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Note: The University reserves the right to revise its Bulletins and Schedules. See page 26 for further details.
# 1987-88 Academic Calendar
## for Graduate Students 1987-1988

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<tr>
<th>Quarter</th>
<th>Dates</th>
<th>Events and Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autumn</td>
<td>7</td>
<td>Monday Labor Day</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>Wednesday Autumn Quarter begins.</td>
</tr>
<tr>
<td>October</td>
<td>2</td>
<td>Friday Last date to apply for Pass/Fail option or to change to auditor status.</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Friday Final date for filing for November credit-by-examination.</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Monday St. Vincent DePaul day, Holiday-No classes.</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>Friday Final date for filing February Degree Conferral.</td>
</tr>
<tr>
<td></td>
<td>14-20</td>
<td>Wednesday-Tuesday Optional Mid-Term Week.</td>
</tr>
<tr>
<td>November</td>
<td>6</td>
<td>Friday Last date to withdraw from class.</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Saturday Administration of credit-by-examination.</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>Wednesday End Autumn day classes.</td>
</tr>
<tr>
<td></td>
<td>25-28</td>
<td>Wednesday Evening-Saturday Thanksgiving Holidays.</td>
</tr>
<tr>
<td>30-December</td>
<td>4</td>
<td>Monday-Saturday Final examinations for Autumn day classes.</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>Monday Last day of Autumn Quarter evening classes.</td>
</tr>
<tr>
<td>December</td>
<td>17</td>
<td>Tuesday-Monday Final examinations for Autumn Quarter evening classes.</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Monday Autumn quarter ends.</td>
</tr>
<tr>
<td>Winter</td>
<td>4</td>
<td>Monday Winter quarter evening classes begin.</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Tuesday Winter quarter day classes begin.</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>Friday Last date to apply for Pass/Fail option or to change to auditor status.</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>Friday Final date for filing for June Convocation.</td>
</tr>
<tr>
<td>January</td>
<td>1-6</td>
<td>Monday-Saturday Optional Mid-Term Week.</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>Friday Last date to withdraw from classes.</td>
</tr>
<tr>
<td>February</td>
<td>12</td>
<td>Saturday End Winter classes.</td>
</tr>
<tr>
<td>March</td>
<td>14-19</td>
<td>Monday-Saturday Final examinations for winter quarter.</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>Saturday Winter quarter ends.</td>
</tr>
<tr>
<td></td>
<td>20-25</td>
<td>Sunday-Friday Spring Break.</td>
</tr>
</tbody>
</table>
### Spring Quarter

<table>
<thead>
<tr>
<th>March</th>
<th>26</th>
<th>Saturday Spring quarter begins.</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>1-3</td>
<td>Easter Holidays.</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Friday Last date to apply for Pass/Fail option or to change to auditor status.</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>Friday Final date for filing for credit-by-examination.</td>
</tr>
<tr>
<td></td>
<td>23-29</td>
<td>Saturday-Friday Optional Mid-Term Week.</td>
</tr>
<tr>
<td>May</td>
<td>13</td>
<td>Friday Last date to withdraw from classes.</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>Saturday Administration of credit-by examination.</td>
</tr>
<tr>
<td>June</td>
<td>30</td>
<td>Monday Memorial day. Holiday-no classes.</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Friday End Spring classes.</td>
</tr>
<tr>
<td></td>
<td>4-10</td>
<td>Saturday-Friday Final examinations for spring quarter.</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Friday Spring quarter ends.</td>
</tr>
<tr>
<td></td>
<td>11-12</td>
<td>Saturday-Sunday Convocation.</td>
</tr>
</tbody>
</table>

### Summer Sessions

| June | 15 | Wednesday First summer session begins. |
| July | 4  | Monday Independence Day. Holiday-no classes. |
|      | 8  | Friday Final date for filing for October Degree Conferment. |
|      | 19 | Tuesday First summer session ends.    |
|      | 20 | Wednesday Second summer session begins. |
| August | 23 | Tuesday Second summer session ends. |
Administrative Officers:
University and
Liberal Arts and Sciences
Dear Graduate Student:

A warm welcome to the Graduate School of DePaul University!

This Bulletin is your guide through the program of studies you have chosen. It is also a guide through the policies and regulations of the University designed with an eye to both your needs as a graduate student and the integrity of your graduate degree.

There is another message I would like to convey. As a Catholic and Vincentian institution DePaul stands for religious personalism. You as a person are deeply respected for your God-given dignity. We ask our faculty and staff to accord you this respect on all occasions.

We invite you to make full use of the resources the University offers graduate students, especially those that outside of the class sessions enrich your academic and personal life; for example, faculty advisement, libraries, laboratories, career planning and placement, and spiritual counseling.

You are following thousands of men and women who in their graduate studies at DePaul have found the meaning of scholarship, the paths to career advancements, and the challenge of mind-expanding experiences. May your own studies be successful in all these ways.

Sincerely,

John T. Richardson, C.M.
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Liberal Arts and Sciences

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Carol M. Goodman Jackson .......................................... Admissions

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Grace B. Budrys, Ph.D. ................................................ Public Services
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Sheldon Cotter, Ph.D. ................................................... Psychology
Zuhair El Saffar, Ph.D. ................................................ Physics
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Edwin J. Schilling, Ph.D. ............................................... Science Teaching
Charles R. Strain, Ph.D. .............................................. Liberal Studies
Charles Suchar, Ph.D. .................................................. Sociology
Liberal Arts and Sciences—
General Information
PHILOSOPHY

DePaul University, founded on Judeo-Christian principles, continues to assert the relevance of these principles through higher education to modern man and woman. The University expresses these principles especially by passing on the heritage of St. Vincent de Paul: individual perfection manifested through purposeful involvement with other persons, communities and institutions.

The College of Liberal Arts and Sciences assumes as its direct educational task to foster in its students those traditions of scholarliness central to advanced studies and research. The programs for the master’s and doctoral degrees are designed to develop in graduate students a broad and deep knowledge of their chosen discipline, the research methodology of the discipline and the development of those competencies necessary for their personal advancement in their scholarly, professional or creative careers.

Through the steady flow of its graduates into the community, the College strives to assist contemporary society meet its need for educated individuals willing to be of service to others.

ACCREDITATIONS

DePaul University is accredited by:

The American Assembly of Collegiate Schools of Business
The American Psychological Association
The Association of American Law Schools
The National Association of Schools of Music
The National Council for Accreditation of Teacher Education
The National League for Nursing
The North Central Association of Colleges and Secondary Schools
DePaul University is on the approved list of:

The American Bar Association
The Illinois Department of Registration and Education
The Illinois Office of Education, State Teacher Certification Board
The National Association for Music Therapy
The State Approving Agency for Veterans Training

DePaul University is a member of:

The American Association of Colleges of Nursing
The American Association of Colleges for Teacher Education
The American Association of Higher Education
The American Association of University Women
The American Council on Education
The Association of Catholic Colleges and Universities
The Association of Governing Boards of Universities and Colleges
The Council of Graduate Schools
The Midwest Alliance in Nursing
The National Association of Independent Colleges and Universities
The National Catholic Education Association
The National League for Nursing

LOCATIONS

DePaul University has four locations: the Lincoln Park Campus (LPC), the Loop Campus (LC), the O'Hare Campus, and the Oak Brook Campus.

The Lincoln Park Campus, is located approximately four miles north of the Chicago Loop, on the near north side of the city. It is bounded by Fullerton, Webster, Racine and Halsted Avenues. The campus is easily accessible by public transportation.

Located here are the academic buildings and libraries for the Liberal Arts and Sciences, Education, Music, and Goodman School of Drama; the residential, social and athletic buildings for students; the residences for clerical faculty; and the Church of St. Vincent de Paul.

The Loop Campus includes the Frank J. Lewis Center, the Comerford J. O'Malley Place, and the Administration Center. These buildings are located at the intersection of Jackson Boulevard and Wabash Avenue in the heart of Chicago's Loop.

In addition to the The College of Liberal Arts and Sciences (LAS) Loop Campus Graduate Office, the buildings contain the offices of the general administration, the College of Law, the College of Commerce, and the School for New Learning, as well as classrooms, library, theater, bookstore and chapel.

The O'Hare Campus is located near O'Hare Airport at 3166 River Road, Des Plaines, Illinois (at the intersection of Devon Avenue and River Road). The College of Commerce, the College of Liberal Arts and Sciences, the School of Education and the School for New Learning all offer courses at this campus.

The Oak Brook Campus is located at Two Westbrook Corporate Center, Suite 200, Westchester, Illinois (on 22nd Street, just east of the I-294 tollway). The College of Commerce, the College of Liberal Arts and Sciences, the School of Education and the School for New Learning offer courses at this campus as well.
LIBRARIES

The DePaul Libraries are divided into five different units: the Lincoln Park Campus Library, the Loop Campus Library, the Law Library, the Oak Brook Campus Library, and the O'Hare Campus Library. In the DePaul Libraries, the delivery of information and materials is increasingly linked to computer technologies. The Library Computer System (LCS) is an on-line circulation system that contains records for materials in the DePaul Libraries as well as the materials in the libraries of 26 other colleges and universities in Illinois. These universities include the University of Illinois at Urbana-Champaign, which is the third largest university library in the nation, and all the other state universities in Illinois. There are LCS terminals on all library floors that allow users to search for materials by author and/or title in any LCS library. The Circulation Departments can use LCS to order items from these LCS libraries and have then sent to DePaul. Another computer system, OCLC, can be used to locate and obtain materials throughout the United States. A third computer system accesses information resources in the sciences, social sciences, business, and humanities and produces customized subject bibliographies.

The combined collection of the DePaul University Libraries includes nearly 520,000 volumes, 116,000 microform volumes, over 8,500 current serial subscriptions, and a varied microcomputer software and audiovisual collection. Handbooks, brochures, and bibliographies explaining library services, describing the physical arrangement of the libraries, and detailing various aspects of the collection are available in all five locations.

The Lincoln Park Campus Library supports programs in the College of Liberal Arts and Sciences, and the School of Education, the School of Music, and the Theatre School. Areas of particular strength are religion, philosophy, and Irish studies. The library also has a microcomputer laboratory with 20 IBM-compatible computers, a media area for using audiovisual materials, an Education Resource Center with materials for elementary and secondary school teaching, the Yvonna Williams Derr Collection of Afro-American studies, an art slide collection, and a collection of music recordings and scores. Rare book collections include the Napoleon Collection, the Dickens Collection, and the Sporting Collection, as well as numerous titles dealing with nineteenth-century literature and book illustration. The University Archives contains various materials documenting the growth and development of DePaul.

The Loop Campus Library primarily contains business materials to support the programs of the College of Commerce but also has core collections of materials in other areas. The Reference Department maintains the industry file and the corporate annual report file. A microfiche collection of corporate reports dating back to 1978 and Moody's Manuals starting with 1920 also are available.

The library of the College of Law has an extensive collection of Anglo-American legal materials, provides both basic and advanced and resources needed for study and research in the law school curriculum. The collection includes reports of American federal and state courts; court reports of Great Britain; the codes, constitutions and statutes of all fifty states and American territories; materials on tax law; and legal periodicals. Designated an official depository for government publications, the Law Library provides a comprehensive collection of federal documents.

The Oak Brook and O'Hare Campus Libraries offer an innovative approach to library service by providing access to information using computers and telecommunications. There are no permanent book or magazine collections; LCS or OCLC are utilized to identify needed books which are then sent to the Suburban Campuses in a scheduled intra-university shuttle. Journal articles are transmitted from the two main campus libraries by telefacsimile machines.
SERVICES

Academic Computer Services

Academic Computer Services (ACS) provides facilities and resources for the purpose of instruction and research at DePaul University. DePaul's academic network consists of a VAXcluster of two VAX 11/780s, an IBM 4381, and an AT&T 3B2. Microcomputers are also provided on all campuses to further aid in the objective of achieving computer literacy throughout the University community.

The academic computer facilities currently support 408 computer ports and 512 terminal ports of which 144 are dial-in lines. Approximately 200 terminals and 250 microcomputers are available for student use within the following lab facilities:

**Administration Center**

- Terminal Lab
  - 243 S. Wabash, 4th Floor
  - Chicago, IL 60604
  - 312 341-8336

- Microcomputer Lab
  - 243 S. Wabash, Room 208
  - Chicago, IL 60604
  - 312 341-6126

**Oak Brook Campus Terminal & Micro Labs:**

- 2 Westbrook Corporate Center
  - Westbrook, IL 60515
  - 312 566-2026
  - 312 341-8873

**Lincoln Park Campus—Schmitt Academic Center**

- Terminal Lab: (SAC)
  - 2323 N. Seminary, Room 193
  - Chicago, IL 60614
  - 312 341-8342

- Microcomputer Lab
  - 2323 N. Seminary, Room 472
  - Chicago, IL 60614
  - 312 341-8051

**O'Hare Campus Terminal & Microcomputer Labs:**

- 3166 River Road
  - Des Plaines, IL 60018
  - 312 296-5344

**Lewis Center**

- Computer Learning Center
  - 25 E. Jackson, 13th Floor
  - Chicago, IL 60604

Students have access to a variety of software applications, languages, and utilities. Word processing, statistical packages, financial modeling, and database management are available for coursework and research. Computers are used extensively in coursework within the traditional computer science curriculum as well as in commerce and the humanities.

Additional services provided by ACS include quarterly seminar offerings and a microcomputer purchase program. Both services are available to faculty, staff, and students. The microcomputer purchase program provides discount purchase arrangements, hardware/software consultation, and end-user training.

**Alumni Association**

Upon graduation, all students become members of the Alumni Association. The activities and services of the Association, varied and many, are designed to meet the professional and social needs of DePaul graduates. Communication with the Alumni Office on changes of address, marital status, etc., will assure continual notification on current university activities, and information on fellow alumni. For more information, contact the Alumni Relations Office, Administrative Center, 234 South Wabash—7th Floor, Chicago, Illinois 60604 or call (312) 341-8584.
Campus Ministry

Campus Ministry is open and available to persons of all faiths; we provide the University community with many and varied opportunities for worship and volunteer service. Retreats, liturgy planning, food and clothing drives, Tailgate Parties, and Charity Dances are just a few of the programs sponsored by Campus Ministry. Offices are located on the second floor of the Harold L. Stuart Center on the Lincoln Park Campus, and downtown at the Lewis Center in Room 1630. Daily and Sunday Masses are offered on both campuses. For information call 341-8515 or 341-6910.

Career Planning and Placement.

The University has two offices offering career planning and placement services to graduate students and alumni. Staff act as resource persons for those exploring career options as well as for those actively involved in a targeted job search. Appointments are available at either the Loop campus, room 1716 of the Lewis Center or at Lincoln Park Campus, room 176 of the Stuart Center to discuss career/job issues.

DePaul’s Career Planning and Placement professionals are committed to helping develop clients’ skill in identifying appropriate career opportunities, and effectively seeking out and securing satisfying employment. The tools utilized by the staff and made available to clients include career and/or job search seminars, mock interviews, career libraries on both campuses, vocational interest inventories, and individual counseling.

Both full- and part-time job leads are available through the Placement Centers. The acquisition of practical work experience related to career objective is especially encouraged for graduate students seeking a change of career direction. Leads for immediate openings are continually listed and updated, and an active on-campus interview program also gives students and alumni access to employment opportunities.

The Career Planning and Placement Centers have recently developed an innovative program for the registration and maintenance of full-time job seekers. A computerized database, the Applicant Information and Retrieval System (AIRS), allows candidate information to be called up and matched to an employer’s job specifications. Placement staff can then assemble resumes of suitable candidates and refer them immediately to the employer for consideration. Such rapid turn-around time has dramatically improved the favorable consideration given to candidates referred from DePaul.

