e.g., measures of central tendency, and of variability, the normal curve and standard scores. In addition, the course trains students on the use of inferential models of statistical analysis. **Co-req.**: Must be taken concurrent with 1173 341 Research.

1173 343 Research in Social Statistical Lab II (1)
Laboratory course to 1173 341 and provides practical experience the nature, forms, and applications of parametric and non-parametric statistics. It also presents content on the practice in the use of selected statistical models, e.g., measures of central

tendency, and of variability, the normal curve and standard scores. Co-req.: Must be taken concurrent with 1173 340 Research.

1173 364 Concepts of Family and Child Welfare (3)
Focuses on the knowledge and value base required for beginning social work practice in major family and child welfare settings. The historical and philosophical contexts of family and child welfare are explored. Major emphasis placed on knowledge about service delivery systems and upon the tasks and requisite skills of the social worker in the performance of the social worker's role. Analysis of the policy and practices of service systems in terms of effectiveness, particularly for Black families and children. Prereq.: 1173 321.

1173 367 Human Behavior and Social Structure (3)
Explores the development of human behavior from normal to pathological. Emphasis is given to those forms of behavior that are characterized as deviant or pathological and often called "mental illness." Attention given to the etiology of such behavior and how its development may be influenced by biological, physiological, psychological, sociological, cultural, political, and economic factors. The relevance and implications of this material considered in relation to effective social work practice. Prereq.: 1173 321.

1173 398 Independent Study (VC)
Provides an opportunity for supervised study of a particular problem or issue selected by the student in consultation with a faculty advisor. Designed for students who have shown potential for independent work on a research project. The student must submit a proposal of her or his plan of study to the Department for approval one semester prior to registration for the course. Majors can take a maximum of six credit hours. Prereq.: Junior or senior status, permission of program director. Social work and social welfare majors only.

1173 433 Social Work Practice II (3)
Continues 1173 333 and provides major attention is given to generalist social work practice and the impact of the environment. Emphasis is placed on practice related to community systems, groups, institutions, and organizations. Assessment, planning, and evaluation are stressed in connection with macro practice action strategies. Roles of advocate, case manager, team mentor, community organizer, and skills required are addressed. Students work in groups to apply the problem solving process to real life situation with a focus on large systems impact, and change. Theories and concepts of power, organizational theory, and community development and change are introduced. Incorporates a value-centered approach, which emphasizes respect of individuals, client self-determination, mutuality, collaboration and the promotion of social justice. The content is also related to practice with special populations, which are stressed.. Prereq: 1173 333 and must be taken prior to or concurrent with 1173 491.

1173 464 Dynamics of Supervision in Social Work Practice (3)
Provides an understanding of the nature, purpose, and conduct of supervision in social work practice. Major emphasis on the development of knowledge about interactive supervisory roles and tasks, the process of supervision, and the problems with which it is concerned. Specific strategies related to skill development as a supervisor are addressed. Prereq.: 1173 332 or senior status.

1173 477 Management of Extended Care Facilities (3)
Identifies information necessary for the successful operation and management of extended care facilities. Focus on the preparation and maintenance of physical facilities according to the standards prescribed by agencies of housing, fire, sanitation, etc. Attention to administration and management of the facility, continuous maintenance of a unit, record keeping, budgeting, services available, nutrition, finance, insurance, and other relevant aspects.

1173 478 Social Psychology of the End of Life (3)
Provides an introduction to thanatology, the study of death. The philosophical, social, and psychological aspects of death and dying will be presented within the context of the life cycle.

1173 490 Practicum I (5)
Course is the first component of a two (2)-part course designed to provide students the opportunity to integrate and apply knowledge, skills, values and ethics learned in social work foundation courses to experiential agency-based learning. A combination of seminar and field instruction enables students to demonstrate social work practice skills, knowledge and values, and engage in social work practice roles that are aimed at delivering strength-based services to ethnic and culturally diverse individuals, small groups, families, organizations, and communities. Students are placed in various agencies and organizations to learn through on-site social work supervised instruction and participation. Students complete a minimum of 200 hours in an agency/organization and remain in the placement throughout the semester. Co-req./Prereq: Must take concurrent with or after 1173 333.

1173 491 Practicum II (5)
Course is the second-component of a two-part course designed to provide students the opportunity to integrate and apply knowledge, skills, values and ethics learned in social work foundation courses to experiential agency-based learning. A combination of seminar and field instruction enables students to demonstrate social work practice skills, knowledge and values, and engage in social work practice roles that are aimed at delivering strength-based services to ethnic and culturally diverse individuals, small groups, families, organizations, and communities. Students are placed in various agencies and organizations to learn through on-site social work supervised instruction and participation. Students complete a minimum of 200 hours in an agency/organization and remain in the placement throughout the semester. Prereq: 1173 490.

1179 101 Urban Experience (3)
Introduces students to the systematic examination of urbanization and urban issues as a worldwide process transforming the earth's landscape and reshaping the way people make their living, organize their communities, and create their cultures. Students use a case study approach to identify, define, describe, and analyze urban issues, including the political, economic, and racial/ethnic factors that give urbanization in the United States its particular pattern and character. Course introduces students to the use of primary and secondary sources to document their observations.

1179 105 Introduction to Social Science (3)
Introduces students to the broad scope of the social sciences. Focuses on the development of an historical and cross-cultural analysis of the evolution of forms of social organization. Emphasis is on an interdisciplinary approach to major theoretical and methodological perspectives used in the social sciences.

1179 106 The District of Columbia (3)
Focuses on the process of urban growth in the Washington, D.C. area, the economic foundations of Washington, its unique form of government, race relations, spatial distribution of population, consequences of mass transit, and growth trends.

1179 205 Urban Poverty (3)
Examines the relationship of institutional racism and the American economic system to distribution of income and delivery of services. Focuses on analysis of urban policies for poor people, generally, and non-whites, in particular.

1179 254 Social Planning and Urban Problem-Solving (3)
This is a methods course. Its purpose is to introduce students to techniques of social planning, from the initial stage of problem analysis to the final stages of program implementation and evaluation.

1179 264 Women and Urban Policy (3)
Women greatly outnumber men in central cities in the U.S., and single women are especially numerous. This course examines the implications of this fact for urban policy. The factors creating and reinforcing this concentration of women in cities are also examined.

1179 274 City Neighborhoods (3)
Introduces students to the study of urban neighborhoods and the sources, methods and approaches used by social scientists in examining a neighborhood's life. Considers the reasons why neighborhoods develop their distinctive physical and social qualities and why neighborhoods change. The course includes an intensive examination of the development and change of neighborhoods in the District of Columbia from its origin as a Federal city to the present time.

1179 294 Special Topics in Urbanization (3)
Introduces a specific topic of current interest. Since the topics change, students are permitted to repeat the course for credit. Prereq.: UAFG 101

1179 299 Practicum (VC)
Gives students practical field work experience on projects and in agencies focusing on urban social problems. Requirements include written assignments and 3-4 hours of weekly field work for each credit hour

1179 304 Urban Government (3)
Examines the decision-making process involving urban areas focusing on the local, state, and national levels of government. Key aspects of urban government are analyzed in relation to community power structures. Prereq.: 1179 101

1179 305 Introduction to Nonprofit Organizations(3)
Fundamental overview of the nonprofit sector and the general principles of managing a nonprofit, human service agency. Leaders from the nonprofit community give presentations on both theory and practical applications.

1179 306 Fundraising (3)
Practical orientation to nonprofit fundraising, including exploration of government, foundation, corporate, earned income, fee generating work, and other potential sources of funds for nonprofit organizations. Outside speakers and a strong hands-on component will provide focus and content.

1179 307 Race, Class, Ethnicity and Urbanization (3)
Examines urbanization as a social process in the U.S. Analyzes the impact of urbanization on the life styles, behavioral patterns, value systems, and social relations of different racial, ethnic, and class groups. Prereq.: UAFG 101.

1179 308 Volunteer & Staff Management (3)
Exploration of the field of volunteer management in profit organizations combined with presentations by representatives of a range of agencies which rely on volunteers for their operations.

1179 310 Ethics and Public Service (3)
Explores and analyzes ethical considerations in specific public service contexts. Students will be encouraged to develop a written, personal statement of their own ethical standards of public service.

1179 311 Comparative Urbanization: The United States (3)
Examines the development of American cities from colonial settlements to the present megalopolis. Examines growth patterns, development of urban governmental forms, and the place of the city in American thought. Prereq.: 1179 101.

1179 312 Comparative Urbanization: Europe (3)
Examines social, political, and economic transformation of Europe, from feudalism to capitalism and subsequent urbanization. Examines application of these changes on population movements, productive activities of men and women, and the role of the state. Prereq.: 1179 101.

1179 313 Comparative Urbanization: Third World (3)
Explores the emergence of Third World cities into world political economy. Historical data from a variety of sources are used to analyze the evolution of urban areas in Africa, Asia, and Latin America. Prereq.: 1179 101.

1179 335 The Urban Political Economy (3)
Surveys main factors in economic change in urban society, particularly the interaction of economic and political decisions. Examines employment, age, and income, and the role of local and federal governments in economic development. Prereq.: 1179 304.

1179 336 The Municipal Budgetary Process (3)
Explores urban fiscal problems, examines revenue sources, intergovernmental finance, the municipal budget, tax burden differences in the cost of governmental and social services, and alternative revenue sources. Prereq.: 1179 304.

1179 355 Housing (3)
Examines the forces influencing the housing market and the role of federal, state, and local governments in the financing, production, and regulation of housing. Current policy issues in housing are explored. Prereq.: 1179 101.

1179 384 Advanced Research Techniques (3)
Examines the logic of the scientific method, quantitative techniques, and data collection and analysis techniques relating to urban problems where policy decisions have important research components. Prereq.: 1179 101.

1179 385 Statistical Lab (1)
Designed for advanced students. Students will learn about the data sets in the public domain and how to use available software in quantitative data analysis.

1179 395 Independent Study (3)
Enable students to pursue supervised reading and research under the direction of a faculty member. Open to urban studies students by permission of the Department Chair.

1179 405 Urban Policy Analysis (3)
Is a methods course in which students are taught the processes of urban policy and analysis and planning through the use of social science analytical methods and techniques applied to selected urban social problems. Prereq.: Junior Standing.

1179 494 Senior Seminar (3)
Gives students experience in conducting individual research projects, experience in examining a problem not yet fully explored by scholars, and an opportunity to share their research findings with others in the class. Prereq.: 1179 384 and senior standing as an urban studies major.

1179 Program Development and Evaluation (3)
Introduces students to basic concepts of developing effective programs in nonprofit organizations. It also integrates the concurrent development of the program evaluation process.

2201* Nonprofit Financial Management (3)
Introduces the students to an overview of the nonprofit financial management process for the non-accounting or finance major, to include nonprofit budgets, accounting, and financial statements.

*Taught in Department of Accounting, Finance & Economics; cross-references with 1179

Department of Psychology and Counseling

Lisa Moon, Ph.D., Acting Chairperson
Building 44, Room 200-3 5
(202) 274-7406

FULL-TIME FACULTY

Professors: B. Badwal, K.H. Dockett, E. Johnson, R.M. Petty, G. Zachariah

Associate Professors: P. Jefferson, L. Moon, B. Cooke

Assistant Professor: G. Lummis

The Department of Psychology and Counseling offers the Bachelor of Science in Psychology at the undergraduate level, and the Master of Science in Clinical Psychology and the Master of Science in Counseling at the graduate level. In addition, nonmajors elect introductory psychology courses to fulfill University-wide requirements or to meet requirements in other majors. The Department operates laboratories in several areas, including computer applications, psychometry, and counseling and career education.

Faculty of the Department are involved in research in a variety of basic and applied areas within psychology and related disciplines; students often serve as research assistants. Faculty also involve students in professionally-related volunteer service in the community.

PSYCHOLOGY PROGRAM

The undergraduate program in the Department of Psychology and Counseling acquaints students with a wide range of subfields within the discipline while providing a solid foundation in the major theoretical perspectives of psychology and its scientific approach. Upon completion of the program, students are prepared for graduate study in any area of psychology and for entry level work in research or mental health settings.

Students begin study in the major during the sophomore year with completion of a survey course in psychology. The next semester they enroll in a skills development course designed to strengthen the critical thinking, analytical reasoning, and writing skills needed for more advanced study. In the junior and senior years, students take advanced courses in several core areas: 1) neuroscience/learning/sensation and perception/cognitive psychology; 2) social/personality/ developmental psychology; and 3) abnormal/ community psychology.

In addition to three (3) elective courses from other subfields in psychology, courses in statistics and experimental psychology are completed. At the senior level, students are encouraged to participate in research or to undertake supervised independent study projects. In the final semester, seniors take a seminar course, a capstone experience which integrates knowledge acquired in courses, practica, and independent research. Students are required to conceptualize and execute a research project and present the results at a senior seminar poster session.

The Psychology and Counseling Department expects all students to adhere to the Student Code of Conduct policy and thus reserves the right to dismiss any student who displays unprofessional behavior.

Bachelor of Science in Psychology

Credit Hours of College-Level Courses Required for Graduation: 120

Credit Hours Required for Major: 43

Primary Core Requirements

1171 201	Principles of Psychology	3
1171 202	Critical Skills Development in Psychology	3
1171 311	Statistics I	3
1171 312	Statistics II	3
1171 313	Experimental Psychology	3
1171 314	Experimental Psychology Laboratory	1
1171 420	Senior Seminar/Thesis	3

Secondary Core Requirements:

Two of the following three courses

1171 225	Social Psychology	3
1171 235	Theories of Personality	3
1171 245	Developmental Psychology	3

Two of the following four courses

1171 317	Sensation and Perception	3
1171 318	Basic Conditioning and Learning	3
1171 319	Human Learning and Cognition	3

1171 415	Introduction to Neuroscience Lecture	3
1171 416	Introduction to Neuroscience Lab	1

One of the following two courses

1171 351	Community Psychology	3
1171 436	Abnormal Psychology	3

Psychology Electives: Select 9 credit hours

1171 137	Psychology of Adjustment	3
1171 228	Psychology of Multicultural Relations	3
1171 316	Introduction to Clinical Psychology	3
1171 327	Group Processes	3
1171 335	Tests and Measurements	3
1171 336	Psychology of Human Sexuality	3
1171 343	Health Psychology	3
1171 346	Adult Development and Aging	3
1171 352	Psychology Practicum	3
1171 353	Environmental Psychology	3
1171 395	Independent Study	VC
1171 396	Special Topics in Psychology	VC
1171 405	History and Systems	3
1171 419	Psychopharmacology	3

Requirements from other departments

1401 101	Biological Science I	3
1401 103	Biological Science I Lab	1
1401 102	Biological Science II	3
1401 104	Biological Science II Lab	1
1535 101	General College Math I	3
1535 102	General College Math II	3

Additional Requirements:

Select one of the three (3) options below

1539 101	Introduction to College Physics I	
1539 103	Introduction to College Physics I Lab	1
1539 102	Introduction to College Physics II	3
1539 104	Introduction to College Physics II Lab	1
	or	
1507 111	General Chemistry I	3
1507 113	General Chemistry I Lab	1
1507 112	General Chemistry II	3
1507 114	General Chemistry II Lab	1
	or	
1539 107	Physics for the Health Professional	3
1539 108	Physics for the Health Professional Lab	1
1507 109	Introductory Chemistry	3
1507 110	Introductory Chemistry Lab	1

Additional Comments or Requirements

Psychology majors must maintain a cumulative grade point average of 2.5 or higher in psychology courses to meet departmental requirements for graduation. A minimum grade of "C" is required in all Psychology courses.

COURSE DESCRIPTIONS

Psychology

1171 137 Psychology of Adjustment (3)
Emphasizes the understanding of everyday human behavior through the application of scientific principles derived from research. Examines foundations of psychological adjustment and the development of maladaptive behavior. Discusses human reactions evoked by stressful and frustrating environmental events, as well as reactions to internal sources of frustration. Examines procedures of psychological assessment, change, and newer methods of enhancing adjustment.

1171 201 Principles of Psychology I (3)
Introduces students to the history, methods, major theoretical viewpoints, and concepts of scientific psychology. Provides non-majors with an overview of the field of psychology; majors gain a foundation for further study. Prereq: Sophomore standing.

1171 202 Critical Skills Development in Psychology (3)
Enhances critical thinking and reasoning skills. Introduces the range of concepts needed to understand the process of empirical inquiry, scientific report writing, and utilization of the research literature and sources. Teaches basic computer skills. Prereq: 1171 201.

1171 225 Social Psychology (3)
Surveys the major theories and concepts of social psychology, focusing on such topics as person perception, attitude formation and change, conformity, aggression, cooperation and conflict, and interpersonal and intergroup relations. Evaluates psychology significance for understanding contemporary social issues and conflicts. Prereq: 1171 202.

1171 228 Psychology of Multicultural Relation (3)
Surveys and examines critically environmental factors affecting the psychological experiences of men and women from ethnic minority groups. Organizes research findings and philosophical concepts into an ethnocentric framework which illuminates the strengths of minority groups. Prereq: Sophomore standing.

1171 235 Theories of Personality (3)
Studies the major theories which describe personality development and change. Examines representative theories from psychoanalytic, social learning, factor analytic, behavioral, and humanistic orientations, along with their representative therapeutic approaches. Prereq: 1171 201.

1171 245 Developmental Psychology (3)
Surveys basic concepts and theories of developmental psychology. Emphasizes the physical, cognitive, social, and emotional behaviors characteristic of individuals at each life stage. Shows how biological, cultural, and environmental factors interact to influence behavior at every life stage. Prereq: 1171 201.

1171 311 Statistics I (3)
Introduces basic concepts of statistics and elementary probability. Includes the following topics: measurement, sampling, distributions and graphs, measures of central tendency and variability, standardized scores, the normal curve, correlation, regression, and probability theory. Prereq: 1171 202.

1171 312 Statistics II (3)
Introduces inferential statistics and experimental design. Includes the following areas: probability, parametric and non-parametric hypothesis testing, power analysis, analysis of variance, and basic experimental design. Prereq: 1171 311.

1171 313 Experimental Psychology Lecture (3)
Examines fundamentals of the experimental method in psychology. Topics include: scientific methodology; experimental design and control, ethics of research; and writing of research reports in APA format. Prereq: 1171 311.

1171 314 Experimental Psychology Lab (1)
Provides first-hand laboratory experience for students enrolled in 1171 313 Experimental Psychology (3). Students participate in the design of experiments and the collection, analysis, and interpretation of data. Studies related to topics in learning, memory, perception, and social/personality psychology. Prereq: Must be taken concurrently with 1171 313.

1171 315 Industrial/Organizational Psychology (3)
Examines factors involved in designing effective organizations. Reviews theories of organizational de-sign and the application of psychological theories and concepts in industrial settings. Prereq: 1171 202.

1171 316 Introduction to Clinical Psychology (3)
Examines the issues of assessment, intervention, and professional issues in clinical psychology. Addresses training and educational issues, including elements of preparation for graduate work. Explores the array of professional activities of practicing psychologists and their interactive roles with other mental health professionals. Prereq: 1171 235 and 1171 436 or permission of the instructor.

1171 317 Sensation and Perception (3)
Introduces the student to current research into sensory and perceptual phenomena. Includes topics such as sensory coding, adaptation, attention, perception of objects and space, perceptual development, and illusions. Prereq: 1171 202 and junior standing.

1171 318 Basic Conditioning and Learning (3)
Studies principles of learning through systematic analysis of classical and operant conditioning. Explores both traditional and current approaches to learning and memory. Prereq: 1171 202 and junior standing.

1171 319 Human Learning and Cognition (3)
Provides an introduction to the study of human cognition; includes topics such as memory processes, language, thought, problem solving, concept learning, attention, short-term memory, and pattern recognition. Prereq: 1171 202 and junior standing.

1171 327 Group Processes (3)
Approaches the study of group dynamics through exposure to theories, research, and first-hand laboratory experiences. Emphasizes integrating theoretical learning with experiential learning in an attempt to understand the social and psychological "forces" operating in groups. Fosters greater awareness of self and others and skill in observing and diagnosing group behavior. Prereq: 1171 201.

1171 335 Tests and Measurements (3)
Examines measurement theory used in test construction and use. Introduces students to representative tests of all types. Examines the social, educational, and economic implications of using standardized tests and other psychological measures with minority groups. Explores alternative assessment approaches. Prereq: 1171 311, or permission of the instructor.

1171 336 Psychology of Human Sexuality (3)
Surveys major aspects of human sexuality, including attitudes, myths, and premarital, marital, and non-marital behavior. Views optimum sexual functioning, heterosexuality, homosexuality, and sexual variance from a psychological vantage point. Examines problem/dysfunctional sexual behaviors and therapeutic strategies used to treat them. Prereq: 1171 201.

1171 343 Health Psychology (3)
Explores the mind-body relationship as it relates to health and illness. Biological, psychological, and social factors will be examined. The course will emphasize a systems theory view of health psychology. Students will learn practical skills for stress management and general wellness. Prereq.: Junior standing or consent of instructor.

1171 346 Adult Development and Aging (3)
Provides an overview of the major theories of adult development. Explores myths about the physical, intellectual, social, and emotional changes associated with aging. Explores psychosocial aspects of death and dying. Prereq: 1171 245 or permission of instructor.

1171 351 Community Psychology (3)
Surveys basic concepts and methods used by community psychologists to promote psychological well-being and prevent the development of problems of individuals, groups, and communities. Topics include: values and roots of community psychology, historical trends and issues in mental health service delivery, assessment of person-environment interactions, principles and models of prevention, and strategies of social change. Prereq: Junior or senior standing in psychology.

1171 352 Psychology Practicum (3)
Provides an opportunity for students to gain experience, through supervised on-site training in the field, applying psychological theories and methods to solve problems of individuals, groups, organizations, or communities. Includes didactic seminars to integrate classroom theory with the field experience. Field and seminar hours required. Prereq: Junior standing in psychology, including successful completion of at least two 200-level psychology courses beyond 1171 202.

1171 353 Environmental Psychology (3)
Explores the various aspects of the person-environment relationship. This will include artificial environments such as homes, schools, and offices, as well as the natural environment such as national parks and hazard areas. Particular emphasis will be placed on using causal models and computer simulation as a research tool. Prereq.: Junior standing for majors or consent of instructor.

1171 395 Independent Study (VC)
Allows advanced psychology students to do independent research in a problem area of their choice under the direction of a faculty member. Prereq: Junior or senior standing in psychology and a cumulative grade point average of 2.8.

1171 396 Special Topics in Psychology (VC)
Allows for research of and writing on contemporary topics in psychology which are of special interest to students. Prereq: Junior standing in psychology/ permission of the Department Chair.

1171 405 History and Systems (3)
Examines the origins of psychology in philosophy and biology, and the development of psychology as a science in the nineteenth and twentieth centuries. Considers current theoretical perspectives and research in relation to the enduring issues of the role of culture, science, and technology in the development of psychological constructs. Strongly recommended for students who aspire to graduate study in psychology or related fields. Prereq: 1171 202 and junior standing or consent of instructor.

1171 415 Introduction to Neuroscience Lecture (3)
Introduces the biological bases of behavior. Acquaints students with areas of psychopharmacology, neurophysiology, and neuroanatomy. Knowledge of these areas is seminal to the understanding of both normal and abnormal behavior. Prereq: 1171 201.

1171 416 Introduction to Neuroscience Laboratory (1)
Introduces students to a variety of techniques employed to understand the neural underpinnings of behavior. The laboratory exercises will include: neurophysiological, neuropharmacological, and neuroanatomical computer exercises and principles of stereotaxic surgery and neurohistology. Must be taken concurrently with 1171 415.

1171 419 Psychopharmacology (3)
Provides basic information on psychoactive drugs, those that are used therapeutically and those that are used recreationally. Examines the use and misuse, mechanisms of action, known or unknown sites of action, types of neurons acted upon, the disorders that these drugs are used to treat, and structure-function relationships. Prereq: Senior standing or permission of instructor.

1171 420 Senior Seminar (3)
Provides a capstone experience for the psychology major. Integrates knowledge from previous courses concerning major research issues in psychology, experimental design and methodology, and statistical procedures. Students are required to conceptualize a research problem, collect and analyze the data using SPSS, and write up the research project using the APA format. Students are required to present the results of their research at a designated public forum.

PSCY 436 Abnormal Psychology (3)
Exposes students to the traditional classification system used to describe abnormal behavior and examines theories of causation and therapy. Deals with questions concerning the ethicality and validity of diagnostic classification, and the value of the disease model. Discusses the efficacy of traditional psychotherapies, the future of the community mental health concept, and the relevance of traditional approaches for treating minority groups. Prereq: 1171 235.

1171 440 Senior Seminar/Thesis (3)
Provides a capstone experience for the psychology major. Integrates knowledge from previous courses concerning major research issues in psychology, experimental design and methodology, and statistical procedures. Students are required to conceptualize a research problem, collect and analyze the data using SPSS, and write up the research project using the APA format. Students are required to present the results of their research at a designated public forum.

GRADUATE PROGRAM IN CLINICAL PSYCHOLOGY

The Department of Psychology and Counseling offers a program leading to the Master of Science degree in Clinical Psychology. This program provides a blend of theoretical and applied training based on the scientist-practitioner model. Theoretical courses provide an excellent foundation for clinical practice and future doctoral coursework. Applied courses train students to perform psychological assessments and to provide preventive and interventive strategies under supervision. The program is also augmented by training in research design and methodology. The goals of the program are oriented toward the development of theoretical, research, and applied intervention models which are relevant to the psychological composition of the individual as well as to society-at-large.

With the scientist-practitioner model as a focal point, the program is geared toward providing students with the professional training needed for understanding human service delivery systems, clinical assessment, evaluation and diagnosis, treatment of behavioral and emotional disorders as well as research design and development. The curriculum and training also provides the necessary foundation for the pursuit of doctoral level studies.

Master of Science in Clinical Psychology

Admission Requirements:
To be considered for admission to graduate study in clinical psychology, the applicant must meet the following requirements:

1. Hold a baccalaureate degree in Psychology from an accredited college or university with a cumulative GPA of 2.5 and a psychology GPA of 3.0
2. Submit two (2) official transcripts of all prior college and graduate work
3. Submit three (3) professional references addressing character, academic promise, professional suitability for the psychology field
4. Submit a personal statement (500 words) detailing interest in program, personal characteristics, personal development for seeking this degree, personal and professional experiences that influenced your pursuit in clinical psychology
5. Submit official scores from a recent administration of the Graduate Record Examination
6. Submit a completed UDC Graduate application

Applicants who do not meet the above criteria may be considered for conditional acceptance or for non-degree status pending completion of admission requirements.

For applicants without the baccalaureate in psychology, a maximum of 18 academic credits in psychology may be required, to include General Psychology, Experimental Psychology, Statistics, Abnormal Psychology, Developmental Psychology,

and Tests & Measurement. The number of academic credits and courses required will be determined by the Clinical Psychology admission committee upon review of official transcripts.

Graduate Writing Proficiency Examination:
Completion of the Graduate Writing Proficiency Exam is a policy set by the University and is a admission requirement of all graduate students. Consult the University policy regarding the criteria.

Curriculum Requirements:
The program of study requires a total of 54 semester hours (non-thesis track) and 55 semester hours (thesis track) of coursework. Students are exposed to a series of foundation and theoretical courses in psychopathology, research, ethics, personality, learning, physiology, and psychotherapy. Applied courses in assessment, psychotherapeutic intervention, and psychopharmacology, as well as special topic courses addressing innovative clinical topics follow. A two-semester practicum sequence provides for direct clinical work with clients. For those students seeking research opportunities, advanced research and thesis courses round out the training program.
The program requires three years of full-time study. Part-time students should consult their academic advisor to determine the length of time it will take to complete the degree requirements.
This specialization does not prepare graduates for licensure as an independent, professional counselor or psychologist.

Students may transfer a maximum of nine (9) semester credit hours of graduate coursework successfully completed at another accredited institution.

Students must maintain a grade point average of 3.0 or better to remain in good standing, and a 3.0 in all major courses. A student may repeat a required course no more than one time. If the student is unable to achieve a B or better in the required course, the student may petition the faculty for a review of their status to continue in the program.

The Psychology and Counseling Department reserves the right to revise the program requirements. The faculty in this department also reserves the right to dismiss any student who displays unprofessional and adverse behavior.

Thesis/Non-Thesis Option:
Academic advisement allows students to explore career options so that they can be guided toward either the thesis or non-thesis option.
Those graduate students who anticipate pursuing doctoral level study in psychology or who anticipate pursuing careers in psychological research will be encouraged to complete the thesis-track training. It will be required for thesis-track students to develop an original empirical research project as approved by a committee of clinical psychology faculty members.

A non-thesis option is also available for graduate students pursuing a master's degree in clinical psychology. Students electing this option anticipate pursuing career options in school psychology, psychometrics, mental health administration, mental health policy development, and other clinical psychology careers, which, do not require the doctoral degree. The non-thesis option will require completion of all required graduate courses and in lieu of the advanced research courses and thesis courses, these students will be required to take two (2) additional graduate courses, totaling at least six (6) credit hours.

Capstone Assessments:
Students must submit a request to advance to candidacy upon successful completion of 20 semester hours. Readiness for candidacy will be determined by the cumulative grade point average, an acceptable score on a written qualifying examination, successful completion of foundation courses, and successful completion of the writing proficiency admission requirement.

Students entering the Clinical Psychology Program on or after Fall 2006 must satisfy one of the following requirements to exit the program:

1. Complete 55 semester hours of program course curriculum, successful development of an original empirical research thesis project and successful panel defense of the thesis project.

   or

2. Complete 51 semester hours of program course curriculum and successful completion of the oral/written comprehensive examination.

Core Course Requirements Non-Thesis Track:
45 credit hours

1171 501	Proseminar: Orientation to Clinical Psychology
1171 504	Psychopathology
1171 505	Advanced Personality Theory & Learning Processes
1171 506	Advanced Social & Environmental Psychology
1171 507	Physiological Psychology
1171 523	Assessment of Intelligence-Lecture
1171 530	Assessment of Intelligence-Lab
1171 525	Assessment of Personality-Lecture
1171 526	Assessment of Personality-Lab
1171 527	Systems of Psychotherapy I
1171 528	Systems of Psychotherapy II
1315 513	Cultural Diversity Issues and Multicultural Counseling
1315 531	Ethics, Legal and Legislative Issues
1171 537	Advanced Developmental Psychology
1171 541	Practicum I
1171 542	Practicum II
1171 548	Psychopharmacology
1171 551	Research I
1171 599	Oral/Written Comprehensive Examination

Electives: 6 credit hours

1171 534	Group Design & Intervention
1171 518	Management & Organization Development
1171 535	Consultation in Clinical Psychology & Counseling
1171 596	Special Topics in Clinical Psychology
1315 528	Drug Abuse Prevention & Treatment
1315 529	Human Sexuality & Sexual Dysfunction
1315 533	Crisis Intervention
1315 543	Addiction Disorders
1315 546	Counseling Children & Adolescents

Core Course Requirements Thesis Track: 55 credit hours

1171 501	Proseminar: Orientation to Clinical Psychology
1171 504	Psychopathology
1171 505	Advanced Personality Theory & Learning Processes
1171 506	Advanced Social & Environmental Psychology
1171 507	Physiological Psychology
1171 523	Assessment of Intelligence-Lecture
1171 530	Assessment of Intelligence-Lab
1171 525	Assessment of Personality-Lecture
1171 526	Assessment of Personality-Lab
1171 527	Systems of Psychotherapy I
1171 528	Systems of Psychotherapy II
1315 513	Cultural Diversity Issues and Multicultural Counseling
1315 531	Ethics, Legal and Legislative Issues
1171 537	Advanced Developmental Psychology
1171 541	Practicum I
1171 542	Practicum II
1171 548	Psychopharmacology
1171 551	Research I
1171 552	Advanced Statistics & Research Design-Lecture
1171 556	Advanced Statistics & Research Design-Lab
1171 553	Thesis

CLINICAL PSYCHOLOGY GRADUATE COURSE DESCRIPTIONS

1171 501 Proseminar: Orientation to Clinical Psychology (1)
Provides a basic introduction to the field of clinical psychology which includes historical background, professional roles, professional organization affiliation, professional responsibilities, credentialing/licensure information, occupational exploration, and professional organizational structure.

1171 504 Psychopathology (3)
Focuses on the interplay of psychological, social, and environmental factors at the onset of behavioral pathology. Reviews the traditional classification system used in the labeling of abnormal behavior, including issues of diagnostic reliability and validity. Examines theories of causation and interventional/ therapeutic methods. Explores research developments in the field. Co-req: 1171 505 or consent of the instructor.

1171 505 Advanced Personality Theory and Learning Processes (3)
Examines major theoretical approaches to personality with a focus on their relevance to issues of clinical psychology. Reviews basic learning principles in conditioning and cognitive processes.

1171 506 Advanced Social and Environmental Psychology (3)
Reviews major topics in the subfields of social and environmental psychology. Discusses classical re-search methods in these fields. Addresses a wide range of concerns including altruism, social perception, sex roles, interpersonal attraction, leadership, intergroup relations, and environmental psychology. Emphasizes the impact of environmental variables on both individuals and groups.

1171 507 Physiological Psychology (3)
Explores the biological bases of behavior. Aim of the course is to examine the role neurophysiology, neuroanatomy, the central nervous system as well as the physiology of the nerve impulses and synapses play on the consciousness and the development mental disorders. This course will also address the impact of biochemistry on behavior.

1171 518 Management and Organizational Development (3)
Focuses on organizational development theory and interpersonal and intergroup relations within organizations. Examines the use of power as a motivational support for institutional repression of ethnic, sexual, and religious groups.

1171 523 Assessment of Intelligence Lecture (3)
Surveys representative tests and techniques used in the assessment of intelligence. Presents methodologies in the administration, scoring, and interpretation of selected intelligence tests. Provides instruction in the preparation of a written intellectual profile and the terminology used in reaching various diagnostic decisions. Prereq.: 1171 501. Must be taken concurrently with 1171 530.

1171 525 Assessment of Personality Lecture (3)
Surveys representative tests and techniques utilized in the assessment of personality. Presents methodologies in the administration, scoring, and interpretation of selected personality tests. Provides instruction in the preparation of a written personality profile and the terminology used in reaching diagnostic decisions. Prereq.: 1171 501, 1171 504, 1171 505, 1171 523, 1171 530; Co-req.: 1171 504. Must be taken concurrently with 1171 526

1171 526 Laboratory in Assessment of Personality (3)
Provides a laboratory setting for teaching applied psychological assessment using personality tests. Must be taken concurrently with 1171 525. Prereq.: 1171 501, 1171 504, 1171 505, 1171 523, 1171 530.

1171 527 Systems of Psychotherapy I (3)
Provides familiarity with the major psychotherapeutic theories available to the modern clinician, to include traditional and more contemporary theories that support psychotherapeutic practice. Provides an experiential component to enhance the student's utilization and skill base. Prereq.: 1171 501, 1171 504, 1171 505. Cross-listed with 1315 514.

1171 528 Systems of Psychotherapy II (3)
Provides familiarity with the major psychotherapeutic techniques available to the clinician. These are techniques founded upon traditional and contemporary theories. The course also emphasizes the development of basic skills as well as cultivating the overall development of clinician characteristics that contribute to the therapeutic process. Prereq.: 1171 501, 1171 504, 1171 505, 1171 527. Cross-listed with 1315 530.

1171 530 Laboratory in Assessment of Intelligence (1)
Provides a laboratory setting for teaching applied psychological assessment using intelligence tests. Prereq.: 1171 501. Must be taken concurrently with 1171 523.

1171 534 Group Design and Intervention (3)
Examines the dynamics and problems which affect organizational intervention. Develops skills by focusing on group design, communication, and "process". Prereq.: 1171 501, 1171 505, 1171 527, 1171 528.

1171 535 Consultation in Clinical Psychology and Counseling (3)
Explores theoretical and applied emphases regarding service delivery systems in related settings.

1171 537 Advanced Developmental Psychology (3)
Provides an intensive examination of the core concepts, theories, and research methods of developmental psychology. Explores developmental psychopathology which views abnormality from a framework of stability and change that is a part of the normal course of development. Prereq.: 1171 501, 1171 504, 1171 505, 1171 527.

1171 541 Practicum in Clinical Psychology I (3)
Provides a dual emphasis on the didactic and training aspects of clinical psychology. Includes experiences in an appropriate clinical setting. Provides students an opportunity to work individually or in small groups under supervision. Requires on-site and classroom hours. Prereq.: Degree candidacy, completion of at least 45 credit hours of coursework, and faculty endorsement.

1171 542 Practicum in Clinical Psychology II (3)
Continues Practicum in Clinical Psychology I 1171 541. Focuses further on skill building; exploration of specialized treatment, techniques /strategies, and problem-solving. Prereq.: Degree candidacy, completion of at least 48 credit hours of coursework, and faculty endorsement.

1171 548 Psychopharmacology (3)
Provides advanced information on those psychoactive drugs that are used therapeutically. The course examines the fundamental principles of drug actions, sites of drug actions, types of neurons acted on, tolerance, clinical use of medications as well as the disorders that these medications are used to treat. Prereq.: 1171 501, 1171 504, 1171 507, 1171 505.

1171 551 Research I (3)
Surveys statistical methods used in behavioral science research. Topics include hypotheses testing, correlation and regression, probability, and non-parametric tests. Emphasizes both theoretical and practical aspects of the methods. Cross-listed with 1315 532.

1171 552 Advanced Statistics and Research Design Lecture (3)
Continues Research I (1171 551). Includes topics such as analysis of variance and covariance, regression analysis, and multivariate methods. Emphasizes statistical techniques applicable to student research interest/projects whenever possible. Prereq.: 1171 551,-or consent of instructor. Must be taken concurrently with 1171 556.

1171 553 Thesis (VC 1-6)
Provides the opportunity for a formal and directed empirical research investigation into clinically-related psychological topics, issues, outcomes and/or theories. Prereq.: Degree candidacy, completion of at least 46 credit hours of coursework, 1171 551 and faculty endorsement.

1171 556 Advanced Statistics and Research Design Lab (1)
Provides laboratory experiences with computerized statistical packages widely utilized in psychology research. Allows students to explore statistical techniques and strategies appropriate for their thesis projects. Prereq.: 1171 551. Must be taken concurrently with 1171 552.