Community Mental Health Center

The DePaul University Community Mental Health Center is an agency funded by the Illinois Department of Mental Health and DePaul University. In addition to its services to the community and to DePaul students, it is also a training facility, providing practicum experience for graduate students, both in psychology and social work.

To qualify for service, a student must be currently enrolled in the University full-time, part-time or evening. Program focus is on behavioral, emotional or adjustment problems, rather than tutorial or learning difficulties. Confidentiality is a high priority and no information is released to any individual without client consent.

The Mental Health Center is located on the third floor of the Peter F. Byrne Hall, Lincoln Park Campus. For further information, call 341-8292; and ask for on intake worker or Della Corirossi, A.D.S.W., Ph.D., Director.
Health Insurance

Accident and health group insurance is offered on a voluntary basis to graduate students. The application forms may be secured from the offices of the Student Health Service on the Lincoln Park Campus or the Dean of Students Office in the Lewis Center.

Housing

The Off-Campus Housing Office provides a referral service of available apartments and rooms in the Lincoln Park area and other areas accessible to both campuses. The service maintains listings of apartments, rooms, work-exchanges and people seeking roommates. The service is strictly a referral and provides necessary information to allow students to contact landlords. The office is located in the lobby of Concoran Hall, 910 W. Belden during the academic year (312-341-8620). During the summer the office is located at Clifton Hall, 2312 N. Clifton (312-341-8020/8621).

Recreation

Alumni Hall houses a swimming pool and a gymnasium. Hours are scheduled for student and faculty uses throughout the academic year. Monthly scheduling may be obtained through the Athletic Department.
MASTER'S PROGRAMS

For the master's degree, all programs involve one or more of the following: 1) Credit Hours, 2) Degree Candidacy, 3) Language/Research Tool, 4) Thesis, 5) Paper on Approved Topic, 6) Integrating Critique or Examination, 7) Final Examination, and 8) Program Time Limitation.

Credit Hours. For the master's degree, most programs for graduate students require forty-eight quarter hours of course work. When the program includes a thesis, no more than eight quarter hours of registration in Thesis Research will be counted toward the degree.

Specific degree requirements are listed in the departmental and program sections of this Bulletin.

Degree Candidacy. Admission to candidacy implies the faculty is satisfied that the master's candidate is knowledgeable in his or her area of specialization, and is competent in the use of any required research tools.

Language/Research Tool. A department or program director, with the approval of the Dean, can require language/research tool requirements as the student's program and research may demand.

Thesis. The University offers the master's degree both with and without the thesis; however, the thesis is required by some departments. The thesis is limited to the student's field of specialization and should offer satisfactory evidence of the candidate's potential for scholarly research.

After degree candidacy has been granted and graduate research courses completed, the candidate must present the topic to the Graduate Committee of his or her department or program of specialization for approval. At the time of presentation, the candidate should have a clear concept of the nature of the thesis problem, the possibilities for making the investigation, and the technique to be used. The Graduate Committee may require the candidate to present the results of some preliminary investigation before granting approval.

The student is advised to consult the College Office for information regarding the required form and type of paper to be used for the thesis. Responsibility for fulfilling these requirements lies with the student, not the typist.

The student, after completing the thesis, will submit it to the director of his or her Thesis Committee for consideration. Whatever changes or additions are necessary must be made by the final date of acceptance, or the student will not be permitted to graduate until a subsequent convocation. When the thesis is accepted, the student must file the designated number of typewritten copies in the College Office. The date of filing is published in the current Bulletin and the class schedule or may be obtained directly from the College Office. The responsibility for meeting this deadline lies with the student.
Paper on Approved Topic. The type and length of the paper is determined by the department or program that lists it as a requirement for the master's degree. The purpose of the paper is to give evidence of the student's ability to find, select, organize and interpret material in a manner consistent with the standards and practices of the discipline involved.

The student's choice of a paper topic is to be approved by his or her department or program. The paper is to follow the form approved for a thesis, and must be submitted within two months after the approval of the topic. Only one copy of the paper need be presented to the student's major department or program advisor.

Integrating Critique or Examination. Procedures for such a critique or examination are set in advance in each specific case through consultation between the student and the department or program advisor.

Final Examination. A student is eligible for the final examination only after all the other degree requirements have been completed. The type and the subject matter of the examination follow the regulations established in the various departments and programs. If the student does not pass the examination, the Dean may grant permission for another examination upon the written recommendation of the department or program advisor of the student's major field. The examination may not be repeated until after the next convocation nor may the examination be taken more than twice.

Program Time Limitation. Graduate students in master's programs are expected to complete their program degree requirements within a six-year period. When a graduate student fails to finish before the end of the sixth year, the department or program director may recommend, on receipt of the student's petition, in writing, to the Dean, an extension of time with or without additional courses, examinations, or other conditions.

DOCTORAL PROGRAMS

The Doctor of Philosophy, the highest academic degree that DePaul University confers, is offered in the departments of Philosophy and Psychology. The degree shows that the recipient has demonstrated proficiency in a broad area of learning, as well as the potential to explore and advance that field of knowledge by independent research.

Following are the minimum general requirements for all candidates for the Doctor of Philosophy degree in the areas of 1) Credit Hours, 2) Related Field of Study, 3) Academic Achievement, 4) Residence, 5) Language and Allied Requirements, 6) Examinations, 7) Admission to Candidacy, 8) Dissertation, and 9) Program Time Limitations. Additional requirements set by the departments are stated in the departmental sections of this Bulletin.

Credit Hours. For the doctoral degree the graduate student will complete a minimum of 108 quarter hours of post-baccalaureate credit of which a maximum of 36 quarter hours of credit is applicable to the dissertation. At the department's discretion, a student holding a Master's degree from an accredited institution may be accorded advanced standing. In such cases, the department will specify remaining program requirements, which must involve no less than 60 quarter hours of credit.

Related Field of Study and Language Requirements. The program of graduate studies chosen for the doctoral degree may include study in related fields and language requirements as determined by the student's Graduate Advisory Committee.
**Academic Achievement.** A student will be advised to withdraw from the doctoral program when the Graduate Advisory Committee judges that he or she is not maintaining satisfactory progress toward the degree. Students are required to maintain at least a "B" average. A course grade below "C" is unsatisfactory and will not be counted toward completing degree requirements. The determination of satisfactory progress is not limited to grades and grade point average, but includes all factors in the student's performance.

**Residence.** At least three consecutive quarters beyond the master's level must be spent in full-time study at DePaul University. Full-time study is defined as registration for a minimum of eight quarter hours in a quarter. With prior approval of the departmental Graduate Advisory Committee, the student may satisfy residency by course work, by participation in seminars, or by research performed off campus. To reflect the diversity of graduate study for the Ph.D. degree at stages other than the residency stage, doctoral candidates are full-time students who are registered for Reading and Research (four quarter hours); for Thesis Research (four quarter hours); or for Candidacy Continuation (zero hours credit).

**Examinations.** Two examinations are required for all doctoral candidates: the Comprehensive (or Doctoral Candidacy) Examination; and the Final Examination on the dissertation. A department may, in addition, require an initial or preliminary examination. Toward the end of the year of residency and with the language and related fields requirements satisfied, the doctoral student may petition the department for the Comprehensive (or Doctoral Candidacy) Examination. The department will notify the Graduate Office of all approved petitions, and, as soon as the examinations have been graded will notify the College Office of the results. The examination may be written and/or oral. A student is not allowed to take it more than twice. The Final Examination is on the doctoral dissertation. A doctoral candidate may not petition for his or her Final Examination prior to eight months after admission to candidacy. The chairperson of the Examination Committee will prepare a report of the results of the Final Examination, signed by all members, and send it to the College Office.

**Admission to Candidacy.** Admission to candidacy implies that the faculty is satisfied the doctoral candidate is sufficiently knowledgeable in his or her area of specialization and in the use of research tools to be able to prepare an acceptable dissertation. For Admission to Candidacy the doctoral candidate shall complete a) three consecutive quarters of full-time study beyond the master's level; b) departmental language or allied requirements; c) and Comprehensive (or Doctoral Candidacy) Examination. The College Office will issue to each doctoral candidate a letter to authenticate admission to candidacy. Admission to Candidacy will be entered on the doctoral candidate's scholastic record. There is a time limit of four years between admission to the College of Liberal Arts and Sciences and admission to candidacy. Once admitted to candidacy, the doctoral candidate must maintain registration in the University in each of the quarters of the academic year until the degree requirements have been completed. Among other courses, the following are appropriate to maintain registration: Independent Study (four quarter hours); Residency Candidacy Continuation (non-credit); or Non-Resident Candidacy Continuation (non-credit). Failure to
comply with this requirement for one or more quarters invalidates the candidacy. Candidacy status may be reinstated only after the student has applied for readmission (see Readmission Procedures).

**Dissertation.** The doctoral candidate will prepare a dissertation based on his or her research. The purpose of the dissertation is to evidence both one's scholarship and ability to carry on such independent research as definitely contributes to the advancement of knowledge. The topic of the dissertation should be submitted to the head of the department of specialization who will appoint a Dissertation Committee to approve the topic and to assist the doctoral candidate through all stages in the preparation of the dissertation. The chairperson of this committee is the dissertation director.

The dissertation is the principal basis of the Final Examination. When the doctoral candidate files the petition for the Final Examination, the College Office is to be notified by the department chairperson, of the date, time, and place of the examination, and of the names of the members of the examining committee.

All doctoral dissertations are to be microfilmed. After the Final Examination has been passed, the doctoral candidate submits to the College Office the designated number of typewritten, unbound, final copies of the dissertation. (The first copy is to be in satisfactory condition for microfilming.) The candidate also prepares and submits a 350-word abstract of the dissertation. The abstract will be published in Dissertation Abstracts and will include an announcement that the dissertation is available in film form. One microfilm copy will be deposited in the University Library and will be available for inter-library loan.

To defray the costs of microfilming and publication, a fee of $40.00 is assessed. Microfilming is considered by the University to be a form of publication. Publication by microfilm, however, does not preclude the printing of the dissertation in whole or in part in a journal or monograph.

When these steps have been completed, the doctoral candidate becomes eligible for degree conferment at the next convocation.

**Program Time Limitations.** For graduate students in a doctoral program, the time limits to complete the requirements for the Doctor of Philosophy degree are: 1) between admission to the doctoral program and admission to candidacy: not more than four years; and 2) between admission to candidacy and the final examination: not less than eight months, and not more than five years.
Admission Classifications

Applicants are admitted to the College of Liberal Arts and Sciences on the basis of their ability to complete programs of study and research prescribed for the master's and doctoral degrees. Specifically, admission qualifications are measured by academic criteria.

In accord with these criteria, applicants are admitted in one of three major categories: degree seeking, non-degree seeking, and student-at-large.

DEGREE-SEEKING STUDENTS

Applicants are admitted as degree-seeking students in either of two ways: full or conditional.

Degree-Seeking Status, Full:

The minimum requirements for this status are:
Bachelor's degree conferred by an accredited institution,
Scholastic achievement in undergraduate studies satisfying all requirements for entering a specific graduate program,
Unconditional approval by the department or program director of the applicant's proposed course of graduate study, and
Submission to the LAS Graduate Office of all required supporting credentials.

Please note these are minimum requirements for full admission. The departmental and program sections of this Bulletin provide additional, more specific and selective, criteria for admission to specific programs.

Degree-Seeking Status, Conditional:

The minimum requirements for this status are:
Bachelor's degree conferred by an accredited institution,
Scholastic achievement in undergraduate studies indicating a capacity to pursue successfully a specific program of graduate study,
Conditional approval by the department or program director of the applicant's proposed course of graduate study, and
Submission to the LAS Office of all required supporting credentials.

A conditionally admitted applicant is eligible for re-classification to full, degree-seeking status when the conditions of his or her admission have been satisfied.

NON-DEGREE SEEKING STUDENTS

The Dean, at his discretion, may admit as students those applicants who do not wish to pursue an advanced degree. Non-degree seeking students may, at some future date, make application for re-classification to degree-seeking status.
NON-DEGREE SEEKING STATUS

The minimum requirements for this status are:
- Bachelor's degree conferred by an accredited institution,
- Scholastic achievement in undergraduate studies indicating a capacity to pursue successfully graduate course work,
- Approval by the Dean, and
- Submission to the LA&S Office of all required supporting credentials.

When such students file for re-classification, the departmental or program director of their specific graduate course of studies may recommend, in writing, to the Dean that a maximum of three courses (12 quarter hours) completed by the student under the non-degree seeking status be counted toward fulfillment of the advanced degree requirements.

STUDENT-AT-LARGE

The College of Liberal Arts and Sciences may admit as a student-at-large a graduate student currently enrolled in a graduate program in another accredited institution upon the recommendation, in writing, of his or her own Graduate Dean.

A student-at-large must complete the form for admission to the College Office. The only supporting credential required is a letter from the Dean of the Graduate School where the student is in good standing. This letter should state in general terms the course or courses the student is authorized to take.

Under no circumstances does this classification constitute admission to a degree-seeking program at DePaul University.

DEPAUL SENIORS

Seniors in any of the undergraduate colleges or schools of DePaul University are eligible to apply for admission to the College of Liberal Arts and Sciences while completing their undergraduate program.
GENERAL PROCEDURES

Procedures for admission to the College of Liberal Arts and Sciences involve a completed application form, supporting credentials, admission fee, deadlines, and the Dean's admission letter.

Application Form: You can obtain a graduate application form either by mailing your request to the LAS Loop Office, Room 1603, DePaul University, 25 East Jackson, Chicago, Illinois, 60604 or by calling (312) 341-8870. Please include your proposed field of study in your request because the composition of the "application packet" varies from department to department and from program to program.

Note: An undergraduate DePaul senior is eligible to submit an application to the LAS Graduate Program before completing his or her undergraduate program.

Supporting Credentials: OFFICIAL TRANSCRIPTS, IN DUPLICATE, of your academic records at all universities, colleges, and junior colleges attended are required. Please direct the registrar(s) to mail these official transcripts directly to the LAS Loop Office, DePaul University. Since there is frequently a delay in the forwarding of transcripts, you are advised to make your request as early as possible.

Note: Several departments and divisional programs require additional supporting credentials. Please consult the specific departments or divisional program directors listed in this Bulletin to determine what additional materials are required for admission to the specific course of graduate study, and to determine deadlines for the completion of all application materials.

An undergraduate DePaul senior, making application, should request the Registrar to forward two official transcripts to the LAS Loop Office, a written recommendation for admission from the appropriate chairperson or program director, and written certification by the appropriate Undergraduate Dean of the senior's completed and uncompleted requirements for the bachelor's degree.

Admission Fee: A check or money order payable to DePaul University in the amount of $2000 must accompany the completed application form. Any application form received in the LAS Office without the fee will be returned unprocessed. The fee is non-refundable.

Dean's Admission Letter: The Dean will notify you by letter of your admission status. It is the policy not to review, evaluate or act upon any application for admission without having the completed application form, all the supporting credentials, and the application fee.

If you do not enroll at the University within one year of the date of your letter of admission, you must complete an application for Readmission.
INTERNATIONAL STUDENTS

Initially, all students educated outside the United States and its possessions should request general admission information and application forms from:

Graduate Admissions
Liberal Arts and Sciences
Room 1603 Lewis Center
25 East Jackson Blvd.
Chicago, IL 60604
USA

After receiving general admission information, as an international student, your procedure for admission will involve 1) a completed application, 2) supporting credentials, 3) admission fee, 4) deadlines and, 5) letter of admission and/or Form I-20.