1171 595 Independent Research Study (VC 1-6)
Provides an opportunity for the student who has selected an area of specialization to engage in additional directed reading, discussion, and research. Prereq.: Consent of instructor/approval of Department Chairperson.

1171 596 Special Topics in Clinical Psychology and Counseling (VC)
Presents and discusses special topics pertaining to clinical psychology and counseling that are of interest to students. Prereq.: Graduate standing and/or written permission of instructor.

1171 599 Written and Oral Comprehensive Examination (0)
A written and oral examination which is designed to assess the graduate student's overall knowledge and application of completed coursework. The culminating examination allows the graduate student to demonstrate their integration skills in the areas of theory and clinical application. Prereq.: Degree candidacy, completion of at least 48 credit hours of coursework, and faculty endorsement.

GRADUATE PROGRAM IN COUNSELING

The Department of Psychology and Counseling offers the Master of Science degree in Counseling. The program prepares individuals to function professionally as school, community, and rehabilitation counselors; as treatment providers in mental health agencies, substance abuse facilities, employee assistance programs, career counseling, and in employment centers, therapeutic group homes, and rehabilitation centers.

The school counseling program reflects standards endorsed by the Council for Accreditation of Counseling and Related Educational Programs (CACREP) and certification requirements of the District of Columbia Public Schools. Students entering the school counseling specialization are expected to complete field experience requirements for elementary and middle school or high school endorsement. Field placements for the school specialization are available during the Fall and Spring semesters only. Students must commit a minimum of 20 hours weekly on site. Students enrolled in the mental health or rehabilitation specializations will have the option of extending their field experience during the summer sessions with the approval of the practicum faculty. Students interested in professional licensure or clinical certification should obtain copies of the licensure and certification standards from the state office or the appropriate professional association.

Master of Science in Counseling

Requirements for Admission

To be considered for admission to graduate study in counseling, the applicant must meet the following requirements:

1. The applicant must hold a baccalaureate degree from an accredited college or university, preferably a major in education and/or social sciences.
2. Submit two official transcripts from all prior undergraduate and graduate work. Applicants must have an undergraduate grade point average of 2.8 or higher.
3. Submit official scores from a recent administration (within the last two years) of the Graduate Record Exam Verbal,

Quantitative, Analytical Reasoning & Essay tests. The cut-off score for full admissions to the Program is 800. Students scoring less than 800 can apply for provisional admittance.

4. Submit three letters of recommendation. One letter should be from an individual familiar with the applicant's capacity for relating to clients, professionalism and personal attributes.
5. A 500-word essay articulating reasons for pursuing graduate studies in counseling, familiarity with the profession and related work experience.
6. Applications and all supporting documents must be submitted directly to the Department of Psychology & Counseling, 4200 Connecticut Avenue, NW Building 44, Washington, DC 20008
7. Students who do not register for classes for two consecutive semesters and students who are suspended for academic reasons will be required to apply for readmission to the University.

Curriculum Requirements

The program of study requires the completion of 54 semester hours, that include a core of nine semester hours covering professional orientation, theoretical knowledge, research and evaluation; nine (9) hours of practicum experience, 30 hours of basic program requirements, and a minimum of six hours of course electives. Electives are chosen from specialization areas of preference and in consultation with faculty advisor.

Students must maintain a grade point average of 3.0 or better to remain in good standing and a 3.0 in all major courses. A student may repeat a required course no more than one time. If the student is unable to achieve a B or better in the required course, the student may petition the faculty for a review of his/her status to continue in the program.

The Psychology and Counseling department reserves the right to revise the program requirements and standards without prior notice. The faculty in this department also reserves the right to dismiss any student who displays unprofessional and adverse behavior.

Advancement to Candidacy

Students must submit a request to advance to candidacy upon successfully completing a minimum of 12 semester hours. Readiness for candidacy will be determined by the cumulative grade point average, an acceptable score on a comprehensive examination, successful completion of all core requirements.

Graduation Requirements

Students must satisfy one of the following requirements to exit the Program:

1. 48 semester hours, thesis (6 additional semester hours) and the Counselor Preparation Comprehensive Exam. Or
2. 42 semester hours of core and basic requirements, 12 semester hours of electives that include a special project with a seminar paper and the Counselor Preparation Comprehensive Exam

The Counselor Preparation Comprehensive Exam is a standardized assessment provided by the National Board of Certified Counselors (NBCC). The exam fee is determined by NBCC.

Graduate Writing Proficiency Examination

Refer to the University Writing Proficiency requirements.

Core Requirements:

1315 509	Counseling Philosophy	3
1315 532	Introduction to Research and Program Evaluation	3
1315 514	Theories of Counseling	3

Program Requirements:

1171 537	Advanced Developmental Psychology	3
1315 519	Appraisal Techniques in Counseling	3
1315 531	Ethics, Legal and Legislative Issues	3
1315 530	Techniques of Counseling	3
1315 510	Group Counseling	3
1315 511	Career Theories & Development	3
1315 513	Cultural Diversity Issues and Multicultural Counseling	3

Practicum & Field Experience:

1315 518	Supervision in Practicum & Field Experience	3
1315 521	Practicum and Field Experience I	3
1315 522	Practicum and Field Experience II	3

Thesis Project Options:

Graduate Thesis – 6 credits (enroll in 1315-545)
Graduate Project – 3 credits (enroll in 1315-545)

Electives:

1171 504	Psychopathology	3
1315 528	Drug Abuse Prevention and Treatment	3
1315 529	Human Sexuality and Sexual Dysfunction	3
1315 533	Crisis Intervention	3
1315 538	Mental Health Treatment Techniques	3
1315 543	Addiction Disorders	3
1315 544	Family Counseling	3
1315 545	Independent Research Study	VC
1315 546	Counseling Children and Adolescents	3
1315 549	Test in Counseling	3
1315 555	Counseling the Elderly	3
1315 596	Special Topics in Counseling	VC
1315 507	Grief Counseling	3
1315 508	Organization and Administration of Counseling	3
1318 500	Foundations of Rehabilitation Counseling	3
1318 501	Psycho-social and Medical Aspect of Disability in Rehabilitation	3
1318 502	Career Counseling and Job Development and Placement in Rehabilitation	3
1318 503	Introduction to Assistive Technology in Rehabilitation Counseling	3
1318 504	Principles and Practices of Case Management in Rehabilitation	3
1318 505	Directed Readings in Rehabilitation	3

Rehabilitation Counseling Courses:

1318-500	Foundations of Rehabilitation Counseling	3
1318-501	Psycho-social and Medical Aspect of Disability in Rehabilitation	3
1318-502	Career Counseling and Job Development and Placement in Rehabilitation	3
1318-503	Introduction to Assistive Technology in Rehabilitation Counseling	3
1318-504	Principles and Practices of Case Management in Rehabilitation	3
13 18-505	Directed Readings in Rehabilitation	3

COUNSELING PSYCHOLOGY GRADUATE COURSE DESCRIPTIONS

1315 507 Grief Counseling (3)
Explores philosophical, theoretical, and practical considerations necessary for work with individuals experiencing death, grief, and loss. Prepares students for work with those dying and their bereaved loved ones.

1315 508 Organization and Administration of Counseling (3)
Examines management and organizational concepts in general and highlights how these relate to educational and human service delivery systems in particular. Reviews management theory with a focus on key management functions. Examines development and functioning of school guidance offices.

1315 509 Counseling Philosophies (3)
Surveys counseling as a discipline by examining its philosophical foundations and the major undergirding principles and practice, including models of human development, principles of learning, and principles of guidance and counseling.

1315 510 Group Counseling (3)
Examines the major schools, as well as contemporary trends in group counseling, including didactic and experiential models. Provides laboratory exercises which demonstrate different group approaches, offering opportunities for students to experience both group leadership and group participation. Prereq: 1315 509 & 514.

1315 513 Cultural Diversity Issues and Multicultural Counseling (3)
Reviews counseling theories and the appropriateness of each for counseling minorities: the aged, handicapped, gifted, mentally disabled, women and members of racial and ethnic groups. Prereq: 1315 509.

1315 514 Theories of Counseling (3)
Examines conceptual frameworks of major counseling theories and guides counselors in the development of their theoretical preference.

1315 517 Career Theories and Development (3)
Reviews information related to training and educating for jobs and careers, marriage and careers, and retirement careers. Utilizes a series of practical class projects, such as performing a job analysis, studying an occupational information program, reviewing systems for classifying materials and information, and critically reviewing and analyzing occupational materials from commercial publishers and professional associations to teach concepts. Studies the rationale behind the contributions of major career theorists. 1315 514.

1315 518 Supervision in Practicum & Field Experience (3)
Facilitates the development of counseling skills in preparation for internship experience. Prereq: Advancement to Candidacy.

1315 519 Appraisal Techniques of Counseling (3)
Examines techniques and methods of human appraisal, including standardized testing, autobiographical techniques, case histories, case studies, and interviews.

1315 521 Practicum and Field Experience in Counseling I (3)
Requires work in an actual counseling setting under the direction of a qualified professional. Requires on-site and classroom hours. Prereq.: Completion of core courses & 1171 537, 1315 510, 1315 514, 1315 530 & 531.

1315 522 Practicum and Field Experience in Counseling II (3)
Continues the field experience with additional responsibilities to enhance continued skill development. Requires on-site and classroom hours. Prereq.: 1315 521.

1315 528 Drug Abuse Prevention and Treatment (3)
Examines the psychological aspects of addiction to alcohol, narcotics, stimulants, psychotropics, hallucinogenic drugs, gambling, and sex. An intensive discussion regarding psychosocial factors leading to addictive states and an exploration of approaches and strategies for prevention, control, counseling, and treatment will be integrated across the course curriculum. Prereq: 1315-514.

1315 529 Human Sexuality & Sexual Dysfunction (3)
Provides information germane to the counselor's roles as sex educator and sex counselor. Covers reproductive processes, sexual behavior, sex and gender, marriage, family and interpersonal relationships, and sex and health. Analyzes theories and empirical studies of social processes and sexual practices.

1315 530 Techniques of Counseling (3)
Focuses on interviewing and counseling skills for effective therapeutic relationships. Students will learn how to develop goals of counseling, design intervention strategies, assess client outcomes and effectively terminate counseling relationships. Prereq: 1315 514.

1315 531 Ethics, Legal and Legislative Issues (3)
Surveys ethics in counseling and current legislation and laws impacting the counseling profession. Provides an overview of basic legal terminology and techniques for recognizing legal problems and issues. Prepares the counselor to serve as a client advocate and expert judicial witness. Examines controversial contemporary social welfare areas for their legal implications.

1315 532 Introduction to Research and Program Evaluation (3)
Examines qualitative and quantitative methods used in human services research. Prepares students to read, analyze, and evaluate research. Equips them to evaluate the effectiveness of service delivery programs. Cross-listed with 1171 552.

1315 533 Crisis Intervention (3)
Overviews theories of self-destructive behavior, crisis intervention, and suicide prevention. Explores treatment approaches for those in crises in schools and institutional settings. Prereq.: 1315 530.

1315 538 Mental Health Treatment Techniques (3)
Examines traditional and contemporary mental health treatment approaches with special emphasis on techniques used in out-patient, community-based care. Prereq.: 1315 514.

1315 543 Addiction Disorders (3)
Examines the physiological and psychological aspects of addiction to alcohol, narcotics, stimulants, psychotropics, hallucinogenic drugs, gambling, and sex. Assesses psychosocial factors associated with addiction. Explores a variety of treatment approaches.

1315 544 Family Counseling (3)
Focuses on traditional and non-traditional family life styles (including single-parent families, commune families, and the family in which two unmarried persons live together and procreate), family structures of racial and economic groups, communication, and, communication breakdown in family relationships. Prerequisites: 1315 509 & 514.

1315 545 Independent Research Study (1-6)
Provides the counselor-in-training who has selected an area of specialization an opportunity for in-depth reading, discussion, and/or field or laboratory experience in an area of interest. Prereq: Permission of instructor and Department Chair. May be repeated for credit.

1315 546 Counseling Children and Adolescents (3)
Explores a variety of models for effecting behavioral change in the early stages of the lifespan. Exposes students to a variety of techniques for helping children and youth through counseling processes. Prerequisites: 1171 537, 1315 509 & 514.

1315 549 Tests in Counseling (3)
Provides knowledge of the major types of tests, administration, and scoring; the use of tests in decision-making, research, and treatment; criteria for judging tests; and the basic concepts and terminology of tests and measurements.

1315 555 Counseling the Elderly (3)
Examines theories and methods for counseling senior citizens. Reviews biological and sociocultural aspects of aging and the impact these have on behavior and behavioral change. Prereq: 509 & 514

1315 596 Special Topics in Counseling (VC)
Presents and discusses special topics pertaining to counseling that are of interest to students. Prereq: Graduate standing and written permission of instructor.

Rehabilitation Counseling

1318-500 Foundations of Rehabilitation Counseling (3)
Examines the history, philosophy, and legislation related to the development of the field. Focus is on research findings, current policies, government entities, and ethical issues.

1318-501 Psycho-social and Medical Aspect of Disability in Rehabilitation (3)
Overview of major physical, cognitive, and sensory impairments. Emphasizes functional limitations, intervention resources, contributions of medical and allied health professions and psychosocial implications of adjustment to disabling conditions.

1318-502 Career Counseling and Job Development and Placement in Rehabilitation (3)
Explores occupational information job matching systems and job placement approaches. Focuses on demand-side job development, job-seeking skills training, supported employment, transitional work, and placement techniques, including job analyses, ADA implementation, and labor market surveys.

1318-503 Introduction to Assistive Technology Rehabilitation Counseling (3)
Examines technology in rehabilitation to support functioning of individuals with physical, cognitive, and sensory disabilities.

1318-504 Principles and Practices of Case Management in Rehabilitation (3)
Examines personalized processes to assess needs, coordinate care and ensure optimum outcomes. Identifies problem solving techniques for case management, variables that affect health and functioning and skills in the development of case management plans.

1318-505 Directed Readings in Rehabilitation (3)
Provides intensive study in one or more topical areas of rehabilitation through directed readings and the evaluation of rehabilitation delivery systems and resources.

SCHOOL OF ENGINEERING AND APPLIED SCIENCES

Ben O. Latigo, Dean and Professor
Building 42, Room 212
(202) 274-5220

The School of Engineering and Applied Sciences prepares students for professional careers in engineering, computer science, and applied sciences. Programs are offered at the baccalaureate, associate, and certificate levels. A graduate (MS) program in computer science was initiated in the fall 2007. Various options are available within certain programs to allow the student to meet his or her own individual interests. All programs in the School of Engineering and Applied Sciences encourage students to work with others in inter-disciplinary pursuits, to enhance their lives and those in their community, and to relate professionalism to scholarship through interaction with private and public institutions. The programs are designed to cultivate the intellectual ability of students, to develop their knowledge and skills, and to prepare them to think critically, analytically, and creatively. They reflect the School's awareness that career preparation for complex urban organizations requires the training of people intellectually and professionally motivated and capable of comprehending the environment in which these institutions function.

The faculty of the School of Engineering and Applied Sciences comprises a cadre of dedicated, responsive professionals who have broad backgrounds and who remain active in their disciplines. Both faculty and staff work in tandem to provide a network of academic and support services that will assure competent, competitive graduates. Courses are designed to engage students in critical thinking, continuous inquiry, and the pursuit of excellence. State-of-the-art technologies are incorporated into all phases of the curriculum and research.

The School of Engineering and Applied Sciences embodies the historic purposes of the 1862 Morrill Act, which established the American land-grant university system. The three tenets are research, instruction, and service through the extension of public knowledge acquired through research incorporated within the School and which form the core of its mission. The School currently houses three Centers: The Architectural Research Institute, the Materials Testing and Research Center, and the newest, the Center of Excellence for Renewable Energy, was inaugurated in 2006. In addition, the School runs the much acclaimed Saturday Academy and the NASA SEMAA pre-college programs through its Science and Engineering Center.

Department of Computer Science and Information Technology

Byunggu Yu, Chairman
Building 42, Room 113-E
(202) 274-5147

FULL-TIME FACULTY

Professors: D. Barnett

Associate Professors: L. Chen, G.T. Finley, R.L. Liang, T.L. Manning, B. Yu, S. Zeadally

Assistant Professors: D.L. Shie

The Department of Computer Science and Information Technology brings together programs in Information Technology and Computer Science designed to address the urban land-grant mission of the University of the District of Columbia by preparing students for immediate employment in the high technology workplace and for more advanced studies.

The Department offers Master's degree in Computer Science (MSCS), Bachelor of Science degree programs in Computer Science (BSCS), and Information Technology (BSIT). The Department offers also the Associate of Applied Science (AAS) degree program in Computer Science Technology (AAS-CST).

In all programs, classroom and laboratory instruction are provided with emphasis on current technology using networked computers and state-of-the-art audio visual as well as e-learning tools.

COMPUTER SCIENCE PROGRAM

The Bachelor of Science in Computer Science enables students to enter the computing profession at a technical - scientific level or to proceed to graduate programs in Computer Science. It is a four-year program with a heavy emphasis on mathematics and the study of algorithmic processes to describe and transform information.

The objectives of the Bachelor of Science in Computer Science Degree Program are to produce graduates who are prepared for successful, immediate employment and successful entry into graduate programs in the discipline.

Bachelor of Science in Computer Science (BSCS)

The BS program in Computer Science requires completing a total of 128 credit hours of college-level courses in order to graduate. Students must obtain a grade of C or better in all the courses in their major and must have an overall grade point average of at least 2.0.

General Requirements: 47 credit hours

1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature & Advanced Writing I	3
1133 212	Literature & Advanced Writing II	3
1535 151	Calculus I Lecture	3
1535 155	Calculus I Lab	1

1535 152	Calculus II Lecture	3
1535 156	Calculus II Lab	1
1539 201	University Physics I Lecture	3
1539 205	University Physics I Lab	1
1539 202	University Physics II Lecture	3
1539 206	University Physics II Lab	1
	Natural Science Elective **	4
	(1507 111/113 or 1401 101/103 Lec/Lab)	
	Fine Arts Elective	3
	Philosophy Elective	3
1119 115	Speech	3
	Social Science Electives	6
	(2131 201/202)	
TOTAL		**47**

Program Core Requirements:

3528 110	Intro to Programming Lec	2
3528 111	Intro to Programming Lab	1
3528 231	Computer Science I Lec	3
3528 233	Computer Science I Lab	1
3528 232	Computer Science II Lec	3
3528 234	Computer Science II Lab	1
1535 213	Discrete Mathematics	3
1535 225	Linear Algebra	3
1535 253	Calculus III Lecture	3
1535 255	Calculus III Lab	1
1535 381	Probability and Statistics	3
3528 115	Foundations of Computing	3
3529 241	Data Structures	3
3529 311	Computer Organization Lec	3
3529 313	Computer Organization Lab	1
3528 285	Professional Ethics	3
3529 351	Computer Networks	3
3529 325	Org. Prog. Languages	3
3529 341	Software Engineering	3
3529 410	Theory of Computing	3
3529 412	Operating Systems	3
3529 415	Computer Architecture	3
3529 434	Analysis of Algorithms	3
3529 495	Senior Seminar	1
3529 499	Senior Project	2
	Approved Electives* (see below)	20
TOTAL		**81**

**Approved Computer Science Electives*

3528 341	Integrated Web Development	3
3528 385	System Analysis and Design	3
3529 251	Assemblers & Systems Lec	3
3529 253	Assemblers & Systems Lab	1
3529 254	Intro to Computer Graphics	3
3529 304	Algorithmic Techniques	3
3529 315	UNIX and System Programming	3
3529 414	Introduction to Artificial Intelligence	3
3529 424	Translation Software	3
3529 452	Database Systems Design	3
3529 454	Computer Graphics	3
3529 461	Systems Simulation	3
3529 490	Special Topics in CS	3
3529 496	Advanced Programming	3
3529 497	Computational Science	3

INFORMATION TECHNOLOGY PROGRAM

The Bachelor of Science degree in Information Technology prepares students for careers in the broadly defined field of information technology. Core courses provide students with sufficient exposure to networking and system administration, web and multimedia content development, programming and application development, including database management systems and web applications, technology integration and deployment in a user community, including needs assessment, user-centered design, technology transfer, and ongoing support. After fulfilling the core course requirements, students can obtain greater depth in several IT areas including network administration, game development or web-database integration.

Bachelor of Science in Information Technology (BSIT)

The BS program in Information Technology requires completing a total of 123 credit hours of college-level courses in order to graduate. Students must obtain a grade of C or better in all the courses in their major and must have an overall grade point average of at least 2.0.

General Requirements:

1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature and Writing I	3
1133 212	Literature and Writing II	3
1535 116	Finite Mathematics	3
1535 215	Calculus for Business, Social and Life Sciences	4
	Fine Arts Elective	3
	Natural Science with Lab	8
	[Physics 101/103 & 102/104]	
	Speech [1119 115]	3
	Philosophy Elective	3
	Social Science Electives	6
TOTAL		**42**

Department Core Requirements:

3528 110	Intro to Programming Lec	2
3528 111	Intro to Programming Lab	1
3528 231	Computer Science I Lec	3
3528 233	Computer Science I Lab	1
3528 232	Computer Science II Lec	3
3528 234	Computer Science II Lab	1
3529 241	Data Structures	3
3523 235	Web Page Dev & HTML Lec.	2
3523 236	Web Page Dev & HTML Lab	1
3528 341	Integrated Web Development	3
3528 251	Database Fundamentals Lec	2
3528 252	Database Fundamentals Lab	1

1535 185	Statistics	3
3523 231	Internet and Wide Area Networks Lec	2
3523 232	Internet and Wide Area Networks Lab	1
3523 131	Computer Networking Fundamentals Lec	3
3523 132	Computer Networking Fundamentals Lab	1
3528 285	Professional Ethics	3
3528 115	Foundations of Computing	3
3529 341	Software Engineering	3
	Computing Electives*	9
	Concentration Electives**	15
	Application Electives***	12
3529 495	IT Senior Seminar	1
3529 499	IT Senior Project	2
TOTAL		**81**

** Computing Electives chosen from:*

3529 304	Algorithmic Techniques,
3529 311/313	Computer Organization Lec/Lab
3529 325	Organization of Prog. Languages
3529 461	System Simulation
3529 496	Advanced Programming

***Concentration electives chosen from:*

3528 385	System Analysis and Design
3529 452	Database Systems Design
3529 490	Special Topics
3529 412	Operating Systems
3529 351	Computer Networks
3529 352	Network Security
3529 454	Computer Graphics
3529 497	Computational Science

****Applications electives chosen from approved courses in consultation with the student's Advisor and Chair.*

COMPUTER SCIENCE TECHNOLOGY PROGRAM

The Associate in Applied Science in Computer Science Technology has currently one option. This option (Computer Networks Option) provides for training as computer network professionals and network administrators. Courses prepare students to take several industry exams leading to certification, such as Microsoft Certified Systems Engineer (MCSE) and Cisco Certified Network Associate (CCNA). Courses in this program have the letter code CSNT. Students wishing to transfer into the BSIT program upon completion of the AACST certificate can do so in a seamless fashion. Additional options such as Programming and Software may become available in the future. Such an option (Software and Programming Option) would have a focus on applications programming. The student will be trained in the logic of problem solving, and at the completion of the program be equipped to write computer programs in modern languages such as C++, Visual Basic, and Assembly Language. Students will also be trained in the use of modern office software application packages.

The AAS program requires completing a total of 64 credit hours of college-level courses in order to graduate. Students must obtain a grade of C or better in all the courses in their major and must have an overall grade point average of at least 2.0.

General Requirements:

1133 111	English Composition I	3
1133 112	English Composition II	3
1539 101	College Physics I Lec.	3
1539 103	College Physics I Lab	1
1535 113	PreCalculus I	3
1535 114	PreCalculus II	3
	Social Science [2131 201]	3
TOTAL		**19**

Program Core Requirements:

3528 104	Intro to Applications of Computer Lec	2
3528 105	Intro to Applications of Computer Lab	1
3528 110	Intro to Programming Lec	2
3528 111	Intro to Programming Lab	1
3528 231	Computer Science I Lecture	3
3528 233	Computer Science I Lab	1
3528 232	Computer Science II Lecture	3
3528 234	Computer Science II Lab	1
3523 294	Applied Visual Basic	3
3523 131	Computer Networking Fundamentals Lecture	3
3523 132	Computer Networking Fundamentals Lab	1
3523 235	Intro Web Page Development Lecture	2
3523 236	Intro Web Page Development Lab	1
3528 251	Database Fundamentals Lecture	2
3528 252	Database Fundamentals Lab	1
3528 285	Professional Ethics	3
	Technical Electives* (see list below)	16
TOTAL		**46**

**Technical Electives chosen from:*

3528 341	Integrated Web Development	3
3528 385	System Analysis and Design	3
3529 304	Algorithmic Techniques	3
3523 221/222	LAN Installation & Troubleshooting Lecture/Lab	
3523 231/232	Internet Wide Area Networks Lecture/Lab	
3523 223	Wireless Local Area Networks	
3529 241	Data Structures	

Note: Students wishing to seek CISCO certification may wish to choose from the following Electives:

3523 131/132	Computer Network Fundamentals Lec/Lab
3523 221/222	LAN Installation & Troubleshooting Lecture/Lab
3523 231/232	Internet Wide Area Networks Lecture/Lab
3523 241/242	Advanced Routing and Switching

The Master's Program in Computer Science [MSCS]

The CSIT Department offers a graduate program in computer science which leads to the Master of Science in Computer Science (MSCS) degree. The program is offered in the evenings at the University of the District of Columbia's Van Ness campus.

The MSCS program is tailored to meet the needs of working professionals in the greater Washington DC area. The program emphasizes a practitioner-oriented curriculum which includes the study of advanced algorithms, networks, artificial intelligence, computer graphics, digital image processing and software systems. The program offers a thesis option and a non-thesis option. Students in both options must take four graduate computer science (CS) core courses and six graduate CS elective courses.

Students who wish to write a thesis take four graduate CS electives and sign up for 6 thesis credits by taking 3530 600 Master's Thesis, whereas students in the non-thesis option must take six graduate CS electives, one of which is3530 599 Master's Project .

Students who wish to write a thesis will need to find a thesis advisor in the department based on their interests and must comply with thesis submission requirements as prescribed by the UDC Graduate School. Students wishing to do a special project as part of their Master's program will also need to find a faculty member willing to serve as their project supervisor.

Also, students in the non-thesis option will need to pass a comprehensive examination in four areas and pass the examination with a grade of B or better. Students are required to take the exam after they have finished all their course work except for the project.

Program Requirements

The course of study is as follows: 30 credit hours are required for graduation. The program offers a thesis option and a non-thesis option. Students in both options must take at least four graduate computer science (CS) core courses (12-cr hours). Students who wish to write a thesis take four graduate CS electives (12-cr hours) and sign up for 6 thesis credits (counts as two graduate electives) by taking 3530 600 Master's Thesis, whereas students in the non-thesis option must take six graduate (18-cr hours) CS electives. One of these six electives can be 3530 599 Master's Project. In addition, students who are inadequately prepared in computer science but who have been admitted into the graduate program will also need to take up to 4 approved background courses in computer science.

Students enrolled in the thesis option will need to submit a thesis and defend it successfully in an oral examination conducted by the student's thesis committee. Students must follow the requirements of the Graduate School in preparing the thesis. Students who elect to do a project must consult with their project advisor on project submission requirements. They must also pass a comprehensive examination after completion of their coursework except for the project.

Approved Background Courses

The background courses must be taken or may be waived without replacement based on previous college courses. These courses do not count toward the minimum 30 credit hours required by the program.

3530 496 Object-oriented Programming with C++ or
3530 497 Java Programming
3530 500 Discrete Mathematics
3530 502 Systems Software
3530 503 Data Structures

Graduate Writing Proficiency Requirement

Demonstrated proficiency in writing is required of all graduate students. Students must take the Graduate Record Examination (GRE) Analytical Writing Subtest as a requirement of admission. The minimal acceptable score is a 4.0. Students failing to meet the criterion score may be admitted conditionally. If admitted conditionally, a student must enroll in and pass (with a grade of B or better) the University's graduate writing proficiency course 1133-290 during their semester of admission to the university.

Core Courses

All students in the MSCS program must take four of the following seven courses.

3530 504 Algorithm Design and Analysis
3530 505 Foundations of Computer Architecture
3530 506 Principles of Operating Systems
3530 507 Principles of Database Systems
3530 508 Principles of Data Communication Networks
3530 509 Foundations of Software Engineering
3530 510 Principles of Artificial Intelligence

Electives

The MSCS program permits a student to specialize in one of five specific areas of computer science. These areas are as follows: a) theoretical computer science, b) computer design and system software, c) specialized applications, d) networks and e) intelligent systems.

Students are advised to choose an appropriate set of six courses from the list of electives shown below for each area to suit their interests. The specific prerequisites for the various courses are given in the course description section of the catalog. Students may enroll in the 3530 528, 3530 538, 3530 558 or 3530 578 Topics courses more than once, provided different special topics are involved. Students may, however, enroll in 3530 599 Master's Project only once; students electing to write a thesis must enroll in 3530 600 Master's Thesis twice.

A. Theoretical Computer Science

The following courses require 3530 504 as a prerequisite.

3530 511 Automata Theory and Formal Languages
3530 512 Computational Complexity
3530 513 Parallel Algorithms
3530 518 Special Topics in Theoretical Computer Science
3530 598 Graduate Seminar
3530 599 Master's Project
3530 600 Master's Thesis

B. Computer Design and System Software

These courses require 3530 505 as a minimum prerequisite

3530 521 Advanced Computer Architectures
3530 522 Advanced Operating Systems
3530 523 Advanced Database Systems
3530 524 Human-Computer Interfaces
3530 525 Compiler Design
3530 528 Special Topics in Computer Design and System Software
3530 598 Graduate Seminar
3530 599 Master's Project
3530 600 Master's Thesis

C. Specialized Applications

The following courses require 3530 504 as a minimum prerequisite.

3530 531 Principles of Computer Graphics
3530 532 Image Processing
3530 533 Computational Geometry
3530 534 Bioinformatics
3530 538 Special Topics in Specialized Applications
3530 598 Graduate Seminar
3530 599 Master's Project
3530 600 Master's Thesis

D. Network Security

The following courses require 3530 508 as a minimum prerequisite.

3530 551 Computer Networks and Protocols
3530 552 Network Programming
3530 553 Network Security
3530 554 Wireless and Mobile Computing
3530 558 Special Topics in Network Security
3530 598 Graduate Seminar
3530 599 Master's Project
3530 600 Master's Thesis

E. Intelligent Systems

The following courses require 3530 510 as a minimum prerequisite.

3530 571 Logic Programming
3530 572 Evolutionary Programming
3530 573 Neural Networks
3530 574 Natural Language Processing
3530 576 Speech-based Computing
3530 578 Special Topics in Intelligent Systems
3530 598 Graduate Seminar
3530 599 Master's Project
3530 600 Master's Thesis

COURSE DESCRIPTIONS

3523 131 Computer Networking Fundamentals Lecture (3)

Introduces computer networking. Key internetworking functions of the OSI network layers are presented. The ISO/OSI reference model is explained. IP addressing and configuration, including subnetting are introduced. The functions of the TCP/IP network-layer protocols are explained. Basic concepts of router elements (RAM, ROM, CDP, show) and the essentials of router configuration are presented Co-req: 3523 132, Prereq: 3528 104/105 or equivalent.

3523 132 Computer Networking Fundamentals Laboratory (1)

This a laboratory component of the 3523 132 lecture course. Laboratory experiments are tailored to consolidate the knowledge acquired in the lecture course. They include: identification of the functions of the TCP/IP network-layer protocols, identification of the parts in specific IP address examples, configuration of IP addressing, router configuration etc. Co-req: 3523 131, Pre-req: 3528 104/105 or equivalent.

3523 221 LAN Installation and Troubleshooting Lecture (1)

Studies operating system software and installation of LANs; problem solving for LANs. Prereq.: 3523 125, 126 or equivalent.

3523 222 LAN Installation and Troubleshooting Laboratory (2)

Provides hands-on support for the brief lecture component, emphasizing project and case driven troubleshooting.

3523 223 Wireless Local Area Networks (3)

Wireless LANs is an introductory course that will focus on the design, planning, implementation, operation and troubleshooting of wireless networks. It covers a comprehensive overview of technologies, security, and design best practices with particular emphasis on hands-on skills in the following areas: Wireless LAN setup & troubleshooting 802.11a & 802.11b technologies, products and solutions, Site Surveys, Resilient WLAN design, installation and configuration, WLAN Security - 802.1x, EAP, LEAP, WEP, SSID, Vendor interoperability strategies, Wireless bridging. This course will prepare students to achieve the Cisco Wireless LAN Support Specialist designation.

3523 231 Internet and Wide Area Networks Lecture (2)

Focuses on connecting the LAN to the Internet and issues with wide area networks (WANs). Prereq.: 3523 131, 132 or equivalent.

3523 232 Internet and Wide Area Networks Laboratory (1)

Provides hands-on technology support, such as TCP/IP for the lecture course 3523 231.

3523 235 Introduction to WebPage Development and HTML (2)

Discusses issues for Web page development, using hypertext markup language (HTML); introduces to authoring tools such as Dreamweaver and Frontpage. Prereq.: 3528 104, 105 or equivalent.

3523 236 Introduction to Web Page Development and HTML Lab (1)
Provides hands-on technology-based support for the lecture course 3523 235.

3523 241 Advanced Routing and Switching Lecture (3)
Continues 3523 131 with emphasis on local and wide area networks (LAN, WAN). The advantages of network segmentation using bridges, routers, and switches will be presented. Network congestion problems and the use of half and full duplex Ethernet operation will be explained. Different WAN services: LAPB, Frame Relay, ISDN/LAPD, HDLC, PPP, and DDR will be highlighted. Prereq: 3523 131/132

3523 242 Advanced Routing and Switching Laboratory (1)
This a laboratory component of the 3523 241 lecture course. Laboratory experiments tailored to consolidate the knowledge acquired in the lecture course are presented. They include: Recognition of key Frame Relay terms and features. Configuration of FrameRelay LMIs, maps, and subinterfaces. Monitoring of Frame Relay operation in the router, identification of PPP operations to encapsulate WAN data on routers etc. Co-req: 3523 241

3523 261 LAN Principles & Hardware Lec (3)

3523 262 LAN Principles & Hardware Lab (1)
Co-req: 3523 261

3528 104 Introduction to Applications of Computer Lecture (2)
Identifies computer equipment; examines the functions of the components of a computer; binary, octal, and hexadecimal number systems; description of various programming languages; applications of computers; hands-on introduction to word processing, spreadsheets, database managers and microcomputer operating systems. Lec. 2 hrs.

3528 105 Introduction to Applications of Computer Laboratory (1)
Laboratory associated with 3528 104, Lab. 2 hrs., Co-req 04.

3528 110 Intro to Programming Lecture (2)
Discusses development of algorithms to solve scientific and commercial problems; use of counting, loops, and termination techniques; array structures; top-down design; standard and structured flowcharting of algorithms using conventional symbols. Lec. 2 hrs.

3528 111 Intro to Programming Lab (1)
Laboratory associated with 3528 110, Lab 2 hrs. Co-req: 3528 110

3528 115 Foundations of Computing (3)
Features applied concepts of iteration, induction, and recursion; functions and relations; propositional logic and predicate logic; graph and tree data structures; Boolean and computer logic; finite state machines; and algorithmic problem solving. Lec. 3 hrs., Prereq.: 3528 110 and 111.

3528 231 Computer Science I Lecture (3)
Covers algorithm and program development using a higher-level programming language, such as C++. Use of control structures, functions, and arrays. Objects are introduced. Lec. 3 hrs., Prereq.: 3528 110 & 111.

3528 232 Computer Science II Lecture (3)
Introduction to data abstraction and objects, recursion, sorting algorithms and data structures, including stacks, queues, linked lists, and trees. Lec. 3 hrs., Prereq.: 3528 231 & 233.

3528 233 Computer Science I Laboratory (1)
Must be taken concurrently with 3528 231, Lab 3 hrs., Co-req.: 3528 231.

3528 234 Computer Science II Lab (1)
Must be taken concurrently with 3528 232, Lab 3 hrs., Co-req.: 3528 232.

3528 251 Database Fundamentals Lec. (2)
Introduction to databases, the relational model, normalization and relationships and trends including web applications. A modern application software package is used to build a database that includes tables, queries, forms and reports. Prereq: 3528 232, 234.

3528 252 Database Fundamentals Lab (1)
2-hour lab in support of 3528 251. Co-req: 3528 251

3528 285 Professional Ethics (3)
Focus on the ethical and social issues in the field of computing. Lec. 3 hrs., Prereq.: 3528 231.

3528 341 Integrated Web Development (3)
An intermediate course with a focus on web creation, administration and maintenance. Topics include web administration and security, performance issues, password security. Prereq: 3523 235 and 236.

3529 241 Data Structures (3)
Topics include elementary and advanced data structures including arrays, stacks, queues, trees and graphs. Search and sort techniques. Lec. 3 hrs., Prereq.: 3528 232 and 234.

3529 251 Assemblers and Systems Lecture (3)
Introduces assembly and machine level software concepts and applications. Instruction sets, addressing techniques, input-output programs, data representations, and logic. Students will complete several projects illustrating the use of these concepts. Lec. 3 hrs., Prereq.: 3528 231 and 233.

3529 253 Assemblers and Systems Lab (1)
Laboratory to accompany Assemblers and Systems. Lab. 3 hrs., Co-req.: 3529 251.

3529 304 Algorithmic Techniques (3)
Discusses time/space complexity of algorithms, basic design, and analysis techniques and topics of current interest. Lec. 3 hrs., Prereq.: 3528 232 and 234.

3529 311 Computer Organization (3)
Provides foundations of digital design, including Boolean Algebra, non-decimal number systems; basic digital elements using integrated logic modules, and logic design. Lec. 3 hrs., Prereq.: 3528 231 and 233.

3529 313 Computer Organization Laboratory (1)
Laboratory to accompany Computer Organization. Lab. 2 hrs., Co-req.: 3529 311 and 313.

3529 315 Unix and System Programming (3)
Introduces and discusses an in-depth examination of systems programming in Unix operating environments. Lec. 3 hrs., Prereq.: 3528 232 and 234.

3529 325 Organization of Programming Languages (3)
Studies of the organization of programming languages, especially the run-time behavior of programs; formal study of programming languages specification and analysis; continuation of the development of problem analysis and solution and of programming skills. Lec. 3 hrs., Prereq.: 3529 241.

3529 341 Software Engineering (3)
Explores issues in design, development, documentation, coding and implementation of large software projects. The tools and techniques required for all stages are addressed. The functional requirements and decomposition of model problems are discussed. Validation, test and maintenance of large software systems are also covered. Lec. 3 hrs., Prereq.: 3529 241.

3529 351 Computer Networking (3)
Concepts of computer networks including principles governing data communication, network performance and protocols. The internet TCP/IP protocol stack will be emphasized. Local area nets included. Significant network programming is included. Preq: 3529 241 or equivalent, 1535 381 or equivalent.

3529 352 Network Security (3)
Basic network security including physical security, risk assessment, authentication protocols, encryption, privacy, backup and recovery, intrusion detection and prevention. Prereq: 3529 351 or equivalent.

3529 410 Theory of Computing (3)
Introduces formal languages, automation, computability in the context of Turing machines, partial recursive functions, and complexity theory. Lec. 3 hrs., Prereq.: 3529 325, 1535 213.

3529 412 Operating Systems (3)
Introduces operating systems; process, storage, and processor management techniques; performance and security topics. Projects given will illustrate the use of these concepts. Comparative analysis of operating systems via case studies will be made. Lec. 3 hrs., Prereq.: 3529 251.

3529 414 Introduction to Artificial Intelligence (3)
Focuses on issues in machine intelligence, problem solving, description matching, goal reduction, exploiting natural constraints, and backtracking. Knowledge representation and image understanding will be emphasized. Lec. 3 hrs., Prereq.: 3529 241.

3529 415 Computer Architecture (3)
Examines arithmetic and control units, system aspects of computer memory and access control functions, input-output, and system organization. Lec. 3 hrs., Prereq.: 3529 311.

3529 424 Translation Software (3)
Studies programming language design, error detection, and recovery techniques. Lexical analysis, syntactical analysis, symbol table handling, semantic analysis, code generation, and code optimization, compiler-compilers are examined. Lec. 3 hrs., Prereq.: 3529 325, 434.

3529 434 Analysis of Algorithms (3)
Introduction to theoretical algorithm analysis, including study of growth rates of functions, worst-case and average behavior, and divide and conquer. Topics will include graphs, strings and dynamic programming. Prereq: 3529 241, 1535 213

3529 441 Digital Forensics (3)
Concepts in digital/computer forensic analysis and Internet Investigations. Legal and technical aspects of study to achieve a balance similar to that encountered during common cases in which computer forensics are employed. Topics include seizing digital media, forensic hardware and software, encryption. Prereq: 3528 232/234, CSTC 184 or equivalent, 3529 352 or equivalent.

3529 442 Secure Computing Systems (3)
Design, development and programming principles for secure systems including issues related to operating systems, networks and other computing environments. Prereq: 3529 412, 3529 352.

3529 452 Database System Design (3)
Covers the conceptual scheme for three data models: relational, hierarchial and network. Also discusses data definition language, data manipulation language and design theory of relational databases, including relational calculus and algebra and normal forms. Database security, integrity, maintenance, and recovery are also covered. Lec. 3 hrs., Prereq.: 3529 241.

3529 454 Computer Graphics (3)
Examines picture description languages, control languages, and data structures. Graphic display and graphic input devices and applications of graphic techniques are also covered. Lec. 3 hrs., Prereq.: 3529 251.

3529 461 Systems Simulation (3)
Studies and examines advanced numerical methods for computers; Monte Carlo methods; discrete event simulation and Markov processes, and simulation languages, including GPSS. Lec. 3 hrs., Prereq.: 3528 232, 1535 254 or 1535 225.

3529 490 Special Topics in Computer Science (3)
A comprehensive treatment will be presented on one or more advanced areas in computer science. Lec. 3 hrs., Prereq.: 3528 231, 3529 251.

3529 495 Senior Seminar (1)
Reviews and crystallizes basic concepts; analyzes and relates these concepts in view of the current state-of-the-art practices and trends for the future of the profession. Extensive use of current professional literature. Prereq.: Senior standing.

3529 496 Object-Oriented Programming with C++ (3)
Introduces the fundamental principles and technology of object-oriented programming, with emphasis on the C++ programming language. Topics include data abstraction, information hiding, encapsulation, inheritance, polymorphism, templates, exceptions, and object-oriented considerations for software design and reuse. Prereq.: Admitted to the graduate program in computer science. This course DOES NOT count toward the MSCS degree. Intended as graduate program and not accepted as BSCSelective. OR

3529 497 Java Programming (3)
Designed to facilitate students without a background in computer programming to become proficient Java programmers. Topics include language syntax, data typing, control constructs, arithmetic, logical and string expressions, elementary and composite data structures, methods, and exception handling. Object oriented classes, polymorphism and inheritance. Prereq.:

Admitted to the graduate program in computer science. This course DOES NOT count toward the MSCS degree. Intended as graduate program and not accepted as BSCSelective.

3529 499 Senior Project (1-2)
A senior project, consisting of the development, design, programming, documentation, and testing of a significant problem approved by the instructor. The project may be a team or individual effort. Prereq.: Senior standing.

GRADUATE COURSE DESCRIPTIONS

3530 500 Discrete Mathematics (3)
Emphasizes the relationships between certain mathematical structures and various topics in computer science. Topics include set theory, graphs and trees, algorithms, propositional calculus, logic and induction, functions, relational algebra, and matrix algebra. Prereq.: None. This course DOES NOT count toward the MSCS degree.

3530 502 Introduction to Systems Software (3)
Provides a fundamental understanding of the design and structure of system programs such as assemblers, compilers, interpreters, linkers, loaders, and operating systems. The compilation of block-structured languages is used as a basis for understanding lexical, syntactic, and semantic analysis as well as code generation and optimization. The course concludes with a study of operating system topics such as process scheduling, memory management, and file systems. Prereq.: None. This course DOES NOT count toward the MSCS degree.

3530 503 Data Structures (3)
Topics include dynamic allocation, recursion, the implementation of stacks, queues, linked lists, and trees, as well as algorithms for sorting and searching. The emphasis is on the trade-offs associated with the use of alternative data structures. This course includes several significant programming assignments. Prereq.: 3530 500. This course DOES NOT count toward the MSCS degree. Required Core Courses

3530 504 Design and Analysis of Algorithms (3)
Focuses on the design and analysis of algorithms to solve various classes of computational problems. Algorithmic techniques to be studied include divide-and-conquer, dynamic programming, greedy methods, amortized analysis, branch-and-bound, randomizing, and backtracking. Prereq.: 3530 500, 3530 503

3530 505 Foundations of Computer Architecture (3)
The internal structure and operation of modern computer systems is examined in this course. Topics to be discussed include the design and operation of the ALU, FPU, and CPU; micro programmed control vs. hardwired control, pipelining, RISC vs. CISC machines, and various memory systems including caches and virtual memory; An introduction to parallel and vector processing, multiprocessor systems and interconnection networks will also be presented. System performance will also be addressed. Prereq.: 3530 502

3530 506 Principles of Operating Systems (3)
In this course theoretical and implementation aspects of operating system design are presented from both developer and user perspectives. Parallelism or concurrency aspects are explained using the concepts of process management, synchronization, deadlocks, job and process scheduling. Detailed techniques of real and virtual storage management are discussed for a variety of processing environments such as multi-programming, multi-processing, etc. Students will be designing simulated operating system components and implementing them using a high-level language. Prereq.: 3530 502

3530 507 Principles of Database Systems (3)
Focuses on theoretical and design aspects of database management system software. Topics include the entity-relationship model, database system architectures, data models, and file organization and access methods. A variety of database models including the relational, object-oriented and network models will be discussed. Other topics include normal forms, concurrency management, query languages and query optimization. Prereq.: 3530 503

3530 508 Principles of Data Communications Networks (3)
Provides a unified treatment of data communications networks from the perspective of data communication principle, components and services, line control techniques and network requirements and design. Topics include transmission principles and media, data encoding and channel capacity, modems and modulation techniques, error and line control techniques, protocols, data compression techniques, switching technologies, common carriers' services and facilities and regulatory requirements Prereq.: graduate student standing with no deficiencies.

3530 509 Foundations of Software Engineering (3)
Fundamental software engineering techniques and methodologies commonly used during software development are studied. Topics include various life cycle models, project planning and estimation, requirements analysis, program design, construction, testing, maintenance and implementation, software measurement, and software quality. Prereq.: 3530 501A or 501B, 503

3530 510 Principles of Artificial Intelligence (3)
In this course, the highly diverse field of artificial intelligence is explored from a theoretical and practical perspective. A variety of schemes for representation and reasoning will be discussed. Topics focusing on representation include symbolic, rule-based, frame-based, object, and semantic net systems. Topics focusing on reasoning include inductive, abductive and deductive systems, non-monotonic reasoning, temporal reasoning, model-based reasoning, and planning. Common LISP and Prolog will also be briefly discussed. Prereq.: 3530 503

ELECTIVES

Courses listed in this section can be used by students in designing a program which meets their specific needs and interests. Students may concentrate on one of five areas - theoretical computer science, computer design and system software, specialized applications, network security, and intelligent systems.

3530 511 Automata Theory and Formal Languages (3)
Covers finite state machines and their limitations, tape automata and their limitations, Turing machines and basics of recursive functions, Post and Thue systems, word problems, phrase-structure grammars, and the different versions of the halting problem. Prereq.: 3530 504

3530 512 Computational Complexity (3)
Computational complexity and its applications in computer science and cryptography are explored. Basic concepts of polynomial, NP, and NP-Complete problems are developed in both intuitive and rigorous forms. Methods for determining the tractability of problems, the polynomial hierarchy, techniques and complexity of approximation algorithms, and current topics in complexity are also covered. The course also covers complexity topics in cryptography. Prereq.: 3530 511

3530 513 Parallel Algorithms (3)
Introduces students to parallel computation and algorithm design for parallel machines. Topics include adapting conventional algorithms to fit parallel execution models and stochastic methods suitable for massively parallel machines. Selected readings from the literature will be required. Prereq.: 3530 504

3530 518 Special Topics in Theoretical Computer Science (3)

3530 521 Advanced Computer Architectures (3)
In this course novel computer architectures are explored. Topics include parallel machines, multiprocessor and multi computer machines, dataflow machines, biologically inspired architectures, quantum computers and various interconnection structures. Performance evaluation aspects will also be considered. Selected readings from the literature will be required. Prereq.: 3530 505

3530 522 Advanced Operating Systems (3)
Presents the design principles and applications of advanced operating systems. Topics include communications in distributed systems based on layered protocols, asynchronous transfer mode networks, the client-server model, remote procedure call, synchronization and deadlock in distributed systems; Various concurrency algorithms will also be presented. Prereq.: 3530 506

3530 523 Advanced Database Systems (3)
Investigates the principles of object-oriented and distributed database systems, with an emphasis on algorithms and protocols for handling the complexity of managing data in a distributed environment. Topics include object-oriented and extended relational data models, object identity and persistence, replication, distributed concurrency control, distributed query processing and optimization, data security, semantic integrity control, optimal resource allocation, reliability, and failure recovery. Prereq.: 3530 507

3530 524 Human-Computer Interfaces (3)
Covers the principles, concepts, and objectives of human engineering for interactive systems. Topics include definition of human factors, syntactic and semantic models of user behavior, design principles for user interfaces, interface presentation techniques, and evaluation methods. Selected readings from current research literature will be assigned. Prereq.: 3530 509

3530 525 Compiler Design (3)
Explores the principles, algorithms, and data structures involved in the design and construction of compilers. Topics include context-free grammars, lexical analysis, parsing techniques, symbol tables, error recovery, code generation, and code optimization. Each student will implement a compiler for a small programming language. Prereq.: 3530 502

3530 531 Principles of Computer Graphics (3)
Techniques and algorithms for creating and displaying a variety of 2-d and 3-d objects on raster-scan devices are discussed. The mathematics underlying 2-d and 3-d rotations, reflections, scaling and perspective transformations will be presented. Algorithms for clipping lines and polygons, curve fitting, surface rendering, etc. will also be presented. Prereq.: 3530 503

3530 532 Image Processing (3)
Fundamentals of image processing are covered, with an emphasis on digital techniques. Topics include digitization, enhancement, segmentation, the Fourier transform, filtering, restoration, reconstruction from projections, and image analysis including computer vision. Concepts are illustrated by laboratory sessions in which these techniques are applied to practical situations, including examples from biomedical image processing. Prereq.: 3530 531

3530 533 Computational Geometry (3)
Computational Geometry is used to developing algorithms for solving geometric problems in continuous spaces. It has deep connections to classical mathematics, theoretical computer science, and practical applications such as computer vision, graphics, and engineering such as CAD. The problems dealt with are typically posed as spatial decompositions such as polygon partitioning and triangulation, convex hulls, Voronoi diagrams and Delaunay triangulations, geometric search, and curves and surfaces. Prereq.: 3530 504, 531

3530 534 Bioinformatics (3)
A variety of algorithms for the representation and visualization of genetic data will be presented in this course. Appropriate material drawn from the fields of biology, physics and chemistry will also be presented so that the nature of genetic data can be understood. Extensive readings will be required. Prereq.: 3530 531. May be taken concurrently.

3530 538 Special Topics in Applications (3)

3530 551 Computer Network Architectures and Protocols (3)
Covers the architecture and principles of operation of integrated broadband networks particularly those capable of supporting different types of traffic (voice, video, data, graphics) over local and wide area networks. The focus in this course is on high-speed networks (LANs, WANs), switching designs and architectures, router designs and routing protocols, MPLS, IPv6, optical networking, satellite communications, and network performance evaluation. Hands-on practical projects are an integral part of the course Prereq.: 3530 505

3530 552 Network Programming (3)
Provides programming skills useful for network designers and network application developers. It first covers a brief introduction to networking concepts and protocols. The course then covers topics including: the UNIX model, socket programming (TCP/UDP/raw sockets) for client-server systems, Internet addressing, application protocols (SMTP, DNS, Telnet, ftp), Remote Procedure Calls (RPCs), multicasting, secure protocols (e.g. IPSec). The course places a strong emphasis on the completion of hands-on projects. Prereq.: 3530 508

3530 553 Network Security (3)
Provides students with a comprehensive overview of fundamental network security concepts, techniques, and issues. The course covers topics including: security basics and fundamentals, attackers and their attacks, secure data transmission protocols, cryptography, key management, security management, intruders and intrusion detection, operational security policies and procedures. This course also covers security approaches deployed in local and wide area networks. Hands-on practical projects are an integral part of the course. Prereq.: 3530 551

3530 554 Wireless and Mobile Computing (3)
Ubiquitous access of information anywhere, anytime, from any device is being made possible to a large extent by wireless and mobile computing technologies. This course discusses key concepts of wireless communications, wireless networks including WiFi, Bluetooth, WiMax, ad hoc networks, cellular technologies (CDMA, UMTS, etc), mobility protocols (including mobile IP, SIP, SCTP), internetworking design architectures for heterogeneous wireless networks, mobility management techniques (handoff and location management), wireless Web (WAP), energy management algorithms, and sensor networks. The course places a strong emphasis on the completion of hands-on projects. Prereq.: 3530 551

3530 558 Special Topics in Network Security (3)

3530 571 Logic Programming (3)
Provides an introduction to Prolog, the theoretical foundations of logic programming, and current research on applications of logic within artificial intelligence. Topics include a review of first-order logic, the resolution principle, semantics of logic programs and alternative proof procedures. Alternatives to first-order logic such as modal logics for representing and reasoning about knowledge and belief, and non monotonic and default logics will also be discussed. Assignments include problem sets and a number of Prolog programs. Prereq.: 3530 510

3530 572 Evolutionary Computation (3)
Focuses on concepts and techniques from genetic algorithms, genetic programming, and artificial life for modeling and developing software agents capable of solving problems as individuals and as members of a larger "community" of agents. Algorithms for solving optimization and learning problems will be stressed. Prereq.: 3530 510. Some background in probability and statistics such as 1535 381.

3530 573 Neural Networks (3)
Provides an introduction to concepts in neural networks and connectionist models. Topics include parallel distributed processing, learning algorithms and applications. Specific networks discussed include Hopfield networks, bidirectional associative memories, perceptrons, feed forward networks with back propagation, and competitive learning networks, including Kohonen and Grossberg networks. Prereq.: 3530 510. Good mathematical background in calculus and differential equations.

3530 574 Natural Language Processing (3)
Covers the concepts and methods for the automated processing of natural language. Topics include pattern matching, parsing, dictionary and lexical acquisition, semantic interpretation, anaphoric reference, discourse analysis, and text generation and understanding. Prereq.: 3530 510. 3530 525 highly recommended. Prior exposure to linguistics would be helpful.

3530 575 Speech-based Computing (3)
Topics addressed in detail in this course include the anatomy, physiology and physics of speech generation and reception, speech signal analysis/synthesis and computer representations of spoken data. Systems to be discussed include text-to-speech, speech to text, multilingual speech software and speaker identification/verification. Prereq.: 3530 574

3530 578 Special Topics in Intelligent Systems (3)

3530 598 Master's Project (3)

3530 600 Master's Thesis
[3 credits/term; 6 credits maximum]

Department of Electrical Engineering

Samuel Lakeou, Chairman
Building 42, Room 1 12-E
(202) 274-7409

FULL-TIME FACULTY

Professors: T. N. Bhar, A. J. Darby, S. Lakeou, E. Ososanya, N. D. Mills,

Associate Professor: W. Mahmoud

Instructor: W. Lee

The Department of Electrical Engineering brings together programs in Electrical Engineering and Electronics Engineering Technology to address the urban land-grant mission of the University of the District of Columbia by preparing students for immediate employment in the high technology workplace and for more advanced studies.

The electrical engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET. The electronics engineering technology program is accredited by the Technology Accreditation Commission (TAC) of ABET.

The BS degree program in electrical engineering is accredited by the Technology Accreditation Commission (EAC) of ABET. The AAS program in electronics engineering technology is accredited by the Technology Accreditation Commission (TAC) of ABET.

In all programs, classroom and laboratory instruction are provided with emphasis on current technology using networked computers and state-of-the-art audio visual as well as e-learning tools.

ELECTRICAL ENGINEERING PROGRAM

The Electrical Engineering Program has re-instated the Computer Engineering Option to allow more flexibility to students in their choice of a career path. The program has also reduced the total number of required credits from 139 to 128.

The Electrical Engineering Program places special emphasis on such areas as analog and digital electronics, digital and analog communication systems, control system and advanced digital systems design, and electro-mechanical energy conversion. In addition, the Department houses a networked, state-of-the-art computer-aided engineering (CAE) facility comprising

several engineering workstations and PCs with appropriate industry-standard CAE software tools for very complex design activities, including integrated circuit (VLSI) layout design and HDL(VHDL/Verilog) synthesis and complex programmable logic device design.

Students graduating from the program are encouraged to take the Fundamentals of Engineering (FE) examination which qualifies them as an Engineer-in-Training (EIT) in their professional career and helps them become licensed professional engineers (PE).

The objectives of the program of electrical engineering are :

- To provide graduates with a strong engineering background which enables them to enter the engineering workforce serving the Washington, DC metropolitan area and elsewhere;
- To provide graduates with an adequate background to pursue advanced engineering studies; and
- To produce graduates who are computer literate and proficient in written and oral communication and have an understanding of the ethical responsibilities of the engineering profession.

The Department has contacts with various private and public employers for part-time employment and summer internships.

Bachelor of Science in Electrical Engineering

Total credit hours of college-level courses required for graduation: 128

General Requirements: 48 credit hours

1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature & Advanced Writing I	3
1133 212	Literature & Advanced Writing II	3
2131 201	Principles of Microeconomics	3
	Social Science Elective	3
	Fine Arts	3
	Philosophy	3
1507 111	General Chemistry Lecture	3
1507 113	General Chemistry Laboratory	1
1539 201	University Physics I Lec	3
1539 202	University Physics II Lec	3
1539 205	University Physics Lab I	1
1539 206	University Physics Lab II	1
1535 151	Calculus I Lecture	3
1535 152	Calculus II Lecture	3
1535 155	Calculus I Lab	1
1535 156	Calculus II Lab	1
1535 260	Diff. Equ. & Linear Algebra	4

Required Core Courses: 53 credit hours

3531 105	Intro. to Electrical Engineering and Computer Engineering	2
3529 231	Computer Science I Lec	3
3529 233	Computer Science I Lab	1
3509 201	Engineering Mechanics I	3
3531 221	Electrical Circuits I Lec	3
3531 222	Electrical Circuits II Lec	1
3531 223	Electrical Circuits L Lab	1
3531 224	Electrical Circuits II Lab	1
3531 301	Engineering Mathematics	3
3531 307	Probability & Stat. for Engin.	3
3531 311	Computer Organization I	3
3531 312	Computer Organization II	3
3531 313	Computer Organization I Lab	1
3531 314	Computer Organization II Lab	1
3531 351	Electronics I	3
3531 352	Electronics II	3
3531 353	Electronics I Lab	1
3531 354	Electronics II Lab	1
3531 371	Signals & Systems	3
3531 467	Introduction to Communication Systems Lecture	3
3531 476	Introduction to Communication Systems Laboratory	1
3531 361	Electromagnetic Theory I	3
3531 495	Senior Project I	2
3531 496	Senior Project II	2

Electrical Engineering (non-computer Engineering Track):

Required courses in addition to the core courses for the non-computer engineering option track: 27 credit hours

1539 203	University Physics Lecture III	3
1539 207	University Physics Laboratory III	1
3531 362	Electromagnetic Theory II	3
3531 356	Physical Electronics	3
3531 470	Control Systems and Applications Lecture	3
3531 477	Control Systems and Applications Laboratory	1
	Engineering Electives (**)	13

(**) To be selected from 3531 458, 461/462, 463, 469/473, 474, 478/479, 480/483, and must include 3511 473 (MEMS) or 3511 478 (MECHATRONICS)

Computer Engineering Option (track):

Required courses in addition to the required core courses for the computer engineering option track: 27 credit hours

1535 213	Discrete Mathematics	3
1535 232	Computer Science II Lecture	3
1535 234	Computer Science II Lab	1
1535 251	Assemblers and Systems Lecture	3
1535 253	Assemblers and Systems Lab	1
3531 459	Introduction to Digital Computer Architecture and Design	3
3531 478	Digital Integrated Circuits Design Lecture	3
3531 479	Digital Integrated Circuits Design Laboratory	1
3531 480	Introduction to Computer-Aided Digital Design Lecture	2

3531 483	Introduction to Computer-Aided Digital Design Lab	1
	Engineering (***) and Computer Science Electives (****)	6

(***) To be selected from 3511 473 (MEMS) or 3511 478 (MECHATRONICS)

(****) To be selected from 3529 412, 3529 490 (Digital Image Processing, Networking) or others upon advisor's approval.

Additional Comments or Requirements

A grade of "C" or better is required in all 3531 (electrical engineering) courses.

ELECTRONICS ENGINEERING TECHNOLOGY PROGRAM

The Department of Electrical Engineering offers a program leading to the Associate in Applied Science degree in Electronics Engineering Technology, which is accredited by the Technology Accreditation Commission (TAC) of ABET. The program provides a broad foundation in electronics circuits and devices, including computer electronics and communications. Emphasis is placed on maintenance and troubleshooting of analog and digital systems.

The primary objective of the program is to prepare students for successful employment as technicians in the following fields:

- Communications
- Public utilities
- Research and development
- Controls systems
- Manufacture of electronics equipment and systems
- Electronics servicing industry
- Digital electronics and microprocessor

Associate in Applied Science in Electronics Engineering Technology

Required for Graduation: 64 credit hours

General Requirements: 25 credit hours

1133 111	English Composition I	3
1133 112	English Composition II	3
1535 111	Technical Mathematics I	4
1535 112	Technical Mathematics II	4
1539 101	Introduction to College Physics I	3
1539 102	Introduction to College Physics II	3
1539 103	Intro. to College Physics Lab I	1
1539 104	Intro. to College Physics Lab II	1
	Social Science Elective	3

Required Courses: 39 credit hours

3533 101	Fundamentals of Electrical Engineering Tech. I	3
3533 103	Fundamentals of Electrical Engineering Tech. I Lab	1
3533 102	Fundamentals of Electrical Engineering Tech. II	3
3533 104	Fundamentals of Electrical Engineering Tech. II	1
3533 105	Electronics Shop Skills	3
3533 107	Electronics Shop Skills Lab	1
3533 120	Computer Electronics Technology	3
3533 122	Computer Electronics Technology Lab	1
3533 201	Electronics I Lec	3
3533 203	Electronics I Lab	1
3533 202	Electronics II	3
3533 205	Electronics II Lab	1
3533 207	Electronic Communications Lec	3
3533 209	Electronic Communications Lab	1
3533 290	Electronic Troubleshooting and Prototyping	3
3533 292	Electronic Troubleshooting and Prototyping	1
3533 296	Engineering Technology Seminar	1
2207 104	Introduction to Business	3
1119 115	Public Speaking	3

Additional Comments or Requirements

A grade of "C" or better is required in all courses offered by the Department and in mathematics courses.

COURSE DESCRIPTIONS

Electrical Engineering

3531 105 Introduction to Electrical and Computer Engineering (2)

Introduces basic concepts in electrical and computer engineering in an integrated manner. Also introduces basic concepts of practical applications, illustrates a logical way of thinking about problems and their solutions, and conveys to the student the excitement of the profession. Analysis, construction, and testing of simple electrical and digital systems are discussed. Specific topics include notion of electrical current and voltage, simple digital systems, simple combinational logic circuits, and basic engineering computations using computer programs. Permission of advisor or instructor.

3531 221 Electrical Circuits I (3)

Covers Ohm's and Kirchoff's Laws, Thevenin and Norton Equivalents, analysis of RL and RC networks with and without forcing functions, the RLC circuit, and computer-aided circuit simulation. Lec. 3 hrs., Prereq.: 1539 201, Co-req: 3531 223.

3531 222 Electrical Circuits II (3)

Covers the sinusoidal forcing functions, sinusoidal steady-state responses using phasors, polyphase circuits, complex frequency, and frequency responses, and computer-aided circuit simulation. Lec. 3 hrs., Prereq.: 3531 221. Co-req.: 3531 224.

3531 223 Electrical Circuits I Laboratory (1)

A laboratory course to accompany Electrical Circuits I. This course is the first in a sequence of laboratory courses intended to develop a strong foundation in designing, assembling, and testing electrical circuits. Lab 3 hrs, Coreq: 3531 221

3531 224 Electrical Circuits II Laboratory (1)
Continues Electrical Circuits I Lab. Lab 3 hrs., Prereq: 3531 223. Co-req.: 3531 222.

3531 301 Engineering Mathematics (3)
Covers Fourier series and integral, Laplace transform, periodic functions, partial differential equations, Bessel functions and Legendre polynomials, complex analytic functions, and Taylor and Laurent series. Lec. 3 hrs., Prereq.: 1535 152.

3531 307 Probability and Statistics for Engineers (3)
Covers purpose of statistics, methods of representation, sample mean, sample variance, random experiments, probability, random variable, discrete and continuous distributions, binomial, Poisson and normal distribution sampling. Lec. 3 hrs., Prereq.: 1535 152.

3531 308 Applied Numerical Analysis For Engineers (3)
Covers systems of linear equations: elimination, iteration, relaxaton methods, eigenvalue problems, nonlinear equations, numerical differentiation and integration, interpolation methods of finite differences. Lec. 3 hrs., Prereq.: 1535 152.

3531 311 Computer Organization I (3)
Covers foundations of digital design and digital computer systems, representation of information using the binary number system, introduction to Boolean algebra, design of combinational logic circuits, design of sequential logic circuits, design of registers, counters and memory units, and introduction to the use of register transfer language and micro-computer system design. Lec. 3 hrs., Prereq.: 3531 221. Co-req.: 3531 313.

3531 312 Computer Organization II (3)
Examines sequence and control (hardwired and microprogrammed control), instruction set architecture, CPU design, and input-output interfaces for computer design. In addition, microprocessor and microprocessor-based digital system design is introduced. Lec. 3 hrs., Prereq. 3531 311, Co-req. 3531 314.

3531 313 Computer Organization I Laboratory (1)
Covers experiments in the principles of digital circuits. Lab 3 hrs., Co-req.: 3531 311.

3531 314 Computer Organization II Laboratory (1)
Covers experiments/computer simulations related to the design of computers and microprocessor based digital systems. Lab 3 hrs., Co-req. 3531 312

3531 351 Electronics I Lecture (3)
Covers semiconductor diodes, bipolar junction transistors (BJT), and junction field effect transistors (JFET); design of BJT and JFET amplifiers, and computer-aided design and circuit simulation. Lec. 3 hrs., Prereq.: 3531 222. Co-req.: 3531 353.

3531 352 Electronics II Lecture (3)
Covers operational amplifiers, frequency response characteristics of transistor amplifiers, feedback amplifiers, oscillators, filters, and pulsed wave-forms. Computer-aided design and circuit simulation. Lec. 3 hrs., Prereq.: 3531 351. Co-req.: 3531 354.

3531 353 Electronics I Laboratory (1)
A laboratory course to accompany Electronics I. Includes experiments on discrete transistor characteristics and circuits. Lab 3 hrs., Co-req.: 3531 351.

3531 354 Electronics II Laboratory (1)
Continues Electronics Lab I. Includes experiments on design of amplifiers and op-amp circuits. Lab 3 hrs., Co-req.: 3531 352.

3531 356 Physical Electronics (3)
Covers the growth and properties of physical and optical semiconductor materials; kinetics of charge carriers in electronic devices; design, fabrication, and operation of integrated circuits and devices, and optoelectronic devices including LEDs, lasers and, solar cells. Lec. 3 hrs., Prereq.: 1539 203.

3531 361 Electromagnetic Theory (3)
Covers vector calculus, orthogonal coordinates, Coulomb and Gauss laws, scalar potentials, dielectrics, capacitance, and static electric and magnetic fields and their interaction with matter, as well as Laplace and Poisson equations. Lec. 3 hrs., Prereq.: 3511 201, 3531 222, 2539 202.

3531 362 Electromagnetic Theory II (3)
Continues of 3531 361 with emphasis on Ampere's law, Biot-Savart Law, vector potential, magnetic circuits, Faraday's Law, the application of Maxwell's equations, plane waves, and the Poynting vector. Lec. 3 hrs., Prereq.: 3531 361.

3531 371 Signals and Systems I (3)
Introduces principles and techniques of continuous and discrete time linear systems analysis. Topics include signal representation, properties of systems, convolution, Fourier series and transform, FFT, sampling theorem, filtering, Laplace and Z-transform techniques. Lec. 3 hrs., Prereq.: 3531 351, 3531 301.

3531 399 Junior Project (3)
Provides an opportunity for independent engineering work under guidance of a faculty member on a project suggested by either student or the Department. Student must discuss the project plan with the faculty member involved before registering. Lab 6 hrs., Prereq.: Permission of instructor.

3531 457 Digital Electronics (3)
Introduces integrated circuit (IC) technology. Digital logic families (TTL, TTL (LS), NMOS, CMOS, ECL, IC's) and digital IC's, examples of digital and analog IC design, memory circuits are also examined. Lec. 3 hrs., Prereq.: 3531 352.

3531 458 Digital Signal Processing (3)
Examines sampling theorem, Z-transform, FFT techniques, design of IIR and FIR filters, effects of quantization and finite-word-length arithmetic. Lec. 3 hrs., Prereq: 3531 371.

3531 459 Introduction to Digital Computer Architecture and Design (3)
Provides an understanding of the structure and operation of contemporary computer systems from the instruction set architecture level through the register transfer implementation level. Also explores theory and application of computation, levels of abstraction, instruction set design, assembly language programming, processor data paths, data path control, pipeline design, design of memory hierarchies, memory management, and input/output. A contemporary behavioral/functional/logical simulator will be used for projects. Prereq.: 3529-251/253, 3531 312/314, 3531 480/483

3531 460 Antenna Design Theory Lab (1)
This laboratory course accompanies 3531 466 and emphasizes the hands-on analysis/design of operational antennas with the aid of modern equipments for measurement and testing. Various software packages are applied in the Lab; 3 hrs.; Co-req.: 3531 466.

3531 461 Electrical Energy Conversion (3)
Covers theory of electro-mechanical energy conversion, DC motors and generators, power electronics, AC rotating machine theory. Lec. 3 hrs., Prereq.: 3531 352/354. Co-req.: 3531 462.

3531 462 Electrical Energy Conversion Laboratory (1)
Includes experiments on DC and AC motors and generators. Lab 3 hrs., Co-req.: 3531 461.

3531 463 Energy Systems (3)
Examines principles of electrical power generation, transmission, and distribution with applications to present energy problems. Lec. 2 hrs., 3531 352, 3531 362.

3531 465 Introduction to Microwaves (3)
Covers the analysis and design of transmission lines, microwave systems, and wave-guides. Smith chart characteristics, active and passive components, and measurement techniques. Lec. 3 hrs., Prereq.: 3531 362.

3531 466 Antenna Design Theory and Applications (3)
Covers the design and construction of operational antennas and testing of the antennas so that students get an understanding of most types of antennas in common use. Lec. 3 hrs., Prereq.: 3531 362, 3531 465. Co-req.: 3531 460.

3531 467 Introduction to Communication Systems Lecture (3)
Introduces the concepts underlying analog and digital communication systems. Topics include amplitude modulation, phase and frequency modulation, sampling and quantization theory, and pulse modulation. Effect of noise on the performance of these modulation techniques are covered. Lec. 3 hrs., Prereq: 3531 371. Co-req.: 3531 476.

3531 468 Communication Electronics (3)
Examines the analysis and design of communication circuits, including coupling networks, mixers, RF amplifiers; and AM and FM modulators and demodulators; AGC, AFC; phase-locked loops. Lec. 3 hrs., Prereq.: 3531 352, 3531 362.

3531 469 Digital Communication Systems Lecture (3)
Covers statistical methods in the analysis of digital information transmission systems, threshold effects, phase-locked demodulation, probability of error, and optimum receivers. Lec. 3 hrs., Prereq: 3531 467, 3531 307.

3531 470 Control Systems and Applications (3)
Examines some of the techniques available for analysis and design of continuous time feed-back control systems. Topics include modeling, performance measures, transfer functions, generalized error coefficient, introduction to state-space method, stability, controllability and observability, root locus and frequency domain analysis, compensation methods, and state feedback and pole placements control system design. Lec. 3 hrs., Prereq.: 3531 371. Co-req.: 3531 477.

3531 471 Digital Control Systems (3)
Introduces the analysis and design of digital control systems, Z-transform, discrete linear systems, state-space and frequency domain analysis, and simulation and analysis using microprocessors. Lec 3 hrs., Prereq: 3531 470, 473.

3531 472 Signals and Systems II (3)
Provides mathematical tools for analysis of time-invariant and time-varying linear systems. State-space approach to analysis of systems is covered. Nonlinear and multi-variable systems are introduced. Lec. 3 hrs., Prereq.: 3531 471.

3531 473 Digital Communication Systems Laboratory (1)
This is a laboratory course in digital communication. Experiments include sampling, frequency division, multiplexing and pulse code modulation. It also includes simulation techniques of digital communication systems. The course is intended to supplement the course 3531 469, Lab 3 hours, Coreq: 3531 469

3531 474 Advanced Topics in Electrical Engineering I (3)
Senior elective. Topic is to be chosen from one of the many concentrations of electrical engineering. Lec. 3 hrs., Prereq.: Permission of instructor

3531 475 Advanced Topics in Electrical Engineering II (3)
Senior elective. Continuation of 3531 474. Lec 3 hours, Prereq: Permission of instructor

3531 476 Intro to Communication Systems Laboratory (1)
This is a laboratory course in RF and digital communication. Experiments include operation of phase-locked loop, AM and FM modulation, frequency division multiplexing, and pulse-code modulation. Lab 3 hrs., Prereq: 3531 307, Co-req.: 3531 467.

3531 477 Control Systems Laboratory (1)
Experiments include simulation of dynamic systems using analog and digital computers, parameter identification of DC motors, state-feedback controller, lead/ lag compensator design, and sample-data controllers. Lab 3 hrs., Co-req.: 3531 470.

3531 478 Digital Integrated Circuit Design Lecture (3)
Studies the design process of VLSI CMOS circuits. Also covers all the major steps of the design process, including logic, circuit, and layout design. A variety of computer-aided tools are discussed and used to provide VLSI design experience that includes design of basic VLSI CMOS functional blocks, and verification of the design, testing, and debugging procedures. Prereq.: 3531 312, 352. Co-req.: 3531-479.

3531 479 Digital Integrated Circuit Design Laboratory (1)
Provides VLSI design experience that includes design of basic VLSI CMOS functional blocks, verification of the design, testing, and debugging. Several complex VLSI projects will be submitted for fabrication. Co-req.: 3531 478.

3531 480 Introduction to Computer-Aided Digital Design Lec (2)

Introduces the techniques of modeling digital systems at various levels of abstraction and computer-aided design algorithms applied to these models to support design and analysis tasks. Covers modeling through the use of a modern hardware description language (VHDL/Verilog), test generation, event-driven simulation algorithms, and physical design used to map the synthesized logic design onto physical IC area. This is not a how-to course on using CAD tools; it is a study of the algorithms used by CAD tools. Prereq.: 3531 312

3531 483 Introduction to Computer Aided Digital Design Lab (1)

The course emphasizes the use of computer-aided design (CAD) tools in the description, modeling, simulation, verification and testing of digital systems. Alternative coding styles and methodology used for combinational and sequential digital logic designs are evaluated. The use of Field Programmable gate arrays is integrated into the course as the target physical domain, Lab 3 hrs., Prereq: 3531 312, Coreq: 3531 480

3531 495 Senior Project I (2)

Conceptualization, design, building, testing, and promulgation of an electrical engineering project is carried out by the student under supervision of a faculty member. Lab 6 hrs., Prereq.: 3531 312, 352, 362.

3531 496 Senior Project II (2)

Continues the design project, Senior Project I. Students will consider feasibility of design project, the effect of economic factors on the design, and make presentations in oral and written form for evaluation. Lab 6 hrs., Prereq.: 3531 495.