Application Form: You can obtain a graduate application form either by mailing your request to the LA&S Loop Office, Room 1603, DePaul University, 25 East Jackson Boulevard, Chicago, Illinois 60604 or by calling (312) 341-8870. Please include your proposed field of study in your request because the composition of the "application packet" varies from department to department and from program to program.

Supporting Credentials: OFFICIAL TRANSCRIPTS, IN DUPLICATE, of academic records at ALL universities, colleges, and junior colleges attended are required. Please direct the registrar(s) to mail these official transcripts directly to the LA&S Loop Office, DePaul University.

English Proficiency is required for admission. Evidence of adequate financial support is required of applicants who request student visas, as scholarships are not available.

Admission Fee: A non-refundable fee of $20.00 (check or money order payable to DePaul University in U.S. dollars) must accompany the completed application form. The application will not be processed if this fee is not paid.

Deadlines: Application deadlines for international students are:

<table>
<thead>
<tr>
<th>Initial Enrollment</th>
<th>Deadline</th>
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<tbody>
<tr>
<td>Autumn Quarter</td>
<td>June 4</td>
</tr>
<tr>
<td>Winter Quarter</td>
<td>October 1</td>
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<tr>
<td>Spring Quarter</td>
<td>January 2</td>
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<tr>
<td>Summer Quarter</td>
<td>March 4</td>
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</table>

As an international student, you are strongly urged to make application as early as possible. Usually there are long delays in the forwarding of all supporting credentials.

Letter of Admission and/or Form I-20: The Dean's formal letter of admission and/or the issuance by the International Advisor of Form I-20 will occur after all admission requirements have been fulfilled.
READMISSION PROCEDURES

If you were previously enrolled in a graduate program in the College of Liberal Arts and Sciences but have not been in attendance for a period of one calendar year or longer, but not more than four calendar years, you must file a readmission form with the LA&S Office. (If more than four years have elapsed since you have been in attendance, you must file a new application.) The form must be submitted at least two weeks prior to the day of registration for the term in which you expect to resume your studies. There is a $5.00 service fee for processing a readmission form.

TWO official copies of any transcript recording scholastic work taken while not enrolled at DePaul University must be submitted. As a general rule, students are held to the degree requirements that are in force at the time of readmission.

RE-CLASSIFICATION PROCEDURES

Should you desire a change in your major or admission status, you must file a "Request for Re-classification" form with the LA&S Office.

STUDENT RESPONSIBILITY

As a graduate student you assume the responsibility to know and meet both the general and particular regulations, procedures, and deadlines set forth in this Bulletin.

Every effort has been made to provide you with final and accurate information. The University, however, does reserve the right to revise its bulletins and schedules of classes, and to change any policies, procedures, regulations, programs, requirements, courses or schedules of tuition and fees.

ACCESS TO EDUCATIONAL RECORDS

The University follows the requirements of the Family Educational Rights and Privacy Act of 1974 which permits all students to review their educational records. The procedures for such review and the rights of students in this regard are set forth in detail in the annually published Signpost.
Registration Procedures

GENERAL INFORMATION

Social Security Number. Your social security number will be required for registration. If you do not have such a number, you should apply for one at your local Social Security office. International students who do not have a social security number should contact in person the Registrar's Office for an identification number assignment.

Academic Counseling. Your graduate study differs significantly from your undergraduate study in the amount of individual attention faculty members will give to you. As a graduate student, you are expected to make appointments with your professors to insure that you receive individual attention in an orderly and unhurried manner.

If you are a degree-seeking graduate student, you must contact your faculty advisor prior to registration for signed approval of your registration form. If you are a non-degree-seeking student or a student-at-large, you should contact either the LA&S Loop Office or the appropriate department or program director prior to registration. (Note: All graduate registration forms require the signature of an authorized member of the College of Liberal Arts and Sciences.)

Course Credit. Credit is accumulated on the basis of quarter hours. Courses carry four quarter hours credit unless otherwise noted. For comparative purposes, 1 quarter hour equals 1/2 semester hour; 4 1/2 quarter hours equal 3 semester hours.

Graduate credit is not granted for advanced undergraduate courses (300 level) if the recorded grade is below "B." No credit will be given for any graduate level courses (400 and over) with a grade below "C."

Course Revisions. The University reserves the right to add or cancel courses, revise subject matter content, or make any other changes it deems necessary.
SPECIFIC INFORMATION

Mail Registration. Schedules for current course offerings may be picked up in the LA&S offices on either campus. To eliminate waiting in registration lines and to avoid the possible closing of desired classes, the following students will be mailed pre-printed registration forms: (1) graduate students enrolled during the previous quarter. (This includes Spring Quarter students for the following Autumn Quarter); (2) formally admitted new graduate students; (3) readmitted graduate students.

Graduate students who have attended the University within one year prior to the quarter for which they wish to register, but who are not scheduled to receive pre-printed forms, may pick up mail registration materials at the LA&S Loop Office.

In-Person Registration. Students who do not register by mail must register in-person on the date and at the location designated in the academic calendar.

Registration in Courses in Other Colleges or Schools. Graduate students are able to register for courses offered in other colleges or schools of the University. This registration requires the written permission of both their advisor and the College in which the course(s) will be taken. The registration forms, however, must always be returned directly to the LA&S Loop Office for the necessary approval to process the forms.

Residence Registration. Whether in residence or not, all admitted graduate students, master's and doctoral levels who will use the facilities of the University (library, laboratory, etc.) or who will consult with faculty members regarding theses, dissertations, or examinations, must be registered in each quarter.

Course Load. A full course load consists of eight or more quarter hours per quarter. Graduate students are advised to undertake no more employment than is reasonably compatible with their proposed graduate studies in any given term. For students fully employed, registration for two courses in a term is the suggested maximum.
Grades, Credits, and Course Policies

Grades

The key to the system of grading used in the College of Liberal Arts and Sciences is as follows:

Faculty Grading

A  Exceptional achievement
B  Superior achievement (minimum expected of graduate students in advanced undergraduate courses)
C  Basic achievement
D  Achievement unacceptable for graduate credit
F  Failure
FX  Failure because of excessive absences
IN  All requirements for given course not completed at end of term
R  Thesis and other continuing research not completed at end of the term

Note: A grade of “D” from another college or school of the University is not acceptable for graduate credit in the College of Liberal Arts and Sciences.

Administrative Grading

W  Authorized withdrawal
AU  Not for credit
M  Final grade missing at time grades were processed

Note: Graduate students are expected to maintain a higher level of academic achievement than undergraduate students. A basic “C” grade will be acceptable in no more than half of the graduate courses, those numbered 400 and above, completed in the major and the minor sequences.

Credits

All courses carry four quarter hours of credit unless otherwise specified.

Credit Transfer: Credit transfer in degree programs leading to the master's or doctoral degree ordinarily is not allowed. However, the Dean may authorize an exception to this policy when, in the judgment of the Dean and the department chairperson or program director, the circumstances justify the exception.
COURSE POLICIES

Course Numbering: Courses numbered 300 to 399 inclusive are advanced undergraduate courses normally taken in the junior and senior years. If listed in this Bulletin, they may be accepted for graduate credit within the limitations stipulated by the specific departmental chairpersons or program directors.

Advanced undergraduate courses: students must have a grade of at least "B" if they are to receive graduate credit.

Graduate courses (those numbered 400 and above): A "C" grade is acceptable in no more than half the graduate courses completed by the students in their major and minor sequences.

Course Attendance: No one is permitted to attend a class for which he or she has not been properly registered. Should a student's name not appear on the class sheet, it is the student's responsibility, not the faculty member's, to resolve the problem. An instructor cannot enter a student's name on a class sheet nor give such a student a grade without first seeing the student's copy of an authorized enrollment change form or registration form.

No registration is complete or valid until all financial arrangements have been completed. Any student owing money to the University from a previous term will not be registered until such an obligation has been paid.
Graduation Procedures

Procedures for graduation involve the graduation application, degree requirements, requirements for graduation with distinction, graduation fee, deadlines, Dean's confirmation letter, convocation ceremony and receipt of the diploma.

Application Form: You can pick up a graduation application or mail your request to the LA&S Loop Office, Room 1603, DePaul University, 25 East Jackson Boulevard, Chicago, Illinois 60604, or phone (312) 341-8870.

Degree Requirements: You must have successfully completed all of the general and specific degree requirements as listed in the appropriate departmental or program sections of the College of Liberal Arts and Sciences Bulletin under which admission was granted.

Completed degree requirements can include the submitting of the dissertation or the thesis or the research paper; examination scores; and, if necessary, grade changes.

Graduation with distinction: Graduation "with distinction" is conferred when a student a) receives the grade of "A" in at least 75% of the courses in the degree program and no grade lower than a "B" in the remainder of the degree courses, and b) passes the final oral or written examination "with distinction."

Graduation Fee: You will be billed for a $25.00 graduation fee, payable to DePaul University.

You will automatically be billed a binding fee for the minimum number of thesis, dissertation or research paper copies required by your department or program director.

Deadlines: Specific dates are established for submission to the College Office of the completed graduation application and for completion of degree requirements.

Application for Graduation

<table>
<thead>
<tr>
<th>Deadline</th>
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<tbody>
<tr>
<td>June Convocation</td>
<td>January 30</td>
</tr>
<tr>
<td>October Degree Conferral</td>
<td>July 6</td>
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<tr>
<td>February Degree Conferral</td>
<td>October 16</td>
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Completed Grade Changes and Examination Scores

<table>
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<tr>
<th>Deadline</th>
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<tbody>
<tr>
<td>June Convocation</td>
<td>May 1</td>
</tr>
<tr>
<td>October degree Conferral</td>
<td>August 15</td>
</tr>
<tr>
<td>February degree Conferral</td>
<td>December 15</td>
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Note: If you are applying for the June Convocation, you may register in the Spring Quarter for courses required in your degree program.

Completed Thesis and Dissertation

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<tr>
<td>June Convocation</td>
<td>May 15</td>
</tr>
<tr>
<td>October degree Conferral</td>
<td>September 1</td>
</tr>
<tr>
<td>February degree Conferral</td>
<td>January 6</td>
</tr>
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</table>

Application for Graduation is made for a specific convocation. If you cancel or are ineligible to graduate, you must re-apply for the next convocation.

The College Office will notify you by letter of your confirmation for graduation and will provide you with details concerning the convocation.

Convocation: Graduation ceremonies are held in June of each academic year.

To graduate "in absentia," you must request permission in writing from the Dean.

Diploma: The convocation ceremonies are symbolic. The diploma is mailed shortly after the convocation.
Graduate Financial Policies and Procedures
Tuition and Fees

DePaul University is a not for profit corporation. No student pays the actual cost of his or her education. Tuition and fees are held at their present level through gifts of alumni, foundations, corporations, the Vincentian priests and brothers and friends of the University. All policies are under continual review. Therefore, the Board of Trustees reserves the right to change its charges as conditions require. Tuition and fees for services and materials are for the academic year 1987-88 and are applicable only to graduate students.

GRADUATE STUDENT TUITION

Tuition for Liberal Arts and Sciences:
Courses in the 100-200 series, per quarter hour .................. $131.00
Courses in the 300-700 series, per quarter hour .................. $157.00
Computer Science Courses in the 300-600 series, per quarter hour .. $168.00

GENERAL FEES

Fees are not refundable
Graduate Application Fee .............................................. $20.00
Readmission Fee .......................................................... 5.00
Registration Fee .......................................................... 10.00
Late Registration Fee .................................................... 25.00a
Delinquency Fee .......................................................... 50.00
Deferred Examination Fee
   On Designated Dates ................................................... 10.00
   At Time Not Designated ............................................. 20.00
Graduation Fee-Master's Degree ..................................... 25.00
Graduation fee-Doctoral Degree ..................................... 40.00
Thesis Binding (Per Copy) ............................................. 10.00
Each Transcript of Credits Fee ....................................... 2.00
Each Returned Check Service Fee ................................... 20.00b
Computer User Fee ..................................................... $20.00c

a. In addition to the regular registration fee.
b. If a student gives the University a check that is returned by the bank upon which it was drawn, marked "Not Sufficient Funds," "Payment Stopped," or "Account Closed," a $20.00 charge will be assessed for each such occurrence.
c. Fees may vary according to specific courses affected. See individual course descriptions.

MATERIAL FEES

See individual course descriptions for specific material fees.
PAYMENT

All charges are due DePaul University at the time of registration, but not later than the end of (Saturday, 1 p.m.) the first full week of the term. The University does not accept responsibility for delays in the U.S. Postal System. Payment must be received in the Cashier's office or one of its depositories by the due date. Visa and Mastercard are accepted.

Students with any unpaid balance at the end of the first full week of the term will be assessed a $5000 Delinquency Fee, will be prohibited from future registration, and will be prohibited from receiving transcripts.

REFUNDS

A student wishing to withdraw from a course or courses, must report to his college office and fill out an Enrollment Change Form stating the reasons which make withdrawal necessary. Failure to notify the academic office (within the current term) of such withdrawal renders the student ineligible for refund.

SIMPLY CEASING TO ATTEND OR NOTIFYING THE INSTRUCTOR DOES NOT CONSTITUTE A WITHDRAWAL OF RECORD AND WILL RESULT IN ACADEMIC AS WELL AS FINANCIAL PENALTIES.

Upon processing of the Enrollment Change Form the tuition charge will be reduced according to the following schedule, where the effective date is:

Through the end of the second full week of classes .................. 100%
After the second week of classes ........................................ 0%

For courses of four weeks or less but more than two weeks duration: 50% of the tuition will be charged for attendance in the first week of the term, and 100% for any attendance thereafter. For workshops or courses of two weeks or less duration, 100% of the tuition will be charged for any attendance.

All withdrawals will be dated as of the day of the week in which the student signs an Enrollment Change Form in the academic office and the period of attendance will be computed as the number of weeks from the date of opening class in each term to the termination date shown on the withdrawal slip.
Financial Assistance

Several types of financial aid are available to graduate students through programs administered by the University graduate school departments. These include DePaul University graduate assistantships, as well as special awards funded by foundations and corporations. (Information on these programs can be found on pages 38 through 39.)

In addition, the DePaul Financial Aid Office administers a variety of loan and work programs for which graduate students are eligible to apply. These are as follows:

Loans

Perkins (National Direct Student) Loans. The Perkins (National Direct Student) Loan is a federally subsidized program that makes loans to students with demonstrated need. The awards range in value from $300 to $2,250 per year. Students may borrow a maximum of $9,000 as undergraduates. (Additional funds may be borrowed for graduate study up to a maximum of $18,000.) The interest rate on this loan currently is 5%. No interest payment or principal payments are due until the student is no longer enrolled for at least six hours. If you are eligible for this loan, it will be included as part of your financial aid package. Please refer to the section on “How to Apply” for application requirements.

Guaranteed Student Loan. The Guaranteed Student Loan program enables eligible students to borrow a loan at 8% from a bank, credit union, savings and loan association or other participating lenders who are willing to make the loan. The loan is guaranteed by a State or private nonprofit agency.

Beginning with the 1987-88 academic year, all students must demonstrate need for this loan. Forms are available in the Financial Aid Office which must be completed by the student before the loan can be processed.

Graduate and Professional students may borrow up to $7,500 per academic level. The aggregate limit for all graduate and professional students is $54,750, including undergraduate borrowing.

Lenders are authorized to charge student borrowers an origination fee of five percent of the principal of the loan. The guarantee agency also charges an insurance premium. As a result, the actual loan disbursement will be less than the amount for which the loan was approved. However, repayment of the total approved amount is required. Please check with Financial Aid Office for application instruction.

Supplemental Loan for Students formerly ALAS (SLS). Students who are not eligible to borrow under either of the loan programs described, may be eligible to borrow under the Supplemental Loan for Students (SLS). If you are a student who does not receive support of any kind from your parents, and wish to consider this loan program, please contact the Financial Aid Office to determine your eligibility. This loan carries a maximum interest rate of 12% and repayment begins 45 days after the loan is received. Students may borrow $4,000 from this program each year. Please check with the Financial Aid Office for application instructions.

Alternative Financing Resources. Other sources of loan funding are made available through private agencies for those who feel their needs have not been met sufficiently or those who are determined to be in eligible for other types of financial aid.
For more information about these alternative financial programs, contact DePaul University's Financial Aid Office, 25 E. Jackson Blvd., Chicago, IL 60604. In addition, DePaul University offers an installment payment plan through the EFI Fund Management Program.

**EFI Fund Management Program.** A convenient monthly payment program which allows students or parents to budget the cost of attendance including tuition and fees and on-campus room and board charges (if applicable) in eight monthly payments for undergraduate or graduate students beginning in July for those enrolling for the Fall term.

**Part-Time Employment**

**College Work Study.** The College Work Study Program is federally funded. Through this program students' salaries are paid jointly by federal funds and by the employer. That employer may be DePaul University or it may be a specially designated non-profit or government agency.

**Student Service Employment.** Some students may be awarded a Student Service job. All or the salary is paid by DePaul University and all jobs are on campus. Any student wishing to work on campus may be eligible under this program as long as they are not receiving other need based aid that would be affected by such earnings. If you would like to work on campus, check with the Financial Aid Office to see if you qualify for this work opportunity.

**How to Apply**

Applicants for loan and part-time employment programs should contact the Office of Financial Aid, DePaul University, 25 E. Jackson Boulevard, Chicago, Illinois 60604 either by mail or by phone (312) 341-8091 to receive an application packet.

In order to receive priority consideration for aid awarded by the Financial Aid Office, NEW students must complete their financial aid files as soon after January 1 as possible, but no later than May 1, 1987. New students will be evaluated and packaged on a first come first served basis as long as funds remain available. RETURNING students will be considered for financial aid if they have completed the filing requirements by April 22, 1987. This means all required materials for a complete financial aid file must be received by the Financial Aid Office by April 22, 1987.

The following programs are awarded by the individual departments:

**University Financial Aid.** Applicants seeking any other form of financial aid should make preliminary application by letter to the chairperson of their proposed major department or the program director of their particular graduate study.

**Deadlines.** New applicants for financial aid must have all their credentials (completed admission form, admission fee, duplicate copies of transcripts, and letters of recommendation — if required) in the LAS Graduate Office by February 15 prior to their Autumn Quarter admission.
DEPAUL UNIVERSITY GRADUATE ASSISTANTSHIPS

The University provides a number of teaching, research, and administrative assistantships to applicants accepted as degree-seeking, fully admitted, graduate students. Last year over 60 assistantships were awarded (both full and partial). The stipends for such assistantships range from $4,000 to $4,500, and include a full tuition waiver.

Recipients will be assigned by their respective departments or program directors to activities appropriate for a teaching, research, or administrative assistant.

Application for an assistantship should be made, in writing, directly to the chairperson of the department or the program director in which the applicant plans his or her graduate study.

Announcement of graduate assistantships is normally made by during the Spring Quarter of the previous academic year. The assistantships must be accepted or declined, in writing, by the end of that quarter.

CORPORATE AND FOUNDATION AWARDS

Arthur J. Schmitt Graduate Assistants Awards. Fifteen awards for exceptionally outstanding candidates are allocated to the University's two doctorate-granting departments: philosophy and psychology. Each award, up to a maximum of a $5,000 stipend is supplemented by the University with a full tuition grant. Students receiving the awards are eligible upon the positive recommendation of the department to have the awards renewed. During the period of the award, the recipients must be admitted full-time degree seeking students. They will be assigned by the department to activities appropriate for teaching and/or research assistants.

Howard V. Phalin Foundation Award. This award is a gift of $1,800 made by the Howard V. Phalin Foundation for Graduate Study for the support of an exceptionally outstanding graduate student. The University adds to this gift a $2,200 stipend. In addition, the University supplements the award with a full tuition grant. During the period of the award the recipient must be an admitted full-time degree seeking student. He or she will be assigned by the department to activities appropriate for teaching and/or research assistants.

Searle Foundation Awards. These awards are made to support students, identified as having high academic potential but not able to afford the expenses, who intend to major on the graduate level in one of the following fields of study: accountancy, biological sciences, business administration, chemistry, computer science, economics, finance, general business, management, marketing, and mathematical sciences. Each award, up to a maximum of a $4,000 stipend, is supplemented with a full tuition waiver by the University. Recipients of the awards must be admitted full-time degree seeking students. They will be assigned by the department or the program director to such activities appropriate for their development in teaching, research, or administration.
TRAINEESHIPS

Mental Health Traineeships. Students in clinical psychology are eligible to apply for one of these traineeships. The traineeships are awarded to students who have completed at least three quarters of graduate work and are full-time degree seeking students. As trainees, the students are assigned to the University Mental Health Center on a half-time basis.

Application for a Mental Health Traineeship should be made to the Director of the Mental Health Center.

Public Health Service Traineeships. A number of such traineeships are available. The Department of Nursing offers traineeships which provide monthly stipends and a tuition allowance for each quarter the student is registered as an admitted, full-time degree seeking student. Applicants should apply, in writing, directly to the Chairperson of the Nursing Department.
Employment Opportunities

COLLEGE WORK STUDY PROGRAM

Full-time and half-time graduate students who can demonstrate financial need may apply for part-time and/or summer employment under this program. The program is co-sponsored by the Federal Government and DePaul University. Students may work (mostly on campus) up to 20 hours weekly while attending classes, and up to 40 hours weekly when no classes are scheduled. The basic pay range is from $3.35 to $10.00 or more per hour for Graduate School students, depending upon their job classification. The student's earnings cannot exceed his or her need. Application should be made to the

Office of Financial Aid
Room 1730
25 East Jackson Boulevard
Chicago, Illinois 60604
Telephone: (312) 341-8091

Job placement will be handled by the Office of Career Planning and Placement

PART-TIME EMPLOYMENT

The location of the University in a metropolitan area contributes greatly to the number and variety of opportunities for employment. Part-time and summer jobs, both on and off campus, are available for students through the services of the Office of Career Planning and Placement. Rates of pay for graduate students are from $3.35 to $5.00 or more per hour.

In addition, the University itself can offer positions to students. After students have registered for their classes, the Office of Career Planning and Placement will assist them in finding jobs. No proof of need is necessary to qualify for this service. For job availability, please contact the

Office of Career Planning and Placement
Room 1716
25 East Jackson Boulevard
Chicago, Illinois 60604
Telephone: (312) 341-8437
GENERAL NOTES

Registration. Registration will not be accepted from a student with an unpaid balance from a prior term. Registration attempted under these circumstances is subject to cancellation.

Audited Courses. Audit courses receive no credit. Tuition and fees for courses audited are charged at the regular tuition rates, must be paid at the time of registration, and are not refundable. Students may not change from the status of credit student to that of an auditor, or vice versa, after the third week of class.

Students on Financial Aid. Students receiving financial aid in the form of scholarships, tuition grants, or loans — from Federal Programs, the State Government, or DePaul University — must determine that the amount of aid received (total amount of awards divided by three quarters, normally) at least equals the total tuition and fees for each term. In the event such proration leaves a balance due from the student, this balance must be paid not later than the end of the first full week of the term in order to avoid a Delinquency Fee.

Returned Check. If a student gives the University a check that is returned by the bank upon which it was drawn, marked “Not Sufficient Funds,” “Payment Stopped,” or “Account Closed,” a $2000 charge will be assessed for each such occurrence.

Foreign Checks. Foreign checks must be made payable in United States dollars or will not be accepted by the University.

Undergraduate Day Students. Undergraduate day students combining undergraduate and graduate courses will pay the appropriate rate for each class.
Graduate Academic Offerings
Biological Sciences

Robert A. Griesbach, Ph.D., Chairperson

FACULTY

Professors
John R. Cortelyou, C.M., Ph.D ........................... Northwestern University
James E. Woods, Ph.D ......................... Stritch School of Medicine, Loyola University

Associate Professors
Robert A. Anderson, Ph.D .............................. University of Arkansas
Daniel Gibbs, Ph.D .............................. Stanford University
Robert A. Griesbach, Ph.D .............................. University of Chicago
Danute S. Juras, Ph.D .............................. Marquette University
Dolores J. McWhinnie, Ph.D .............................. Marquette University

Assistant Professor
Leigh A. Maginniss, Ph.D .............................. University of Hawaii

Emeriti
Mary A. Murray, Ph.D .............................. University of Chicago
Daniel G. Oldfield, Ph.D .............................. University of Chicago
Robert C. Thommes, Ph.D .............................. Northwestern University
PURPOSES

The Department offers a program of advanced study which will enable qualified students to earn a degree at the master's level.

More specifically the Department provides:

- assistance in planning a specific program or sub-concentration of studies which will enable the student to advance toward his or her career goal;
- a series of lecture, laboratory, and seminar courses appropriate to the degree program offered;
- opportunities for research leading to the thesis in accord with the student's and the faculty's research interests, and
- continuing opportunities for interaction between faculty and students through formal and informal learning situations in order to further promote the existence of a scholarly environment.

The learning objectives of the Department are:

- acquisition and understanding of knowledge to the extent expected at the master's level;
- improvement in ability to synthesize, interpret and conceptualize biological information consistent with achievement of the master's degree;
- development of laboratory skills and methodologies at a level that enables the student to acquire, independently, new knowledge relating to life and the principles of living systems;
- achievement of the ability to communicate biological knowledge effectively to others in both an oral and a written fashion, and
- achievement of the habit of objective observations and evaluation as well as attitudinal values, in keeping with the expectations of Science and professional biologists.

DEGREE PROGRAM

Master of Science

A program of study leading to the Master of Science degree in Biology is designed for students who

- have a strong desire to increase their scope and understanding of the life sciences,
- plan additional education at the master's level for increased proficiency in teaching and/or research, or
- plan to continue study toward the Ph.D. degree.

The master's program provides lecture, laboratory and seminar courses—along with learning experiences in research and undergraduate laboratory assisting, to aid students in achieving their stated goals. Students develop a particular concentration of studies in consultation with their academic advisor.
MASTER OF SCIENCE: BIOLOGICAL SCIENCES

Admission Requirements

For full admission, students must have the following:
Bachelor's degree: major in biological sciences or its equivalent.
Chemistry: minimum two academic years, including one year of organic.
General Physics: one year.
Calculus: one course.
Prerequisite coursework: completion by the end of the first year of graduate study.
Transcript of credits.
Graduate Record Examination Scores.
Three letters of recommendation from science professors, preferably biology.
Grade point average of at least 2.5 on a scale of 4.

Degree Requirements

Courses: a minimum of 56 quarter hours of graduate credit, including ten graduate core courses (40 hrs.), BIO 400 Discussion of Selected Topics in Biology, BIO 495 Practicum in Teaching Biology, one four-hour Biology, Computer Science or Biochemistry elective, and 8 hours of Research, of which at least four hours must be BIO 498 Research for Master's Thesis. Note: Students are required to have at least one course in each of the six core areas of study.

Master of Science Core Areas of Study

immunology (BIO 425, BIO 471)
Cell Biology (BIO 450, BIO 469)
Aquatic Biology/Ecology (BIO 416, BIO 417)
Neurobiology (BIO 446, BIO 472)
Endocrinology (BIO 443, BIO 486)
Mineral Metabolism (BIO 410, BIO 412)

Advancement to Candidacy: based upon the results of a colloquium between the departmental faculty and the student taken near the end of the second quarter of the student's first full year.

Participation in undergraduate laboratory instruction and/or research assisting: minimum of three courses and/or two quarters.

Thesis: results based upon an independent laboratory investigation.

Departmental Seminar: presentation of the M.S. thesis research.

Final examination: contents covering all areas of graduate study, including coursework, and basic biological concepts.
All courses are offered in Michael J. O'Connell Center, Lincoln Park Campus (1036 W. Belden Avenue).

ADVANCED UNDERGRADUATE COURSES

300  **Psychobiology.** Fundamental concepts of the structure and function of the nervous and endocrine systems, and their interplay with genetics, nutrition and the external environment in the expression of overt behavior. Lecture-only (4).


310  **Vertebrate Physiology.** Organ system physiology of vertebrates. Lecture-Laboratory (4). Laboratory Fee $20.00.

311  **Histology.** Microscopic study of vertebrate tissues and organs. Lecture-Laboratory (4). Laboratory Fee $20.00.

315  **Ecology.** Study of organismal interactions; and responses of individuals, populations and natural communities to their external environment. Lecture Only (4) or Lecture-Laboratory (4). Laboratory Fee $20.00. Not offered in 1987/88.

330  **Developmental Biology.** Developmental phenomena of animals including gametogenesis, fertilization, cleavage, organogenesis, metamorphosis and regeneration. Lecture-Laboratory (4). Laboratory Fee $20.00.


GRADUATE COURSES

400  **Discussions of Selected Topics in Biology.** (2).

401  **Independent Study.** Experimental and/or Library study of selected topics in the life sciences. A-Cell Biology, B-Immunobiology, C-Developmental Biology, D-Physiology, E-Endocrinology, F-Genetics, G-Structural Biology, H-Ecology. Offered in the Autumn, Winter, Spring and Summer quarters (2 or 4). Laboratory Fee $15.00 per credit hour.

410  **Hormonal Regulation of Mineral Metabolism I.** Analysis of structure and biochemistry, and cell function in hard tissues of invertebrate and vertebrate organisms (4). Not offered in 1987/88.

412  **Hormonal Regulation of Mineral Metabolism II.** (Prerequisite: Biology 410.) Analysis of the regulation of structure, function and biochemistry of vertebrate hard tissues by vitamins and hormones Lecture-Seminar (4). Not offered in 1987/88.

416  **Phycology.** Introduction to algae with emphasis on freshwater forms: taxonomy, morphology, ultrastructure, physiology, life histories. Lecture-Laboratory (4). Laboratory Fee $25.00.
Aquatic Biology. The study of physical, chemical and biological phenomena in freshwater environments. Lecture-Laboratory (4). Laboratory Fee $25.00.


Experimental Immunology. Laboratory (2). Laboratory Fee $25.00. Not offered in 1987/88.


Neurobiology. Introduction to the structure and function of vertebrate and invertebrate nervous systems. Lecture (4).

Problems in Cell Biology. Analysis of basic contemporary problems in cellular morphology and physiology, with emphasis on the regulation of cell cycle processes by organelle interactions Seminar (4).


Cell Physiology and Toxicology. Analysis of organelle enzyme systems, unit structures, and physiology relating to cellular metabolism, transport, and energy conversion processes in the presence of toxic substances. Lecture-Laboratory (4), Laboratory Fee $25.00.

Immunobiology. Basic factors governing immune phenomena and antigen-antibody reactions. Lecture-Laboratory (4). Laboratory Fee $25.00.


Special Course for Graduate Laboratory Teaching Assistants

Practicum in Teaching Biology. Discussion of such topics as laboratory safety, handling of radioactive chemicals, instrument and equipment use as well as care, feeding, etc. of living organisms. (2). Autumn quarter only.
Research

Research. (Prerequisite: Approval of the Department.) Experimental work in selected areas of biology. These studies do not necessarily relate to a thesis or dissertation. Autumn, Winter, Spring, Summer. Laboratory (2,4) Laboratory Fee $15.00 per credit hour.