Electronics Engineering Technology

3533 101 Fundamentals of Electrical Engineering Technology I (3)

Studies the analysis of series and parallel DC/AC circuits by using Ohm's Law, Kirchhoff's Laws, Thevenin's Theorem, and the superposition theorem. Concepts of voltage, current, resistance, inductance, capacitance, and time constants are developed. The latter part of the course deals with reactance, impedance, phasor representation, and true power. Lec. 3 hrs., Co-req.: 3533 103.

3533 102 Fundamentals of Electrical Engineering Technology II (3)

Begins with a continuation of AC circuit theory. Series and parallel resonance are studied in detail. The concepts of frequency response and tuning are introduced, including circuit Q factor, bandwidth, and selectivity. Various types of LC filters are studied and applied. The latter part of the course is an introduction to solid-state electronics. Included are the injunction diode, rectifiers, power supply filtering, the Zener diode, and voltage regulation, and elemental bipolar junction transistor circuits. Lec. 3 hrs., Prereq.: 3533 101. Co-req.: 3533 104.

3533 103 Fundamentals of Electrical Engineering Technology I Lab (1)

Topics in the lecture are demonstrated through experiments using modern electronic instrumentation and test equipment. Lab 3 hrs., Co-req.: 3533 101.

3533 104 Fundamentals of Electrical Engineering Technology II Lab (1)

Topics in the lecture are demonstrated through experiments using modern electronic instrumentation and test equipment. Lab 3 hrs., Co-req.: 3533 102.

3533 105 Electronics Shop Skills (2)

Introduces electronics shop assembly techniques; safety rules, basic tools, hardware, and equipment are covered. Schematic diagrams, circuit layout, soldering, and wiring techniques are also covered, along with experience in developing printed circuits, circuits, boolean algebra, combinational, and sequential circuits. Counters, shift registers, encoders, and decoders, with emphasis on applications systematic troubleshooting and diagnostic techniques are discussed.

3533 107 Electronics Shop Skills Lab (1)

The laboratory covers the use of tools, instruments, and other equipment and supplies commonly found in a modern electronics shop. Lab. 3 hrs., Co-req.: 3533 105.

3533 120 Computer Electronics Technology Lecture (3)

Continues the fundamentals introduced in Electronics Shop Skills. Digital to analog and analog to digital conversions, multiplexing and demultiplexing are studied, emphasizing practical applications of commercial devices. Microcontrollers and microprocessors interfacing, applications and device programming techniques are covered, as well as the personal computer and peripheral hardware, configuration, setup and troubleshooting; the Operating System, bootup sequences, Windows and other application packages. Introduction to data communications, networking and the internet are also taught

3533 122 Computer Electronics Technology Laboratory (1)

Topics covered in the lecture course are demonstrated by the use of simulation software packages and actual laboratory experimentation. Hardware and software projects using microcontrollers, microprocessors, Pic's, and Basic stamps with emphasis in real world applications are examined. System integration, interfacing and troubleshooting are explored. Lab. 3 hrs. Co-req: 3533 120.

3533 201 Electronics I (3)

Treats solid-state electronic circuits exclusively. The PN junction diode and its applications are emphasized, including regulated power supplies. The bipolar junction transistor is treated in detail. Small-signal amplifiers in each of the three transistor configurations are studied. Transistor biasing is studied at length. Finally, AC operation of each of the common bias arrangements is treated. Lec. 3 hrs., Prereq.: 3533 102, Co-req. 3533 203

3533 202 Electronics II (3)

Studies large-signal transistorized AC amplifiers, with particular attention given to maximum power output, efficiency, distortion, and operation along the AC load line. Class, A, B, AB, and complementary symmetry push-pull audio amplifiers are analyzed. Cascading of stages and coupling methods are discussed, along with interstage feedback and impedance matching. Frequency response of systems is presented. Finally, pulse and wave-shaping circuits are studied, along with applications of op amps. Lec. 3 hrs., Prereq.: 3533 201. Co-req.: 3533 205.

3533 203 Electronics I Laboratory (1)
Topics in the lecture are demonstrated through experiments using modern electronic instrumentation and test equipment. Lab. 3 hrs., Co-req.: 3533 201.

3533 205 Electronics II Laboratory (1)
Topics in the lecture are demonstrated through experiments using modern electronic instrumentation and test equipment. Lab. 3 hrs., Coreq.: 3533 202.

3533 207 Electronic Communications (3)
Studies amplitude modulation and frequency modulation communication systems. Modern transmitter and receiver circuits, including radio-frequency oscillators, frequency multipliers, amplifiers, limiters, modulators, and demodulators are treated and multi-plexing systems are included. Lec. 3 hrs., Prereq.: 3533 201. Co-req.: 3533 209.

3533 209 Electronic Communications Laboratory (1)
Topics in the lecture are demonstrated through experiments using modern electronic instrumentation and test equipment to analyze analog communications systems. Lab. 3 hrs., Coreq.: 3533 207.

3533 290 Electronic Troubleshooting and Prototyping (2)
Systematic techniques of troubleshooting electronic circuits and systems are presented and applied in the laboratory. Based upon symptoms and measurements, the fault-finding procedures are carried down to the component level; extensive use is made of electronic test and instrumentation equipment. The latter part of the of the course deals with the design and development of electronic circuits to meet specifications in a real-world situation. Lec. 2 hrs., Co-req.: 3533 292 and 3533 202, Prereq. 3533 201

3533 292 Electronic Troubleshooting and Prototyping Lab (2)
Topics covered in the lecture are demonstrated through exercises using modern test and diagnostic equipment to troubleshoot analog and digital circuits. Lab. 4 hrs., Co-req.: 3533 290.

3533 294 Independent Study (VC)
The intensive study of one specific subject is conducted under the supervision and guidance of an assigned instructor. Requires approval of Department Chairperson.

3533 296 Engineering Technology Seminar (1)
Presents the current employment and career opportunities in electrical and mechanical engineering technology by guest speakers from industry and governmental agencies. Personnel from the Office of Career Planning conduct workshops on matters relating to job searches, including resumes, employer interviews, and employer priorities and concerns. Lec. 2 hrs., Co-req.: Senior standing.

Department of Engineering, Architecture, and Aerospace Technology

Abiose Adebayo, Ph.D., Chairperson
Building 42, Room 213
(202) 274-5126

Director, Fire Science Administration V.E. Bess

FULL-TIME FACULTY

Professors: A.O. Adebayo, I. Bhambri, P.E., M.S. Chettiar, P.E., J. Okwosha, C. Pearson FAIA, P.K. Poulose A. Zeytinci, P.E., P.K. Poulose
Associate Professors: P. Behera, P.E., R. Belton R.A., C. Brooks P.E., R.E. Koehler, K. Ahdut

Instructor: J. Nabitawo

Cognizant of the fact that postsecondary education is multifaceted and that learning is a life-long activity consisting of formal guided instruction, independent study and experiential learning, it is the objective of the Department of Engineering, Architecture, and Aerospace Technology to provide students with the foundation for continuous learning throughout life.

Primarily, the Department establishes and nurtures in the student the Knowledge, Skills and Aptitudes (KSA) necessary for entry into, and for the successful growth and development within, the career options for which it provides preparation. A critical, essential component of the Department's educational programs is the development within the student of an ethical value system. This includes the KSA's required to solve problems and exercise a sense of judgment, with a focus on the needs of an urban environment.

The Department of Engineering, Architecture, and Aerospace Technology brings together academic programs designed to address the urban and land grant mission of the University of the District of Columbia as it relates to technical needs. The synergy that has been created with the bringing together of such similar programs will lead to the development of better students.

The programs are structured to provide multiple career opportunities ranging from technician to professional engineer and architect.

In all programs, classroom and laboratory instructions are provided, emphasizing applications of current technology. Students work in state-of-the-art, laboratories and have access to modern electronic instrumentation, including microcomputers and engineering work-stations appropriate to their particular discipline.

Problems related to the urban infrastructure, among others, can be directly linked to the pedagogy of the programs within the Department. Students enrolled in the Department are being prepared for professional careers in Architectural Engineering Technology, Architecture, Civil Engineering, Mechanical Engineering, Aviation Maintenance Technology, and Airway Science.

Complete articulation is provided between the associate degree in Architectural Engineering Technology and B.S. in Architecture; Aviation Maintenance Technology and the B.S. in Airway Science.

All the Engineering programs and the Architectural Engineering Technology program are accredited by the Engineering Accreditation Commission (EAC) and the Technology Accreditation Commission (TAC), respectively, of ABET. The Aviation Maintenance Technology Program at Reagan National Airport prepares students for certification as Airframe and Power Plant mechanics. The program is approved by the FAA and the Department is authorized to administer the certification examinations. Graduates of all our programs find immediate employment in architecture firms, public utilities, research laboratories, government agencies, and in the private sector.

The Department also offers courses in Fire Science Administration (in-service training for firefighters) leading to the Associate in Applied Science and the Bachelor of Science degree in Fire Science Administration.

AEROSPACE TECHNOLOGY PROGRAM

The Department offers three quality programs in Aerospace Technology leading to the FAA-approved certificate program in Airframe and Powerplant Technology, the Associate in Applied Science degree in Aviation Maintenance Technology, and the Bachelor of Science degree in Airway Science (Aviation Maintenance Management). Students may receive certification to sit for the Federal Aviation Administration (FAA) licensing examination as an Airframe and Power Plant Mechanic upon completion of a total of 40 credit hours. Completion of an additional 31 credit hours of instruction for a total of 71 credit hours is required for the award of the Associate in Applied Science (AAS) degree in Aviation Maintenance Technology. The Bachelor of Science degree program consists of the initial two-year curriculum leading to the A.A.S. degree in Aviation Maintenance Technology and an additional two-year extension to that program. A total of 137 credit hours of instruction are required for the award of the Bachelor of Science degree.

The Associate in Applied Science curriculum prepares students for career opportunities in aviation maintenance. Courses of study emphasize mechanical operations and can lead to the degree and/or a certificate. Students enrolling in aviation maintenance technology receive training in hydraulics, pneumatics, electronics, instrumentation, metals, composites, fabric, and paint. In addition, training is provided in reciprocating and jet power plants. Training is also provided in troubleshooting and maintenance of Avionics Systems, as well as overall maintenance and repair of the complete aircraft and all aircrafts systems. The program is designed to permit extensive opportunities for practical experience.

The Bachelor's degree program will prepare students who have completed the first two years (the A.A.S. program) for employment at a higher level by adding management training, additional communication skills, computer training, and more aviation skills to their existing areas of expertise in aviation maintenance.

Associate in Applied Science in Aviation Maintenance Technology

Total Credit Hours of College-Level Courses Required for Graduation: 71

General Requirements:

1133 111	English Composition I	3
1133 112	English Composition II	3
1535 111	Technical Mathematics I	4
1535 112	Technical Mathematics II	4
1539 101	Introduction to College Physics I	3
1539 102	Introduction to College Physics II	3
1539 103	Introduction to College Physics Lab I	1
1539 104	Introduction to College Physics Lab II	1
	Social Science Elective	3

Required Courses:

3503 121	Aviation Maintenance Fundamentals	5
3503 122	Aviation Materials and Standards	5
3503 124	Aircraft Metallic Structures	5
3503 125	Aircraft Systems and Components	5
3503 211	Aircraft Electrical and Electronics Systems	5
3503 212	Aircraft Turbine Engine Theory and Overhaul	5
3503 214	Aircraft Reciprocating Engine Theory and Overhaul	5
3503 215	Aircraft Engine Systems and Components	5
3511 105	Engineering Graphics	3
3528 110	Algorithms with Basic	2
3528 111	Algorithms with Basic Lab	1
TOTAL		**71**

Additional Comments or Requirement

A grade of "C" or better is required in all courses offered by the Department, in all technical electives, and in all required physics, mathematics, and technical graphics courses.

Bachelor of Science in Airway Science (Aviation Maintenance Management)

Total Credit Hours of College-Level Courses Required for Graduation: 137

The Bachelor of Science degree program in Airway Science is a 2+2 with the AAS degree as a prerequisite.

General Requirements:

1133 211	Literature and Advanced Writing I	3
1133 212	Literature and Advanced Writing II	3
	Social Science	3
1507 105	Fundamental of Chemistry Lec	3
1507 106	Fundamental of Chemistry Lab	1
1535 211	Calculus for Business	4

1119 115	Public Speaking	3
	Fine Arts Elective	3
	Philosophy Elective	3

Required Courses:

3529 231	Introduction to Computer Science I	3
3529 233	Introduction to Computer Science I Lab	1
3502 111	Introduction to Aviation	3
2209 220	Business Statistics	3
2131 201	Economics I	3
2213 304	Introduction to Management	3
3502 471	Aircraft Maintenance Inspection	3
3502 354	Aviation Legislation	3
3502 311	Air Traffic Control	3
2213 306	Personnel Management	3
3502 435	Flight Safety	3
2213 409	Organizational Theory and Behavior	3
3502 481	Aircraft Systems Level Fault Isolation	3
3502 455	National Airspace System	3

Additional Comments or Requirements

The total number of credit hours required for graduation includes 71 credit hours from the prerequisite A.A.S. degree. A grade of "C" or better is required in all courses offered by the Department and in all required mathematics courses.

ARCHITECTURE PROGRAM

The Architecture Program offers instruction that lead to the Associate in Applied Science degree in Architectural Engineering Technology and the Bachelors of Science degree in Architecture.

The Architectural Engineering Technology Program prepares students for work in architectural firms, construction companies, building material suppliers companies, and appropriate government agencies. The Architectural Engineering Technology Program is accredited by the Technology Accreditation Commission (TAC) of ABET.

In the spring of 2006, a new 4-year pre-professional Bachelor of Science in Architecture Program was implemented. This program prepares students for entry into the Master of Architecture program as the first professional degree. The program is offered in the evenings and on Saturdays in order to accommodate students with career goals to become licensed architects while maintaining full-time employment.

The program is designed to meet the needs of high school graduates; students with an associate degree in architecture or related fields; architectural school transfers; architecture and construction industry technicians; draftspersons; and junior managers who may have accumulated course experience applicable to an architecture degree.

Associate in Applied Science in Architectural Engineering Technology

Total Credit Hours of College-Level Courses Required for Graduation: 66

Additional Comments or Requirements

Technical electives require prior Department approval. A minimum grade of "C" is required for each major course.

General Requirements:

1133 111	English Composition I	3
1133 112	English Composition II	3
1535 111	Technical Mathematics I	4
1535 112	Technical Mathematics II	4
1539 101	Introduction to College Physics I	3
1539 103	Introduction to College Physics I Lab	1
1539 102	Introduction to College Physics II	3
1539 104	Introduction to College Physics II Lab	1
1177 105	Introduction to Social Science	3
TOTAL		**25**

Required Courses:

3505 101	Basic Design and Communication I	3
3505 102	Basic Design and Communication II	3
3505 201	Architectural Drawing & Design III	4
3505 202	Architectural Drawing & Design IV	4
3505 114	Materials & Methods of Construction I	3
3505 116	Material & Methods of Construction II	3
3505 121	Introduction to Architecture/History and Theory	3
3505 205	Introduction to CAD & Construction Documents	3
3505 207	CADD Documents/Specifications & Estimating	3
3505 232	Statics and Structural Design	3
3505 244	Environmental Systems I	3
3505 246	Environmental Systems II	3
3505 295	Seminar	3
TOTAL		**41**

Bachelor of Science in Architecture

Prerequisite: Associate in Applied Science in Architectural Engineering Technology or equivalent course work.

Additional Comments on Requirements:

Technical electives require prior departmental approval. A minimum grade of "C" is required for each major course.

Total Credit Hours of College-level Courses Required for Graduation: 127

General Requirements:

1133 211	Literature & Advance Writing I	3
1133 212	Literature & Advance Writing II	3
	Social Science Elective	3

	Philosophy Elective	3
	Fine Arts Elective	3
	Elective	2
TOTAL		**17**

Required Courses:

3505 301	Professional Studio V	5
3505 302	Professional Studio VI	5
3505 401	Professional Studio VII	5
3505 402	Professional Studio VIII	5
3505 321	History & Theory of Architecture I	3
3505 322	History & Theory of Architecture II	3
3505 341	Advance Computer Simulation	3
3505 411	Professional Ethics & Practice	3
3505 331	Structural Analysis	3
3505 342	Design of Steel Structures	3
3505 442	Design of Concrete Structures	3
	Free Electives	3
TOTAL		**44**

CIVIL ENGINEERING PROGRAM

The program for the Bachelor of Science in Civil Engineering offers four major areas of concentration: water resources engineering; construction; geotechnical; and structural engineering. The Civil Engineering Program is accredited by the Engineering Accrediting Commission (EAC) of ABET.

The objective of the Civil Engineering Program is to prepare students for engineering careers and/or advanced study in civil engineering and to offer research and service programs for the general public. Civil engineers have responsibility for designing various structures, including bridges, highways, and infrastructure facilities. The program places special emphasis on solving problems in urban areas, particularly in the Washington, D.C. metropolitan area. Civil engineers are employed in both industry and governmental agencies. The demand is significantly higher than the number of graduates.

The expertise of the civil engineering faculty, combined with their dedication to quality of instruction, their willingness to provide individual attention to students, and their experience provide the basis for a solid fundamental engineering education.

In accordance with ABET accreditation criteria and pursuant to the University's mission statement, the following program educational objectives have been established:

1. Prepare graduates for immediate employment in related fields of mechanical engineering
2. Prepare graduates with a capacity to pursue graduate studies in mechanical engineering or related fields.
3. Prepare graduates with requisite skills to successfully undertake the Fundamentals of Engineering (FE) examination and subsequent licensure as a professional engineer (PE).
4. Prepare graduates with an ability and capacity to pursue lifelong learning with a creative desire and potential for career growth and development.

Bachelor of Science in Civil Engineering

Total Credit Hours of College-Level Courses Required for Graduation: 128

Technical electives require prior Department approval.
A minimum grade of "C" is required for each major course.

General Requirements:

1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature and Advanced Writing I	3
1133 212	Literature and Advanced Writing II	3
	Fine Arts Elective	3
	Philosophy Elective	3
	Humanities and Social Science Electives	6

Required Courses:

3511 101	Introduction to Engineering	1
1507 111	General Chemistry I Lecture	3
1507 113	General Chemistry Lab I	1
1535 151	Calculus I Lecture	3
1535 155	Calculus I Lab	1
1535 152	Calculus II Lecture	3
1535 156	Calculus II Lab	1
3509 308	Applied Numerical Analysis	3
1535 260	Differential Equations with Linear Algebra	4
1535 381	Probability and Statistics	3
1539 201	University Physics I Lecture	3
1539 202	University Physics II Lecture	3
1539 205	University Physics I Lab	1
1539 206	University Physics II Lab	1
	Basic Science Elective (Lec & Lab)	4
3511 105	Engineering Graphics	3
3531 221	Electrical Circuits I Lecture	3
3531 223	Electrical Circuits I Lab	1
3529 135	Scientific Programming	3
3509 201	Engineering Mechanics I	3
3509 202	Engineering Mechanics II	3
3511 205	Material Science	3
3509 206	Mechanics of Solids	3
3509 207	Mechanics of Solids and Materials Lab	1
3511 208	Thermodynamics	3
3509 301	Surveying Lecture	2
3509 302	Surveying Lab	1
3509 311	Theory of Structures	3
3509 310	Theory of Structure Lab	1
3509 335	Design of Structures	3
3509 336	Design of Structures Lab	1
3509 325	Hydraulics and Hydrology	3
3509 326	Hydraulics and Hydrology	1
3509 331	Principles of Geo-technical Engineering Lecture	3
3509 332	Principles of Geo-technical Engineering Lab	1
3509 442	Water Resources Engineering	3
3509 443	Water Resources Engineering Lab	1

3509 435	Foundation Design	3
3509 436	Foundation Design Lab	1
3509 475	Construction Planning & Scheduling	3
3509 476	Construction Project Management	3
3509 491	Senior Project I	3
3509 492	Senior Project II	3
3509 481	Fundamental of Engineering Preparation	1
3509 464	Engineering Ethics & Professional Practice	1
	Technical Electives	3

Successful completion of a two-course sequence in four (4) different civil engineering disciplines is required as below.

Sub-Disciplines for Civil Engineering

Successful completion of a two-course sequence in at least (4) four sub-disciplines of Civil Engineering are required for a degree in Civil Engineering. Selection of the course sequences must be made from the following list:

Sub-Discipline - Structures

Course Sequence - I
3509 311 Theory of Structures
Course Sequence - II
3509 335 Design of Structures

Sub-Discipline - Geotechnical

Course Sequence - I
3509 331 Principles of Geotechnical Engineer
Course Sequence - II
3509 435 Foundation Design

Sub-Discipline - Construction

Course Sequence - I
3509 475 Construction Planning and Scheduling
Course Sequence - II
3509 476 Constructions Project Management

Sub-Discipline – Water Resources and Hydrology

Course Sequence – I
3509 325 Hydraulics& Hydrology
Course Sequence - II
3509 442 Water Resource Engineering

Technical Electives:

3509-419	Design of Concrete Structures
3509-451	Urban Transportation Planning
3509-452	Urban Transportation System Design
3509-417	Matrix Method of Structural Analysis
3509-418	Dynamics of Structure
3509-449	Environmental Engineering
3509-486	Estimating
3509-475	Planning & Scheduling
3509-236	Design of Wood Structures
3509-162	Construction Materials I
3509-263	Construction Materials II
3509-384	Construction Equipment & Safety
3509-487	Contracts & Specifications
3509-124	Construction Plan Reading

Additional Comments or Requirements

Four courses totaling 12 credit hours are required in the humanities/social sciences, fine arts (in the non-skill category), with at least two courses at an advanced level. All technical electives must have prior departmental approval. A grade point average of 2.00 is required in major courses. Students are strongly encouraged to take the Fundamental of Engineering (FE) examination prior to graduation.

ASSOCIATE IN APPLIED SCIENCE IN FIRE SCIENCE ADMINISTRATION

The Fire Science Administration Program at UDC has offered DC Fire Department and Emergency Medical Services personnel college level courses at times which complement employee work schedules for over thirty years. Courses are offered on-site at the District of Columbia Fire Department Training Academy. Students are also allowed to enroll in on-campus classes on a space available basis. Each year over 200 Fire Department and Emergency Medical Services personnel enroll in the program to gain points for promotional examination, to enhance their knowledge in a particular area of Fire Sciences, or to obtain a college level degree. A number of graduates have been promoted as a result of having completed the degree requirements. Some have become instructors, obtained employment at other institutions, and others have continued their studies as graduate students at UDC and other institutions of higher learning.

Students who satisfy the program's requirements for the four-year curriculum receive a Bachelor of Science degree in Fire Science Administration. Students completing the two-year curriculum receive an Associate of Applied Science degree in Fire Science Technology. Instruction is given in the principal fields of Fire Science to include Fire Suppression, Hazardous Materials, Arson Investigation, Fire Prevention, Fire Safety Codes and Standards, Fire Service Hydraulics, Advanced Fire Fighting Tactics and Strategy, Fire Protection Systems, as well as Urban Fire Safety.

The program is restricted to District of Columbia Fire Department and Emergency Medical Services personnel.

Total Credit Hours of College-Level Courses Required for Graduation: 60

General Requirements:

1133 111	English Composition I	3
1133 112	English Composition II	3
1163 101	United States History I	3
1171 201	Principles of Psychology I	3
	Natural Science course Lecture/Lab*	4
1535 111	Technical Mathematics I	4
1535 112	Technical Mathematics II	4
	Electives	6

**Course selected must be approved by the Project Director.*

Required Courses:

3517 101	Fire Protection and Organization	3
3517 102	Fire Prevention	3
3517 103	Building Construction	3
3517 204	Fire Service Hydraulics	3

3517 205	Fire Protection Systems	3
3517 206	Fire Safety Codes and Standards	3
3517 307	Hazardous Materials	3
3517 308	Arson Investigation	3
3517 409	Advanced Fire Fighting Tactics and Strategy	3
3517 410	Urban Fire Safety Seminar	3

Additional Comments or Requirements

The A.A.S. program in Fire Science Technology is restricted to District of Columbia Fire Department EMS personnel.

Bachelor of Science in Fire Science Administration

The Associate in Applied Science in Fire Science is a prerequisite for the B.S. in Fire Science Administration.

Total Credit Hours of College-Level Courses Required for Graduation: 120

General Requirements:

1133 112	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature & Advanced Writing I	3
1133 212	Literature & Advanced Writing II	3
1163 101	United States History I	3
1163 102	United States History II	3
1167 105	Introduction to Problems in Philosophy	3
	or	
1167 106	Introduction to Logic	3
1171 201	Principles of Psychology I	3
1171 245	Developmental Psychology or	
1171 337	Group Processes	3
	Natural Science Lecture	6
	Natural Science Laboratory	2
1535 111	Technical Mathematics I	4
1535 112	Technical Mathematics II	4
1119 115	Foreign Language	6
	Fine Arts	3
	Public Speaking	3
1337 105	Personal & Community Health	3
1341 104	Physical Education	3
	Electives	27

Required Courses:

3517 101	Fire Protection & Organization	3
3517 102	Fire Prevention	3
3517 103	Building Construction	3
3517 204	Fire Service Hydraulics	3
3517 205	Fire Protection Systems	3
3517 206	Fire Safety Codes & Standards	3
3517 307	Hazardous Materials	3
3517 308	Arson Investigation	3
3517 409	Advanced Fire Fighting Tactics and Strategy	3
3517 410	Urban Fire Safety Seminar	3
3517 495	Independent Study & Research	3

Additional Comments or Requirements

The Bachelor of Science Program in Fire Science Administration is restricted to District of Columbia Fire Department EMS personnel.

MECHANICAL ENGINEERING PROGRAM

Primary objectives of the Mechanical Engineering Program are to provide residents of the District of Columbia in particular and others in general a coherent program of instruction in the discipline of mechanical engineering and to prepare the graduate to pursue a productive career in mechanical engineering, which is characterized by continued professional growth.

These objectives are met by providing students with a balanced curriculum in mathematics, sciences, social sciences, and humanities on one hand and engineering sciences, design, experimentation, computer skills, and ethical standards on the other hand. A competent, qualified and forward-looking faculty provides students in the program an appropriate role model.

Ancillary objectives of the Department are to provide research, professional consultation, and community services in the areas of thermal and fluid sciences, energy, mechanical systems, materials and manufacturing processes, and computer applications.

At the conclusion of the required program of study, students are awarded the Bachelor of Science degree in mechanical engineering. Opportunities for employment for mechanical engineers exist in both the public and private sectors. The mechanical engineering program is accredited by the Engineering Accrediting Commission (EAC) of ABET.

In accordance with ABET accreditation criteria and pursuant to the University's mission statement, the following program educational objectives have been established:

1. Prepare graduates for immediate employment in related fields of mechanical engineering.
2. Prepare graduates with a capacity to pursue graduate studies in mechanical engineering or related fields.
3. Prepare graduates with requisite skills to successfully undertake the Fundamental of Engineering (FE) examination and subsequent licensure as a professional engineer (PE)
4. Prepare graduates with an ability and capacity to pursue lifelong learning with a creative desire and potential for career growth and development.

Bachelor of Science in Mechanical Engineering

Total Credit Hours of College-Level Courses Required for Graduation: 128

Technical electives require prior Department approval.
A minimum grade of "C" is required for each major course.

General Requirements:

C1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature & Advanced Writing I .	3

1133 212	Literature & Advanced Writing II .	3
1507 111	General Chemistry Lecture I	3
1507 113	General Chemistry Lab I	1
1535 151	Calculus I Lecture	3
1535 152	Calculus II Lecture	3
1535 155	Calculus I Lab	1
1535 156	Calculus II Lab	1
1535 225	Linear Algebra	3
1535 254	Differential Equations	3
1535 381	Probability & Statistics	3
1539 201	University Physics Lecture I	3
1539 202	University Physics Lecture II	3
1539 205	University Physics Lab I	1
1539 206	University Physics Lab II	1
	Fine Arts Elective	3
	Philosophy Elective	3
	Humanities/Social Science Electives	6

Required Courses:

3529 135	Scientific Programming Lecture	3
3531 221	Electric Circuits Lecture	3
3531 223	Electric Circuits Lab I	1
3509 201	Engineering Mechanics I	3
3509 202	Engineering Mechanics II	3
3509 206	Mechanics of Solids	3
3509 207	Mechanics of Solids and Materials Lab	1
3509 308	Applied Numerical Analysis	3
3509 464	Engineering Ethics & Professional Practice	1
3509 481	Fundamentals of Engineering Preparation	1
3511-101	Introduction to Engineering	1
3511 105	Introduction to CAD	3
3511 205	Material Science	3
3511 206	Material Science Lab	1
3511 208	Thermodynamics	3
3511 222	Engineering Measurements	3
3511 224	Engineering Measurements Lab	1
3511 321	Fluid Mechanics	3
3511 322	Thermodynamics & Fluids Lab	1
3511 341	Analysis & Synthesis of Mechanics	3
3511 351	Heat Transfer	3
3511 361	Machine Design	3
3511 371	Design of Control Systems	3
3511 373	Design of Control Systems Lab	1
3511 381	Microcontrollers in ME	3
3511 406	Engineering Economics	3
3511 491	Senior Design Project I	3
3511 492	Senior Design Project II	3
	*Technical Electives	9
	Fine Arts Elective	3
	Philosophy Elective	3
	Humanities/Social Science Electives	6

*Technical Electives: A minimum of nine credit hours of technical elective courses must be taken from the following courses. The electives should be planned to include courses supplementing the basic needs and interests of the student.

3511 356	Modern Manufacturing Process	3
3511 455	Mechanical Behavior of Materials	3
3511 456	Computational Mechanics	3
3511 457	Design of Noise Controls	3
3511 458	Finite Element Methods for Mechanical Engineering	3
3511 461	Applied Thermodynamics & Energy Conversion	3
3511 462	Design of Energy Systems	3
3511 470	Thermal Environmental Engineering	3
3511 473	Microelectro-mechanical Systems (MEMS)	3
3511 475	Gas Turbine Design	3
3511 476	HVAC Design	3
3511 481	Mechatronics	3
3511 483	Robot Mechanics and Control	3
3511 484	Design of Robot Mechanisms	3

Additional Comments or Requirements

Four courses totaling 12 credit hours are required in the humanities/social sciences, including fine arts (in the non-skill category,) with at least two courses at an advanced level. All technical electives must have prior departmental approval. A grade point of 2.00 is required in major courses.

COURSE DESCRIPTIONS

Architecture

3505 101 Basic Design and Communication I (3)
Parallel development of mechanical drawing, basic model making, and simple 3-D computer aided designs are taught as it facilitates their integration as is common in an architectural office. Spatial visualization exercises in point, line, plane in orthographic, isometric drawings, reinforces descriptive geometry as a means to 3 dimensional perception critical to technical and design drawing skills. Lec. 2 Hrs., Prac. 3 Hrs. Prerequisite: high school diploma or equivalent

3505 102 Basic Design and Communication II (3)
Development of spatial visualization skills through exercises that reinforce 2-D and 3-D skills, graphic communication skills and analytical skills. The course shall enhance the students' technical vocabulary and design theory fundamentals of scale and proportion. Recognition of construction problems as they relate to light construction is expected. Scaled models of buildings and their components are constructed during this course. Lec. 2 Hrs., Prac. 3 Hrs. Prerequisite: 3505 101

3505 114 Materials and Methods of Construction I (3)
Familiarizes the students with the basic properties of wood, masonry, metals, cementitious materials, and their common uses. The students acquire an elementary understanding of primary construction problems, solution, and vocabulary related to these materials. Lec. 2 Hrs., Prac. 3 Hrs.

3505 116 Materials and Methods of Construction II (3)
Familiarizes the student with the basic properties of metals, concrete, cementitious materials, and their uses. They will acquire an elementary understanding of primary construction problems, solutions, and vocabulary related to these materials. Lec. 2 Hrs.

3505 121 Introduction to Architecture/ History Theory (3)
Covers a brief examination of the history of Western Architecture from Pre-historic Egyptian origins to the Renaissance Movement and Baroque in Europe; Neoclassic in America; the rise of Industrialism in America, the early Modem Movement, the International Style, and the Post Modem Movement. Lec. 3 hrs.

3505 123 Architecture and Planning Graphics (3)
Develops the capabilities of utilizing the fundamentals of architectural and planning graphics and shade and shadows. The student shall develop the skills in various media necessary for the preparation of two-dimensional and three-dimensional presentations. Lec. 2 Hrs., Prac. 3 Hrs.

3505 201 Architectural Drawing and Design III (4)
Provides the student with the skills necessary to understand the system of production drawing and its relation to the design development for a small building. Each student shall produce a set of production drawings. Building codes shall be incorporated in the design development for the small building. Lec. 2 Hrs., Prac. 6 Hrs. Prereq.: 3505 102

3505 202 Architectural Drawings and Design IV (4)
Develops the skills to produce the basic elements for a set of architectural production drawings for a medium sized building. The student shall understand the integration and coordination of all aspects of the building, including structural, plumbing, mechanical, and electrical systems. Lec. 2 hrs., Prac. 6 hrs., Prereq.: 3505 201.

3505 205 Introduction to CADD Construction Documents (3)
Introduces the student to the general use of the computer as a design and production tool. The use of Computer-Aided Design Drafting (CADD) programs as a drawing and specification tool in office production and management will be studied. The course will further reinforce the construction document production techniques and principles learned in previous technical courses. Lec. 2 hrs., Prac. 3 hrs., Prereq.: 3505 102

3505 207 CAD Documents, Specification Writing and Estimating (3)
Explores the general use of Computer Aided Design Drafting (CADD) programs as a drawing and production tool for data and information coordination and communication. Special emphasis will be placed on the drawing's relationship to the development of written specification and construction cost estimation. Lec, 2 Hrs., Lab 3 Hrs. Prereq.: 3505 205.

3505 232 Statics and Structural Design (3)
Develops the skills necessary to understand the primary elements of structural systems load calculation, load transfer, and load tables. The student shall become familiar with light frame, heavy timber, light steel, masonry, and concrete systems. Lec. 2 hrs., Prac. 3 hrs., Prereq.: 1535 112**.**

3505 244 Environmental Systems I (3)
This course focuses on sustainable development defined as a process that does not exhaust resources for the future generations; process that permanently enhance the capacity of people and institutions; and process in which responsibilities and benefits are broadly shared. Sustainable architecture will be discussed in a global perspective through the case study method highlighting good and bad examples. Culture, climate, urban development, rural development, urban agriculture, environmental design, and historic preservation and cultural heritage are topics that will be discussed. Lec. 3 hrs., Prereq.: 3505 102.

3505 246 Environmental Systems II (3)
This course focuses on heating, air conditioning, ventilation and conservation of energy. Teaches methods of manual load calculations, using tables in textbooks to calculate heat transfer coefficients for any type of construction, determine temperature differences required by code or by good practice, compute the size of equipment, piping and ducts which will be appropriate to the building and to the available fuels. Simple residences or small commercial buildings will be analyzed for HVAC systems and plans will be prepared to guide the contractor for installation. Specifications for the work will be compared to optimize selection. Energy recovery and conservation will be practiced in the system designs. Lec. 3 hrs.

3505 295 Seminar (3)
Provides the opportunity for students to develop an independent study topic of their choice related to architecture or planning. This topic shall be analyzed in depth and presented orally in class for discussion and shall include a written document for final presentation. Lec. 2 hrs., Prac. 3 hrs., Prereq.: 45 credit hours of required program completed satisfactorily.

3505 299 Independent Study (3-4)
The intensive study of a topic or special project approved by the Department Chairperson and under the supervision of an instructor assigned by the Department Chairperson.

3505 301 Professional Studio V (5)
Provides a series of small scale problems in design will be set to assure that the student reaches a basic level of competence in addressing the problems associated with architecture. Also, the studio investigates the design relationship between the manmade and the natural environment in a study of a large scale site planning problem. Lec. 3 hrs., Prac. 6 hrs., Prereq.: 3505 202.

3505 302 Professional Studio VI (5)
Continues Professional Studio V. Architectural problem(s) of significant programmatic content, with specific site restraints and criteria will be addressed. The student is expected to demonstrate competence in establishing a process toward presenting a solution that shows understanding of the relationship between the manmade environment and the natural environment. Lec. 3 hrs., Prac. 6 hrs., Prereq.: 3505 301.

3505 321 History and Theory of Architecture II (3)
Studies the architecture of the African Nile Valley's Egyptian-Nubian roots, golden age Greece, and Imperial Rome. Also, covers the study of architecture, city planning, and urban design that grew out of the Christian and Islamic triumph of 3rd Century Imperial Rome and spread throughout pivotal cities of Europe, Asia, Africa, and the Americas up to the early European Renaissance Movement. Lec. 3 hrs., Prereq.: 3505 121.

3505 322 History and Theory of Architecture III (3)
Involves a brief examination of the Mid to Late Renaissance and Baroque Movement in Europe; Neoclassic in America; the Modem Movement (Chicago School); Frank Lloyd Wright; the International Style and the Late Post-Modem Movement. Lec. 3 hrs., Prereq.: 3505 321.

3505 331 Structural Analyses (3)
This course covers aspects of structural behavior, the idealized model, stability, determinacy, analysis of statically determinate structures, and displacement of planar structures; Introduction to indeterminate structures. Lec. 3 hrs. Prereq. 1539 102

3505 341 Advanced Computer Simulation (3)
A sequel to computer utilization for architects 3505 205,206. The student will be expected to have mastered the rudiments of the Computer-Aided Design and Drafting (CADD) environment as a production tool. Studies the CADD and animation programs as design exploration, simulation and presentation tools. Both classical and contemporary architectural design works will be used for the exploration. Lec. 2 hrs., Prac. 3 hrs., Prereq.: 3505 206.

3505 342 Design of Steel Structure (3)
Studies the problem of rational design codes and specifications; design of members in tension, compression, and bending, connections and simple structures. Lec. 3 hrs., Prereq.: 3505 331

3505 401 Professional Studio VII (5)
The problem sets in this studio challenge the student to search for, coordinate, and consolidate the basic systems (structural, mechanical, etc., with special emphasis of the structural) with their own design process and philosophy. The solutions most recognize constraints such as D.C. codes. Lec. 3 hrs., Prac. 6 hrs., Prereq.: 3505 302.

3505 402 Professional Studio VIII (5)
Continues Professional Studio VII, with the emphasis shifting to the cost and time management control aspects of mid-size building design and production. Lec. 3 hrs., Prac. 6 hrs., Prereq.: 3505 401.