Research for Master's Thesis. (Prerequisite: Approval of the Department.) Original study of a specific biological problem leading to a thesis. Autumn, Winter, Spring, Summer. Laboratory (2,4). Laboratory Fee $15.00 per credit hour.
Chemistry

Avrom A. Blumberg, Ph.D., Chairperson

FACULTY

Professors
Avrom A. Blumberg, Ph.D ........................................... Yale University
Fred W. Breitbel III, Ph.D ........................................ University of Cincinnati
Sanat K. Dhar, Ph.D .................................................. Wayne State University
Edwin F. Meyer, Ph.D .............................................. Northwestern University
Thomas J. Murphy, Ph.D ........................................... Iowa State University

Associate Professors
Juris A. Anyssas, Ph.D ............................................. Illinois Institute of Technology
Sara Steck Melford, Ph.D ........................................ Northwestern University
Robert L. Novak, Ph.D ............................................ University of Delaware

Assistant Professor
Sharif U. Ahmed, Ph.D. ........................................... Auburn University

Emeritus
Franklin S. Prout, Ph.D ............................................. Vanderbilt University
William R. Pas averaged, Ph.D .................. Loyola University, Stritch School of Medicine

PURPOSE
The degree of Master of Science in Chemistry is designed to prepare students for advanced work in the profession of Chemistry or Biochemistry and for further graduate study.
MASTER OF SCIENCE: CHEMISTRY

Admission Requirements

For full admission, students must have the following:
Bachelor's degree: Chemistry.
Calculus: one year.
Physics, with laboratory: one year.
General Chemistry: one year.
Quantitative Analysis: one year, including one course in instrumental analysis.
Organic Chemistry: one year, including spectral analysis.
Physical Chemistry: one year.

Degree Requirements

Chemistry: Thesis

Courses: a minimum of 44 quarter hours, including:
CHE 422, 424 Advanced Inorganic Chemistry I, II
CHE 430 or 432 or 434 Polymer Synthesis or Physical Chemistry of Polymers or Polymer Characterization
CHE 450, 452 Advanced Organic Chemistry I, II
CHE 470, 472 Advanced Physical Chemistry I, II
CHE 490 Statistical Analysis of Data

Twelve quarter hours of research credit.
Satisfactory thesis.
Oral examination: in two parts. The first part is the thesis presentation and defense; the second part, an oral examination concerning the candidate's general knowledge of chemistry.

Chemistry: Non-Thesis:

Courses: a minimum of 44 quarter hours, including:
CHE 422, 424 Advanced Inorganic Chemistry I, II
CHE 430, 432 or 434 Polymer Synthesis or Physical Chemistry of Polymers or Polymer Characterization.
CHE 450, 452 Advanced Organic Chemistry I, II
CHE 470, 472 Advanced Physical Chemistry I, II
CHE 480 Special Topics in Analytical Chemistry
CHE 490 Statistical Analysis of Data

Two elective courses.
Biochemistry: Thesis

Courses: a minimum of 44 quarter hours, including:
  CHE 340, 342, 440 Biochemistry I, II, III
  CHE 341 Experimental Biochemistry I

One set of two courses from:
  CHE 422, 424 Advanced Inorganic Chemistry I, II
  CHE 450, 452 Advanced Organic Chemistry I, II
  CHE 470, 472 Advanced Physical Chemistry I, II

Two elective courses (eight quarter hours).

Fourteen quarter hours of research credit.

Satisfactory thesis.

Oral examination: in two parts. The first part is the thesis presentation and defense;
the second part, an oral examination concerning the candidate's general knowledge of chemistry.

Coatings Technology: Nonthesis

This program, which has been set up with the cooperation of the Chicago Society for Coatings Technology, is designed to provide students with the skills necessary for work in research and development in the coatings field. Since coatings systems are complex combinations of polymers, pigments and other chemicals, the course of study involves most branches of chemistry including organic, polymer, physical, inorganic, and analytical chemistry.

Courses: a minimum of 44 quarter hours, including any five from this set of six:
  CHE 422, 424 Advanced Inorganic Chemistry I, II
  CHE 450, 452 Advanced Organic Chemistry I, II
  CHE 470, 472 Advanced Physical Chemistry I, II

and all of the following:
  CHE 430 Polymer Synthesis
  CHE 432 Physical Chemistry of Polymers
  CHE 434 Polymer Characterization
  CHE 460 Coatings Technology I
  CHE 461 Coating Technology Laboratory I
  CHE 462 Coatings Technology II
  CHE 463 Coatings Technology Laboratory II.

Chemistry as a Minor Field

Six quarters of chemistry and three quarters each of physics and calculus, must be completed before a minor sequence can be started. The 200-level courses listed below can be used for graduate credit only by chemistry minors.

210 Physical Chemistry I. (Prerequisite: CHE 113) Offered: Autumn.
211 Physical Chemistry II. (Prerequisite: CHE 210) Offered: Winter.
215 Physical Chemistry III. (Prerequisite: CHE 211) Offered: Spring.
261 Instrumental Analysis. (Prerequisite: CHE 215) Offered: Winter.
265 Air Chemistry. (Prerequisite: CHE 127 or 147) Offered: Spring of even-numbered years.
267 Aqueous Chemistry. (Prerequisite: CHE 127 or 147) Offered: Autumn quarter of even-numbered years.
269 Industrial Chemical Hazards. (Prerequisite: CHE 127 or 147 and CHE 125 or 175) Offered: Spring of odd-numbered years.
All of the following courses are held in the Michael J. O'Connell Center, 1036 West Belden Avenue or the Arthur J. Schmitt Academic Center on the Lincoln Park Campus. Courses with laboratory are odd numbered. All courses carry four quarter hours of credit unless otherwise noted.

ADVANCED UNDERGRADUATE COURSES:

312 Quantum Chemistry. (Prerequisite: CHE 211.) Offered: Spring.
321 Intermediate Inorganic Chemistry. (Prerequisite: CHE 125 or 175; 210 or consent; and 312 strongly recommended.) Offered: Autumn.
325 Solid Waste Chemistry. (Prerequisite: CHE 210.) Offered: Spring of odd-numbered years.
340 Biochemistry I. (Prerequisite: CHE 125 or 175.) Offered: Autumn of odd-numbered years.
342 Biochemistry II. (Prerequisite: CHE 340.) Offered: Winter of even-numbered years.
343 Experimental Biochemistry II. (Prerequisite: CHE 341; 261 or consent.) Offered: By Arrangement (2).
356 Spectral Interpretation. (Prerequisite: CHE 125 or 175; 261 or consent.) Offered: Spring.
374 Selected Topics in Physical Chemistry. (Prerequisite: Permission of instructor.) Offered by arrangement. This course may be repeated for credit if topic is different (2). This course may be any topic in the field of polymers, phenomena, etc.
385 Advanced Chemical Techniques. (Prerequisite: Permission of Chairman.) This is a laboratory course which may be in the fields of analytical, biochemistry, inorganic, organic or physical chemistry. This course may be repeated for credit if topic is different. (2) Offered: By arrangement.
399 Independent Study.

GRADUATE COURSES

422 Advanced Inorganic Chemistry I. (Prerequisites: CHE 312 and 321 or consent of instructor.) Offered: Winter of even-numbered years.
424 Advanced Inorganic Chemistry II. (Prerequisite: CHE 422.) Offered: Spring of even-numbered years.
426 Bioinorganic Chemistry. (Prerequisite: CHE 422.) Offered: By arrangement.
430 Polymer Synthesis. (Prerequisite: CHE 175 or 125 or equivalent.) Offered: Spring 1988.
Physical Chemistry of Polymers (Prerequisite: CHE 215 or equivalent.) Offered: Spring 1989.

Polymer Characterization. (Prerequisite: CHE 215 or equivalent.) Offered: Spring 1997.

Biochemistry III. (Prerequisite: CHE 342.) Offered: Spring of even-numbered years.

Advanced Organic Chemistry I. (Prerequisites: CHE 175 and 210.) Offered: Autumn.

Advanced Organic Chemistry II. (Prerequisite: CHE 450.) Offered: Winter.

Coatings Technology I. (Prerequisite: CHE 175 or 125 and 215 or equivalent.) Offered: Spring 1987.

Coatings Technology Laboratory I. (Prerequisite: CHE 175 or 125, and 215, or equivalents.) Offered every year (2 quarter hours)

Coatings Technology II. (Prerequisite: CHE 175 or 125 and 215 or equivalent.) Offered: Fall 1987.

Coatings Technology Laboratory II. (Prerequisite: CHE 175 or 125 and 215 or equivalent.) Offered every year (2 quarter hours).

Advanced Physical Chemistry I. Thermodynamics. (Prerequisite: CHE 215.) Offered: Autumn of even-numbered years.

Advanced Physical Chemistry II. Kinetics. (Prerequisite: CHE 215.) Offered: Winter of odd-numbered years.

Advanced Topic in Physical Chemistry. (Prerequisite: Permission of Chairman.) By arrangement. This course may be repeated for credit if the topic is different.

Special Topic in Analytical Chemistry. (Prerequisite: CHE 261.) This course may be any topic related to chemical analysis, such as mass spectroscopy, electrochemical analysis, principles of chromatography, etc. This course may be repeated if the topics are different. By arrangement.

Statistical Analysis of Data. (Prerequisite: ability to program in BASIC.) Offered: Spring of odd-numbered years.

Research. (Prerequisite: Permission of Advisor.) Students doing laboratory research must register for this course. This course may be repeated for credit. Offered every quarter, variable credit (1-4 quarter hours).

Independent Study. Variable credit. (Prerequisite: Permission of Chairman.) Offered by arrangement. This course may be repeated for credit.
Computer Science

Helmut Epp, Ph.D., Chairperson

Director of Graduate Studies
Martin G. Kalin, Ph.D.
Associate Director of Graduate Studies
Edward Pudlo

FACULTY

Professors
L. Edward Allemand, Ph.D. .................................................. University of Louvain
Richard F. Johnsonbaugh, Ph.D. .............................................. University of Oregon

Associate Professors
Gary F. Andrus, Ph.D. ......................................................... Wayne State University
Helmut Epp, Ph.D. .............................................................. Northwestern University
Robert Fisher, Ph.D. ............................................................. Harvard University
Gerald Gordon, Ph.D. ............................................................ University of California, Berkeley
Martin G. Kalin, Ph.D. .......................................................... Northwestern University
George J. Knaf, Ph.D. ............................................................. Northwestern University
Warren Krueger, Ph.D. ............................................................ University of Wisconsin
Glenn Lancaster, Ph.D. ............................................................ University of California, Irvine
Geoffrey Margrave, Ph.D. ...................................................... University of Chicago
David Miller, Ph.D. ............................................................... University of Chicago

Assistant Professors
Dale Buchholz, M.S. ............................................................. DePaul University
Joseph Chan, Ph.D. ............................................................. University of Illinois, Chicago
Olivia Chang, Ph.D. .............................................................. Northwestern University
I-Ping Chu, Ph.D. ................................................................. State University of New York, Stony Brook
Adjunct Professor
Ronald Benjamin, M.S. ............................................. DePaul University

Instructors
Espiridon Celis, M.S. .................................................. DePaul University
Hon-Wing Cheng, M.S. ............................................. Chinese University of Hong Kong
Bro. Michael Driscoll, M.S. ...................................... Notre Dame University
Mira Latoszek, M.S. .................................................. DePaul University
Thomas Sheridan, M.S. ............................................. DePaul University

Lecturers
Richard Ezop, M.S. .................................................. DePaul University
John Inskeep, M.S., C.D.P. ....................................... DePaul University
James Janossy, M.S. ................................................ California State University
Steve Rubinow, Ph.D. ............................................. University of Illinois, Urbana
Edward Wegryn, J.D. ............................................. Loyola University
Boris Zibitsker, Ph.D. ............................................. Radio Engineering Institute

PURPOSE
The Department of Computer Science and Information Systems offers graduate level professional training in these areas: information systems, artificial intelligence, computer science, data communications, telecommunication systems, data analysis, telecommunications management, and management information systems. Students choose from a broad collection of courses to develop, in depth, the research habits and practical skills needed for the workplace or for further academic study. The department's programs are designed to provide its graduates with the technical competence and flexibility necessary to respond to both present and future opportunities in the computing professions.

PROGRAMS
The graduate division offers degree programs in Computer Science, Information Systems, Telecommunication Systems, Management Information Systems and a non-degree program in Professional Development. All four degree programs offer advanced, comprehensive training in various computing fields; their curricula cover theoretical foundations, state-of-the-art techniques and skills, and major trends. The non-degree program in Professional Development offers flexible, intensive training for computing professionals, and can be adapted easily to fit specific interests and needs. For more information, students should contact the Institute for Professional Development at 341-6282.
MASTER OF SCIENCE: COMPUTER SCIENCE

The masters degree program consists of three phases:
• Prerequisite Phase
• Core Knowledge Phase
• Advanced Phase

The Prerequisite Phase guarantees that all students have a common background. The Core Knowledge Phase prepares students for their chosen concentration. In the Advanced Phase, students specialize in their concentration area. The concentration requirements are tailored to meet individual student needs. The student must pass an examination to move from one phase to another.

PREREQUISITE PHASE—COMPUTER SCIENCE

All applicants who satisfy general graduate college admission requirements initially receive conditional admittance and may then pursue either a degree program or the Professional Development program.

For full admission to a degree program, students must have the following:
Bachelor's degree (not necessarily in computer science).
Counseling session with a graduate counselor.
A grade of "B" or better in the prerequisite phase courses.
A course in assembly language (with a grade of B or better) or equivalent work experience.

Prerequisite Phase Course Requirements

The following courses are required as part of the Prerequisite Phase. Those students with extensive coursework and/or experience in the computer science field may take an equivalency exam, the Graduate Assessment Exam (GAE), for the courses listed below. Please consult with a graduate advisor for more information on this exam.

GRADUATE ASSESSMENT PREREQUISITES

Programming skills in two languages. A knowledge of two high-level programming languages is required. At least one must be chosen from C, PASCAL or PL/I. The other language must be selected from ADA, C, COBOL, FORTRAN 77, PASCAL or PL/I. (Note that a reading knowledge of C will be assumed in many graduate courses. ADA is recommended for students choosing the Data Analysis concentration.)

Suggested courses are:
CSC 203 COBOL Programming
CSC 205 FORTRAN
CSC 210 PL/I Programming
CSC 215 Introduction to Programming Using C
CSC 220 Programming in PASCAL
CSC 225 C Language for Programmers
CSC 230 Programming in ADA
Principles of Computer Science. Suggested courses are either the undergraduate two-quarter sequence:

CSC 310-311 Computer Science I-II

or a one-quarter equivalent restricted to graduate students with programming experience:

CSC 410 Principles of Computer Science

File structures and file processing. Suggested courses are either:

CSC 204 Advanced Topics in COBOL (prerequisite CSC 203)

or

CSC 342 File Processing and Data Management (prerequisite CSC 311 or CSC 410)

The exam is offered at the beginning of each quarter. A detailed study guide for the Graduate Assessment Examination and further information is available from the department (phone (312) 341-8381).

OTHER PREREQUISITES

The following competencies are required as part of the Prerequisite Phase. Equivalency exams are not offered for the following courses. Students with related coursework and/or experience in these areas should consult with a graduate advisor.

Assembly language. Either documented work experience in an assembly language or documented course work in assembly language programming (with a grade of "B" or better) will be accepted as fulfilling this requirement. Only one course is required. (Note: Assembly Language is not required for students choosing the Data Analysis concentration, see Software Engineering below.)

Suggested courses are:

CSC 312 Assembly Language and Machine Organization

OR

CSC 344 IBM Assembly Language

Quantitative Methods. The quantitative methods requirements are met by having taken courses equivalent to the following:

MAT 145 Calculus (or MAT 150-151)

CSC 323 Data Analysis with SAS I

Software Engineering. (required for students choosing the Data Analysis concentration only) Either documented work experience in software development or documented course work (with a grade of "B" or better) will be accepted as fulfilling this requirement.

Suggested courses are:

CSC 365 Software Engineering

CSC 394 Software Projects

DEGREE REQUIREMENTS:

CORE KNOWLEDGE PHASE—COMPUTER SCIENCE

Successful completion of the Core Knowledge Phase in Computer Science consists of:

- Completion of Core Knowledge Phase Courses
- Passing the Core Knowledge Examination
Conditionally admitted students will receive credit for at most three graduate courses completed prior to successful completion of the Prerequisite Phase.

The Core Knowledge Phase courses for Artificial Intelligence, Standard Computer Science, and Data Communication are:

- **CSC 420** Discrete Structures
- **CSC 442** Data Structures
- **CSC 445** Computer Architecture
- **CSC 446** Operating Systems
- **CSC 491** Design and Analysis of Algorithms

The Core Knowledge Phase courses for Data Analysis are:

- **CSC 420** Discrete Structures
- **CSC 423** Data Analysis and Regression
- **CSC 442** Data Structures
- **CSC 446** Operating Systems
- **CSC 449** Database Technologies

Passing the Core Knowledge Examination. The examination covers the subject matter of the Core Knowledge Phase courses required for the student's chosen concentration. Students take this examination as soon as they successfully complete their Core Knowledge Phase course requirements. The exam is offered in the Autumn and Spring quarters.

Students are allowed at most two attempts at this examination. Two failures result in dismissal from the graduate program. Call the department at (312) 341-8381 for further details on this examination.

**Deadline:** The student must submit a written application three months before taking the Core Knowledge Phase examination.

**ADVANCED PHASE—COMPUTER SCIENCE**

Students must fulfill the course requirements of their concentration. Consult the Advanced Phase Courses section below for details. Waiver of some of these courses is possible in individual cases but requires approval by the Director of Graduate Studies.

Conditionally admitted students receive credit for Advanced Phase courses only after successful completion of the Prerequisite Phase. Fully admitted students will receive credit for at most three courses completed prior to passing the Core Knowledge Phase examination.

**Minimal Course Requirement**

Students must complete 13 courses (52 hours) beyond the Prerequisite Phase and after receiving full degree-seeking admission.

**Advanced Phase Course Requirements**

Students must complete the Advanced Phase courses required for their chosen concentration.

The course requirements by concentration are:
Artificial Intelligence Concentration

CSC 480  Artificial Intelligence
CSC 580  Artificial Intelligence Programming
CSC 585  Knowledge Representation
CSC 696  Master's Project

Two of the following:
CSC 481  Pattern Recognition and Machine Perception
CSC 581  Knowledge-based Systems
CSC 582  Robotics
CSC 583  Natural Language Understanding
CSC 584  Computer Vision
CSC 586  Advanced Artificial Intelligence Programming
CSC 587  Cognitive Psychology with Computer Applications

Two elective courses (see the Elective Course Restrictions Section below).

Standard Computer Science Concentration

Four of the following courses including at least one 500 level course:
CSC 432  Computer and Information Systems Modeling
CSC 447  Concepts of Programming Languages
CSC 448  Compiler Design
CSC 480  Artificial Intelligence
CSC 490  Theory of Computation
CSC 493  Formal Grammars and Automata Theory
CSC 520  Advanced Discrete Structures
CSC 535  Formal Semantics of Programming Languages
CSC 545  Advanced Computer Organization
CSC 546  Operating Systems Design
CSC 548  Advanced Compiler Design
CSC 591  Advanced Topics in Algorithms
CSC 696  Master's Project
CSC 698  Master's Thesis

Four elective courses (see the Elective Course Restriction Section below).
Data Communications Concentration

Four of the following including at least one 500 level course.

CSC 432 Computer and Information Systems Modeling
CSC 462 Data Communications
CSC 463 Computer Networks
CSC 489 Queueing Theory with Computer Applications
CSC 561 Distributed Processing
CSC 562 Computer Communications Network Design and Analysis
CSC 563 Protocols and Techniques for Data Networks
CSC 564 Local Area Networks
CSC 696 Master's Project
CSC 698 Master's Thesis

Four elective courses (see the Elective Course Restrictions Section below).

Data Analysis

Two of the following:

CSC 459 File Management and Organization
CSC 462 Data Communications
CSC 469 Computer Graphics
CSC 474 Decision Support Systems
CSC 480 Artificial Intelligence
CSC 491 Design and Analysis of Algorithms
CSC 549 Advanced Database Technologies

Two of the following:

CSC 424 Advanced Data Analysis
CSC 432 Computer and Information Systems Modelling
CSC 466 Software Quality and Measurement
CSC 481 Pattern Recognition and Machine Perception
CSC 489 Queueing Theory with Computer Applications
CSC 598 Topics in Data Analysis
ECO 512 Applied Time Series and Forecasting

One course from either of the above listings or CSC 696: Master's Project.

Three elective courses

Personalized Concentration.

Students with superior results on the Core Knowledge Phase examination for one of the above concentrations may be allowed to personalize their Advanced Phase requirements. After planning their personalized concentration with their advisor, they must submit the plan to the Director of Graduate Studies for approval. Permission for the personalized concentration must be obtained prior to completion of most of the concentration courses.
Elective Course Restrictions

Elective courses are those in the 400-599 range. Students may take at most two courses from other departments at DePaul or at some other institution (elective or otherwise). Students must obtain written approval from the Director of Graduate Studies before taking courses from other departments at DePaul and must justify the inclusion of these courses in their program.

Credit will be given for courses taken at other institutions only if they are approved by the Associate Dean of the College of Liberal Arts and Sciences for the Loop Campus (consult the appropriate section on the transfer credit policies of the College) and the Director of Graduate Studies.

Courses suggested for the Prerequisite Phase never count for elective credit. (This includes 500 level GSBA courses.) Courses required for the Core Knowledge Phase only count for elective credit if they are not required for the student's own concentration.

Any course required for the student's concentration but taken as part of the requirements of another degree earned by the student may be waived but cannot be used for elective credit. Conditionally admitted students may not receive elective credit for courses taken prior to passing the Graduate Assessment Examination. Fully admitted students will receive elective credit for courses taken before passing the Core Knowledge Examination only if the total number of advanced courses taken does not exceed three.

Grade Requirements

Fully admitted students must maintain an average of at least 2.50 (out of a maximum of 4.00). Students who do not maintain this average are dismissed from the program. The department will notify such students as soon as possible. However, students who take courses after their average falls below 2.50 but before departmental notification will not receive any special tuition refunds.

In order to graduate, students must have an overall grade point average no less than 2.50 (out of a maximum of 4.00).

Incomplete grades are only given if the course instructor considers them justified and if the student obtains the departmental chairman's permission. The departmental secretary will provide the appropriate permission form. Incompletes must be completed within one quarter or else they may change to grades of F.

MASTER OF SCIENCE: INFORMATION SYSTEMS

The masters degree program consists of three phases:

• Prerequisite Phase
• Core Knowledge Phase
• Advanced Phase

The Prerequisite Phase guarantees that all students have a common background. The Core Knowledge Phase prepares student for their chosen concentration. In the Advanced Phase, students specialize in their concentration are. The concentration requirements are tailored to meet individual student needs. The student must pass an examination to move from one phase to another.
PREREQUISITE PHASE—INFORMATION SYSTEMS

All applicants who satisfy general graduate college admission requirements initially receive conditional admittance and may them pursue a degree program. For full admission to a degree program, students must have the following:

• Bachelor's degree (not necessarily in computer science)
• Counselling session with a graduate counselor
• A grade of “B” or better in the Prerequisite Phase courses.
• A course in assembly language (with a grade of “B” or better) or equivalent work experience

Prerequisite Phase Course Requirements

The following courses are required as part of the Prerequisite Phase. Those students with extensive coursework and/or experience in the computer science field may take an equivalency exam, the Graduate Assessment Exam (GAE), for the courses listed below. Please consult with a graduate advisor for more information on this exam.

GRADUATE ASSESSMENT PREREQUISITES

Programming skills in two languages. A knowledge of two high-level computer languages is required. At least one must be chosen from C, PASCAL or PL/I. The other language must be COBOL. (Note that a reading knowledge of C will be assumed in many graduate courses.)

Suggested courses are:
CSC 203 COBOL Programming
CSC 210 PL/I Programming
CSC 215 Introduction to Structured Programming Using C
CSC 220 Programming in PASCAL
CSC 230 Programming in ADA

Principles of Computer Science. Suggested courses are either the undergraduate two quarter sequence:
CSC 310-311 Computer Science I-II
or a one quarter equivalent restricted to graduate students with programming experience:
CSC 410 Principles of Computer Science

File structures and file processing. A suggested course is:
CSC 204 Advanced Topics in COBOL (prerequisite CSC 203)

Discrete Mathematics. A suggested course is:
MAT 140 Discrete Mathematics

The exam is offered at the beginning of each quarter. A detailed study guide for the Graduate Assessment Examination and further information is available from the department (phone (312) 341-8381).
OTHER PREREQUISITES

The following competencies are required as part of the Prerequisite Phase. Equivalency exams are not offered for the following courses. Students with related coursework and/or experience in these areas should consult with a graduate advisor.

Assembly language. Either documented work experience in an assembly language or documented course work in assembly language programming (with a grade of "B" or better) will be accepted as fulfilling this requirement. Only one course is required.

Suggested courses are:

CSC 312 Assembly language and Machine Organization
OR
CSC 344 IBM Assembly Language

Quantitative Methods. The quantitative methods requirements are met by having taken courses equivalent to the following:

MAT 145 Calculus (or BMS 126, or MAT 150-151)
CSC 323 Data Analysis with SAS I

Accounting. A suggested course is:

GBS 504 Financial Accounting (or both ACC 101 and ACC 103)

DEGREE REQUIREMENTS:

The requirements for the Core Knowledge and Advanced Phases are presented below:

CORE KNOWLEDGE PHASE—INFORMATION SYSTEMS

Successful completion of the Core Knowledge Phase in Information Systems consists of:

• Completion of Core Knowledge Phase Courses
• Core Knowledge Phase courses

Conditionally admitted students will receive credit for at most three graduate courses prior to successful completion of the Prerequisite Phase.

Students complete the following Core Knowledge Phase course requirements:

CSC 442 Data Structures
CSC 446 Operating Systems
CSC 449 Database Technologies
CSC 459 File Management and Organization
CSC 475 Information Systems Analysis & Design

Passing the Core Knowledge Examination

The examination covers the subject matter of the Core Knowledge Phase courses required for the Information Systems degree. Students take this examination as soon as they successfully complete their Core Knowledge Phase course requirements. The exam is offered in the Autumn and Spring quarters.

Students are allowed at most two attempts at this examination. Two failures result in dismissal from the graduate program. Call the department at (312) 341-8381 for further details on this examination.

Deadline: The student must submit a written application three months before taking the Core Knowledge Phase examination.
ADVANCED PHASE—INFORMATION SYSTEMS

Students must fulfill the course requirements of the Information Systems degree program. Consult the Advanced Phase Courses section below for details. Waiver of some of these courses is possible in individual cases but requires the approval of the student's advisor.

Conditionally admitted student receive credit for Advanced Phase courses only after successful completion of the Prerequisite Phase. Fully admitted students will receive credit for at most three courses completed prior to passing the Core Knowledge Phase examination.

Minimal Course Requirement

Students must complete at least 13 courses (52 hours) beyond the Prerequisite Phase after having received full degree-seeking admission.

Advanced Phase Course Requirements

Students must complete the following Advanced Phase courses:

Information System Concentration:

CSC 432 Computer and Information Systems Modeling
SOC 415 Information Systems and Society

Three of the following including at least one at the 500 level.

- CSC 445 Computer Architecture
- CSC 450 Office Systems
- CSC 466 Software Quality and Measurement
- CSC 473 Information Systems for Management
- CSC 474 Decision Support Systems
- CSC 480 Artificial Intelligence
- CSC 483 Information Processing Management
- CSC 484 Computerized Accounting Systems
- CSC 491 Design and Analysis of Algorithms
- CSC 494 Software Methodologies
- CSC 549 Advanced Database Technologies
- CSC 560 On-Line Systems and Telecommunications
- CSC 565 Voice Telecommunication
- CSC 566 Integrated Telecommunication Systems
- CSC 571 Software Maintenance
- CSC 572 Computer Security
- CSC 696 Master's Project
- CSC 698 Master's Thesis
- SOC 467 Organizations
- PSY 443 Psychology of Human Performance

Three elective courses (see the Elective Course Restrictions Section below).
Telecommunications Management Concentration

CSC 462 Data Communications
CSC 560 On-Line Systems and Telecommunications
CSC 565 Voice Telecommunications
SOC 415 Information Systems and Society

Two of the following:

- CSC 432 Computer and Information Systems Modeling
- CSC 450 Office Systems
- CSC 463 Computer Networks
- CSC 561 Distributed Processing
- CSC 566 Integrated Telecommunications
- CSC 596 Topics in Information Systems

Two elective courses (see the Elective Course Restrictions section below).

Elective Course Restrictions

Elective courses are those in the 400-599 range. Students may take at most two courses from other departments at DePaul or at some other institution (elective or otherwise). Students must obtain written approval of the Director of Graduate Studies before taking courses from other departments at DePaul and must justify the inclusion of these courses in their program.

Credit will be given for courses taken at other institutions only if they are approved by both the Associate Dean of the College of Liberal Arts and Sciences for the Loop Campus (consult the appropriate section on the transfer credit policies of the College) and the Director of Graduate Studies.

Courses suggested for the Prerequisite Phase never count for elective credit. (This includes 500 level GSB courses.) Courses required for the Core Knowledge Phase only count for elective credit if they are not required for the student's own concentration.

Any course required for the student's concentration but taken as part of the requirements of another degree earned by the student may be waived but cannot be used for elective credit. Conditionally admitted students may not receive elective credit for courses taken prior to passing the Graduate Assessment Examination. Fully admitted students will receive elective credit for courses taken before passing the Core Knowledge Examination only if the total number of advanced courses taken does not exceed three.

Grade Requirements

Fully admitted students must maintain an average of at least 2.50 (out of a maximum of 4.00). Students who do not maintain this average are dismissed from the program. The department will notify such students as soon as possible. However, students who take courses after their average falls below 2.50 but before departmental notification will not receive any special tuition refunds. In order to graduate, students must have an overall grade point average no less than 2.50 (out of a maximum of 4.00).

Incomplete grades are only given if the course instructor considers them justified and if the student obtains the departmental chairman's permission. The departmental secretary will provide the appropriate permission form. Incompletes must be completed within one quarter or else they may change to grades of F.
MASTER OF SCIENCE: TELECOMMUNICATION SYSTEMS

The master's degree program consists of three phases:

- Prerequisite Phase
- Core Knowledge Phase
- Advanced Phase

The Prerequisite Phase assures that all students have the proper background to enter the degree program. The Core Knowledge Phase provides the fundamentals of computer and communication systems. In the Advanced Phase, students delve more deeply into the theories and techniques of communications systems and to pursue elective interests. The student must pass an examination to move from one phase to another.