3505 411 Professional Ethics and Practice I (3)
Examines the profession of architecture; historical development; relation to other professions and disciplines; and the changing role of the architect are studied. Architecture and professional societies; the American Institute of Architects; state and national registration boards; education accreditation; federal, state, and municipal organizations/agencies; legal and ethical questions relating to the practice of architecture; and emerging forms of architectural practices are examined. Lec. 3 hrs., Prereq.: 3505 302 or junior standing.

3505 413 Preservation/Rehabilitation Technology (3)
Utilizes the Secretary of the Interior's certification application, preservation guidelines, and technical specification as the basis of case study analysis of the planning and design of historic structures in Washington, D.C. Non-historic rehabilitation techniques for various structures are also analyzed. Lec. 3 hrs.

3505 442 Design of Concrete Structures (3)
Studies analysis, design, and construction details of reinforced and pre-stressed concrete structures. Lec. 3 hrs., Prereq.: 3505 342.

Aviation Technology

3502 111 Introduction to Aviation (3)
Provides an historical survey of the events of aviation pioneering and developments culminating in manned spaceflight to the moon. Aircraft and aerospace vehicle design will be reviewed and students will study the fundamentals of flight theory to develop an under-standing of the world of aviation. To demonstrate proficiency, each student will prepare a survey paper covering outstanding aviation events from the Wright brothers to the present time. Lec. 3 hrs.

3502 311 Air Traffic Control (3)
Studies the nation's airspace systems, becoming familiar with the requirements for private and commercial cross-country and international flight. The student will also be made aware of the services provided by the Federal Aviation Administration through its flight service stations, air traffic control centers, and terminal control areas. A brief history, duties, and responsibilities of each service will be presented. Each student will prepare a term paper on one area of particular interest. Lec. 3 hrs.

3502 354 Aviation Legislation (3)
Provides the student with insight into the responsibilities currently assigned to the Federal Aviation Administration and previously to the Civil Aeronautics Board and their predecessors in the areas of defense, flight standards, airports, aviation medicine, airway facilities, research and development, airline route structures, and the National Transportation Board. The student will select one of the above areas and prepare a detailed study of that area prior to the course completion. Lec. 3 hrs.

3502 435 Flight Safety (3)
Provides a proper background in flight safety and safety in related areas of aviation. Factors to be studied include safety of aircraft and aircraft systems; competence of pilots, mechanics, and other aviation personnel; and safety aspects of aviation facilities, equipment, and procedures. Lec. 3 hrs.

3502 455 The National Airspace System (3)
Covers problems encountered and plans for implementing the airspace system, airspace allocation and usage, facilities and developments in electronic navigation and control systems, economic impact, and social and political implications. Lec. 3 hrs.

3502 471 Aircraft Maintenance and Inspection Programs (3)
Identifies the requirements of type certificated aircraft airworthiness conformity and the necessity of the FAA-approved maintenance and inspection program(s). The types, applications, and implementation of maintenance and inspection programs to specific type aircraft will be emphasized. Students will author and gain "approval" for a custom program. Management of an "approved" program from a Technical Control Center/Performance Review will also be integrated in the course. Students will apply contemporary inspection technologies and methods to specified inspection requirements. Lec. 3 hrs.

3502 481 Aircraft Systems Fault Isolation (3)
Demonstrates the systematic, disciplined methodology of fault remediation of aircraft system malfunctions. Aircraft systems will include cockpit Com-Nav, FMS, thrust reversing, pneumatics, air conditioning, electrical power generation-distribution, auto-

pilot, landing gear indicating, and other selected systems. Lab experience will include fault isolation operations on current production analog-digital transport and complex aircraft systems. Lec. 3 hrs.

3503 121 Aviation Maintenance Fundamentals (5)
Introduces basic aircraft terminology and related federal aviation regulations, which include mechanic privileges, limitations, maintenance publications, forms and records, standard FAA aircraft, and repair and alteration drawings documentation. The student will receive instruction on the tasks required for aircraft ground handling, taxiing, and servicing. Course also includes units on aircraft construction, nomenclature, data systems, basic aero-dynamics, and practical sciences applicable to the theory of flight of fixed and rotary wing aircraft. Lecture 5 hrs Practicum 12.5 hrs.

3503 122 Aircraft Materials and Processes (5)
Offers comprehensive coverage on the design characteristics, material characteristics, typical construction, and the maintenance and repair of non-metallic airframe components and structures. The student will gain hands-on experience of fabric covering, wood structures, finishes, and current techniques involving fiberglass, kevlar, and graphite composites used as a primary structure on today's aircraft. Lecture 5 hrs Practicum 12.5 hrs..

3503 124 Aircraft Metallic Structures (5)
Offers comprehensive lecture and laboratory on the design characteristics, materials, typical construction, and maintenance of metallic airframe structures, including monocoque, semi-monocoque, tubular truss, and metallic honeycomb structures. Maintenance and repair of these structures are emphasized, along with the use of FAA-approved and/or accepted repair data typical riveted and welded repairs are practiced. Included in this course is a welding repair laboratory using oxyacetylene and inert gas welding practices. An introduction to aircraft ice and rain control and aircraft fuel systems are included in this course. Lecture 5 hrs Practicum 12.5 hrs.

3503 125 Aircraft Systems and Components (5)
Offers comprehensive lecture and laboratory on the following aircraft systems: landing gear, wheels, tires, brakes, hydraulics, fuel-systems, cabin atmospheric control, and ice and rain control. The final phase of this course will require the student to exercise all of his previous training to perform a 100-hour conformity inspection on a particular aircraft. Lecture 5 hrs Practicum 12.5 hrs.

3503 211 Aircraft Electricity and Electronic Systems (5)
Emphasizes the fundamentals of direct current and alternating current. Series, parallel, and series parallel circuits will be analyzed using the Ohm's Law principle. The reading and interpretation of electrical diagrams and the use of these diagrams to troubleshoot electrical systems using the appropriate test equipment will be emphasized. Electrical system components will be examined and repaired by the students. Alternating current and transformer circuits with resistive, inductive, and capacitive components will be mastered. Battery cell construction, operation, and maintenance is emphasized. Inspection and repair of aircraft engine electrical systems including fire protection systems, engine instruments, and engine ignition systems will be studied. A final phase of study will be the inspection, checking, and repair of communications, navigation, and antenna systems. Lecture 5 hrs Practicum 12.5 hrs.

3503 212 Aircraft Turbine Engine Theory and Overhaul 5)
Offers comprehensive instruction about turbine engine theory of operation, design characteristics, systems operation, maintenance, inspection, and repair of typical engines. Practical training will be provided in engine inspection, overhaul, repair, run-up and fault diagnosis. Lecture 5 hrs Practicum 12.5 hrs.

3503 214 Aircraft Reciprocating Engine: Theory and Overhaul (5)
Introduces aircraft reciprocating engine design and principles of operation and progresses into design characteristics and variables affecting engine power output. Practical training will be provided in engine inspection, overhaul, repair, run-up, and fault diagnosis. Engine lubrication, oil system configuration, oil analysis, and oil system fault isolation will be studied. Lecture 5 hrs Practicum 12.5 hrs.

3503 215 Aircraft Engine Systems and Components (5)
Offers comprehensive lecture and laboratory in the following engine systems: engine fuel systems, fuel metering, induction systems, engine codlings, exhaust systems, and propeller systems. The last phase of this course will require the student to exercise all his training to perform a 100 hours conformity inspection on an aircraft engine. Lecture 5 hrs Practicum 12.5 hrs.

Civil Engineering

3509 101 Technology for Everyday Living (3)
Introduces the future engineering and non-engineering students to the basic concepts and tools needed for urban and community problem solving. Discussion and insight to the exciting and challenging roles of the civil and mechanical engineers in planning, design, construction and operation of the urban infrastructure (electric power, gas, water and sewage distribution, transportation of people, goods and information). Use is made of word processing and electronic spreadsheets as tools for formulating and solving engineering problems that are encountered in everyday life. Lec. 3 hrs.

3509 112 Engineering Experimentation (3)
Introduces the fundamentals of engineering experimentation. Modern equipment and instrumentation used in engineering laboratories are presented with emphasis on measurements. State-of-the-art instruments for measurement of angle, distance, pressure and temperature are used to illustrate the importance of understanding errors and their influence on measurements. The use of electronics in measuring instruments (both analog and digital) is demonstrated through the use of civil and mechanical engineering applications. Lec. 3 hrs.

3509 116 Programming Applications (3)
Presents problem-oriented course using commercial generic software (word processing, spreadsheet, database, presentation and selected applications). The students are provided a fundamental introduction to the software and then use in the solution of engineering problems. Lec. 3 hrs.

3509 201 Engineering Mechanics I (3)
Covers statics of particles and rigid bodies; equilibrium, distributed forces; centroids; center of gravity; structure-trusses, frames, machines; forces in beams and cable; friction; moments of inertia. Lec. 3 hrs.: 1539 201.

3509 202 Engineering Mechanics II (3)
Covers kinematics and kinetics of a particle. Planar kinematics of a rigid body; planar kinetics of a rigid body including force and acceleration; work and acceleration; work and energy; impulse and momentum, and vibrations. Lec. 3 hrs., Prereq.: 3509 201.

3509 206 Mechanics of Solids (3)
Covers axial forces, shear and moment, stress and axial loads, strain and axial deformation, torsion of shaft, stress in beams, columns, deflection of beams, energy methods, and elemental indeterminate problems. Lec. 3 hrs., Prereq.: 3509 201.

3509 207 Mechanics of Solids and Materials Laboratory (1)
Covers introduction-purpose, scope, equipment/ apparatus, interpreting the text results, errors, writing reports. Experiments include physical properties of concrete, mechanical response of steel, shearing force, bending moment, member forces in truss, deflection, hinged arches, portal frames, suspended center span bridge. Lab 2 hrs., Co-req: 3509 206. Prereq.: 3511 205.

3509 301 Essentials of Surveying (2)
Introduces the student to the basic principles of measurement at or near the surface of the earth. The fundamental concepts of observing and establishing the linear and angular measurements necessary to determine the horizontal and vertical position of points required for engineering works are presented. The theory of errors associated with large scale measurements and the "management" of them through survey procedures and analysis are presented. The student will develop an understanding of the "tools" (procedures and software) necessary to process field data and produce horizontal and vertical control information (e.g. adjusted traverses, bench mark elevations, contour maps, etc.). Lec. 3 hrs., Prereq.: 3509 202.

3509 302 Surveying Laboratory (1)
Introduces and practices the use and care of the instruments necessary to determine horizontal and vertical positions on or near the surface of the earth are presented. The student will develop an understanding of the application of the surveying procedures required to establish horizontal and vertical control points. The student will perform field exercises for the control of horizontal and vertical positions associated with engineered construction. Instruments used include levels (manual & automatic), theodolites (direction & repeating), distance measuring devices (tapes & electronic). Direct and indirect methods for observing and establishing measurements are covered. Prac. 42 hrs., per semester, Co-req.: 3509 301.

3509 308 Applied Numerical Analysis for Engineers (3)
Covers modeling and error analysis, roots of equations; systems of linear algebraic equations, curve fitting; numerical differentiation and integration; ordinary differential equations; partial differential equations. Lec. 3 hrs., Prereq.: 1535 260.

3509 311 Theory of Structures Lecture (3)
Analyzes statically determinate beams and trusses, methods of determining deflection of structures, influence lines and application for moving loads and indeterminate structures including continuous beams and frames. Covers approximate analysis of indeterminate structures computer analysis of structures and performance characteristics. Lec. 3 hrs., Prereq.: 3509 206.

3509 313 Theory of Structures Laboratory (1)
Equipment/apparatus, writing reports; experiments determining internal forces, reactions and deflections of both determinate and indeterminate structures are studied. Computer-aided analysis of structures of both determinate and intermediate structures are examined. Prac. 2 hrs., Co-req: 3509 311.

3509 335 Design of Structures (3)
Covers design of tension members, compression members, beams and columns, and simple connections, Analysis and design of reinforced concrete beams, slabs, columns, footings, and retaining walls using the ultimate strength method.

3509 336 Design of Structures Lab (1)
Topics covered in lecture are demonstrated through hands-on practical exercises, analysis and design. Commercially available structural software will be used. Prac. 3 hrs, Co-req. 3509 335.

3509 325 Hydrology and Hydraulics
Hydrologic Processes, Precipitation and precipitation analysis, Hydrologic losses and infiltration, Runoff processes and estimation, Fundamentals and fluid properties, flow in closed conduits, flow in open channels, and fluid measurement. Lec. 3 hrs., Prereq.: 3511 321

3509 325 Hydraulics and Hydrology Lab (1)
Topics covered in lecture are demonstrated through hands-on practical exercises, lab experimentation, and use of computer modeling software. Prac. 3 hrs., Co-req: 3509 325.

3509 331 Principles of Geotechnical Engineering (3)
Studies soil classifications, stress, and compressibility of soils, immediate and consolidation settlement, time rate of settlement, earth pressure on structures, permeability and seepage, slope stability analysis for application in engineering design. Lec. 3 hrs., Prereq.: 3509 206, 3511 321.

3509 332 Principles of Geotechnical Engineering Lab (1)
Provides laboratory tests to determine the physical properties of soils for application in engineering design. Lab 3 hrs., Co-req: 3509 331.

3509 413 Design of Water and Waste Water Treatment Plants (3)
Covers design of treatment plants, waste collection and disposal facilities, waste treatment plants, and cost estimation. Lec. 3 hrs., Prereq.: 3511 321.

3509 464 Engineering Ethics & Professional Practice (1)
Provides an introduction to the engineering profession, professional practice, engineering law and ethics. The course also offers opportunities to explore the social implications and environmental impacts of technologies and to consider engineers' responsibility to society.

3509 481 Fundamental of Engineering Preparation (1)
This course discusses examination preparation materials for the Fundamentals of Engineering (FE) exams—commonly called the EIT exams. Provides a brief overview of common engineering courses.

3509 416 Advanced Structural Design (3)
Covers forced-deformation responses of structures under complex loading, interaction of the structural components and their behavior for both the elastic and inelastic ranges, analysis of frames with nonprismatic members by moment distribution, slope deflection, and column analogy. Lec 3 hrs., Prereq.: 3509 312.

3509 417 Matrix Method of Structural Analysis (3)
Covers analysis of highly indeterminate structures by the transfer matrix method, displacement matrix method, and the matrix forced method. Lec 3 hrs., Prereq.: 3509 311, 1535 260.

3509 418 Dynamics of Structure (3)
Studies responses of free-vibration, harmonic, periodic, and dynamic loading; analysis of nonlinear structural responses for single and multi-degree systems, and effect of damping and inelastic action. Lec. 3 hrs., Prereq.: 3509 202, 3509 313

3509 419 Design of Concrete Structures (3)
Covers analysis and design of reinforced concrete slabs, beams, columns, footings, and frames using the ultimate strength method. Lec. 3 hrs., Prereq.: 3509 312.

3509 435 Foundation Design (3)
Studies shallow foundation analysis and factors to consider for design, bearing capacity and settlement, mat foundations, piles, caissons, lateral earth pressures and retaining walls, site improvement techniques, design of support systems, sheet piles, and special foundation system. Lec. 3 hrs., Prereq.: 3509 331.

3509 436 Foundation Design Lab (1)
Topics covered in lecture are demonstrated through hands-on practical exercises, analysis and design, Prac. 3 hrs., Co-req. 3509 435.

3509 441 Wastewater Engineering (3)
Covers analysis and design of wastewater systems; unit operations and treatment kinetics; physical, chemical, and biological unit processes; principles of design of facilities for physical, chemical and biological treatment of wastewater; disposal of waste solids. Lec. 3 hrs., Prereq.: 3511 321.

3509 442 Water Resources Engineering (3)
Introduction to urban water systems, Drinking water systems and their design and analysis, urban waste water systems and design of sanitary sewer systems, Urban storm water management, Urban storm sewer systems and their design and analysis, Erosion and sediment control. Lec. 3 hrs., Prereq.: 3511 321

3509 445 Project Planning and Scheduling (3)
Covers principles of planning, scheduling, and allocation of resources for construction projects. Study and application of critical path method (CPM) of network diagramming and calculation. Studies Program Evaluation and Review Techniques (PERT) and allocation of constrained resources and variation of schedules to optimize costs. Lec. 3 hrs., Prereq.: Senior Standing

3509 476 Construction Project Management (3)
Covers fundamental operations in construction, construction methods, selection of equipments, construction project management techniques, cost estimates, resource management, bidding and contracting.

3509 447 The Theory of Shells (3)
Studies theory and design of shell place by membrane and bending stress theories, application to the analysis and design of cylindrical shell, domes, paraboloids. Lec. 3hrs., Prereq.: 3509 419.

3509 448 Construction Techniques (3)
Covers fundamental operations in construction, construction methods, selection of equipment, cost estimates, planning and scheduling construction projects. Lec. 3 hrs., Prereq.: Senior standing.

3509 449 Environmental Engineering (3)
Covers hydrology; ground water; physical, chemical, and biological properties of water; introduction to water and wastewater treatment processes; physical and chemical fundamentals of air pollution; solid waste management. Introductory course for environmental engineering. Lec. 3 hrs., Prereq.: 3511 321.

3509 451 Urban Transportation Planning (3)
Offers "hybrid" course that prepares the student for entry level employment in the field of transportation and/or graduate study in the field of transportation. The student is introduced to the concepts and fundamental tools of transportation planning. The focus is on transportation for urban areas. Those aspects of transportation engineering necessary to better understand the "technical" solution to urban transportation problems and bring urban transportation "plans" to reality are also covered. Lec. 3 hrs., Prereq.: Junior/Senior Standing.

3509 452 Urban Transportation Systems Design (3)
Continues Urban Transportation Planning. The focus is on the geometric and physical design of urban transportation systems. The fundamentals of traffic engineering are presented and applied to the solution of urban road congestion. Team design projects address local contemporary transportation issues. Lec. 3 hrs., Prereq.: 3509 451

3509 461 Engineering System Analysis (3)
Introduces system engineering, linear programming, duality theory and sensitivity analysis, network analysis, including CPM and PERT, integer programming, and game theory. Lec. 3 hrs., Prereq.: 3509 308.

3509 480 Construction Project Management (3)
Covers elements of management as related to construction project; responsibilities of construction managers, on-site representatives, engineers, and inspectors; concept of developing the project team approach. Lec. 3 hrs., Prereq.: Senior Standing.

3509 486 Construction Estimating (3)
Interprets specifications as they affect project costs, quantity take-offs, including items necessary for construction but not called out on drawing and specifications; estimate of labor and costs. Lec. 3 hrs., Prereq.: Senior Standing.

3509 487 Contracts and Specifications (3)
Examines elements of contract as related to engineered construction project. Provides an introduction to the technical concepts of preparing and reviewing specifications necessary for bidding and contracting engineering projects. Lec. 3 hrs., Senior Standing

3509 490 Special Topics in Civil Engineering (1-12)
Deals with a specific area related to civil engineering that is not normally covered in regular courses and for which there is

sufficient student interest; may be used as a technical elective. Prereq.: Senior standing in Civil Engineering.

3509 491 Senior Project in Civil Engineering I (3)
Provides group projects for senior students to design civil engineering systems. Oral presentations and written report are required. Prac. 20 hrs. effort. Prereq.: Senior standing in Civil Engineering.

3509 492 Senior Project in Civil Engineering II (3)
Continues of Senior Project in Civil Engineering. Final project report and presentation are required., Prac. 20 hrs. effort. Prereq.: 3509 491.

Fire Science Administration

3517 101 Fire Protection and Organization (3)
Covers the philosophy and history of fire protection, history of loss of life through fire, organization and administration of municipal and industrial fire protection. Lec. 3 hrs

3517 102 Fire Prevention (3)
Covers the organization and administration of the Fire Prevention Bureau, analysis of fire inspector's duties, fire inspection techniques, public relations, and education programs. Study of properties of fire-hazard material, fire suppression equipment, and basic fire fighting tactic are included. Lec. 3 hrs.

3517 103 Building Construction (3)
Covers the fundamentals of building construction and design. Special consideration will be given to unique properties of Washington construction, such as monumental government buildings. Lec. 3 hrs.

3517 204 Fire Science Hydraulics (3)
Covers fluids of rest and in motion, principles of viscous turbulent flow, impulse and momentum concepts, pumps, turbines and meters will also be covered. Lec. 3 hrs.

3517 205 Fire Protection Systems (3)
Covers the design and installation of standard and special extinguishing systems, automatic sprinklers, detectors, alarms, and standpipes. Lec. 3 hrs.

3517 206 Fire Safety Codes and Standards (3)
Covers national building codes, with particular emphasis on the District of Columbia codes. Lec. 3 hrs.

3517 307 Hazardous Materials (3)
Covers hazardous materials, including chemicals, gases, liquids, and radioactive matter. Storage, handling, transportation, and fire service problems are also covered. Lec. 3 hrs.

3517 308 Arson Investigation (3)
Covers the history, development, and philosophy of fire investigation and detection, including inspection techniques; gathering of evidence and development of technical reports; fundamentals of arson investigation; and processing of criminal procedures. Lec. 3 hrs.

3517 409 Advanced Fire-Fighting Tactics and Strategy (3)
Covers fire fighting tactics, including preplanning, command post operations, utilization of manpower and equipment, water supply problems and communications. Lec. 3 hrs.

3517 410 Urban Fire Safety Seminar (3)
This is a course in which the contemporary issues of fire safety in relationship to Washington's metropolitan environment will be presented. Lec. 3 hrs.

3517 495 Independent Study and Research (3)
This course invades individual study of significant topics of interest. Requires consent of individual instructor and Department Project Director.

Mechanical Engineering

3511 101 Introduction to Engineering (1)
Introduces freshman engineering students to the basic concepts and tools needed for the solution of urban engineering problems. Discussion of the challenging roles of engineers in the design of urban infrastructure. Hands-on design projects will be required. Lab. 3 hrs.

3511 105 Introduction to CAD (3)
Introduces the student to the general use of the computer as a design and production tool. The use of computer-aided design (CAD) program as a drawing and specification tool in component design and manufacture. Lec. 3 hrs.

3511 205 Materials Science (3)
Covers electronic structure, crystal structure, and imperfection; elastic and plastic deformations; deformation processes, mechanical failure, creep, fatigue, and fracture. Lec. 3 hrs., Prereq.: 1507 111.

3511 208 Thermodynamics (3)
Covers thermodynamic concepts, zeroth law, thermodynamic properties, first law and second law analysis of closed and open systems; availability and irreversibility analysis; power and refrigeration cycles; mixture of gases and psychrometrics. Lec. 3 hrs.; Prereq.: 1539 201.

3511 222 Engineering Measurements (3)
Covers statistical data and error analysis; measuring systems, transducers; property measurements; signal conditioning; data output and analysis; analog and digital circuits; computer applications; Lec. 3 hrs.; Prereq.: 3531 221.

3511 224 Engineering Measurements Laboratory (1)
Involves experimentation in the measurements of different mechanical properties using analog and digital systems; use of sensors and transducers, and modern instrumentation technology. Lab 3 hrs.; Co-req: 3511 222

3509 464 Engineering Ethics & Professional Practice (1)
Provides an introduction to the engineering profession, professional practice, engineering law and ethics. The course also offers opportunities to explore the social implications and environmental impacts of technologies and to consider engineers' responsibility to society.

3509 481 Fundamental of Engineering Preparation (1)
Discusses examination preparation materials for the Fundamentals of Engineering (FE) exams—commonly called the EIT exams. Provides a brief overview of common engineering courses.

3511 305 Electronics and Instrumentation (3)
Examines an extension of the physics topics learned in electricity and magnetism. The student is introduced to the application of the fundamental principles of DC and AC circuits, their essential components and analysis. Three-phase energy distribution systems are described. Selected aspects of solid state electronics, especially devices with application in civil and mechanical engineering, are explored. Lec. 3 hrs. Prereq: 1539 202

3511 321 Fluid Mechanics (3)
Covers fluid properties and definitions, fluid statics, Archimedes principles, kinematics of fluids, control volume equations and analysis, Bernoulli equation, Euler equation, ideal flow equations, velocity potential and stream function, dimensional analysis, and viscous flows in pipes. Lec. 3 hrs., Prereq.: 1535 253

3511 322 Thermodynamics and Fluid Mechanics Laboratory (1)
Examines methods of experimental fluid mechanics; and laboratory experiments in thermodynamics and fluid mechanics. Lab. 3 hrs., Prereq.: Co-req.: 3511 321.

3511 341 Analysis and Synthesis of Mechanisms (3)
Teaches kinematics and dynamics of mechanisms; analysis of mechanisms, including linkage, cam, gear, synthesis of mechanism for prescribed performances; and computer-aided design of mechanisms. Lec. 3 hrs., Prereq.: 3509 202, 1535 253.

3511 342 Analysis of Dynamic Systems (3)
Covers mechanical vibrations of mechanical systems of single and multiple degrees of freedom, dynamic responses of engineering systems utilizing transfer function representation, and analysis of feed- back systems. Lec. 3 hrs., Prereq.: 3509 202, 1535 260.

3511 351 Heat Transfer (3)
Examines heat conduction equations, steady and unsteady state heat conduction problems; principles of heat convection, forced, free and phase-change convective heat transfer; and radiative physics and heat transfer. Lec. 3 hrs., Prereq.: 3511 321, 1535 260.

3511 352 Robotics and Manufacturing Laboratory (1)
Provides a workshop practice course in metal cutting, forming, joining and fabrication. It includes laboratory experiments in pneumatic, hydraulic and electro-mechanical controls; experiments in computer-aided manufacturing; robot motions, control and programming. Lab. 3 hrs., Prereq.: 3511 205.

3511 356 Modern Manufacturing Processes (3)
Covers engineering materials and manufacturing properties; production processes; mechanization and automation; CNC machining. Lec. 3 hrs., Prereq.: 3511 205, 3509 206.

3511 361 Machine Design (3)
Examines engineering design process; theories of failure; fundamentals of mechanical design; and computer-aided design of machine elements, bearings, gears, shafts, brakes and couplings; design projects. Lec. 3 hrs., Prereq.: 3509 206, 3511 205.

3511 371 Design of Control Systems (3)
Identifies and examines models of mechanical, electrical, fluid, thermal, electro-mechanical, thermofluid systems, transducers, digital devices, types of controllers, performance of feedback systems; simulation, root locus and frequency response methods for design of automatic control. Lec. 3 hrs., Prereq.: 3509 202, 1535 260.

3511 373 Design of Control Systems Laboratory (1)
Experiments illustrating the basic principles of three term (PID) thermal process control, multivariable systems and the basics of multivariable dynamics and control under steady state and transient conditions. Lab 3 hrs., Co-req. 3511 371

3511 381 Microcontrollers in Mechanical Engineering (3)
Study of microcontrollers and their applications as control devices in mechanical systems. Review of electric circuits and semiconductor devices; digital logic, Boolean algebra, logic gates; microcontroller architecture - internal data handling and control, input and output; microcontroller programming languages; digital sensing and control through parallel and serial communication; microcontroller interrupt programming and servicing; actuation control via digital to analog conversion; direct digital control of stepper motor actuator. Lec. 3 hrs., Prereq.: 3511 222

3511 405 Engineering Experimentation (3)
Covers experimentation theory; instrumentation systems; applications in mechanical engineering; microprocessors and peripherals; experiments in areas of mechanical engineering. Lec. 1 hr., Prac. 6 hrs., Prereq.: Senior standing in Mechanical Engineering.

3511 406 Engineering Economics (3)
Studies the application of economic principles to engineering problems and their effects on engineering decision-making. Lec. 3 hrs., Prereq.: Senior Standing.

3511 456 Computational Fluid Mechanics (3)
Studies equations of continuum mechanics and boundary conditions; finite difference techniques for one and multi-directional Navier-Stokes equations; introduction to variational calculus; and finite element methods for fluid flow and heat transfer problems. Lec. 3 hrs., Prereq.: 3511 321, 1535 260.

3511 457 Design for Noise Control (3)
Covers acoustic terminology, acoustic related to noise and its control, techniques for the solution of noise problems, design of vibration isolators, energy absorbers, dissipative and reactive mufflers, enclosures, barriers and panel damping. Lec. 3 hrs., Prereq.: 3509 202, 1535 260.

3511 458 Finite Element Methods for Mechanical Design (3)
Examines finite element techniques, data stringing, mesh generation, data checking, element calculation, postprocessing and output plots; use of finite element computer programs for solving design problems. Lec. 3 hrs., Prereq.: 3511 361, 1535 260.

3511 461 Applied Thermodynamics and Energy Conversions (3)
Studies the optimization of power plant, internal combustion engine, refrigeration, combustion and direct thermoelectric systems; and design of reciprocating compressors, engines, nozzles and diffusers. Lec. 3 hrs., Prereq.: 3511 351.

3511 462 Design of Energy Systems (3)
Covers the design of ducting and piping systems, design of heat exchangers and fluid/rotor energy converters; characteristics of pumps, fans, compressors and turbines, computer-aided design and simulation of energy systems. Lec. 3 hrs., Prereq.: 3511 351.

3511 463 Mechanical Engineering Senior Laboratory I (1)
Studies dynamic data acquisition, analysis and control, aerodynamic lift and drag, pump performance, experimental methods for measuring dynamic responses, and statistical theories of measurement. Lab. 3 hrs., Prereq.: Senior standing.

3511 464 Mechanical Engineering Senior Laboratory II (1)
Examines a computer simulation of dynamic systems, electronic and digital instruments, instrumentation and tests for measurement of performance of energy and dynamic system, and individual laboratory projects. Lab. 3 hrs., Prereq.: 3511 463.

3511 470 Thermal Environmental Engineering (3)
Examines thermodynamic properties of moist air, psychrometric chart applications, refrigerants, binary mixtures, mechanical vapor compression refrigeration systems, absorption refrigeration systems, solar radiation calculations, and analysis of cooling towers and dehumidification coils. Lec. 3 hrs., Prereq.: 3511 351.

3511 473 Microelectro-mechanical Systems (MEMS) (3)
Study of fabrication techniques for microelectro-mechanical devices fabrication. Applications of MEMS such as mechanical, optical, magnetic, chemical/biological sensors/actuators are studied. Lec. 3 hrs., Prereq.: 3511 205, 3511 321 or 3531 352 and 3531 312 for EE students

3511 475 Gas Turbine Design (3)
Covers gas turbine components, component characteristics and performance, gas turbine system configurations and optimization, energy transfer between fluid and rotors, aerodynamic data of turbine and compressor blades, aerodynamic design of turbine Lec. 3 hrs., Prereq.: 3511 321

3511 476 HVAC Design (3)
From a description of building functions, students research, create, plan, and design an energy efficient and cost effective building HVAC system. Lec. 3 hrs., Prereq.: 3511 461.

3511 478 Mechatronics (3)
Fundamental concepts in mechatronics including instrumentation and measurements. Operating principles of electro-mechanical actuators, motors, sensors, drives, and analog motion control. Applications of microprocessors, and microprocessor interfacing to eletromechanical systems. Lec. 3 hrs., Prereq.: 3511 381 or 3531 352 and 3531 312 for EE students

3511 483 Robot Mechanics and Control (3)
Introduces types of industrial robots, sensing of robot motion and position, electro-mechanical, hydraulic and pneumatic actuators; sampled data, proportional, integral and derivative controller; robot coordinates, motion, dynamic and path control, as well as introduction to robot programming. Lec. 3 hrs., Prereq.: 3511 341, 3511 371.

3511 484 Design of Robot Mechanism (3)
Introduces types of manipulators, manipulator parts and linkages, kinematic equations and their solutions; synthesis of manipulator mechanisms, path generation and motion trajectories, manipulator dynamics, payload and compliance, and computer-aided design of manipulator mechanisms. Lec. 3 hrs., Prereq.: 3511 483.

3511 486 Robot Interface Design (3)
Covers microprocessor programming; control hardware characteristics; interfacing to robots, applications of electro-mechanical, hydraulic and pneumatic robots; robot programming languages; computerized numerical control, and design and optimization for manufacturing cells for specified manufacturing processes and cycles. Lec. 3 hrs., Prereq.: 3511 483.

3511 491 Senior Design Project I (3)
Covers creative design, design problem formulation, structure of open-ended solution processes in system design; familiarization with technological resources; group projects on design of complex mechanical systems, feasibility studies, group presentation of project feasibility, and developing impact and planning statement. Lab 6 hrs., Prereq.: 3511 351, 3511 361, 3511 371.

3511 492 Senior Design Project II (3)
Continuation of group projects from Senior Design Project I, including consideration of economic, risk and reliability factors, and development of preliminary designs, prototypes, tests and optimization, and project report and presentation. Lab 6 hrs., Prereq.: 3511 491.

3511 495 Special Topics in Mechanical Engineering (1-12)
Covers a specific area related to mechanical engineering that is not normally covered in regular courses and/or for which there is sufficient student interest. May be used as a technical elective. Lec. 1 hr., or Lab 3 hrs. for each credit hour. Prereq.: Permission of instructor.

3511 496 Senior Project in Mechanical Engineering (1-12)
Individual study by the student is conducted under supervision of a faculty member, on a project related to mechanical engineering, including presentation of project report. Lec. 1 hr. or Lab. 3 hrs. for each credit hour. Prereq.: Permission of instructor.

COMMUNITY OUTREACH AND EXTENSION SERVICES (COES)

Gloria S. Wyche-Moore, Ph.D., Acting Dean
Intelsat Building, Room 6L-19
(202) 274-7100

Community Outreach and Extension Services (COES) provides a wide range of research, education and training programs which are intended to improve the quality of life for the residents of the District of Columbia. As the city's urban land-grant institution of higher education, our programs meet the diverse needs of our population.

COES houses two of the major components of the land-grant system: the Agricultural Experiment Station (AES) which conducts research, investigations and experiments to address issues germane to the District of Columbia; and the Cooperative Extension Service (CES) which is responsible for disseminating information assembled from the Experiment Station as well as providing an array of community demonstrations and educational and training programs to the residents of the District of Columbia. We are linked in a unique partnership with the nationwide Cooperative State Research, Education, and Extension Service of the United States Department of Agriculture and the District of Columbia Government.

The Water Resources Research Institute (WRRI) focuses on water management research and training future scientists in finding solutions to state and regional water problems.

COES also has strong mechanisms through its Postsecondary Career and Technical Education/Office of Apprenticeship, Technical and Industrial Trades and the Division of Continuing Education (DCE) programs, which provide training, opportunities for professional development and preparation of individuals for life-long learning.

AGRICULTURAL EXPERIMENT STATION

Gloria S. Wyche-Moore, Ph.D., Director
Intelsat Building, Room 6L-19
(202) 274-7100

Diane C. Hyman, MBA, Acting Associate Director
Intelsat Building, Room 6L-21
(202) 274-7137

The Agricultural Experiment Station of the University of the District of Columbia is mandated to formulate a research program relevant to the needs of all citizens residing in the totally urban environment of our nation's capital. As the Station is challenged to address problems that are unique yet germane to an urban society, it is committed to establishing goals and implementing projects and activities that enhance the quality of life for residents of the District of Columbia. Currently, our research program includes studies, investigations, and experiments in the areas of health, human nutrition, urban gardening, pesticide management, youth violence, environmental education, teacher training, stewardship, and literacy and social skills development. Research supported by the Station is conducted by faculty members from various departments throughout the University and by the research staff of the unit. A concerted effort is made to involve students in all aspects of research. Such involvement includes service as research aides, education technicians, and federally-supported research trainees. Faculty members who are project leaders serve as mentors for these students.

Though the Agricultural Experiment Station stands ready to serve all residents of the District of Columbia, regardless of race and economic status, the unit makes special efforts to serve the needs of the underserved/low income segment of our city's population. Input from our stakeholders via surveys, dialogue, and community partnerships is an integral part of our planning process. The Station is prepared to re-chart its research emphasis to meet the needs of the District of Columbia. Research results are communicated to citizens through the distribution of brochures, fact sheets, and other publications developed by faculty, Station staff, and extension agents.

For additional information, contact the UDC Agricultural Experiment Station at (202) 274-7118.

COOPERATIVE EXTENSION SERVICE

William W. Hare, Acting Associate Director
410 8th Street, N.W., Room 500
(202) 274-7115

The District of Columbia Cooperative Extension Service (CES) is a district-wide informal education system within Community Outreach and Extension Service (COES). As an outreach program of the University, the CES educational system works directly with District residents using the land-grant system's research and experience to help solve individual and community problems. CES educates District residents through free and fee-based, non-credit education classes, workshops, demonstrations and provides technical assistance and informational materials such as brochures, fact sheets, bulletins, and newsletters in four major programmatic areas.

- **Community Resource and Economic Development and the Center for Cooperatives** offer programs to improve the welfare and economic well-being of District residents through business and career development, financial planning, coop/community economic development, and housing improvement practices. Seminars, workshops, technical assistance and advocacy activities are also conducted in four theme areas: promoting business, financial planning, coop and community economic development and leadership and organizational development for District residents, organizations and businesses.
- **Environment and Natural Resources and the Institute for Applied Urban Agriculture** provide programs for DC residents for a greater harmony with the environment and continue professional education to meet licensing and certification requirements for pesticide applicators, water quality technicians, and horticulturists.

- **Family and Consumer Sciences and the Center for Nutrition, Diet, and Health** have an overall goal to enhance the nutrition, diet, health and total well-being of both individuals and families within the District of Columbia through research and education, and provides the education to meet the certification requirements for food protection managers.
- **4-H and the Center for Youth Development** establishes school and community based 4-H clubs as well as implements programs to assist young people in discovering and developing their leadership abilities and fosters confidence in those abilities to become successful in life.

The Cooperative Extension Service relies upon advisory councils, volunteers, and program participants to assist extension specialists and agents with identifying and implementing programs that meet the interests and needs of the people. Volunteers from the community, trained in specific extension program areas, work in conjunction with extension staff to deliver programs throughout the District of Columbia.

DIVISION OF CONTINUING EDUCATION

410 8th Street, N.W., Room 609
(202) 274-6682

The Division of Continuing Education (CE), in conjunction with various internal and external stakeholders, provides a diverse range of programs and course offerings to Washington, DC area residents. CE designs and schedules education and training programs to be responsive to the needs and expectations of the community and the students we serve. The goal is to help clients achieve their career and learning objectives by providing them access to quality and affordable education and employment skills training.