PREREQUISITE PHASE—TELECOMMUNICATION SYSTEMS

All applicants who satisfy the graduate college admission requirements initially receive conditional admittance and may then pursue a degree program.

For full admission to a degree program, students must have the following:

- A Bachelor's degree (not necessarily in computer science)
- Counselling session with a graduate counselor
- A grade of “B” or better in the Prerequisite Phase courses

The following courses are required as part of the Prerequisite Phase. Those students with extensive coursework and/or experience in the computer science field may take an equivalency exam, the Graduate Assessment Exam (GAE), for the courses listed below. The GAE is offered at the beginning of each quarter. Please consult with a graduate advisor for more information on this exam.

GRADUATE ASSESSMENT PREREQUISITES

Programming skills in one high-level language. (Note that a reading knowledge of C will be assumed in many graduate courses). Suggested courses are:

- **CSC 210** PL/I Programming
- **CSC 215** Introduction to Structured Programming Using C
- **CSC 220** Programming in PASCAL
- **CSC 230** Programming in ADA

Principles of Computer Science. Suggested courses are either the undergraduate two quarter sequence:

- **CSC 310-311** Computer Science I-II

or a one quarter equivalent restricted to graduate students with programming experience:

- **CSC 410** Principles of Computer Science

A detailed study guide for the Graduate Assessment Examination and further information is available from the department (phone 312/341-8381).
OTHER PREREQUISITES

The following competencies are required as part of the Prerequisite Phase. Equivalency exams are not offered for the following courses. Students with related coursework and/or experience in these areas should consult with a graduate advisor.

Physics

PHY 405 Physical Principles of Communication Systems

Quantitative Methods

MAT 145 Calculus for Information Systems
CSC 323 Data Analysis with SAS

DEGREE REQUIREMENTS:

The requirements for the Core Knowledge and Advanced Phases are presented below:

CORE KNOWLEDGE PHASE—TELECOMMUNICATION SYSTEMS

Successful completion of the Core Knowledge Phase consists of:

• Completion of Core Knowledge Phase Courses
• Core Knowledge Phase courses
  Conditionally admitted students will receive at most three graduate courses completed prior to successful completion of the Prerequisite Phase.

  Students complete the following core Knowledge Phase course requirements:

  CSC 445 Computer Architecture
  CSC 446 Operating Systems
  CSC 461 Basic Communication Systems
  CSC 462 Data Communications
  CSC 565 Voice Telecommunications
  CSC 567 Telecommunication Systems Design and Management

  Passing the Core Knowledge Examination

  The examination covers the subject matter of the six (6) Core Knowledge Phase courses required for the Telecommunication Systems degree. Students take this examination as soon as they successfully complete their Core Knowledge Phase course requirements. The exam is offered in the Autumn and Spring quarters.
  Students are allowed at most two attempts at this examination. Two failures result in dismissal from the graduate program. Call the department at (312) 341-8381 for further details on this examination.
  Deadline: The student must submit a written application three months before taking the Core Knowledge Phase examination.
  Waiver of some of the Core Knowledge Phase courses is possible in individual cases but requires the approval of the student's advisor.

ADVANCED PHASE—TELECOMMUNICATION SYSTEMS

Students must fulfill the course requirements of the Telecommunication Systems degree program. Consult the Advanced Phase Courses section below for details. Waiver of some of these courses is possible in individual cases but requires the approval of the student's advisor.
Conditionally admitted students receive credit for Advanced Phase courses only after successful completion of the Prerequisite Phase. Fully admitted students will receive credit for at most three courses completed prior to passing the Core Knowledge Phase examination.

**Minimal Course Requirement**

Students must complete at least 13 courses (52 hours) beyond the Prerequisite Phase and after receiving full-degree-seeking admission.

**Advanced Phase Course Requirements**

Students must complete the following Advanced Phase courses:

Four of the following:

- **CSC 432** Computer and Information Systems Modeling
- **CSC 450** Office Systems
- **CSC 463** Computer Networks
- **CSC 473** Information System for Management
- **CSC 561** Distributed Processing
- **CSC 562** Computer-Communication Network Design and Analysis
- **CSC 563** Protocols and Techniques for Data Networks
- **CSC 564** Local Area Networks
- **CSC 566** Integrated Telecommunication Systems

Three elective courses (See the Elective Course Restrictions below).

**Elective Course Restrictions**

Elective courses are those in the 400-599 range. Students may take at most two courses from other departments at DePaul or at some other institution (elective or otherwise). Students must obtain written approval of the Director of Graduate Studies before taking courses from other departments at DePaul and must justify the inclusion of these courses in their program.

Credit will be given for courses taken at other institutions only if they are approved by both the Associate Dean of the College of Liberal Arts and Sciences for the Loop Campus (consult the appropriate section on the transfer credit policies of the College) and the Director of Graduate Studies.

Courses suggested for the Prerequisite Phase never count for elective credit. Courses required for the Core Knowledge Phase only count for elective credit if they are not required for the student's own concentration.

Any course required for the student's concentration but taken as part of the requirements of another degree earned by the student may be waived but cannot be used for elective credit. Conditionally admitted students may not receive elective credit for courses taken prior to passing the Graduate Assessment Examination. Fully admitted students will receive elective credit for courses taken before passing the Core Knowledge Examination only if the total number of advanced courses taken does not exceed three.
Grade Requirements

Fully admitted students must maintain an average of at least 2.50 (out of a maximum of 4.00). Students who do not maintain this average are dismissed from the program. The department will notify such students as soon as possible. However, students who take courses after their average falls below 2.50 but before departmental notification will not receive any special tuition refunds.

In order to graduate, students must have an overall grade point average no less than 2.50 (out of a maximum of 4.00).

Incomplete grades are only given if the course instructor considers them justified and if the student obtains the departmental chairman’s permission. The departmental secretary will provide the appropriate permission form. Incompletes must be completed within one quarter or else they may change to grades of F.

MASTER OF SCIENCE: MANAGEMENT INFORMATION SYSTEMS

The master’s degree program consists of three phases:

- Prerequisite Phase
- Core Knowledge Phase
- Advanced Phase

The prerequisite phase guarantees that all students have a common background. The Core Knowledge Phase prepares students for advanced study, in the Advanced Phase, students specialize in selected areas of management information systems.

PREREQUISITE PHASE—MANAGEMENT INFORMATION SYSTEMS

All applicants who satisfy the general admission requirements of the Graduate School of Business and the College of Liberal Arts & Sciences initially receive conditional admittance to the Management Information Systems degree program. They may then pursue the degree program but need to fulfill the following requirements to become fully admitted.

- Bachelor’s degree completed.
- Satisfactory Completion of GMAT.
- Counseling session with a graduate counselor.
- A passing score on the MIS Assessment Examination or grades of “B” or better in corresponding Prerequisite Phase courses.
- A course in assembly language or equivalent work experience.

MIS Assessment Examination

The purpose of the MIS Assessment Examination is to ensure a common background of knowledge in general business administration, software development, and quantitative methods. A passing score is required on this examination to move from the Prerequisite Phase to the Core Knowledge Phase and become fully admitted. To pass this examination, students either pass the DePaul courses listed below with grades of “B” or better or they pass the corresponding written examinations. The MIS Assessment Examination covers the following topics.
General Business Administration

GSB 503 Organizational Behavior: Micro Perspective
GSB 504 Financial Accounting
GSB 505 Contemporary Economic Analysis
GSB 507 Operations Management
GSB 508 Marketing Management
GSB 509 Legal Perspectives of Business—Fundamentals
GSB 510 Organizational Policy Formulation and Strategic Management
GSB 513 Money, Banking and Economic Activity

Software Development

CSC 203 COBOL Programming
CSC 204 Advanced Topics in COBOL
CSC 215 Introduction to Structured Programming Using C
CSC 310-311 or 410 Principles of Computer Science

Quantitative Methods

GSB 501 Mathematical Analysis for Decision Making
MAT 140 Discrete Mathematics
CSC 323 Data Analysis with SAS I

Other Prerequisites

Students must pass one course in Assembly Language or demonstrate equivalent experience. However, this prerequisite is not considered part of the MIS Assessment Examination. Suggested courses are:

CSC 312 Assembly Language and Machine Organization
CSC 344 IBM Assembly Language

Degree Requirements

The requirements for the Core Knowledge and Advanced Phases are presented below. In total, students complete 13 graduate courses. At least 6 of these courses are chosen from the Computer Systems offerings and at least 6 of them from the Systems Management offerings. The remaining course is chosen from either of the two groups of courses.

CORE KNOWLEDGE PHASE—MANAGEMENT INFORMATION SYSTEMS

Successful completion of the Core Knowledge Phase consists of completion of the Core Knowledge Phase courses and passing the Core Knowledge Examination.
Core Knowledge Phase Courses.

These consist of 3 Computer Systems courses and 3 Systems Management courses for a total of 6 courses. Most students complete the courses listed below. However, waiver of some of these courses is possible for students with related course work or experience but requires the permission of their advisor. Students are still responsible for the content of these courses on the Core Knowledge Examination. The course requirements are:

**Systems Management**
- ACC/MGT 673 Database Systems
- ACC/MGT 676 Management Information Systems: Planning, Design, and Implementation

**Computer Systems**
- CSC 446 Computer Operating Systems
- CSC 449 Database Technologies
- CSC 474 Decision Support Systems

Core Knowledge Examination

This examination covers the subject matter of the 6 Core Knowledge Phase courses listed above. Students take this examination as soon as they successfully complete their Core Knowledge Phase courses.

Students who have related coursework or experience may earn a waiver of some of these courses by passing the Core Knowledge Examination but require the permission of their advisor to attempt this. Students earn a waiver only if they pass the associated Core Knowledge Examination material in one attempt. Waived Systems Management courses are replaced by Systems Management electives. Waived Computer Systems courses are replaced by Computer Systems electives.

Students must pass this examination in two attempts or they will not be allowed to continue in the program. Deadline: Students must submit a written application the three months before taking the Core Knowledge Examination.

ADVANCED PHASE—MANAGEMENT INFORMATION SYSTEMS

The Advanced Phase consists of 7 Advanced Phase courses. Students must fulfill the course requirements in both Systems Management and Computer Systems. Waiver of some of these courses is possible in individual cases but requires the approval of the student's advisor. In any case, 3 of these courses must be selected from the Advanced Phase Computer Systems courses, 3 others from the Advanced Phase Systems Management courses, and 1 more course from either collection.
Advanced Phase Systems Management Courses

Students must take at least one course from each of the following three groups. Waiver of these requirements is possible in individual cases but requires the permission of the student's advisor.

1 of the following:
- ACC/MGT 675 Advanced Systems Techniques
- ACC/MGT 677 Information Systems Project Management

1 of the following:
- ACC/MGT 678 Problems in Systems Design
- ACC/MGT 689 Graduate Seminar in Decision Support Systems

1 of the following:
- ACC/MGT 683 Information Processing Management
- ACC/MGT 684 Information Systems and Society
- ACC/MGT 685 Security, Accuracy, and Privacy in Computer Systems

Students who choose their elective course from the Systems Management courses or who have extra Systems Management electives due to waivers of required courses choose from the following courses or from courses in the above three groups. With the permission of the MIS Program Director for Systems Management, they may also take other graduate courses offered by the College of Commerce.

- ACC 535 Accounting Systems
- ACC 526 Applications of Quantitative Techniques for Management Uses
- ACC 527 Construction and Use of Decision Models
- GSB 511 Accounting Analysis for Decision Making
- MGT 510 Advanced Production Management and Operations Research
- MGT 580 Operations Research

Advanced Phase Computer Systems Courses

Students must take 3 Advanced Phase Computer Systems courses chosen from the following two groups. Waiver of these requirements is possible in individual cases but requires the permission of the student's advisor.

1 course chosen from
- CSC 423 Data Analysis and Regression
- CSC 432 Computer and Information Systems Modeling

2 courses chosen from
- CSC 450 Office Systems
- CSC 462 Data Communications
- CSC 480 Artificial Intelligence
- CSC 494 Software Methodologies
- CSC 560 On-Line Systems and Telecommunications
- CSC 572 Computer Security

Students who choose their elective course from the Systems Management courses or who have extra Systems Management electives due to waivers of required courses choose from the following courses or from courses in the above three groups. With the permission of the MIS Program Director for Systems Management, Dr. Milton D. Shulman, they may also take other graduate courses offered by the Graduate School of Business.
Courses

All courses carry 4 hours of credit unless otherwise indicated.

Undergraduate Courses—Phase I

These courses count only for Admission Phase requirements.

**ACC 101** Principles of Accounting I. An introduction to accounting as the means of recording, storing, and summarizing economic events of the business enterprise. Emphasis is placed on financial statements and other financial reports to management and the public based on the accounting equation, accrual accounting concepts, and data gathering techniques.

**ACC 103** Principles of Accounting II. A companion and sequel course to Accounting 101. This course continues the exploration of basic accounting fundamentals and concepts as well as financial statements and their use in the business world. An overview of management accounting concepts is also provided. (Prerequisite: ACC 101)

**GSB 504** Financial Accounting. An introduction to Financial Accounting; provides both a theoretical foundation and an opportunity to apply accounting logic in increasingly complex situations. The Accounting Model and information processing cycle are developed. The content of the Income Statement, Balance Sheet, and Statement of Changes in Financial Position are studied in detail and analyzed. Prerequisite: Graduate Standing.

**BMS 126** Calculus with Applications to Business. Elements of differential and integral calculus with business applications. Partial differentiation. (Prerequisite: MAT 140)

**CSC 203** COBOL Programming. An introduction to programming in the business oriented language COBOL. The emphasis will be on business problems involving the processing of large quantities of data. Laboratory fee.

**CSC 204** Advanced Topics in COBOL. File management, tape and direct access devices. Indexed sequential, relative, and direct files. Access methods. Subprograms, sort/merge feature. Database applications. (Prerequisite: CSC 203) Laboratory fee.
CSC 205 FORTRAN Programming. An introduction to programming in the scientific language FORTRAN. Input and output, branching, looping, subscripted variables, functions, subroutines, non-numerical procedures, algorithm construction and problem solving. (Prerequisite: Math 101 or equivalent.) Laboratory fee.

CSC 210 Programming with PL/I. An introduction to structured computer programming using the language PL/I. Topics include simple data types, control structures, character string processing, array processing, procedures and functions. Laboratory fee.

CSC 215 Introduction to Structured Programming Using C. An introduction to structured computer programming. Topics include: simple data types, control structures, character string processing, array processing, functions and structures. (Recommended: Students should have completed or be concurrently enrolled in MAT 140 or CSC 420)

CSC 220 Programming with Pascal. An introduction to structured computer programming using the language Pascal. Topics include: elementary data types, program control structures, character strings, array processing, procedures and functions, and an introduction to user defined data types. Laboratory fee.

CSC 225 Programming in C. Introduction to the programming language C. Data types, pointers, structures. Function and block structures. Preprocessors. Input and output. UNIX operating system. (Prerequisite: Experience in at least one high level programming language.) Laboratory fee.

CSC 230 Programming with ADA. An introduction to structured computer programming using the language ADA. Topics include: elementary data types, program control structures, character strings, array processing, procedures and functions. An introduction to user defined data types, packages, generic program units, exceptions and tasks. Laboratory fee.

CSC 310 Principles of Computer Science I. Conceptual models of a computer, machine and assembly language. Internal data representation, programming methods, recursion, stacks, queues. (Prerequisite: CSC 215.) Laboratory fee.

CSC 311 Principles of Computer Science II. Basic data structures, stacks, queues, linked lists. Trees, tree searches and string processing. (Prerequisite: CSC 310.) Laboratory fee.