The Division of Continuing Education seeks to parallel its mission with the role of the University in today's competitive, changing environment. This includes a heightened focus on developing alliances and partnerships through internal and external collaborations. Embracing the new millennium, Continuing Education continues to serve a critical role in providing area residents, those who are in job search, and those who want to advance up the career ladder with workforce preparation designed to meet the needs of local businesses.

Students enrolled in the Division of Continuing Education may choose to participate in any one of five (5) areas of work-based training:

- General Office Skills
- Computer Technology Training
- Professional & Business Development
- Occupational Skills
- Customer Service

Contact the Division of Continuing Education at (202) 274-6675 for more detailed information on these specific programs.

Programs include the following:

PRAXIS I & II, PARA-PROFESSIONAL
The Division of Continuing Education, via a web-based training solution, provides on-line, distance-learning courses designed to assist teachers and Para-professionals in preparation for the PRAXIS I & II and Para-professional examinations. Through this distance-learning course, teachers and para-professionals are provided with the resources that help them prepare to become certified teachers. At the end of the course, the learner will be prepared to take the PRAXIS I & II or PARA-PROFESSIONAL examination. This certification training is a direct response to a mandate by the DC Board of Education requiring teachers and para-professionals to meet the certification standards under the Federal NCLB Act.

CERTIFIED ADDICTIONS COUNSELOR (CAC)
According to the District of Columbia Certification Board for Professional Alcohol and Drug Counselors (DCCB/PADC), the use of alcohol and other drugs in the Greater Washington area has increased at alarming rates within our community. There is a significant need to provide certification & recertification for drug and alcohol counselors in the District of Columbia. In response to this critical need for quality care, the CAC program provides 209 hours of classroom education in BOARD APPROVED courses/seminars related to substance abuse and/or counseling skills (1/3 of which are substance abuse-specific).

CULINARY ARTS PROGRAM
This program provides students with laboratory and practical training in the culinary arts. Upon successful completion of the program, participants are equipped with the skills necessary for employment as professional cooks and/or to advance their education in the hospitality industry. This program will prepare individuals to become certified culinarians through the American Culinary Federation, Inc.

Participants enrolled in the program receive 18 weeks of intensive instruction in five major components including Professional Cook Skills Development, Pantry/Garden Manager, Baking, Restaurant Skills Development, and On-The-Job Training.

NOTARY PUBLIC PREPARATION COURSE
Notary Public Law and Procedures is a single course that teaches individuals the duties and proper performance essentials for the position of notary public. This course teaches participants the duties and responsibilities of the notary as well as how to protect themselves from damage claims. For more information on the notary certification course, call (202) 274-6675

HOME INSPECTORS TRAINING
The American Home Inspectors Training provides an easy and understandable format designed to enable participants to either start and operate their own successful home inspection business or to become a significant contributor within an established company. This classroom instructor-led or Distance Learning Master Course is complete with books, audio and visual tutorials, exercises and practice quizzes, photos of numerous inspection scenarios, exams and valuable industry updates are delivered online. Graduates receive a Certificate of Completion by successfully completing all of the exams in the course. This will allow participants to utilize the AHIT Certified Inspector Logo.

FOOD SUPERVISOR CERTIFICATION AND RE-CERTIFICATION PROGRAMS

The Food Supervisor Certification and Re-certification programs are conducted in cooperation with the District of Columbia Food Protection Division of the D.C. Department of Health. The certification course, Sanitation for Retail Food Handlers, is designed to educate food service managers in proper food handling techniques. Content areas include basic microbiology, food-borne disease prevention, waste disposal, and washing and sanitizing utensils and equipment.

The re-certification course, Anatomy of Inspection, is designed for persons who have successfully completed the basic course to assist them in developing inspection capability to detect and correct violations. Subject areas include basic food sanitation review, the inspection process, and familiarization with the contents of the inspection guide.

Each five-day course consists of three hours of instruction. At the conclusion of each course, a NSF certificate is issued to those who successfully pass the examination. The certification is mandatory for all food service supervisors and must be renewed every three years.

Applicants may contact the Division of Continuing Education at (202) 274-6675 to be scheduled for the appropriate class.

TAXICAB DRIVERS PROGRAM

This program provides mandatory pre-licensure training for persons interested in becoming taxicab drivers in the District of Columbia. The 60-hour program is sanctioned by the D.C. Taxicab Commission.

The course includes, but is not limited to, the following: (a) District of Columbia Geography with emphasis on the location of all streets and avenues, government buildings and tourist sites; (b) Public Relations and marketing skills, including social customs and courtesies; (c) Business Practices, including General Management and Bookkeeping; (d) Disciplinary Procedures, fines and penalties (Title 31 DCMR); and (e) Zone System & Fare Computation, Intra-District & Interstate.

For further information call (202) 274-6686.

COMMERCIAL DRIVING TRAINING

The Division of Continuing Education, in partnership with Driver Training & Management, Inc., is offering a Commercial Drivers Licensing program. The mission is to provide a quality training program for commercial motor vehicle operators. The level of training and knowledge of commercial motor vehicle operations and driver safety will reduce many of the expenses related to unsafe driving, further reducing the overall cost to businesses and society.

All necessary buses, tractors, trailers, fuel, books, supplies and equipment, audio and visual equipment (PowerPt Video Projector, VCR, television, etc.) will be made available as needed. Learning materials are broken down into modules and are practical and easy to use. If you do have any questions during the course you will receive the support you need. In addition, interactive internet-based training modules are available under special arrangements.

NON-CREDIT PROGRAMS

The Division of Continuing Education extends the resources of the University of the District of Columbia to the community by providing learning experiences in the form of short non-credit activities designed to provide opportunities for DC area residents to enrich and revitalize professional skills, expand career advancement opportunities, and promote personal growth and development. CE conducts Program offerings on a flexible schedule that includes evening and weekend sessions. Senior citizens are allowed to participate at no cost on a space available basis. All non-credit courses are offered without regard to previous academic experience.

WATER RESOURCES RESEARCH INSTITUTE

William W. Hare, Director
410 8th Street, NW, Room 500
(202) 274-7139

The Water Resources Research Institute staff and associated investigators continue to provide the District of Columbia (DC) with inter-disciplinary research support to both identify and contribute to the solution of DC water resources problems. The Institute has contributed significantly to water resources research, management, education, and training by conducting, coordinating, and sponsoring research through teams of experts from among a pool of over 150 experienced researchers from the consortium of universities located in the District of Columbia. Students, both graduate and undergraduate, work with faculty researchers on research projects in conjunction with their formal education/degree programs.

Federal funds from the US Department of Interior through the US Geological Survey and matching local District funds have given impetus to this statewide service benefiting the University community and the general public by providing an increased awareness of and involvement in water resources.

DIVISION OF POSTSECONDARY, CAREER AND TECHNICAL EDUCATION (CTE)

Dwayne A. Jones, Sr., CTE Certified, Acting Director
Intelsat Building, Room 6L-22
(202) 274-7089

The Division of Postsecondary Career and Technical Education/ Office of Apprenticeship, Technical and Industrial Trades (OATIT) is a planned program of courses and learning experiences that begins with exploration of career options; supports basic academic, life skills and leadership development; facilitates high academic achievement; and prepares students for industry-defined work by combing rigorous core academics with career-specific skills development that span both secondary and postsecondary education.

The University of the District of Columbia's Division of Postsecondary, Career and Technical Education creates high skilled and high performance opportunities for the workforce of the District of Columbia by reducing chronically high rates of school failure and unemployment amongst DC residents by providing postsecondary education.

The Office of Apprenticeship, Technical and Industrial Trades is dedicated to fulfilling the District of Columbia mandate to offer structured methods of training for employer-sponsored apprentices within the scope of the DC Apprenticeship School. Training is funded by the employer of each apprentice.
The Office of Apprenticeship, Technical and Industrial Trades offers certificate training programs which leads to certifications in various Postsecondary Career, Technical, and Technology Educational training disciplines. An array of our programs prepares students for licensure as well as recertification through the District of Columbia Department of Consumer & Regulatory Affairs Licensing Bureau.

Programs listed below are offered throughout the various wards within the District of Columbia:

ALLIED HEALTH SERVICES
This 30-hour course is designed for students interested in a career in the Allied Healthcare Services who may not have all the skills needed to successfully complete their chosen area of study. The program is structured to introduce the student to various aspects of allied health care (i.e. Terminology, etc). Upon completion of the program, students will be highly qualified for a successful career in allied healthcare services.

BARBER SCIENCE
A course designed to provide comprehensive knowledge to develop students' basic skills of tonsorial (cutting, trimming, grooming and hair styling). Training includes theory as well as practical lessons in professional ethics, hygiene and grooming, bacteriology, sterilization, sanitation, tools and implements, anatomy and physiology, haircutting, shaving, facial massage, and permanent waves. This type of training is to prepare the students for the State Board Examination.

BRAIDERS CERTIFICATION
A 16-week course designed to prepare students in braiding and for a professional career as a certified natural hair care provider within the scope of the DCRA Board of Barbering and Cosmetology.

BARBERING AND COSMETOLOGY REFRESHER AND RECERTIFICATION
This 4-week course is designed to assist applicants in their Continuing Education Unit (CEU'S) requirements set forth by the District of Columbia Business and Professional Licensing Administration.

BRICK MASONRY
A 16-week course that teaches the basics of brick masonry, including how to produce attractive and durable walls, floors, partitions, fireplaces and other structures with brick, cinder or concrete block and other masonry materials.

Requirement(s) 16 weeks of CTE Mathematics

CAD/COMPUTERIZED MECHANICAL DRAWING
Experience in the CAD lab begins with the Mechanical Drafting workstation, in which participants learn to use traditional drawing tools and a drafting machine. Students learn about the role of drafting in the design process and complete an isometric drawing and an orthographic drawing. CAD workstations utilize the Quick-Cad software that provides an introduction to Computer Aided Design. Auto-Cad software will allow unlimited hours of experience for participants who wish to continue in advanced computer aided design.

CARPENTRY/ROOFING/DRYWALL INSTALLATION
A course that teaches application of technical knowledge and skills used to layout, fabricate, build, install and repair wooden structures and framing, estimating and carpentry finishing techniques. This course is appropriate for window installers and drywall finishers. Requirement(s): 16 weeks of CTE Mathematics

CONSTRUCTION TRADES ZONE
The Industrial Trade Zone Curriculum consists of 12 different trades' workstations, each leading to a certificate upon completion. For each workstation, a curriculum, with full color photographs, guides the student through hands-on activities; provides information about the trade as a career; and introduces trade-specific terminology and usage of equipment.

Each workstation is equipped with an audio cassette player and an audio tape that follows the curriculum word for word to aid in curriculum comprehension. Participants complete a workbook, demonstrating mastery of each curriculum area that can be added to their portfolio along with completion certificate. The curriculum and workstations provide a total learning experience, reinforcing academic concepts and demonstrating real-life applications of math, science, and reading.

COSMETOLOGY
This course is structured to provide comprehensive knowledge and skills in the field of cosmetology through computerized instruction that will help students in developing and learning the basic skills of operations. Students will be instructed in professional ethics, hygiene and grooming, bacteriology, sterilization, sanitation, tools and implements, anatomy and physiology, manicures and pedicures, facial massaging, hairstyling, haircutting, finger waving, permanent waving, etc. in preparation for the State Board Examination.

ELECTRICAL WIRING
This course prepares students in the installation, operation and repairing of electrical wiring, fixtures and apparatus as well as the planning of new and modified installation procedures. Training includes, but is not limited to, general wiring and fundamentals, wire raceway, box sizing, outlets, lightening, heating servicing and feeder calculations, grounding and bonding, over current protection, motor-circuit wiring, transformers and hazardous location wiring, heath care facilities wiring, emergency and alternate power systems wiring and industrial, commercial and special application wiring. Requirement(s): 16 weeks of CTE Mathematics

EMERGENCY MEDICAL TECHNOLOGY (EMT)
This 16-week course is the entry-level position into the field of emergency medical services. Nursing and pre-medical students can benefit from the clinical nature of the EMT program with its hands-on training. The program utilizes the U.S. Department of Transportation National Standard EMT curriculum, emphasizing visual, verbal and tactile learning styles through class lectures, small group discussions and hands-on skill practice.

Requirement(s): 18 hours of Introduction to Healthcare and Allied Services

EMERGENCY MEDICAL TECHNOLOGY BASIC REFRESHER
A refresher course designed for individuals who currently possess an EMT-B license to ensure the EMT-B remains competent and is up-to-date in the field of Emergency Medical services.

EMERGENCY SERVICE DISPATCHERS
Teaching Public Safety Dispatchers (police, fire and ambulance dispatchers) to monitor the location of emergency services personnel from any one or all emergency services jurisdictions.

HOME HEALTH AIDE
A six week (120 hr) training course designed to provide students on how to provide services to in-home clients and to become efficient and caring members of a professional healthcare team. Students will learn how to ensure that the client's basic human needs are met as well as serve as an advocate for the client as a member of the health care team. Requirement(s): 18 hours of Introductory to Healthcare and Allied Services

INDUSTRIAL TRADES ZONE
The Industrial Trade Zone Curriculum consists of 12 different trades' workstations, each leading to a certificate upon completion. Each workstation is equipped with a curriculum of full color photographs that serve to guide students through hands-on activities; provides information about trade careers; and introduces trade-specific terminology and usage of equipment.

Each workstation is equipped with an audio cassette player and an audio tape that follow the curriculum word for word to aid in curriculum comprehension. Curriculum and workstation provide a total learning experience, reinforcing academic concepts and demonstrating real-life applications of math, science, and reading.

MEDICAL INSURANCE BILLING
A course designed to prepare students in medical billing, covering everything from patient registration to claims submission, with an emphasis on HIPAA issues.

PHLEBOTOMY
This course trains students to utilize the necessary scientific principles in the use of appropriate phlebotomy actions that enable students to identify crisis situations and apply the appropriate skills. The students will also be taught how to adapt phlebotomy methods to current developments in related fields.

PLUMBING
An apprenticeship training course that teaches students how to layout, assemble, install and maintain piping fixtures and systems. Students are also introduced to methods of selecting materials and use of required tools for cutting pipes, bending, joining and welding pipes. Requirement(s): 16 weeks of CTE Mathematics

ROBOTICS
The goal of the Microbot robotics curriculum is to introduce participants to robotics and automation. Specific, step-by-step instructions are designed to make complex machines comprehensible. Each lesson is related to solving a problem that might be encountered in the everyday world, making instruction meaningful to participants at any level. Early lessons are very detailed and specific, later becoming more general, relying on the assimilation of previous learning. Once participants learn to program the robot with the Teach Pendant, they move into more complex programs via the Microbot Control Center software and curriculum. A Programmable Logic Controller and Control System Work-Cell provide an opportunity to learn sophisticated applications of robotics and automation.

For information updates, please call (202) 274-7187

WORKFORCE DEVELOPMENT PROGRAM

The University of the District of Columbia, through its Workforce Development Program, meets District residents where they are . . . in life and in the community. The University's Workforce Development Program is designed to provide easy access for District of Columbia residents who have the greatest need for the kind of education and workforce development services that will enable them to acquire and retain good paying jobs.

The primary objective is to encourage residents to enter or re-enter the District of Columbia's public postsecondary educational system and enable them to acquire a good job and improve their quality of life. Students may enroll for workforce development, skills development programs or courses that lead to a degree.

Students gain **opportunity, value and confidence** by simply enrolling in the University's Workforce Development Program at the various satellite sites located throughout the city.

- ***Opportunity:*** students will enhance their quality of life with courses that prepare them to either enter college or transition directly into a career.
- ***Value:*** each student is encouraged to continue their education and training on the University of the District of Columbia's main campus, which provides a cross-section of college disciplines at reasonable and affordable rates . . . for a life-long learning experience.
- ***Confidence***: upon successful completion of the Workforce Development Program, students will be equipped with the necessary skills to move to the next level in life and earn a respectable living with a good paying job or earn a college degree; they will feel proud of their accomplishments and be an asset to their families and their communities.

A key element of the program is that UDC is taking its programs to DC residents in the communities where they live. Access is the key: both in terms of location and cost.

Features
The program features the following elements:
- Locations are easily accessible and in areas of the city with the greatest need.
- An array of University services are provided on site:
  - Assistance completing admissions applications
  - Counseling
  - Testing
  - Emergency health services
  - Academic advising
  - Registration
  - Preparation of ID cards
  - Security
  - Textbooks
  - On site program coordination

- Evening hours so working adults can attend;
- Courses requested by the community;
- Localized publication of information;
- Localized recruitment of students;
- Courses offered at no cost to area residents; and
- Financial aid counseling and other assistance to enable students to continue their UDC education and training.

The program is also designed for people out of high school and includes university classes in a variety of areas, such as Reading Improvement, English Composition, Literature and Advanced Writing, Basic and College Mathematics, General College Mathematics, Spanish, Public Speaking and U.S. History. Workforce Development class offerings in Nursing Assistance and Home Health Aide, Emergency Medical Technician, Heating, Ventilation and Air Conditioning, Carpentry and Drywall, Introduction to Computers, Food Sanitation and a Literacy Lab are also available at the satellite sites.

SCHOOL OF BUSINESS AND PUBLIC ADMINISTRATION

Charlie E. Mahone Jr., Ph.D., Dean
Intelsat Building, Room 7M-104
(202) 274-7000

Professional education in Business and Public Administration should cultivate the intellectual capabilities and expand the knowledge of students who are interested in careers in business and public management. Like the University, the School of Business and Public Administration is devoted to the pursuit of professional knowledge and the search for solutions to the myriad problems besetting our urban community, the nation, and the world.

The goal of the School of Business and Public Administration is to prepare future leaders for local, national, and international institutions. Thus, the programs prepare students to think critically, analytically, and creatively about real-world solutions to complex issues that challenge organizations. These programs also encourage students to work with others in interdisciplinary pursuits to develop collegial and professional skill sets that reflect the School's awareness that the business community requires individuals who are intellectually and technically competent. The School is committed to producing capable business practitioners who are proficient at comprehending the magnitude of business challenges, at synthesizing the dynamics of the environment in which such organizations function, and at crafting viable business solutions.

REQUIREMENTS FOR ALL UNDERGRADUATE BUSINESS STUDENTS

All baccalaureate students, except economics majors, must complete and pass a comprehensive examination covering business courses during their final semester in residence.

A grade of C or better is required in all business courses including Principles of Microeconomics and Macroeconomics.

Department of Accounting, Finance and Economics

Tarsaim L. Goyal, D.Sc., Chairperson
Intelsat Building, Room L-05
(202) 274-7002

FULL-TIME FACULTY

Professors: E.D. Chatman, E. Ezeani, T.L. Goyal, H.G. Quigley, M. Samhan.

Associate Professors: E.S. Green, P. Martin, D.D. Ramsey, E.D. Salmon, B.J. Shah, S. Terrell.

Assistant Professors: D. Green.

The Department of Accounting, Finance and Economics offers courses leading to the Bachelor of Business Administration degree to students who choose to major in Accounting or Finance, and the Bachelor of Arts degree to students who choose to major in

the field of Economics. The Department also offers the Associate's degree in Applied Science to students seeking a two-year degree majoring in Computer Accounting Technology, and the Master of Business Administration degree to students who already hold baccalaureate degrees and wish to pursue advanced degrees with an emphasis in either Accounting or Finance.

The Finance and Accounting baccalaureate degree programs seek to provide students with the knowledge and skills that will be required by the twenty-first century financial and accounting industries. Students attend courses and seminars that acquaint them with the latest concepts in accounting and finance. They are expected to use business calculators and computer programs to solve finance and accounting problems. Seminars provide them with the opportunity to discuss topics in greater depth.

The Bachelor of Arts program in Economics offers students career flexibility. Courses foster an understanding of economic systems while also improving analytical reasoning and cognitive skills. Degree requirements provide an abundance of elective choices that enable majors to become well prepared for whatever follows their undergraduate years. Students may select electives that prepare them for advanced study or employment in such fields as law, business, international relations, or journalism.

The associate degree in Computer Accounting Technology provides the student with skills required for entry-level accounting positions. Students are expected to learn accounting theory and principles and then apply them to contemporary accounting systems. Students are also taught the theory and practice of taxation as it applies to individuals and partnerships in Tax I. Taxation issues for corporations are studied in Tax II. An additional advantage of this program is that all the courses in the program may be applied for credits in the baccalaureate accounting degree program and the Certificate in Accounting.

Students who already have a bachelor's degree in accounting and want to sit for the uniform certified public accountant (CPA) examination may structure their course work in order to sit for the examination and receive the M.B.A. degree.

All programs offered by the Department seek to improve students' oral, written, and presentational skills, thereby enhancing their opportunities for employment and graduate studies. The Department also encourages students to take part in organizations that will develop student leadership and teamwork skills. These organizations include the Business Finance Association, the Accounting Club (a student chapter of the National Association of Black Accountants), or the Economics Club. From time to time the Department sponsors investment clubs and participation in the Federal Reserve Challenge (sponsored by the Federal Reserve,) offering students the chance to apply many of the concepts they have studied in the classroom.

ACCOUNTING PROGRAM

The purpose of the Accounting Program is to prepare students to cope effectively with the challenges they may face in the public, private, or industrial sectors. In addition to the development of competency in the particular skills of accountancy, students acquire a broad background in general business subjects and communication skills.

The Bachelor of Business Administration (B.B.A.) in Accounting requires 130 credit hours: 33 hours are in accounting, 45 in other business subjects, and 52 in general education. Within the 33 credit hours of accounting, students may include an elective in an area of special interest. (Students transferring from other schools may be able to graduate with 127 credit hours with the approval from the Department.)

The BBA Accounting Program is fully accredited by the Association of Collegiate Business Schools and Programs (ACBSP). This certifies that the program is of high quality and meets rigorous ACBSP educational standards.

A student who completes the Accounting Program meets most of the education requirements to sit for the Uniform CPA examination. The CPA examination requires 150 semester hours, and in Maryland an additional 3 hours of Business Ethics (2213 319). For success on the CPA examination, additional accounting electives are recommended for content as well as academic credit. It is also recommended that the CPA candidate engage in a rigorous examination preparation review.

Bachelor of Business Administration in Accounting

Credit Hours of College-Level Courses Required for Graduation: 130

General Requirements:

8800 101	Freshman Orientation	1
1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature and Advanced Writing I	3
1133 212	Literature and Advanced Writing II	3
1535 116	Finite Mathematics	3
1535 215	Calculus for Business, Social and Life Sciences	4
1167 105	Introduction to Logic	3
1171 201	Principles of Psychology I	3
2131 201	Principles of Macroeconomics	3
2131 202	Principles of Microeconomics	3
1119 115	Public Speaking	3
	Natural Science with Lab	8
	Foreign Language	6
	Fine Arts Elective	3

Required Courses:

2207 104	Introduction to Business	3
2201 201	Principles of Accounting I	3
2201 202	Principles of Accounting II	3
2207 208	Business Communications	3
2211 214	Legal Environment of Business	3
2209 220	Business Statistics	3
2209 223	Quantitative Business Techniques	3
2217 120	Computer Applications in Business	3
2201 301	Intermediate Accounting I	3
2201 302	Intermediate Accounting II	3
2213 304	Introduction to Management	3
2209 314	Business Finance	3
2227 304	Introduction to Marketing Management	3

2201 325	Cost Accounting	3
2201 312	Federal Income Tax I	3
2201 401	Auditing I	3
2201 402	Auditing II	3
2217 402	Management Information Systems	3
2201 404	Advanced Accounting	3
2201 407	Accounting Information Systems	3
2213 401	Production and Operations Management	3
2213 409	Organization Theory and Behavior	3
2211 318	Commercial Law	3
2213 419	Business Policy and Strategy	3
2201	Accounting Elective	3
	International Business Elective	3

Additional Comments or Requirements

Transfer students must earn a minimum of 12 credit hours of accounting at UDC. Transfer credits taken at the freshman or sophomore level may be applied to requirements at the junior or senior level only under certain circumstances. Students should consult the Department Chair regarding transfer credit.

COMPUTER ACCOUNTING TECHNOLOGY PROGRAM

The Associate in Applied Science (A.A.S.) degree program in Computer Accounting Technology prepares students to become technicians or accounting clerks and to operate and maintain a computer-oriented general accounting system.

The program trains students to enter the job market in semi-professional categories. The program also provides students with the background necessary for matriculation into the bachelor's program in accounting. The use of cooperative job assignments is encouraged to provide students with practical accounting experience.

The A.A.S. Computer Accounting Technology program is fully accredited by the Association of Collegiate Business Schools and Programs (ACBSP). This certifies that the program is of high quality and meets rigorous ACBSP educational standards.

Associate in Applied Science in Computer Accounting Technology

Credit Hours of College-Level Courses Required for Graduation: 63

General Requirements:

8800 101	Freshman Orientation	1
1133 111	English Composition I	3
1133 112	English Composition II	3
1167 105	Introduction to Logic	3
1535 116	Finite Mathematics	3
1535 215	Calculus for Business, Social and Life Sciences	4
	Natural Science with Lab	4
2131 201	Principles of Macroeconomics	3

Required Courses:

2217 120	Computer Applications in Business	3
2207 104	Introduction to Business	3
2201 201	Principles of Accounting I	3
2201 202	Principles of Accounting II	3
2201 215	Automated Accounting	
	or	
2201 407	Accounting Systems and Data Processing	3
2201 301	Intermediate Accounting I	3
2201 302	Intermediate Accounting II	3
2201 312	Federal Income Tax I	3
2201 325	Cost Accounting	3
2201	Two Accounting Electives	6
2211 214	Legal Environ of Business	3
2211 318	Commercial Law	3

Additional Comments or Requirements

A grade of "C" or better is required in each SBPA course. To satisfy the University-wide mathematics requirement, the student is advised to take 1535 116 and 1535 215. However, with prior written approval of the Department Chair, other mathematics courses may be accepted.

An accounting elective may be selected from 2201 401, 402, 405, 406.

With prior written approval of the Department Chair, a student may substitute 2209 314, Business Finance, for one of the two accounting electives.

Certificate in Accounting

This certificate program offers a broad exposure to the principles within the profession of accounting and a framework of accounting practices. Upon completion of required courses, with a "C" or better, students earn a certificate of completion. The credits may also count toward an Associate of Applied Science in Accounting (A.A.S.).

Required Courses:

2201 201	Principles of Accounting I	3
2201 202	Principles of Accounting II	3
2201 301	Intermediate Accounting I	3
2201 302	Intermediate Accounting II	3
2201 325	Cost Accounting	3
2201 406	Governmental and Fund Accounting (or approved Elective)	3
2201	Electives in Accounting	6

FINANCE PROGRAM

The program in Finance leads to a Bachelor of Business Administration (B.B.A.) degree. The concentration in Finance presents an integrated treatment of the operational aspects of business financing and investments, and the functions of financial organizations. It also examines the interaction of government and business with respect to financial development and controls.

The program leads to careers in corporate financial management, commercial banking, thrift institution administration, mortgage lending, brokerage of securities, real estate, insurance, financial counseling, and investment management, or to government careers in regulatory agencies and budgeting. An understanding of

business statistics leads to careers in business research, operations research, as well as staff advisory to top management.

The course of study is designed to combine a broadly conceived professional curriculum with a business core education. Students majoring in Finance are required to complete 130 credit hours for graduation, of which 27 hours are major courses, 51 hours are in other business subjects, and 52 are in general education courses. (Students transferring from other schools, may be able to graduate with 127 hours with the approval from the Department.)

The B.B.A. Finance program is fully accredited by the Association of Collegiate Business Schools and Programs (ACBSP). This certifies that the program is of high quality and meets rigorous ACBSP educational standards.

Bachelor of Business Administration in Finance

Credit Hours of College-Level Courses Required for Graduation: 130

General Requirements:

8800 101	Freshman Orientation	1
1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature and Advanced Writing I	3
1133 212	Literature and Advanced Writing II	3
1535 116	Finite Mathematics	3
1535 215	Calculus for Business, Social and Life Sciences	4
1119 115	Public Speaking	3
1171 201	Principles of Psychology I	3
2131 201	Principles of Macroeconomics	3
2131 202	Principles of Microeconomics	3
1167 105	Introduction to Logic	3
	Natural Science with Lab	8
	Foreign Language	6
	Fine Arts Elective	3

Required Courses:

2207 104	Introduction to Business	3
2201 201	Principles of Accounting I	3
2201 202	Principles of Accounting II	3
2217 120	Computer Applications in Business	3
2207 208	Business Communications	3
2209 214	Personal Finance	3
2209 220	Business Statistics	3
2209 223	Quantitative Business Techniques	3
2209 306	Finance & Fiscal Policy	3
2209 307	Money and Banking	3
2209 318	International Finance	3
2209 314	Business Finance	3
2209 411	Financial Management I	3
2209 412	Financial Management II	3
2209 414	Security Analysis	3
2209 416	Financial Institutions and Capital Markets	3
2211 214	Legal Environment of Business	3
2211 318	Commercial Law	3
2213 304	Introduction to Management	3
2227 304	Introduction to Marketing Management	3
2213 409	Organization Theory and Behavior	3
2213 414	Production and Operations Management	3
2217 402	Management Information Systems	3
	Business Elective	3
2209/2201	Business Finance/Accounting Elective	3
2213 419	Business Policy and Strategy	3

Additional Comments or Requirements

Courses 2131 201 and 202 must be taken to satisfy University-wide social science requirements. Courses 1535 116 and 1535 215 must be taken to satisfy University-wide mathematics requirements for Business majors.

A grade point average of 2.00 is required for graduation. Students not continuously enrolled are subject to the graduation requirements current at the time of re-enrollment.

ECONOMICS PROGRAM

The major in Economics leads to the Bachelor of Arts (B.A.) degree. The objectives of the program are to increase economic literacy about how economic systems produce, distribute, and allocate resources; to develop an understanding of contemporary national and international economic events; to develop competencies in analyzing urban problems, particularly those related to employment, housing, and the economic conditions of African Americans and other minorities; to broaden students' knowledge of economics in areas related to their special interests and career opportunities; to develop capacities of students to do independent analysis, research, and field work in economics; and to establish theoretical and analytical tools necessary for graduate study in economics and other fields such as law or business.

The Economics Program has a large number of electives so that students can tailor their education to fit their careers. Electives can be used for courses that will lead to direct employment, law school, an M.B.A. program, or many other alternatives. Students who plan to pursue an M.A. program or higher in economics are strongly advised to take contemporary quantitative tools of analysis, which include statistics and calculus. The student adviser can recommend the proper levels of these quantitative courses.

Bachelor of Arts in Economics

Credit Hours of College-Level Courses Required for Graduation: 120

General Requirements:

8800 101	Freshman Orientation	1
1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature & Advanced Writing I	3
1133 212	Literature & Advanced Writing II	3
1535 113	Precalculus w/Trigonometry I	3
1535 114	Precalculus w/Trigonometry II	3
	(Student may take 1535 116 and 1535 215 in lieu of 1535 113 and 1535 114)	
	Philosophy	3

	Natural Science with Lab Elective	8
	Foreign Language	6
	Fine Arts Elective	3
	Speech, Health, Physical Education or Natural Science	3
2131 201	Principles of Macroeconomics	3
2131 202	Principles of Microeconomics	3

Required Courses:

2209 306	Price Theory	3
2209 308	Finance and Fiscal Policy	3
2209 318	International Finance	3
2131 499	Seminar	3
2131	Electives* (300 or higher)	12
2209 220	Business Statistics	3
2209 223	Quantitative Business Tech	3
	Electives in any area	42

**Certain 2209 courses may be used to satisfy these electives. See Department Chairperson*

Additional Comments or Requirements

A minimum grade point average of 2.50 in economics courses is required for graduation. After taking a course beyond Principles of Economics, the principles courses may not be repeated for a higher grade.

Courses 2209 306 and 2209 308 may be transferred from another accredited institution only after the student passes a proficiency examination administered by the Department Chair. Course 2131 499 may not be transferred by proficiency and must be taken in residence.

Any economics course, with the exception of 499 (Senior Seminar), may be taken by proficiency examination. Students receive credit, but not a grade, when this option is selected.

COURSE DESCRIPTIONS

2201 201 Principles of Accounting I (3)
First half of the elementary accounting year should be followed immediately by 2201 202. Includes the principles of accrual-basis accounting, the accounting cycle, merchandising transactions, treatment of inventories, cash, internal control, receivables, plant assets, and other topics. Prereq.: Completion of all prescribed developmental courses. Prereq. or Coreq.: 2207 104 with a grade of C or better.

2201 202 Principles of Accounting II (3)
Second half of the elementary accounting year. 2201 201 and 202 should be taken consecutively. Includes accounting for corporations, long-term debt, the Statement of Cash Flows, financial statement analysis, cost accounting, cost/volume/profit analysis, incremental analysis, operational and capital budgeting, and other topics. Prereq.: 2201 201 with a grade of C or better.

2201 204 Accounting Methods (3)
Surveys accounting cycle, concepts of accounting for proprietorships, partnerships, and corporations. Limited to applicants for admission to the graduate division.

2201 215 Automated Accounting (3)
Studies the operation and maintenance of an automated system of accounting. Specific accounting problems will be assigned, from journalizing transactions through financial statement preparation to requiring solutions using a computer which uses programmed learning modules. This course is for Associate Degree students. Prereq.: 2201 202.

2201 301 Intermediate Accounting (3)
Reviews the basic accounting concepts and principles beginning with an overview of the balance sheet and income statement, financial statement preparation, working capital, and current assets. Advanced study of non-current assets and compound interest, annuities, and present value. Prereq.: 2201 202.

2201 302 Intermediate Accounting II (3)
Studies analytical processes, including statements from incomplete records, financial statement analysis, cash-flow reporting, and price-level changes, and accounting for pensions and leases. Prereq.: 2201 301.

2201 312 Federal Income Tax I (3)
Examines the Federal Income Tax laws as they apply to individuals; tax consequences of business decisions and accounting procedures. Prereq.: 2201 202.

2201 325 Cost Accounting (3)
Analyzes accounting for manufacturing costs, including job order costs, continuous process costs, and standard systems. Principles of budgeting for use in profit planning and control. Prereq.: 2201 202.

2201 401 Auditing I (3)
Surveys auditing standards and practices. Reviews internal control systems, procedures for audit verification of accounts and financial statements, preparation of auditing working papers, and audit practice cases. Prereq.: 2201 302.

2201 402 Auditing II (3)
Provides advanced study of contemporary auditing practice and theory, problems in auditing and financial statement presentation, audit sampling, and auditing computerized accounting systems. Prereq.: 2201 401.

2201 404 Advanced Accounting (3)
Studies partnerships: installment sales; consignments; fiduciary accounting; business combinations; actuarial methods; business consolidations; mergers; accounting for foreign currency transactions; equity and cost methods of subsidiary investments and reporting for segments of a business enterprise. Prereq.: 2201 302.

2201 405 Accounting Theory (3)
Discusses contemporary theory, principles, practices, and controversies in financial accounting; specific areas include income reporting, price level changes, cash flows, inventories, depreciation, accounting for income tax expenses, and equities. Prereq.: 2201 302.

2201 406 Governmental and Fund Accounting (3)
Studies fund accounting for governmental and non-profit entities, including appropriations, encumbrances, and fund transfers; the planning and budgeting cycle; agency accounting; municipal budgeting and accounting. Prereq.: 2201 301.

2201 407 Accounting Information Systems (3)
Examines modern accounting systems with emphasis on information technology, including basic concepts and standards, accounting equipment and procedures, sales and cash collection, accounts receivable, inventories, payrolls, etc. Prereq.: 2201 302.

2201 408 CPA Problems (3)
Analyzes and discusses problems from recent uniform certified public accountants examinations in three areas: accounting practice, auditing, and accounting theory. Prereq.: 2201 401.

2201 412 Federal Income Tax Accounting II (3)
Continues 2201 312, including income taxes applicable to partnerships and corporations; foreign taxpayers; estate taxes; gift taxes; and procedures of the Internal Revenue Service. Prereq.: 2201 312.

2201 426 Managerial Accounting (3)
Studies uses of accounting data by management in planning and controlling business activities of the firm. Covers the nature, preparation, analysis, and interpretation of accounting reports; cost accounting; capital budgeting; and internal controls and their use in the management decision process. Prereq.: 2201 302 and 2201 325.

2131 201 Principles of Macroeconomics (3)
Introduces supply and demand, income and employment theories. Analyzes the causes of inflation and unemployment, and the policy alternatives for affecting macroeconomic change. Discusses the institutional arrangements of a market economy.

2131 202 Principles of Microeconomics (3)
Analyzes theories of consumer behavior, production costs, and decision making by individuals and firms. Looks at price and output determination under different market conditions. Discusses factor markets and income distribution.

2131 305 Topics in Applied Economics (3)
Applies the theoretical tools of the economics principles sequence to specific situations. Prereq.: 2131 20l and 202.

2131 326 Labor Economics (3)
Examines theoretically the variables that determine the demand and supply of labor. Also focuses on labor practices, such as union organization, fair labor practices, and collective bargaining. Prereq.: 2131 201, 202.

2131 345 Economic History of the United States (3)
Traces the development of the economy and economic institutions of the United States. Emphasizes the contributions of African Americans to the process of economic development. Prereq.: 2131 201, 202.

2131 355 Economic Development (3)
Examines various competing theories of development and underdevelopment, as well as alternative strategies and policies to achieve more rapid sustained growth in the less developed countries. Prereq.: 2131 201, 202.

2131 499 Seminar (3)
Detailed examination of the seminar topic. Each student is required to do significant research in the topic and to participate actively in seminar discussion. Original paper required. Prereq: 2209 306, 2209 308.

2209 214 Personal Finance (3)
An introduction to financial concerns of the household including the concepts of budgeting, credit management and net worth. It also examines: insurance issues, individual taxation, home acquisition, investment analysis, and retirement and estate planning. Also addressed are the time value of money and the relevance of the economic environment on financial and employment decisions.

2209 220 Business Statistics (3)
Analyzes graphical and tabular methods of representing data; measures of location and variation; elementary probability concepts; probability distributions; and index numbers and their uses. Prereq.: College level Mathematics.

2209 223 Quantitative Business Techniques (3)
Examines sampling and statistical inference (estimation and hypothesis chi-square testing); simple regression and correlation analysis; introduction to multiple regression analyses; remedial actions; analyses of computer outputs; time series analyses; and linear programming and decision theory. Prereq.: 2209 220.

2209 304 Business Cycles and Forecasting (3)
Studies cyclical and secular instability, theories of business cycles, problems of controlling economic instability, and techniques of forecasting. Prereq.: 2131 202, 2209 223.

2209 306 Price Theory (3)
Examines microeconomics theory, economics process in the free enterprise system; determination of price and output in different market structures; the prices of factors of production; models of consumer behavior; emphasis on theory as an aid in decision-making. Prereq.: 2131 202.

2209 307 Money and Banking (3)
Examines money, credit, and the impact of public policy in financial and consumer markets; policies, structures, and functions of the Federal Resource System; influence of monetary controls on the economy and the business firm. Prereq.: 2131 202.

2209 308 Finance and Fiscal Policy (3)
Examines macroeconomic theory interprets the flow of expenditure and income and their impact upon national income and price levels; consideration of possible stabilization controls; impact of fiscal policy on business financing. Prereq.: 2131 202.

2209 314 Business Finance (3)
An introduction to concepts used in business financial decisions. Concepts covered include the analysis of financial statements and cash flows, the time value of money, and the capital budgeting decision. The student is introduced to the money and capital markets and the valuation of securities traded in these markets. The student is also introduced to working capital management and interest rate computations. Prereq.: 2201 202.

2209 315 Principles of Risk and Insurance (3)
Studies the theory and legal aspects of insurance; personal and business risks; life, accident, and health insurance; fire and casualty, automobile, and marine insurance; the quantitative measurement of risk. Prereq.: 2209 314.

2209 316 Real Estate Finance (3)
Examines the buying, selling, and financing of real estate. Topics emphasized are: real estate/personal and business; basic legal

principles; construction problems; sources of real estate financing; the nature of real estate transactions; and consumer protection. Prereq.: 2209 314.

2209 317 Public Finance (3)
Studies the allocation and distribution aspects of government budget policy; government expenditures, taxation, and debt management are discussed and analyzed. Prereq.: 2131 202.

2209 318 International Finance (3)
Applies the theory and mechanics of international trade and finance; the role of the international financial institutions in stabilizing exchange rates and promoting world trade, and lesser developed countries' financial problems. Prereq.: 2131 202.

2209 404 Managerial Economics (3)
Applies microeconomic theory to decision-making by the business firm. Problem solving in the areas of demand, production, cost, profit, investments, and inventories. Prereq.: 2209 220, 2209 306.

2209 411 Financial Management I (3)
An in-depth examination of financial planning and forecasting, risk and rates of return, and interest rates relevant to the financial environment. The cost of capital, capital structure and leverage, and hybrid financing techniques are introduced. Advanced capital budgeting concepts are addressed, and derivatives and multinational considerations are introduced. Prereq.: 2209 314.

2209 412 Financial Management II (3)
Examines the role of the financial manager in executive decision-making by the application of concepts studied in prerequisite accounting and finance courses. Concepts covered include: financial analysis and forecasting, cost of capital, capital budgeting, equity management decisions, capital structure, hybrid financing, and enterprise valuation. The course relies exclusively on case studies. Prereq.: 2209 411.

2209 414 Security Analysis (3)
Analyzes the selection and management of investments; investment programs; sources of investment information; security price movements; risk; and industry characteristics. Prereq.: 2209 314.

2209 415 Portfolio Analysis (3)
Researches and analyzes investment problems and techniques of selection and management of various types of funds. Discussion of stocks, bonds, derivatives as they relate to portfolio development. Prereq.: 2209 414 or permission of Department Chair.

2209 416 Financial Institutions and Capital Markets (3)
Examines the process of capital formation in a free enterprise economy; the role of commercial banks and financial intermediaries as sources of short-term and long-term financing; and, the role of government regulatory agencies. Bank management issues, such as, bank lending, investments, and capital are emphasized. Prereq.: 2209 314.

2209 495 Independent Study (3)
Independent study of selected topics in economics or finance under the supervision of a faculty member of the department. Prereq.: Permission of Department Chairperson.

Department of Management, Hospitality and Graduate Studies

Hany Makhlouf, Ph.D., Chairperson
Intelsat Building, Room 7M-118
(202) 274-7001

FULL-TIME FACULTY

Professors: P. Bachman, A. Joseph, D. Lyons, H.H. Makhlouf, A.H. Nowell.
Associate Professors: J. Ndumbe Anyu, J. Ramey, M. Tannen.

The Department of Management, Hospitality, and Graduate Studies offers programs and courses leading to the following graduate, baccalaureate and associate degrees:

Master of Business Administration, Master of Public Administration, Bachelor of Business Administration in Business Management, Associate in Applied Science in Business Technology, and an Associate in Applied Science in Hospitality and Tourism. One year certificate is offered in Entrepreneurship.

MANAGEMENT PROGRAM

The Bachelor of Business Administration (B.B.A.) in Management is designed to prepare students for careers in business by presenting management concepts, techniques, and approaches as they apply to the leadership and operation of small, medium-size, and large or global enterprises. Emphases are placed on planning, organizing, decision-making, human resources management, leadership, operations management, and international business.

Bachelor of Business Administration in Management

Total Credit Hours of College-Level Courses Required for Graduation: 127

General Requirements:

8800 101	Freshman Orientation	1
1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Lit. and Adv. Writing I	3
1133 212	Lit. and Adv. Writing II	3
1535 116	Finite Mathematics	3
1535 215	Calculus for Business, Social and Life Sciences	4
1119 115	Public Speaking	3
	Natural Science with Lab	8
	Foreign Language	6
	Fine Arts Elective	3
	Philosophy Elective	3
2131 201	Principles of Macroeconomics	3
2131 202	Principles of Microeconomics	3
1171 201	Principles of Psychology I	3

Core and Major Requirements:

2207 104	Introduction to Business	3
2201 201	Principles of Accounting I	3

2201 202	Principles of Accounting II	3
2209 220	Business Statistics	3
2209 223	Quantitative Business Techniques	3
2217 120	Computer Applications in Business	3
2211 214	Legal Environment of Business	3
2211 318	Commercial Law	3
2207 208	Business Communications	3
2213 304	Introduction to Management	3
2227 304	Introduction to Marketing Management	3
2213 305	Conceptual Foundations of Business	3
or		
2213 319	Business Ethics	3
2213 306	Human Resources Management	3
2209 314	Business Finance	3
2213 307	Labor-Management Relations	3
or	Business Elective	3
2213 406	Decision Theory	3
2213 409	Organization Theory and Behavior	3
2213 414	Productions and Operations Management	3
2550 490	Practicum/Internship	
or	Business Management Elective	3
2213-411	Leadership	3
	Business and Management Electives	6
	International Business Elective	3
2217 402	Management Information Systems	3
2213 419	Business Policy and Strategy	3

Additional Comments or Requirements

The required mathematics courses are: 1535 116, Finite Mathematics and 1535 215, Calculus for Business, Social, and Life Sciences. Business electives must be taken at the 300- or 400-level. A grade of "C" is required in all business courses, including Principles of Microeconomics and Macroeconomics. This major includes optional areas of concentration in International Business, Labor Relations and Human Resources Management, and Management Information Systems.

BUSINESS TECHNOLOGY PROGRAM

The Associate in Applied Science (A.A.S.) degree program in Business Technology is designed to provide students with the knowledge required for entry-level positions in business, industry, and government. It provides the essential skills needed for business start-ups and the operation of small business enterprises. Courses taken in this program may be applied toward the Bachelor of Business Administration degree programs.

Associate in Applied Science in Business Technology

Credit Hours of College-Level Courses Required for Graduation: 62-63

General Requirements:

8800 101	Freshman Orientation	1
1133 111	English Composition I	3
1133 112	English Composition II	3
1535 116	Finite Mathematics	
or		
1535 117	Business Mathematics I	3
1535 118	Business Mathematics II	3
or		
1535 215	Calculus for Business, Social and Life Sciences	4
1119 115	Public Speaking	3
	Natural Science with Lab	4
	Fine Arts Elective	3
2131 201	Principles of Macroeconomics	3

Major Requirements:

2207 104	Introduction to Business	3
2211 214	Legal Environment of Business	3
2207 208	Business Communications	3
2219 221	Supervision	3
2201 201	Principles of Accounting I	3
2201 202	Principles of Accounting II	3
2131 202	Principles of Microeconomics	3
2219 246	Salesmanship Principles and Practices	3
2217 120	Computer Applications in Business	3
2209 220	Business Statistics	3
1171 201	Principles of Psychology I	3
	Business Elective	3

Additional Comments or Requirements

Mathematics courses recommended for students who may be interested in pursuing the Bachelor of Business Administration Degree after completion of the A.A.S. degree requirements are: 1535 116 and 1535 215.

HOSPITALITY MANAGEMENT AND TOURISM PROGRAM

The Associate in Applied Science (A.A.S.) in Hospitality Management and Tourism is designed to provide students with the knowledge and skills needed for entry level professional positions in the hospitality industry. The program develops an understanding of planning, organizing, leading, and control issues in hospitality service organizations, including hotels and restaurants. It also exposes students to the legal and marketing aspects in hospitality service organizations. It is designed for three groups of students: (1) those who would like to start their careers in the hospitality industry, (2) those already employed in hospitality service organizations but would like to add to their knowledge and skills, and (3) those interested in a career change.

Credit Hours for College-Level Courses Required for Graduation: 65

General Requirements:

8800 101	Freshman Orientation	1
1133 111	English Composition I	3
1133 112	English Composition II	3
1535 117	Business Mathematics I	3
1535 118	Business Mathematics II	3
1171 201	Principles of Psychology	3
	Foreign Language Electives	6
	Natural Science Elective	4

Major Requirements

2207 208	Business Communications	3
2214 104	Intro to the Hospitality Industry	3
2214 204	Intro to Hotel Management	3
2214 206	Food and Beverage Mgmt	3
2214 208	Restaurant Management	3
2214 210	Intro to Hospitality Marketing	3
2214 212	Cost Control in Hospitality Industry	3
2214 214	Facilities and Housekeeping Management	3
2214 216	Law as Related to the Hospitality Industry	3
2214 218	Hospitality Accounting	3
2219 221	Supervision	3
or	Business Elective	3
2214 290	Internship	3
	Computer Applications in Business	3

CERTIFICATE IN ENTREPRENEURSHIP

This certificate program in Entrepreneurship offers a broad exposure to the business world through a selected set of courses which can be completed in one year. Students, regardless of their major, may enroll in this program and earn a Certificate of Completion. The credits earned may also count toward an associate or a baccalaureate degree in business administration. A minimum of a "C" is required in all courses.

Requirements

2207 104	Introduction to Business	3
2201 201	Principles of Accounting I	3
2217 120	Computer Applications in Business	3
2211 204	Legal Environment of Business	3
2219 208	Principles of Finance (or 2209 314)	3
2219 221	Supervision (or 2213 304)	3
2219 246	Salesmanship Principles and Practices (or 2227 304)	3
2213 308	Entrepreneurship	3

COURSE DESCRIPTIONS

2213 304 Introduction to Management (3)
Examines the concepts and principles of management; evolution of management thought; principles and methods of planning, organizing, leading, and controlling; types of plans; leadership and decision making styles; approaches to the improvement of managerial and employee performance; systems-oriented management; and the impact of computer technology on the management process. Prereq.: 2207 104.

2213 305 Conceptual Foundations of Business (3)
Examines the ideological and philosophical background of the private enterprise system that forms the basis for its values and outlook and determines its place in ever-changing society. Topics include the social responsibility of business, business-government relations, and business ethics. Prereq.: 2207 104.

2213 306 Human Resources Management (Personnel Management) (3)
Examines the policies governing human resources management; human resources planning; strategies for acquiring and maintaining human resources; the personnel functions of recruitment, selection, testing, compensation, training development, and promotions and transfers. Also, personnel research programs and activities, the legal environment of human resources management, equal opportunity policies, job analysis, evaluation and classification, and reduction-in-force procedures. Prereq.: 2213 304 or equivalent.

2213 307 Labor-Management Relations (3)
Discusses the evolution of labor unions and collective bargaining, negotiation of collective bargaining agreements, agreement administration, settlement of labor disputes, and the legal environment of collective bargaining. Prereq.: 2213 304 or equivalent.

2213 308 Entrepreneurship (3)
Examines and analyzes the small business sector in the American economy; the processes of establishing and managing a small business enterprise; problems associated with small business planning, financing, and staffing; and survival and growth strategies for small businesses. Prereq.: 2213 304.

2213 309 Introduction to E-Commerce: Business on the Internet (3)
This course consists of five sections: Section 1-Introduction to Electronic Commerce; Section 2-Personal and business services online; Section 3-Buying online; Section 4-Doing business on the web; and Section 5-Developing an electronic commerce web site. In class exercises and work on the computer/internet are critical and integral parts of this course. Prereq.: 2207 104 and a computer applications course.

2213 319 Business Ethics (3)
Provides an overview of business ethics and decision-making codes of ethics, ethical conduct in different business situations, ethical issues surrounding conflict of interest in business relations, and factors influencing ethical conduct.

2213 406 Decision Theory (3)
Discusses theories, methods, and quantitative techniques of management analysis and decision-making in business, industrial, and governmental organizations as applied to specific management functions and situations. Topics include the establishment and management of decision support systems. Prereq.: 2209 223.

2213 407 Multinational Corporate Management (3)
Examines the processes of planning, organizing, and control in global enterprises; the problems that confront multi-national corporate managers; and the impact of the domestic and international environments on the operations of multinational firms. Prereq.: 2213 304.

2213 409 Organization Theory and Behavior (3)
Studies organization theories, concepts, and structures; individual and group behavior; the communication process; leadership; conflict management; motivation; problems of reorganization; and management of change. Prereq.: 2213 304.

2213 411 Leadership (3)
Basic theories, principles, and strategies of creative and effective leadership in multiple business environments and situations. Prereq.: Senior Standing.

2213 413 Organizational Interpersonal Communication (3)

Examines the components and models of communication, communication and organizational integration, impact of communication on organization climate, analysis of communication structures and systems, individual and group communication problems, communication and goal attainment, and the development of interpersonal communication skills. Prereq.: 2213 304

2213 414 Production and Operations Management (3)

Covers the establishment of production systems, methods of production planning and scheduling, automated production systems, and approaches to production control and quality assurance. Prereq.: 2209 223.

2213 416 Compensation Management (3)

Explores career development programs, management of training and development programs, human resources requirements planning, labor cost trends, compensation systems in the private and public sectors, pay structures, methods of job/position classification, job evaluation, legal aspects of wage and salary administration, management of benefit programs, and research methods in career and compensation management. Prereq.: 2213 304.

2213 417 Management of External Communication Systems (3)

Covers the fundamental principles and practical application of external organizational communication theory with emphasis on the design and use of various means of message exchange between management and external groups/organizations. Topics include the public relations process, the nature of persuasive communication, corporate image building, external communication strategy, and ethical considerations in external communication. Prereq.: 2213 304.

2213 419 Business Policy and Strategy (3)

Applies the skills acquired in prior courses through an integrated approach to the development of business policy and strategy. Cases and exercises in establishing, presenting, defending, and publishing business policy and strategy. Prereq.: Limited to business students in final semester before graduation.

2213 495 Independent Study (3)

Studies a particular problem or topic in business management under the direction of a faculty member. Maximum of three credit hours for each student degree program. Prereq.: Senior standing and GPA of 2.8 or higher.

2214 104 Introduction to the Hospitality Industry (3)

A comprehensive examination of the hospitality industry. Special attention is directed at developing an understanding of the hospitality industry's evolution, characteristics, importance, socio-political environment, and current/future trends.

2214 204 Introduction to Hotel Management (3)

Examines the functions of management applied to hotels, motels and other lodging establishments. Topics include hotel/motel planning, the internal organization structure of different types of hotels and motels, functions performed within all major departments, the establishment and implementation of coordinating procedures, international standards in hotel/motel facilities and services, and the application of the systems approach in hotel/motel operations. Prereq.: 2214 104.

2214 206 Food and Beverage Management (3)

Covers the types and designs of food and beverage service systems; factors in the selection and purchasing of food items and beverages; storage and inventory management; cost-price analysis; pricing decision; the human element in food and beverage service systems; interaction with other units in hotel/motel systems; food production equipment acquisition; menu development principles; management control methods; and quality assurance. Prereq.: 2214 104.

2214 208 Restaurant Management (3)

Examines the principles and techniques applicable to the management of different types of food service organizations. Topics include restaurant planning, market research, financial feasibility, internal organization structure, staffing requirements, menu management, pricing, promotion management, food safety and health regulations, and quality assurance methodology. Prereq.: 2214 104.

2214 210 Introduction to Hospitality Marketing (3)

Introduces marketing principles and techniques utilized in the hospitality industry, the planning and execution of marketing strategies and other marketing plans in hotels, motels, restaurants, and tourism-related businesses. Prereq.: 2214 104.

2214 212 Cost Control in the Hospitality Industry (3)

Focuses on the approaches to cost analysis, evaluation, and containment in the hospitality industry. Productivity and efficiency improvement measures in the operations of hospitality service organizations. Prereq.: 2214 104.

2214 214 Facilities and Housekeeping Management (3)

The management of facilities and household operations in hotels, including room preparation, cleaning, guest services, security, and maintenance. Prereq.: 2214 104.

2214 216 Law as Related to the Hospitality Industry (3)

Reviews hotel, motel, restaurant, and tourism law, to develop an understanding of the responsibilities the law imposes on the hospitality industry. Topics include the legal obligations to guests/customers and employees, and contract law. Prereq.: 2214 104.

2214 218 Hospitality Accounting (3)

Presents an analysis of accounting systems and controls typically used in the hospitality industry. A survey of the major managerial accounting principles and techniques such as working capital management, case forecasting and budgeting, interpretation of financial statements, and cash flow analysis. Emphasis is placed on formalized reporting for managerial effectiveness. Prereq.: 2214 104.

2214 222 Computer Application in the Hospitality Industry (3)

Examines the implementation and utilization of computer-based decision support systems in hospitality service organizations; computer applications in hotel, motel, restaurant, and tourism/travel-related business sub-unit operations and functions; and the management of hospitality service information systems. Prereq.: 2214 104.

2214 290 Internship (1)
This course is designed to provide students with an opportunity to develop and/or increase their professional competencies and skills. Students accomplish this by performing an internship in a work place setting they are most likely to be employed in through their major field of study and by attending a weekly seminar which discusses various professional development topics.

2219 209 Small Business Management (3)
Reviews small business planning and organization, as well as the development of practical marketing strategies, management approaches, cash flow analysis, and profit/loss projections. Basic management principles are related to case studies of various types of small business.

2219 221 Supervision (3)
Covers supervisory management, managing scarce resources, planning tools, decision-making and implementation, team building, evaluating work and job performance, managing information, results evaluation, managing diversity, employee development, discipline, communication, and leadership requirements.

2219 232 Case Studies in Human Resources Management (3)
Examines case studies in human resources management. Emphasis on the identification and resolution of employment and job-related problems which influence employee productivity and morale. Prereq.: 2219 221.

2219 246 Salesmanship Principles and Practices (3)
Covers principles of salesmanship, including prospecting, pre-approach, closing, self-management, sales preparation, and demonstration techniques.

2219 254 Computer Applications in Human Resources Management (3)
Provides students with advanced skills in the microcomputer and software packages applied to human resources management functions.

2219 295 Independent Study (3)
Independent study under the supervision of a faculty member with prior approval of Department Chairperson.

2215 304 Modern Public Management (3)
Reviews techniques and principles relevant to the implementation of public policies and programs and the management of complex public service organizations. Analysis of problems and case studies focusing on the managerial functions of planning, organizing, leading, and controlling.

2215 305 Public Human Resources Management (3)
Examines human resources planning, recruitment, selection, compensation, training and development in public organizations; job analysis and evaluation; labor relations; performance evaluations; and productivity analysis.

2215 308 Issues in Public Management (3)
A research seminar on the current issues facing managers of para-governmental organizations, government agencies, and non-profits groups. Prereq.: 2213 304.

2215 419 Public Policy (3)
Examines processes involved in public policy analysis, development, and implementation. Analyzes problems and issues in policy execution at various levels of government.

GRADUATE PROGRAM IN BUSINESS ADMINISTRATION

The Master of Business Administration (M.B.A.) Program is designed to prepare graduate students for leadership roles in business and industry. Though the emphasis is on providing a broad understanding of business concepts, the curriculum is designed to allow modest specialization in an area of emphasis.

As a professional degree program, the M.B.A. program develops participants' level of skills, knowledge, and attitudes to prepare them for responsibilities as leaders and managers. The program addresses the professional development needs of students with baccalaureate degrees in diverse fields such as liberal arts, sciences, engineering, or other areas, as well as those having an undergraduate major in business.

Master of Business Administration (M.B.A.)

Admission Requirements
To be admitted to the graduate program, an applicant must demonstrate promise of success as determined by various measurements, which include the following:

1. A baccalaureate degree conferred by an accredited institution.
2. A minimum of 2.5 grade point average on a 4.0 scale.
3. An indication of potential for satisfactory work at the graduate level.
4. An official score report of the Graduate Management Admission Test (GMAT).

Degree Requirements
The M.B.A. degree is earned by the completion of a program of study consisting of prerequisites, core courses, and area of emphasis requirements. The pre-requisites are foundation courses which are waived if the student has successfully completed similar courses in the undergraduate program or prior to the submission of a graduate application.

Prerequisites
The following courses, or their equivalent, fulfill the prerequisite requirement:

2201 201	Principles of Accounting I	3
	or	
2201 204	Accounting Methods	3
2209 314	Business Finance	3
2211 214	Legal Environment of Business	3
2209 220	Business Statistics	3
2213 414	Production and Operations Management	3
2213 304	Introduction to Management	3
2227 304	Introduction to Marketing Management	3
2131 201	Principles of Macroeconomics	3
2131 202	Principles of Microeconomics	3

International students applying to the M.B.A. program with bachelor's degrees in business from abroad are required to complete the following undergraduate courses before registering for M.B.A. courses:

2209 314	Business Finance
2211 214	Legal Environment of Business

Comprehensive Examination

Each candidate is required to pass a written comprehensive examination which is normally taken during the final semester of the student's degree program. The application submission deadline is October 15th for the Fall examination; March 15th for the Spring examination.

Thesis Option

The submission of an acceptable thesis, in lieu of six credit hours of course work, may be approved where the particular objectives make such an option appropriate.

Transfer of Credits

A maximum of nine credit hours may be granted for courses completed satisfactorily within the prior five years with grades of "B" or better at an accredited college or university. Transfer credits cannot be a part of a previously-earned degree.

Program Description

The M.B.A. degree is earned after the completion of a program consisting of 36 credit hours approved by the candidate's advisor. The program consists of courses in the core area and courses in a selected area of emphasis. The course of study can be completed by a full-time student in three semesters if the undergraduate degree was earned in business administration. The time for completion may extend to approximately two-and-one-half years if the undergraduate degree was earned in a field other than business administration. In that case, certain foundation courses in business administration are required.

Core Courses: Required of all M.B.A. candidates

2201 504	Accounting for Management Functions	3
2227 503	Business Research Methods	3
2217 507	Management Information Systems	3
2209 526	Quantitative Business Methods	3
2213 506	Management Theory and Practice	3
or		
2213 508	Organization Development and Behavior	3
2227 504	Marketing Management	3
2209 504	Financial Management	3
2209 505	Managerial Economics	3
2213 519	Policy Formulation	3

Area of Emphasis: One area of emphasis should be selected from the following list. The requirements for each area appear below:

Accounting - Select nine (9) credit hours from the following:

2201 505	Accounting Reporting, Theory and Practice	3
2201 506	Cost Analysis and Control	3
2201 507	Contemporary Issues in Accounting	3
2201 508	Government and Not-for-Profit Organization Accounting	3

Business Finance - Select nine (9) credit hours from the following:

2209 506	Advanced Finance and Fiscal Policy	3
2209 514	Investment Management	3
2209 515	Money and Capital Markets	3
2209 509	Advanced Business Forecasting	3
2209 517	International Economics and Finance	3

Business Management - Select nine (9) credit hours from the following:

2213 506	Management Theory and Practice	3
2213 509	The Systems Approach and Project Management	3
2213 514	Production Management	3
2213 516	International Business Management	3
2213 518	Management of Human Resources	3

International Business

2227 514	International Marketing Management	3
2213 516	International Business Management	3
2209 517	International Economics and Finance	3

Marketing

2227 507	Marketing Strategy	3
2227 509	Marketing Seminar (Marketing Functions)	3
2227 514	International Marketing Management	3

Computer Information Systems - Select nine (9) credit hours form the following:

2217 501	Business Computer Systems	3
2217 505	Analysis and Design of Information Systems	3
2217 506	Computer Analysis for Management	3
2217 508	Managerial Modeling with Computers	3
2217 510	Teleprocessing and Networks	3
2217 515	Electronic Commerce	3

Thesis: The number of semester credit hours to be completed in the area of emphasis is reduced to three if the thesis option is selected.

Summary of Degree Requirements:

Non-Thesis Option:	*Number of Courses*	*Semester Credits*
Core	9	27
Area of Emphasis	3	9
Total	**12**	**36**

Thesis Option:	*Number of Courses*	*Semester Credits*
Core	9	27
Area of Emphasis	1	3
Thesis	2	6
Total	**12**	**36**

GRADUATE PROGRAM IN PUBLIC ADMINISTRATION

The Master of Public Administration (M.P.A.) Program is designed to prepare graduate students for careers as public managers, planning specialists, and policy analysts in governmental, as well as non-profit organizations. It also provides mid-career employees an opportunity to enhance, improve, and acquire new concepts and perspectives for the advancement of their careers.

In addition to the required core courses, students choose one of the following areas of emphasis: Public Management, Labor Studies/ Human Resources Management, or Computer Information Systems.

The Master of Public Administration

Admission Requirements

General requirements for admission are:

1. A baccalaureate degree conferred by an accredited institution.
2. A minimum of 2.5 grade point average on a 4.0 scale.
3. Two letters of recommendation.
4. An official score report of the Graduate Management Admission Test (GMAT).

Comprehensive Examination

Students are required to pass a written comprehensive examination which is normally taken during the final semester of the program of study. The application submission deadline is October 15th for the Fall examination; March 15th for the Spring examination.

Thesis Option

The submission of an acceptable thesis, in lieu of six semester credits of course work, may be approved where the particular objectives make such an option appropriate.

Transfer Credit

A maximum of nine (9) semester credits may be granted for courses completed satisfactorily within the prior five years with grades of "B" or better at an accredited college or university. Transfer credits cannot be a part of a previously earned degree.

Program Description

The M.P.A. is earned after the completion of a program consisting of 36 semester credits; 18credits are devoted to core course, 12 credits are taken in the selected area of emphasis, and 6 credits are required for thesis or electives. The course of study can be completed by full-time students in four semesters.

Core Courses: Required of all MPA candidates

2215 524	Planning in Government	3
2215 514	Management of Government Organizations	3
2215 519	Public Policy Development and Implementation	3
2215 509	Public Management Research	3
2215 529	Public Finance and the Budgetary Process	3
2343 508	Quantitative Methods for Public Administration	3

Area of Emphasis: One area of emphasis should be selected from the following list. The choices for each area appear below.

Public Management

2215 507	Intergovernmental Relations	3
2215 506	Government and Business Relations	3
2215 504	Advanced Public Human Resources Management	3
2213 508	Organizational Development and Behavior	3
	Two approved Electives or a thesis in the general area of government management	6

Human Resources Management

2215 504	Advanced Public Human Resources Management	3
2343 523	Collective Bargaining	.3
2343 576	Quality of Work Life and Productivity	3
2343 568	Arbitration and Dispute Settlement	3
	Two approved Electives or a thesis	**6**

Computer Information Systems:

2217 501	Business Computer Systems	3
2217 505	Analysis and Design of Information Systems	3
2217 506	Computer Analysis for Management	3
2217 508	Managerial Modeling with Computers	3
2217 510	Teleprocessing and Networks	3
2217 515	Electronic Commerce	3
	Total approved Electives or a thesis	**6**

Summary of Degree Requirements:

Non-Thesis Option:	*Number of Courses*	*Semester Credits*
Core	6	18
Area of Emphasis	4	12
Elective	2	6
Total	**12**	**36**

Thesis Option:	*Number of Courses*	*Semester Credits*
Core	6	18
Area of Emphasis	4	12
Thesis	2	6
Total	**12**	**36**

GRADUATE COURSES DESCRIPTIONS

Master's of Business Administration

2201 504 Accounting for the Management Function (3)

Provides an understanding of the reporting, control, and analytical context in which accounting functions; pre-planning and analyzing financial statements; cost/volume/profit relationships; capital budgeting. Prereq.: Graduate business standing.

2201 505 Accounting Reporting, Theory and Practice (3)

Studies the theory, logic, and actual practice of corporate financial reporting; develops an understanding of the strengths and weaknesses of financial reporting from the manager's point

of view. Problem-oriented with current readings and case studies. Prereq.: 2201 504.

2201 506 Cost Analysis and Controls (3)
Concentrates on the major areas of interest in management accounting and control: Budgetary planning, capital expenditure analysis, control through standards, variable costing, cost/volume/profit relationships, and responsibility accounting. Problem-oriented course structure with readings and case studies in cost analysis and control. Prereq.: 2201 504.

2201 508 Government and Not-for-Profit Organization Accounting (3)
Covers operation of government entities and educational, medical, social, and other not-for-profit organization. The course concentrates on application of fund theory of accounting and budgeting process, achieving objectives through financial planning and control. Prereq.: 2201 504.

2213 506 Management Theory and Practice (3)
Studies concepts of management, application of management principles, comparative management practices in different types of organizations, and the impact of modern computer technology. Prereq.: Graduate business standing.

2213 508 Organizational Development and Behavior (3)
Studies traditional and modern theories of organization, behavioral consequences of alternative organization designs, and internal organization elements, such as goals, structures, roles, power, authority, communications, and control. Prereq.: Graduate standing in business or public management.

2213 509 The System Approach and Project Management (3)
Examines management and the systems concept, matrix management; project planning, organization, staffing, direction, and control; project management authority; project budgeting and cost analysis; project implementation and evaluation. Prereq.: Graduate Standing.

2213 511 Leadership in Organizations (3)
An advanced seminar designed to explore the foundations, principles and strategies of leadership. The interrelation between leadership and managerial effectiveness is examined. Prereq.: Graduate Standing.

2213 514 Production Management (3)
Examines integration of management principles and concepts, with emphasis on the production and operations functions of manufacturing, service, and governmental organizations. Production control, quality control, materials handling, and value analysis are explored. Prereq.: 2209 526.

2213 515 Minority Business Enterprises (3)
Examines status of minority-owned business in today's economy, processes of planning and managing growing companies, opportunities and challenges facing minority business, and problem-solving strategies. Prereq.: Graduate Standing.

2213 516 International Business Management (3)
Examines the dimensions of international business; types of international business operations; organization of multinational firm; policy formulation; personnel selection, and control methods in overseas subsidiaries. The impact of the foreign and domestic investment climates on decision-making in multinational firms, and the impact of foreign investment on domestic investment and employment. Prereq.: 2213 506 or 2213 508.

2213 518 Management of Human Resources (3)
Studies the basic personnel functions to build and work with an effective and satisfied work force. Attention is focused on tasks of procuring, developing, maintaining, and utilizing a work force and on topics such as specifying job and manpower requirements; attracting, screening, interviewing, and testing people, employee training and development; merit evaluation; compensation and employee service programs; and collective bargaining. Prereq.: 2213 506 or 2213 508.

2213 519 Policy Formulation (3)
Utilizes the knowledge and competence developed in other courses. Actual business situations are simulated through cases and team competition. Major problems relating to the operations of the business, including social responsibilities, business ethics, etc., are explored as a basis for the determination of appropriate business policies and plans. Prereq.: Course is taken by MBA students in the last term before graduation.

2217 501 Business Computer Systems (3)
Provides an overview of software programs used in computer and business applications. Hands-on experience with software packages is provided. Focus is on concepts, features, and business applications. Prereq.: Graduate Standing.

2217 505 Analysis and Design of Information Systems (3)
Reviews of the principles of computer systems analysis and design and the application of these principles. Included are the types of documentation and their preparation and use within the system. The students will prepare the necessary documentation as a result of their analysis of a case study and the design that results from this analysis. Prereq.: Graduate Standing.

2217 506 Computer Analysis for Management (3)
Surveys quantitative techniques used for managerial decision-making, mathematical formulation of deterministic models, and use of standard computer software packages to solve the models and to interpret the results. Includes laboratory. Prereq.: Graduate Standing.

2217 507 Management Information Systems (3)
Discusses management information systems as developed in a computer environment, including the impact of these systems on managerial decision-making. Prereq.: Graduate Standing.

2217 508 Managerial Modeling with Computers (3)
Discusses business applications of operations research techniques, development of solutions to mathematical Stochastic models, and analysis and interpretation of results. Prereq.: Graduate Standing.

2217 510 Teleprocessing and Networks (3)
Introduces students to modern telecommunications and networking technologies. Covers concepts in communications, such as components of data communication, data transmission, Open System Interconnection (OSI) model, TCP/IP model, data link layer, network layer, local area networks, wide area networks, and network design and management. Course focuses on introducing technical aspects of telecommunications and

networking that managers should know. An overall objective is to prepare managers to better manage technology. Prereq.: Graduate Standing.

2217 515 Electronic Commerce (3)
Provides overview of electronic commerce applications in the retail, government, and health sectors. These applications will illustrate consumer-business, and intra-organizational electronic commerce. Electronic commerce applications will be highlighted and discussed from both an operational and strategic perspective. Prereq.: Graduate Standing.

2209 504 Financial Management (3)
Reviews actual cases from the world of business and finance that expose the student to problems typically encountered in financial management. Students work out cases in short-term asset management, financial analysis and control, planning, capital, budgeting, and the cost of capital and growth through consolidation and merger. Prereq.: Graduate business standing.

2209 505 Managerial Economics (3)
Covers the fundamental analytical tools of economics and their application to decision-making in the firm; theory of demand, production, and distribution; market structure and performance; and problems facing management in use of resources and pricing. Prereq.: Graduate business standing.

2209 506 Advanced Finance and Fiscal Policy (3)
Examines determinants of national income aggregate demand and their impact on business decisions. Prereq.: Graduate Standing.

2209 509 Advanced Business Forecasting (3)
Studies business forecasting techniques used in managerial planning, and evaluation of short-term and long-term forecasting methods employed to indicate trends in national economic activity and in the economic activity of various industries. Prereq.: 2209 504.

2209 514 Investment Management (3)
Studies methods of evaluating investment risk and estimation of return, and techniques of security analysis; analysis of investment in common stocks, bonds, real estate, mortgages, municipal bonds, commodities, options, and investment companies. Prereq.: 2209 504.

2209 515 Money and Capital Markets (3)
Studies the nature and functions of money and capital markets. Topics include sources and uses of funds, stock prices, interest rates, financial intermediaries, markets for U.S. government securities, corporate equities, and municipal bonds. Prereq.: 2209 504.

2209 517 International Economics and Finance (3)
Studies international monetary and financial theories, as well as institutions and practices of the international economy. Topics include balance of payments problems, international flow of funds, exchange controls, and conflicts between international and domestic objectives. Prereq.: 2209 504.

2209 526 Quantitative Business Methods (3)
Provides a survey of quantitative techniques used in solving management problems. Potential and limitations of analytical methods and their application to modern problems. Topics included are probabilistic and deterministic models, linear programming, decision theory. PERT and CPM, and Markov analysis. Prereq.: Graduate business standing.

2343 508 Quantitative Methods for Public Administration (3)
Covers inferential statistics, simple and multiple regression, time series, index numbers, and graphic and tabular presentation. Prereq: Undergraduate course in Descriptive Statistics.

2343 523 Collective Bargaining (3)
Studies collective bargaining with emphases on structure, process, and content of negotiations. The legal and substantive issues and trends in public and private sectors are also examined. Prereq.: Graduate Standing.

2343 568 Arbitration and Dispute Settlement (3)
Examines conflict resolution in private and public sector labor relations. Course explores development of arbitration, mediation, and strikes—their basis, the steps in the processes, and their use and misuse. Prereq.: Graduate standing.

2343 569 Pensions and Fringe Benefits (3)
Explores the rules imposed by court and statute on operation of pension plans. Actuarial considerations, functions, vesting, public purpose funds, and role of insurance companies are studied. Other fringes are also covered. Prereq.: Graduate Standing

2343 573 Labor Relations and Federal Human Resources Management (3)
Studies the Federal budget process: its implications for wage determination and bargaining are examined. Students study statutes that set wages for white and blue collar workers, and review the Pay Council and pay comparability surveys. Prereq.: Graduate Standing

2343 576 Quality of Work Life and Productivity (3)
Covers personnel policies and practices, including communications, involvement, development and training that enhance the quality of working life, commitment, advancement and productivity of the employee. Course discussions include union and non-union settings and relevant employment and labor relations law and court decisions. Prereq.: Graduate Standing

2343 587 Labor Relations in State and Local Government (3)
Studies statutory and administrative bargaining, unions, and the merit system, the right to strike, and union security. State agencies that enforce new laws are also examined. Prereq.: Graduate standing.

2227 503 Business Research Methods (3)
Covers principles and techniques of research methodology, including identification of problems. Standard statistical designs are studied. Organization and presentation of research data and the evaluation and application of research are emphasized. Prereq.: Graduate business standing.

2227 504 Marketing Management (3)
Covers nature and scope of marketing management, market structure, consumer behavior, and marketing channels. Approaches to the analyses of demand, cost and profit are emphasized, as are functional problems, policies, selling, advertising, and pricing. Prereq.: Graduate business standing.

2227 507 Marketing Strategy (3)
Utilizes case problems incorporating concepts and techniques covered in previous courses. The overall problems of managing the functions of business are analyzed. Prereq.: 2227 504.

2227 508 Buyer Behavior (3)
Explores the concepts and the practical implications of the various processes and facets of consumer motivation and behavior. Prereq.: 2227 504.

2227 509 Marketing Seminar (Marketing Functions) (3)
Studies in-depth a selected functional area in marketing, with emphasis on prevailing marketing practices. Topics on promotion management, marketing channels, and physical distribution management are offered on a rotating basis; only one of the three covered in a semester. Prereq.: 2227 504.

2227 514 International Marketing Management (3)
Studies the systematic treatment of marketing on a global scale. Areas of international marketing and global marketing strategies are explained. Deals with each element of the marketing mix. Prereq.: 2227 504.

MBAT 595 Independent Study (3)
Studies a particular problem in an area relating to business administration under the direction of a faculty member.

MBAT 596 Thesis Seminar (3-6)
A study of the processes involved in presenting a systematic written presentation of the results of a research project, study, or investigation.

Master's of Public Administration Coursework

2215 504 Advanced Public Human Resources Management (3)
Covers management of human resources in public agencies, changing conditions affecting employment policies, selection procedures, and promotions. Examines the issues relating to testing and selection, productivity, incentives, union-management relations, supervisory relationships, political participation, minority employment, upward mobility, affirmative action, employee development, and training. Prereq.: Graduate Standing.

2215 506 Government and Business Relations (3)
Examines policy issues of government regulation of business. Examines the public concern for environmental-related issues, the subsequent development of government regulations, and controls and their impact upon private enterprise. The impact of regulation and deregulation on business activity will be explored. Prereq: Graduate standing in business or public management.

2215 507 Intergovernmental Relations (3)
Studies the dynamics of relations among governmental units, including the movement towards regionalization and councils of government. Study of the impact of Federal government policies and programs on state and local resources, issues, and problems. Prereq: 2215 514.

2215 509 Public Management Research (3)
Studies research methods for public management, including the development of research design, problem definition and evaluation and reporting on research findings. Students will work individually or jointly on public management-oriented research projects. Prereq.: 2215 514.

2215 514 Management of Government Organizations (3)
Studies government organizations; management practices and problems; and the management of relationships between major agencies, the legislature, and clientele. Reviews the process of planning, controlling, and decision-making in governmental organizations. Prereq.: Graduate Standing.

2215 519 Public Policy Development and Implementation (3)
Examines the dynamics of public policy development and implementation, the process of translation of issues into public policy through legislative enactment and executive implementation, and the analysis and evaluation of public policies. Prereq.: Graduate standing in Public Administration.

2215 525 Management of Metropolitan Governments (3)
Covers management issues and practices as they apply to urban and metropolitan governments, including program management and fiscal issues. Prereq.: Graduate standing.

2215 529 Public Finance and the Budgetary Process (3)
Analyses public fiscal policies, the interaction of such policies and their impact on government programs, operations and services, and the interrelationship between government fiscal policies and the budgetary process. Prereq.: 2215 514.

2215 536 Thesis Seminar (3-6)
Studies the processes involved in presenting a systematic written presentation of the results of a research project, case study, or investigation. Prereq.: 2215 509.

2215 538 Independent Study in Public Administration (3)
Engages in intensive study of a particular problem in an area relating to governmental administration under the direction of a faculty member. Prior approval of the Department Chair is required.

2343 587 Labor Relations in State and Local Government (3)
Studies statutory and administrative bargaining, unions, and the merit system, the right to strike, and union security. State agencies that enforce new laws are also examined. Prereq.: Graduate standing.

2227 503 Business Research Methods (3)
Covers principles and techniques of research methodology, including identification of problems. Standard statistical designs are studied. Organization and presentation of research data and the evaluation and application of research are emphasized. Prereq.: Graduate business standing.

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Covers nature and scope of marketing management, market structure, consumer behavior, and marketing channels. Approaches to the analyses of demand, cost and profit are emphasized, as are functional problems, policies, selling, advertising, and pricing. Prereq.: Graduate business standing.

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Utilizes case problems, incorporates concepts and techniques covered in previous courses. Overall problems of managing the functions of business are covered. Prereq.: 2227 504.

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Explores the concepts and the practical implications of the various processes and facets of consumer motivation and behavior. Prereq.: 2227 504.

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Studies in-depth a selected functional area in marketing, with emphasis on prevailing marketing practices. Promotion management, marketing channels, and physical distribution management are offered on a rotating basis, only one of the three being covered in a given semester. Prereq.: 2227 504.

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Studies the systematic treatment of marketing on a global scale. Areas of international marketing and global marketing strategies are explained. Deals with each element of the marketing mix. Prereq.: 2227 504.

2227 595 Independent Study (3)
Studies a particular problem in an area relating to business administration under the direction of a faculty member.

2227 596 Thesis Seminar (3-6)
A study of the processes involved in presenting a systematic written presentation of the results of a research project, study, or investigation.

Department of Marketing, Legal Studies, and Information Systems

Leslie J. Vermillion, Ph.D., Chairperson
Sandra G. Yates, Ph.D., Assistant Chairperson
Intelsat Building, Room 7L-26
(202) 274-6510

FULL-TIME FACULTY

Professors: M.A. Anderson, H.L. Dhuria, M. Shapiro, W.B. White, S.G. Yates.

Associate Professors: C.A. Friedman, M. Harris, L.J. Vermillion.

Assistant Professors: V. Momenian, J.C. Williams-Smith.

The Department of Marketing, Legal Studies, and Information Systems offers programs and courses leading to the following baccalaureate and associate degrees:

Bachelor of Business Administration in Marketing, Bachelor of Business Administration in Procurement and Public Contracting, Bachelor of Business Administration in Computer Information and Systems Science, Bachelor of Science in Office Administration, Associate in Applied Science in Administrative Office Management, and Associate in Applied Science in Legal Assistant. Certificate programs are also available in Office Technology and Procurement and Public Contracting.

MARKETING PROGRAM

The Bachelor of Business Administration (B.B.A.) in Marketing prepares students for careers in marketing management, sales, advertising, marketing research, retailing, distribution, and international marketing. This program requires the successful completion of 127 credit hours: 52 credit hours in general education (which includes University-wide requirements), and 75 credit hours in business.

Bachelor of Business Administration in Marketing

Total Credit Hours of College-Level Courses Required for Graduation: 127

General Requirements:

8800 101	Freshman Orientation	1
1133 111	English Composition I	3
1133 112	English Composition II	3
1535 116	Finite Mathematics	3
1167 105	Introduction to Logic	3
1119 115	Public Speaking	3
1535 215	Calculus for Business, Social and Life Sciences	4
	Natural Science with Lab	8
	Fine Arts Elective	3
1133 211	Literature and Advanced Writing I	3
1133 212	Literature and Advanced Writing II	3
2131 201	Principles of Macroeconomics	3
2131 202	Principles of Microeconomics	3
1171 201	Principles of Psychology	3
	Foreign Language	6

Core and Major Requirements:

2207 104	Introduction to Business	3
2211 214	Legal Environment of Business	3
2217 120	Computer Applications in Business	3
2207 208	Business Communications	3
2201 201	Principles of Accounting I	3
2209 220	Business Statistics	3
2227 304	Introduction to Marketing Management	3
2213 304	Introduction to Management	3
2209 306	Price Theory	3
2201 202	Principles of Accounting II	3
2209 223	Quantitative Business Techniques	3
2209 314	Business Finance	3
2213 409	Organizational Theory and Behavior	3
2213 414	Production and Operations Management	3
2211 417	Law of Marketing	3
	or	
2211 318	Commercial Law	3
2217 402	Management Information Systems	3
2227 305	Consumer Behavior	3
2227 306	Promotion Management	3
	International Business Elective	3

2227 403	Supply Chain Management	3
2227 404	Marketing Research	3
2227 405	Marketing Strategy	3
2213 419	Business Policy and Strategy	3
2227	Marketing Elective (300 or 400 level)	3
2213	Business Elective (300 or 400 level)	3

PROCUREMENT AND PUBLIC CONTRACTING PROGRAM

The Bachelor of Business Administration (B.B.A.) in Procurement and Public Contracting program prepares students for careers in procurement management in the public and private sectors of the economy. The procurement and public contracting program requires the completion of 127 credit hours: 49 credit hours in general education (which includes University-wide requirements) and 78 credit hours in business.

Bachelor of Business Administration in Procurement and Public Contracting

Credit Hours of College-Level Courses Required for Graduation: 127

General Requirements:

8800 101	Freshman Orientation I	1
1133 111	English Composition I	3
1133 112	English Composition II	3
1535 116	Finite Mathematics	3
1167 105	Introduction to Logic	3
1119 115	Public Speaking	3
1535 215	Calculus for Business, Social and Life Sciences	4
	Natural Science with Lab	8
	Fine Arts Elective	3
1133 211	Literature and Advanced Writing I	3
1133 212	Literature and Advanced Writing II	3
2131 201	Principles of Macroeconomics	3
2131 202	Principles of Microeconomics	3
	Foreign Language	6

Core and Major Requirements:

2207 104	Introduction to Business	3
2211 214	Legal Environment of Business	3
2217 120	Computer Applications in Business	3
2207 208	Business Communications	3
2201 201	Principles of Accounting I	3
2209 220	Business Statistics	3
2213 304	Introduction to Management	3
2227 304	Introduction to Marketing Management	3
2211 304	Purchasing and Materials Management	3
2201 202	Principles of Accounting II	3
2209 223	Quantitative Business Techniques	3
2209 314	Business Finance	3
2213 409	Organizational Theory and Behavior	3
2213 414	Production and Operations Management	3
2211 305	Federal Acquisitions System	3
2217 402	Management Information System	3
2211 306	Formation of Government Contracts	3
2211 404	Contract Administration	3
2211 406	Cost and Price Analysis	3
2211 407	Contract Negotiation	3
2211 408	Procurement Law	3
	Business Electives	9
	International Business Elective	3
2213 419	Business Policy and Strategy	3

Certificate in Procurement and Public Contracting

Requirements:

2207 104	Introduction to Business	3
2211 304	Purchasing and Material Management	3
2211 305	Federal Acquisition Systems	3
2211 366	Formation of Gov. Contracts	3
2211 404	Contract Administration	3
2211 406	Cost and Price Analysis	3
2211 407	Contract Negotiation	3
2211 408	Procurement Law	3
	Elective	24

OFFICE ADMINISTRATION PROGRAM

The Bachelor of Science (B.S.) in Office Administration is designed for students who wish to enter the business world as office managers or administrative assistants. The first two years in this program lead to the A.A.S. degree in Administrative Office Management. Emphasis is placed on office procedures, communication, office automation, and general office management and coordination skills.

Bachelor of Science in Office Administration

Credit Hours of College-Level Courses Required for Graduation: 126

General Requirements:

8800 101	Freshman Orientation	1
1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature and Advanced Writing I	3
1133 212	Literature and Advanced Writing II	3
1535 117	Business Mathematics I	
	or	
1535 116	Finite Mathematics	3
1535 118	Business Mathematics II	3
	or	
1535 215	Calculus for Business, Social and Life Sciences	4
1167 105	Introduction to Logic	3
	Foreign Language	6

1119 115	Public Speaking	3
	Natural Science with Lab	8
	Fine Arts Elective	3
2131 201	Principles of Macroeconomics	3
2131 202	Principles of Microeconomics	3

Core and Major Requirements:

2207 104	Introduction to Business	3
2228 101	Computer Keyboarding I	3
2228 102	Computer Keyboarding II	3
2228 206	Office Procedures	3
2228 211	Word I	3
2201 201	Principles of Accounting I	3
2201 202	Principles of Accounting II	3
2209 314	Business Finance	3
1107 207/277	Introduction to Desktop Publishing/Lab	3
2217 120	Computer Applications in Business	3
2228 212	Word II	3
2207 208	Business Communications	3
2213 304	Introduction to Management	3
2227 304	Introduction to Marketing Management	3
2211 214	Legal Environment of Business	3
2209 220	Business Statistics	3
2209 223	Quantitative Business Techniques	3
2213 409	Organization Theory and Behavior	3
2213	Business electives (300 or 400 level)	6
2213 414	Production and Operations Management	3
	International Business Elective	3
2207 494	Special Topics in Office Systems	3
2207 403	Office Systems Supervision and Simulation	3
2207 406	Office Systems Management	3

Additional Comments or Requirements: A grade of "C" is required in all business courses and economics. Fine Arts Electives must have the following prefixes: 1105, 1111, 1165, 1121.

COMPUTER INFORMATION AND SYSTEMS SCIENCE PROGRAM

The Bachelor of Business Administration (B.B.A.) in Computer Information and Systems Science focuses on computer applications in business, industrial, governmental, and nonprofit organizations. It prepares students for careers in the growing field of Information Technology (IT) by developing skills in systems analysis and design, programming, network administration, database management, and Internet web site development. The objectives apply not only to the development of competency in the particular skills of computer applications, but also to the attainment of skills in reasoning and logical analysis.

Bachelor of Business Administration in Computer information and Systems Science

Credit Hours of College-Level Courses Required for Graduation: 128

General Requirements:

8800 101	Freshman Orientation	1
1133 111	English Composition I	3
1133 112	English Composition II	3
1133 211	Literature and Advanced Writing I	3
1133 212	Literature and Advanced Writing II	3
1535 116	Finite Mathematics	3
1535 215	Calculus for Business, Social and Life Sciences	4
	Fine Arts Elective	3
	Foreign Language Electives	6
	Natural Science with Lab Electives	8
	Physical Education Elective	
	or	
	Public Speaking	3
	Philosophy Elective	3
2131 201	Principle of Macroeconomics	3
2131 202	Principle of Microeconomics	3

Required Courses:

Core and Major Requirements

2207 104	Introduction to Business	3
2217 120	Computer Applications in Business	3
2217 220	Basic for Business	4
2217 225	Problem Solving with Visual Basic	4
2217 330	Internet Programming	4
2207 208	Business Communications	3
2209 220	Business Statistics	3
2217 401	Business Systems Analysis and Design	3
2217 420	Database Programming	4
2209 223	Quantitative Business Techniques	3
2201 201	Principles of Accounting I	3
2201 202	Principles of Accounting II	3
2211 214	Legal Environment of Business	3
2213 304	Introduction to Management	3
2209 314	Business Finance	3
2227 304	Introduction to Marketing Management	3
	International Business Elective	3
2213 409	Organization Theory and Behavior	3
	Computer Information Electives	9
2213 414	Production and Operations Management	3
2217 402	Management Information Systems	3
2211 419	The Law and the Computer	3
2213 419	Business Policy and Strategy	3

Additional Comments or Requirements

A grade of "C" is required in all business courses and economics. Fine Arts Electives must have the following prefixes: 1105, 1111, 1165, 1121.

ADMINISTRATIVE OFFICE MANAGEMENT PROGRAM

The Associate in Applied Science (A.A.S.) in Administrative Office Management focuses on training students to operate proficiently a number of information processing systems and prepares them to adjust to future technological changes in the work place. Competencies emphasized include oral and written communication skills; information processing software; modern office procedures; and related clerical techniques and skills as required in today's world of work. Courses taken in the associate degree program may be applied toward the Bachelor of Science in Office Administration.

Associate in Applied Science in Administrative Office Management

Credit Hours of College-Level Courses Required for Graduation: 65-66

General Requirements:

8800 101	Freshman Orientation	1
1133 111	English Composition I	3
1133 112	English Composition II	3
1535 116	Finite Mathematics	
	or	
1535 117	Business Mathematics I	3
1535 118	Business Mathematics II	3
	or	
1535 215	Calculus for Business, Social and Life Sciences	4
	Natural Science with Lab	4
	Fine Arts Elective	3

Major Requirements:

2207 104	Introduction to Business	3
2217 120	Computer Applications in Business	3
2228 101	Computer Keyboarding I	3
2228 102	Computer Keyboarding II	3
1107 207/277	Introduction to Desktop Publishing/Lab	3
2201 201	Principles of Accounting I	3
2201 202	Principles of Accounting II	3
2131 201	Principles of Macroeconomics	3
2131 202	Principles of Microeconomics	3
2228 211	Word I	3
2207 208	Business Communications	3
2209 220	Business Statistics	3
2228 212	Word II	3
2228 206	Office Procedures	3

CERTIFICATE IN OFFICE TECHNOLOGY

The purpose of this certificate program is to develop student skills in office technology and procedures. Required courses can be completed in one year, and can count towards the Associate in Applied Science degree in Administrative Office Management and the Bachelor of Science degree in Office Administration.

Requirements:

2207 104	Introduction to Business	3
2228 101	Computer Keyboarding I	3
2228 211	Word I	3
	Finite Math	
	or	
	Business Math I	3
2228 102	Computer Keyboarding II	3
2228 212	Word II	3
2228 206	Office Procedures	3
2217 120	Computer Applications in Business	3

LEGAL ASSISTANT PROGRAM

This program provides for a career in the paralegal field. It leads to the Associate in Applied Science (A.A.S.) degree. Requirements for the completion of this program are 62 credit hours.

Associate in Applied Science in Legal Assistant

General Requirements:

8800 101	Freshman Orientation	1
1133 111	English Composition I	3
1133 112	English Composition II	3
1535 101	General College Mathematics I	
	or	
1535 116	Finite Mathematics	3
1535 102	General College Mathematics II	3
	or	
1535 215	Calculus for Business, Social and Life Sciences	4
	Natural Science with Lab	4
	Social Science Elective	3

Major Requirements:

2218 161	Legal Research and Writing I	3
2218 162	Legal Research and Writing II	3
2217 120	Computer Applications in Business	3
2218 171	Civil Litigation	3
2218 181	Introduction to Para-Legalism	3
2218 263	Investigative Techniques and Evidence	3
2218 278	Law Office Administration	3
2207 104	Introduction to Business	3
2211 214	Legal Environment of Business	3
2218*	Legal Assistant Electives	9
	Business, Accounting, or Law Electives	6

***Recommended Legal Assistant Electives**

2218 277 Administrative Law
2218 255 Labor Relations Law
2218 256 Equal Employment Opportunity Law
2218 276 Domestic Relations
2218 274 Criminal Law for Legal Assistants
2218 271 Real Estate Law and Practice

COURSE DESCRIPTIONS

2207 104 Introduction to Business (3)
Examines and analyzes the basic structure and practices of the business community; Emphasis on modern business functions in a dynamic environment, the nature and scope of business components, the cause of business problems, and factors that tend to influence behavior in business organizations.

2207 208 Business Communications (3)
Covers the essential principles involved in preparing standard types of business communications, i.e., business letters, reports, and memoranda. Provides a review of basic English principles as applied to management in all aspects of business communication. Students gain expertise in both oral and written communications. Prereq.: 1133 112.

2207 403 Office Systems Supervision and Simulation (3)
Studies office systems through the use of technology and automated office procedures in a simulated office setting. Studies advanced methods and procedures in the practice of office supervision techniques in the automated office. Prereq.: 2207 104.

2207 406 Office Systems Management (3)
Examines the duties and problems of the office worker in business and professions; relationships with employer and fellow employees; and office supervision and administration. Basic course requirements include role playing, preparation of reports on office management, and techniques for both written and oral presentations. Prereq.: 2207 104.

2207 494 Special Topics in Office Administration (3)
Covers the principles and current issues in administrative office management. Emphasis is on automated office supervision and administration. Prereq.: Completion of all required junior-level courses for the office administration degree.

2211 214 Legal Environment of Business (3)
Introduces the American legal institutions; the judicial, executive, and legislative branches of government; judicial reasoning; administrative procedures; law; government regulation of business; contracts and torts: studies of the basic elements of determining contract or tort liability; the formation, operation, and discharge of contracts in a business context. Prereq.: Sophomore standing.

2211 304 Purchasing and Materials Management (3)
Introduces the purchasing function as an element of business operation, purchasing system organization; coordination with other functions; concepts of materials management; economy affected by prudent buying. Prereq.: 2213 304, 2131 202.

2211 305 The Federal Acquisition Systems (3)
Studies the conception and planning of a program; the budget process in programming, planning and justifying the funding for programs; establishment of individual requirements and earmarking them for procurement; preparation of work statements and specifications; initiation of the procurement request; socio-economic programs and their objectives. Prereq.: 2213 304.
contracting sealed bidding, procurement law and regulations, ethics, records, and files. Prereq.: 2211 304.

2211 318 Commercial Law (3)
Studies contracts, agency, negotiable instruments and sales; the legal variable encountered in business and commercial transactions; application to practical problems. Prereq.: 2211 214.

2211 404 Contract Administration (3)
Studies the government's system of contract management; structure and use of contract administration functions; coordination with procurement activities and audit agencies. Prereq.: 2211 306.

2211 406 Cost and Price Analysis (3)
Studies techniques for determining proper price for purchased items; cost elements, estimating, and the government approach to formulating methods of pricing research, development, hardware, and services. Prereq.: 2211 404.

2211 407 Contract Negotiation (3)
Studies the negotiation process; the limitations imposed by law and regulation; the evaluation process in competitive negotiation; strategy and tactics employed in noncompetitive negotiation, and the preparation for and conducting negotiations. Prereq: 2211 306.

2211 408 Procurement Law (3)
Examines areas of public law and regulations that affect the rights of parties who enter into contractual relationships with federal government or state agencies; contract formation and award protests; standards of conduct; government liability for authorized and unauthorized actions; remedies available under federal contract clauses, laws, and regulations. Prereq.: 2211 304 or 2211 214.

2211 414 Administrative Law (3)
Studies governmental methods of establishing policies and procedures; implementation of laws by the issuance of directives and regulations; public input; limitations from inherent nature of agency functions; and effect of administrative acts on the economic and social structure. Prereq.: 2211 214.

2211 415 Labor Law (3)
Studies the regulation of employment practices and the law of industrial relations. Survey of the history of workers' associations; the doctrine of criminal conspiracy; the injunction as an anti-labor weapon; modern applications of the antitrust laws to limit union power; legal limitations on the right to strike; picketing as a coercive force and picketing as an example of free speech; secondary boycotts; the attempt to insure union democracy; the Fair Labor Standards Act and the Civil Rights Act. Prereq.: 2211 214.

2211 417 The Law of Marketing (3)
Studies legal aspects in relation to quality, packaging, advertising, and pricing in the American marketplace; the "truth in" legislation. Prereq.: 2211 214.

2211 419 The Law and the Computer (3)
Studies legal aspects of management decisions concerning systems design, proprietary rights, computer abuse and error, privacy considerations, acquisition of computers and data, and the application of law to the computer environment. Prereq.: 2211 214 and 2217 120.

2211 495 Independent Study (3)
A program designed to permit an intensive study of an area in procurement, public contracting, or business law under direction of a faculty member.

2211 306 Formation of Government Contracts (3)
Examines the procurement process, with special emphasis on methods of procurement and types of contracts and grants used by the federal government.

2217 120 Computer Applications in Business (3)
Teaches how to use Office Suite applications in a business environment. Particular emphasis on integrating applications within the Suite; fundamental Internet concepts; World Wide Web browsing, searching, publishing, and advanced Internet productivity tools. Includes laboratory. Prereq.: None

2217 205 COBOL Programming (4)
Examines the design and implementation of business programming using COBOL and writing programs to generate reports from sequential data files. Topics also include report formatting and paging techniques: edited PIC clauses; control breaks, and sorting. Prereq.: 2217 220

2217 220 BASIC for Business (4)
Provides overview of algorithms, programming, and problem solving for business applications using the BASIC Language. Prereq.: Computer Applications in Business (2217 120 or equivalent.)

2217 225 Problem Solving with Visual Basic (4)
Design and implementation of business programming with Visual Basic. Systematic definition of problems, solution formulation, and method validation in the Windows environment. Prereq.: 2217 120 or equivalent.

2217 310 Microcomputer Applications in Business (3)
Provides instruction and experience in the use of modern business information systems and their integration. Lec. 3 hrs., Prereq.: 2217 120 or equivalent.

2217 311 Microcomputer Applications in Business Lab (1)
Laboratory accompanying 2217 310, Lab 2 hrs., Co-req.: 2217 310.

2217 330 Internet Programming (4)
Examine website programming using HTML, scripts, and web authoring tools; objects, methods, functions, events, and interactive forms; and use of database, spreadsheet, and graphic objects for business applications. Prereq.: 2217 220 or equivalent.

2217 340 Linux for Business (4)
Provides hands-on approach to installing and using Linux along with common business applications. Some Linux Programming. Prereq.: 2217 225 or equivalent.

2217 390 Co-op in Computer Information Systems (3)
Provides on-the-job training as a programmer or a systems analyst. Skills learned in the classroom will be utilized. A term paper specifying the work experience is required. Prereq.: 2217 120.

2217 401 Business Systems Analysis and Design (3)
Examines principles of data systems analysis. Systems evaluation, planning, and implementation. Prereq.: 2217 120 and 220.

2217 402 Management Information Systems (3)
Examines advanced problems involving management information systems. Emphasis on management information systems planning, information processing, techniques of documentation, and written procedure. Lec. 3 hrs., Prereq.: Senior Standing in Business.

2217 403 File Management Techniques (3)
Reviews file processing techniques, including index sequential files, direct access, and linked lists. Projects will include the construction and manipulation of files. Lec. 3 hrs., Prereq.: 2217 205.

2217 404 Advanced Applications of Micro-computers (3)
Examines the visual and object-oriented programming paradigms as they are used to develop business and other applications on microcomputer platforms. Lec. 3 hrs., Prereq.: 2217 220.

2217 405 Introduction to Telecommunications (3)
Reviews terms and concepts applied to data communications and teleprocessing, and Network structures, knowledge of hardware and software systems used in teleprocessing. Prereq.: Senior standing in Computer Information Systems.

2217 409 Computer Analysis for Management (3)
Surveys of quantitative techniques used for managerial decision-making. Reviews mathematical formulation of deterministic models and the use of standard computer software packages to solve the models and to interpret the results. Prereq.: 2209 223 and 2217 120.

2217 411 Decision Support Systems (3)
Examines the role of information systems technology in support of decision making in organizations. Focus is on expert systems, groupware and executive information systems. Prereq.: Knowledge of spreadsheets and conceptual understanding of databases. Senior Standing in CIS.

2217 413 Managerial Modeling with Computers (3)
Business applications of operations research techniques. Development of and solutions to mathematical stochastic models. Analysis and interpretation of results. Decision theory and applications. Includes laboratory. Lec. 3 hrs., Prereq.: 2217 409.

2217 420 Database Programming (4)
Examines the fundamentals of database design, file organization, and access methods, as well as the relational, network, and hierarchical views of databases, including the appropriate query languages and implementations, client-server planning, testing, and installation. Parsing and optimization of queries, reliability, security and integrity of databases. Several programming projects will be required. Prereq.: 2217 225

2217 459 Advanced Information Technology Applications (3)
Provides hands-on exploration of the various applications of information technology in business. This will include applications in accounting, marketing, and other select areas. Prereq.: Knowledge of basic business application software, such as word processing, spreadsheet, and databases. Prerequisite: Senior Standing in CIS.

2217 490 Practicum in Computer and Information Science (3)
Parallel study and work assignments under the direction of a faculty member.

2217 495 Independent Study (3)
An individualized course designed to allow the student to do research in the computer and information systems area under the supervision of a faculty member. Prereq.: 2217 402.

2218 161 Legal Research and Writing I (3)
Introduces the major techniques of legal research, in which students complete assignments and solve problems using various primary and secondary authorities, including federal and state law reporters, statutes, legislative and administrative publications, digests, loose leaf services, and legal encyclopedia. Students gain a basic knowledge of Shepard's Citations and West's Digest and Key Number System. This course also introduces techniques in computerized legal research.

2218 162 Legal Research and Writing II (3)
Applies skills acquired in legal research, in which students conduct advanced manual and automated legal research in the process of drafting legal correspondence, office and legal memoranda, pleadings, appellate briefs, and interrogatories. Prereq.: 2218 161.

2218 171 Civil Litigation (3)
Introduces civil procedures and trial preparation with an examination of the Federal Rules of Civil Procedure. Emphasis is placed on document preparation, client interviewing, document control, pre- and post-trial procedures, including the first level of appeals. Prereq.: 2218 161 and 2218 181.

2218 181 Introduction to Paralegalism (3)
Introduces the American legal system and the role of the paralegal within that system. This course exposes the student to rules of statutory and common law interpretation, techniques of case analysis, and the canons of legal ethics which apply to the conduct of paralegals, lawyers, and judges.

2218 255 Labor Relations Law (3)
Examines the National Labor Relations Act, as amended, which governs labor-management relations in the private sector. Emphasis is on the structure, role, and function of the National Labor Relations Board and its procedures and operations in the context of bargaining rights and contract negotiation and administration, as well as the role of the courts.

2218 256 Equal Employment Opportunity Law (3)
Provides an overview of the development of EEO law and study of applicable statutory and case law. This course examines the methodology of processing discrimination cases in the private and public sectors. Prereq.: 2211 214, or 2218 181.

2218 257 Wills and Trusts (3)
Studies the common law foundations and statutory law of wills, intestacy and the rules of trusts. Students draft model wills and examine probate procedures and the creation and administration of trusts. Prereq.: 2218 162.

2218 263 Investigative Techniques and Evidence (3)
Provides an overview of the law of evidence and its relationship to criminal and civil litigation. Additionally, the course introduces the techniques of fact investigations and verification associated with trial preparation. Prereq.: 2218 162.

2218 271 Real Estate Law and Practice (3)
Studies the forms of ownership of real property; various legal concepts; such as easements, restrictions and conveyance of title; title examination, real estate sales contracts, and closings.

2218 274 Criminal Law for Legal Assistants (3)
Examines criminal law and procedure. This course provides a constitutional perspective on the rights of the accused and an elemental approach to a selected variety of frequently committed criminal offenses. Prereq.: 2218 181 or 2211 214.

2218 276 Domestic Relations (3)
Studies family law in which instruction in given on the legal aspects of marriage, separation, annulment, alimony, child support and custody, visitation, property distribution, paternity, adoption, and related matters, such as tax consequences and spouse and child abuse. Prereq.: 2218 181.

2218 278 Law Office Administration (3)
Examines the basic management principles of the law office, including organization and administrative operations, the paralegal's administrative role and responsibility for maintaining the library, supervising other administrative staff, time-keeping, billing and related systems. Ethics is emphasized. Prereq.: 2218 181.

2227 304 Introduction to Marketing Management (3)
Provides a managerial approach to the study of marketing, including target market selection, product, price, promotion and distribution strategies. Consumer behavior and decision processes will be emphasized. Nonprofit and international marketing issues will also be included. Prereq.: 2207 104.

2227 305 Consumer Behavior (3)
Examine consumer and organizational buying behavior, incorporating concepts and findings from behavioral sciences. An integrated model of consumer behavior and the factors which influence the decision process will be studied. Prereq.: 1171 201, 2227 304

2227 306 Promotion Management (3)
Studies theories and processes relating to marketing communications focusing on planning and managing the communication mix: personal selling, advertising, sales promotion, and publicity. The approach will be to view promotion as a marketing tool coordinated with other elements of the marketing mix. Prereq.: 2227 304.

2227 307 Retail Store Management (3)
Examines planning and managing retailing strategy, including evaluation of trading area, selection of retail store site, merchandising, inventory management, store layout, merchandise assortment, pricing, promotion, and customer service. Prereq.: 2227 304.

2227 308 International Marketing (3)
Theories, concepts, and practices relating to international marketing management, focusing on the cultural, social, political and economic environments. Topics include strategic decisions about product, price, promotion, and distribution as well as emerging issues and institutions in global marketing. Prereq.: 2227 304.

2227 310 Direct Marketing Management (3)
Examines the direct consumer/user marketing approach, including a review of the media of direct marketing, such as mailing lists, magazines, newspapers, broadcasts, and telephone. Techniques of creating direct mail packages, catalogs, production, and research as related to direct marketing. Prereq.: 2227 304.

2227 312 Marketing of Services (3)
Studies and discusses the key elements of marketing of services, such as distinctive aspects of services marketing; developing a framework for services marketing; positioning of the service organization in the market place; managing the customer mix; managing demand; managing the service marketing system; and planning, organizing, and implementing the services marketing effort. Prereq.: 2227 304.

2227 314 Principles of Transportation (3)
Studies the significance and role of transportation in society and its relationship to the economy and to the physical distribution concerns of the firm. Overview of modes and characteristics of carriers, inter- and intra city transportation and the government's role in transportation. Prereq.: 2227 304.

2227 403 Supply Chain Management (3)
Studies the management of the flow of goods through the distribution system, including inventory control, warehousing, and transportation using an analytical and quantitative approach. Information systems and international distribution issues will be emphasized. Prereq.: 2227 304.

2227 404 Marketing Research (3)
Studies the fundamentals of scientific investigation used in solving marketing problems. Methodologies and processes used in marketing research will be examined; problem identification, the research design, sources of information and methods of information gathering, sample design, organization and control of field survey; tabulation, analysis, and interpretation of data and the presentation of a research report. Prereq.: 2209 223, 2227 304.

2227 405 Marketing Strategy (3)
Presents a capstone course for marketing majors. Designed to test the student's analytic skills in developing sound marketing policies and strategies. Project investigations of contemporary issues in the field of marketing. Prereq.: 2227 404

2227 408 Advertising Management (3)
Studies advertising as a communication tool and its role in the marketing mix; advertising campaign and strategy planning: objectives, budgeting, media planning and creative strategy. Advertising agencies and their role will be also studied. Socioeconomic implications will be examined. Prereq.: 2227 304.

2227 413 Channels of Distribution (3)
Studies the factors involved in designing and managing channels systems for the task of efficiently moving goods and services from the point of production to the point of consumption. The role of channel members and their behavior, conflicts, cooperation and motivation will be examined. Retailing, wholesaling, and physical distribution and their role and functions will be emphasized. Prereq.: 2227 304 or 2227 314.

2227 495 Independent Study (3)
Focuses on a program designed to provide selected students an opportunity to pursue an area of their interest in marketing not normally included in the prescribed curriculum.

2228 101 Computer Keyboarding I (3)
Introductory course. Emphasis placed on the development of correct keyboarding techniques, speed and accuracy, tabulation, and centering skills. Letters, memos, and related business correspondence are emphasized. Minimum speed for completion of the course is 40 wpm.

2228 102 Computer Keyboarding II (3)
Emphasizes advanced typewriting skills. Introduction to use of WordPerfect software. Minimum speed for completion of course is 50 wpm. Prereq.: 2228 101 or 40 wpm.

2228 206 Office Procedures (3)
Emphasizes the responsibilities of the administrative assistant in today's high-tech environment. Course provides students with the opportunity to develop business communication and human relations skills as required in a constantly changing office environment. Prereq.: 2207 104.

2228 211 Word I (3)
Introduces students to the basics of word processing using Word software. Students will learn how to get started, create, save, edit, and print documents, and to use automatic text features. It also teaches the student how to enhance the appearance of documents through formatting, and to use proofing tools to correct spelling and grammatical errors.

2228 212 Word II (3)
Covers intermediate to advanced word processing concepts and skills using Word software. Students will learn to create and format letters, envelopes, tables, and labels; to use templates; to work with columns; and to use graphic elements in documents. Prereq.: 2228 211.

2228 295 Independent Study (3)
Independent study under the direct supervision of a faculty member with prior approval of the Department Chair. Prereq.: approval of Department Chairperson.

UDC DAVID A. CLARKE SCHOOL OF LAW (UDC-DCSL)

THE HISTORY

UDC-DCSL is a new law school with a proud history and distinguished alumni. From its founding as Antioch School of Law in 1972, it has had as its mission to recruit and enroll students from groups underrepresented at the bar, provide a well-rounded theoretical and practical legal education that will enable students to be effective and ethical advocates, and to represent the legal needs of low-income residents through the School's legal clinics. Antioch pioneered a comprehensive clinical curriculum which became a model for other law schools, and which continues to educate UDC students to be knowledgeable, effective, compassionate advocates, from their first year in law school.

When Antioch found it necessary to close more than two dozen of its branches in 1986, the District of Columbia Council established the independent District of Columbia School of Law, retaining the core of Antioch's mission, curriculum, and personnel. In 1996, the School of Law became part of the University of the District of Columbia, the only public university in Washington, D.C. and urban land grant university in the nation. The University has been designated as an Historically Black College and University by the federal government, a status which carries prestige and brings special resources.

In 1999, the University of the District of Columbia School of Law was named for David A. Clarke, whose life exemplified the qualities of service and commitment that the School helps to develop in its students, and whose efforts established UDC-DCSL as Washington, D.C.'s public law school.

UDC-DCSL is fully accredited by the American Bar Association.

STUDENTS, FACULTY AND ALUMNI

The University of the District of Columbia David A. Clarke School of Law is a community distinguished by its small size, by its singular commitment to public interest, public service, and public policy, and by its diversity, its pragmatism, and its activism.

There are approximately 300 faculty, students, and administrators on campus. The Dean, the Associate Deans, and the faculty know every student, and students know each other. Although students are, on average, older, have more professional experience, and are more diverse racially and ethnically than other law school student bodies, the experiences and the sense of purpose that bring them to UDC-DCSL create an uncommon bond among these students.

The UDC-DCSL and Antioch School of Law alumni are also important members of the community, sharing a commitment to public service and a perspective of the real value of the clinical education they received. Many of these alumni live and work in the Washington, D.C. area. Many participate in career services and student recruiting activities and programs. They also serve as mentors to students in the School's Mentor Program. They are a resource, formally and informally, to current students.

OVERVIEW OF UDC-DCSL STUDENT BODY

UDC-DCSL is one of six American Bar Association accredited law schools in the nation at Historically Black Colleges and Universities. It has the ninth highest percentage of students of color and the sixth highest percentage of African-American law students enrolled in the 195 ABA-accredited law schools.

The age range in the student body is from 21 to 57 years old; the mean age is 28. Current students have come to law school from a wide variety of careers, including teaching, community activism, business, arts administration, the ministry, medicine, law enforcement, social work, the military, government, and engineering.

STUDYING LAW AT THE UNIVERSITY OF THE DISTRICT OF COLUMBIA DAVID A. CLARKE SCHOOL OF LAW

UDC-DCSL's curriculum integrates traditional coursework with extensive clinical education for every student. All students participate in community service, and many participate in internships during the school year or summer. Students, under close faculty supervision in the legal clinics, represent women and children with AIDS; children with special education needs; seniors; tenants fighting illegal rent increases and tenant organizations seeking to purchase their own buildings; immigrants; governmental whistleblowers; and individuals working to start small businesses. More than a thousand of the District's most vulnerable residents are served each year. The curriculum focuses especially on the ethical issues that arise in public interest practice. This combination of traditional academic preparation, extensive clinical education, and direct service provides students with broad-based knowledge, with the fundamental skills of effective advocacy, and with a compassionate understanding of those in whose interest they will work.

UNIVERSITY OF THE DISTRICT OF COLUMBIA FACULTY

College of Arts and Sciences

DIVISION OF ARTS AND EDUCATION

Department of Education

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ALLIED HEALTH

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