CSC 312 Assembly Language and Computer Organization. Data representation, addressing schemes, and instruction charts for the VAX/MACRO assembly language. A comparative study of past and present computers. Introduction to computer organization. (Prerequisite: CSC 311 or consent. Laboratory fee.

CSC 323 Data analysis with SAS. Programming in the statistical language SAS. Introduction to data analysis, elementary statistical inference. Regression and correlation. (Prerequisite: CSC 310 and MAT 140.) Laboratory fee.

CSC 342 File Processing and Data Management. File processing environment and file manipulation techniques using PL/I. Algorithms and techniques for implementing stream files, sequential files, direct files, indexed sequential files. Inverted lists, multilists, and database structures will be discussed. Implementation of data management systems. (Prerequisite: CSC 311.) Laboratory fee.

MAT 140 Discrete Mathematics I. Boolean Algebra, graph theory, and combinatorial analysis with computer applications. (Prerequisite: 131 or three years of high school mathematics.)
MAT 145 Calculus for Information Systems. Limits, continuity, the derivative and rules of differentiation, applications of the derivative, exponential and logarithm functions, the definite integral and some methods of integration, improper integrals. (Prerequisite: MAT 141.)

MAT 150 Calculus I. Limits and derivatives, extrema, curve sketching, convexity, inverse functions, continuity. (Prerequisite: MAT 131 or three years of high school mathematics.)

MAT 151 Calculus II. Definite and indefinite integral; volume; arc length; trigonometric functions; logarithmic and exponential functions. (Prerequisite: MAT 150)

Graduate Courses

CSC 410 Principles of Computer Science. Conceptual models of a computer, machine and assembly language. Internal data representations, programming methods, recursion. Stacks, queues, linked lists. Trees, tree searches and tree processing. This course applies only for Prerequisite Phase Credit. Restricted to students with programming experience; other students should enroll in CSC 310-311. (Prerequisite: CSC 215 and two other programming languages, or consent from graduate program advisor.) Laboratory fee.

CSC 420 Discrete Structures. Basic set theoretic and finite algebraic structures with their applications to computer science, graph theory, switching circuits, finite state machines, and other topics.

CSC 423 Data Analysis and Regression. Multiple regression and correlation, residual analysis, analysis of variance, and robustness. These topics will be studied from a data analytic perspective, supported by an investigation of available statistical software. (Prerequisite: CSC 323 or consent.) Laboratory fee.

CSC 424 Advanced Data Analysis. Topics chosen from among multivariate statistical methods, discriminant analysis, principal components analysis, factor analysis, discrete multivariate analysis, and non-parametric statistics. (Prerequisite: CSC 423 or consent)

CSC 432 Computer and Information Systems Modeling. Discrete event simulation. Simulation languages (e.g.: SIMSCRIPT and GPSS). Output data analysis. Variance reduction techniques. Applications like simulation of queueing systems, simulation of an inventory system, modeling of timesharing systems, modeling of multiteller bank. (Prerequisite: CSC 446 or consent.) Laboratory fee.

CSC 442 Data Structures. Representation and management of data in a computer. String and numeric representation, string manipulation, arrays, stacks, queues, linked lists, trees, graphs, sorting and searching. (Prerequisite: CSC 410.) Laboratory fee.

CSC 445 Computer Architecture. A structured comparative study of computer organizations and design strategies. Memory organization, general register processors, stack processors, register transfer level, microprogramming and emulation. (Prerequisite: CSC 312 and CSC 420.)

CSC 446 Computer Operating Systems. A conceptual introduction to operating systems. Multiprogramming, timesharing, concurrent and cooperating processes, scheduling policies, storage management and file management. Laboratory fee.
CSC 447 Concepts of Programming Languages. A comparative study of computer languages such as ALGOL, PL/I, FORTRAN, APL, COBOL, LISP, and SNOBOL. Information binding, semantics, context free grammars.

CSC 448 Compiler Design. Design and structure of high level languages. Lexical scan, top down and bottom up syntactic analysis. Syntax directed translation and LR(k) grammars. (Prerequisite: CSC 447 or consent.)

CSC 449 Database Technologies. An introduction to database technology and systems, including storage structures, integrated management systems, query languages, host language facilities, and on-line file organization. These topics will be discussed in relation to existing database systems. (Prerequisite: CSC 442.)

CSC 450 Office Systems. Basic technology for information retrieval, analytic tools, communication, text preparation, support tools. Productivity analysis. Distributed network design and network integration issues.

CSC 451 Database Design. Design methodologies. Requirement formulation and analysis, conceptual design, implementation design, physical design. Emphasis will be on data modeling techniques. Class team projects include the design of a complete database structure and implementations of design tools. (Prerequisites: CSC 449, a programming language.) Laboratory fee.

CSC 452 Database Programming. Programming in large-scale relational database environment using host languages such as C. Design and implementation of on-line applications and report generations. Micro-computer Database System programming. Concepts such as database integrity, transactions, transaction recovery, concurrency, and record locking will be covered. (Prerequisites: CSC 449, 215.) Laboratory fee.


CSC 460 Topics in Operating Systems. A survey of topics of current interest. (Prerequisite: CSC 446.)

CSC 461 Basic Communication Systems. A history of telecommunications and regulatory and regulatory agencies. The basic communication model and its application to different communication systems, communication models. The telephone architecture, a typical data communication system, common carrier services, mediums and their characteristics. (Prerequisite: CSC 445.)

CSC 462 Data Communications. Theory and components of data communication systems, modes, codes, and error detection techniques for data transmission, network protocols and line control procedures, communication carrier facilities and system planning. (Prerequisite: CSC 445.)

CSC 463 Computer Networks. A detailed discussion of the seven layers of the ISO reference model. Network topology. Introduction to ARPANET, SNA, DECNET and public networks. (Prerequisite: CSC 462 or consent.)

CSC 466 Software Quality and Measurement. Software metrics, reliability, and quality. Software testing, tools, and quality assurance. Software cost modeling. (Prerequisite: CSC 323 and either CSC 365 or 475.)


CSC 472 Metamathematics, Logical Deduction and Computers. Deduction in formal theories; decidability, consistency and completeness; the limits of formal reasoning, Godel's Theorem, the halting problem for Turing machines, other undecidable problems, elementary recursion theory. (Prerequisite: Some familiarity with formal mathematical reasoning.)

CSC 473 Information Systems for Management. Teleprocessing and data base fundamentals. Overview of business information systems. Information systems planning, development, and maintenance. Behavioral aspects of information systems. The systems approach. Organization, management, and control of information systems. (Prerequisite: CSC 203 or equivalent experience)

CSC 474 Decision Support Systems. Analysis, design and implementation of decision support systems, structured decision systems and strategic planning systems. Data base and model base management aspects of DSS. Formal logic and artificial intelligence aspects of DSS. Case studies. Laboratory fee.

CSC 475 Information Systems Analysis and Design. Design skills for the analysis and design of Information Systems. Topics include logical data base design, data flow diagramming and preparation of data dictionaries, and preparation of mini-specs. Problems will include a case study in the design of an information system.

CSC 480 Artificial Intelligence. A survey of the basic problem areas, concepts, and techniques of artificial intelligence. Emphasis on how AI systems are accomplished via symbolic programming and the explicit representation of knowledge. Laboratory fee.

CSC 481 Pattern Recognition and Machine Perception. Decision theory, linear discriminant functions, clustering, image processing, scene descriptors, applications. (Prerequisite: One statistics course.)

CSC 482 Legal Aspects of Data Processing. Practical legal considerations arising in a data processing environment are discussed. Areas include: legislation, contracts, copyrights, patents and fraud.

CSC 483 Information Processing Management. The organization of the Information Systems Department. Staffing, documentation and performance standards. The budget process. Design and layout of data processing facilities. Hardware/software specifications and selection. (Prerequisite: CSC 473 or 475.)

CSC 484 Computerized Accounting Systems. Responsibility accounting systems. Profitability accounting systems. Customer invoicing, cash receipts and accounts receivable information processing. Customer order entry, finished goods inventory, purchasing and receiving information processing. Accounts payable, fixed assets and employee payroll systems. General ledger, budget and profit planning, sales analysis and market planning systems. (Prerequisite: GST 504 or ACC 103)
CSC 485 Numerical Analysis. Use of a digital computer for numerical computation. Error analysis, Gaussian elimination and Gauss-Seidel method, solution of non-linear equations, function evaluation, approximation of integrals and derivatives, Monte Carlo methods. (Prerequisites: MAT 220 and a programming course)


CSC 487 Operations Research I. Linear Programming. The Linear Programming problem and its dual; the simplex method; transportation and warehouse problems; computer algorithms and applications to various fields. (Prerequisites: MAT 220 and any introductory programming course)

CSC 488 Operations Research II. Optimization Theory. Integer programming; non-linear programming; dynamic programming; game theory. (Prerequisite CSC 487)

CSC 489 Queueing Theory with Computer Applications. An overview of queueing theory. Queueing systems, related random processes, classification of queues. Priority queueing. Computer time sharing and multi-access systems. (Prerequisite: CSC 432 or consent.)

CSC 490 Theory of Computation. An introduction to the mathematical foundations of computation. Random access and Turing machines, recursive functions, algorithms, computability and computational complexity, intractable problems, NP-complete problems. (Prerequisite: CSC 491 or consent.)

CSC 491 Design and Analysis of Algorithms. Consideration of interesting and efficient algorithms for sorting, graph theory, matrix operations and integer arithmetic. Emphasis on measuring the complexity of algorithms and on methods of designing algorithms. (Prerequisite: CSC 420 and CSC 442.) Laboratory fee.

CSC 493 Automata Theory and Formal Grammars. An introduction to the most important abstract models of computation and their applications: finite state machines and pushdown automata. The relationship between formal grammars and automata. (Prerequisite: CSC 420.)

CSC 494 Software Methodologies. A survey of recent techniques for software development and software management. Problem specification, software design and testing; evaluation and documentation. Students will participate in a class project which will be integrated with the lectures.

CSC 496 Microprocessors. An introduction to the hardware and software aspects of microprocessors. Digital electronics, microprocessors, programming, interfacing. Laboratory work will involve hands-on work with microprocessor systems. (Prerequisite: one assembler course.)

CSC 497 Information Theory. An introduction to the basic concepts of information theory and coding theory. Measure of information, the fundamental theorem, Hamming, BCH, and other cyclic codes. (Prerequisite: CSC 420 and CSC 323 or consent.)

CSC 510 **Introduction to Systems Programming.** Introduction to macroassembly systems and general macroprocessors, input and output control systems. Debugging tools. (Prerequisites: CSC 445, CSC 446 or consent.)

CSC 520 **Advanced Topics in Discrete Structures.** Continuation of CSC 420. Topics vary but may include: groups and group codes; rings, fields, and polynomial codes; network algorithms; Petri nets; advanced topics in graph theory. (Prerequisite: CSC 420)


CSC 545 **Advanced Computer Organization.** Parallel, array and pipeline processors and other topics of current interest. (Prerequisite: CSC 445)

CSC 546 **Operating Systems Design.** An algorithmic approach to the design of an operating system. Topics are I/O programming; procedure and data sharing in main storage; process and resource control; deadlocks; file systems. (Prerequisite: CSC 446)

CSC 548 **Advanced Compiler Design.** Emphasis on practical problems in implementing compilers, data flow analysis, code optimization, error analysis. Discussion of compiler generators. As a class project students will write a compiler. (Prerequisite: CSC 448)

CSC 549 **Advanced Database Technologies.** Study and comparison of relational, hierarchical and network database systems. Problems of implementation of database management systems. Critical evaluation of commercial database systems.

CSC 560 **On-Line Systems and Telecommunications.** On-line system design and development; technical design control; network topology; telecommunications (voice and data) hardware and software; telecommunications systems; network architecture; telecommunications deregulation; technology forecast. Study of large scale on-line systems. (Prerequisite: CSC 446)

CSC 561 **Distributed Processing.** Interconnect technologies, multiprocessor software including synchronization problems and message communication software. Performance requirement analysis and system design. Case studies of distributed systems. The special problems of data base.

CSC 562 **Computer-Communication Network Design and Analysis.** Quantitative approaches to the design of data communications networks. Practical examples of networks. Statistical multiplexing and buffering at communication concentrators. Topics in overall network design. (Prerequisites: CSC 432, 462, or consent.)

CSC 563 **Protocols and Techniques for Data Networks.** Packet communications; transport protocols; terminal, file transfer, and remote job protocols; packet broadcast protocols; security; data base management in distributed networks. (Prerequisite: CSC 463 or consent.)

CSC 564 **Local Area Networks.** A detailed discussion of the current standards and technology. Medium access techniques, topologies, network operating systems, applications, and an introduction to several commercial and research networks. (Prerequisite: CSC 463.)
CSC 565 Voice Telecommunication. Basic Technology for PBX hardware and software. Analysis and design of voice systems. Comparison of common and special carrier facilities. Traffic engineering and network design. (Prerequisite: CSC 445, 446.)


CSC 567 Telecommunication Systems Design and Management. The theory and practice of Telecommunication system design. Ongoing systems management. Telecommunication management including selection of vendors, systems, structuring an RFP, systems proposal analysis, computer-aided telecommunications management. Telecommunication management strategies from a business perspective. (Prerequisite: CSC 461.)


CSC 572 Computer Security. Security issues and problems specific to the computer environment. Software and hardware protection mechanisms including encryption and authorization schemes. Special security problems in distributed and teleprocessing environments. (Prerequisite: CSC 446 or consent.)

CSC 575 Information Retrieval. Introduction to the design and analysis of computer based information storage and retrieval systems. Retrieval systems using natural language, question-answering techniques, storage and retrieval of unstructured and well-structured data. On-line inventory systems and bibliographic search systems. (Prerequisite: CSC 459 or consent.) Laboratory fee.

CSC 580 Artificial Intelligence Programming. Introduces the basic concepts of symbolic programming, as embodied in the language LISP, Basic data and control structures of LISP: symbolic expressions, the interpreter, functions, recursions, iteration. Advanced data and control structures. Making language extensions. How symbolic programming leads to new techniques of procedural and data abstraction. (Prerequisite: CSC 490.)

CSC 581 Knowledge-based Systems. A detailed study of development of artificial intelligence application systems. System architecture, knowledge engineering, rule-based programming. Existing systems will be surveyed. (Prerequisite: CSC 480. CSC 585 is recommended.)

CSC 582 Introduction to Robotics Systems. Analysis of methods of the design and operation of robotic systems. Arm control: coordinate transformations, feedback control systems, hardware components. Application of distributed microcomputer systems to robotic control. Discussion of command languages and planning of job assignments. (Prerequisites: CSC 480 and CSC 445; CSC 580 is recommended.)

CSC 583 Understanding Natural Language. Introduction to natural language understanding, including representation schemes, grammars, parsers, text generation, and machine translation. An overview of some natural language processing systems. (Prerequisites: CSC 480, CSC 580 is highly recommended.)
CSC 584 Computer Vision. Introduction to computer vision, including two- and three-dimensional geometry, knowledge representation, computational and stereo vision, and color and texture perception. With applications to robotics, medicine, and industrial processes. (Recommended: CSC 480.)

CSC 585 Knowledge Representation. Techniques of knowledge representation, including logic, associative networks, and frames. (Prerequisite: CSC 480, 580.) Laboratory fee.


CSC 591 Advanced Topics in Algorithms. An in-depth discussion of one or more of the following topics: algorithms for integer operations, polynomial arithmetic including applications of the fast Fourier transform, matrix operations, pattern matching algorithms, proving lower bounds on the complexity of algorithms. (Prerequisite: CSC 491.)

CSC 594 Topics in Artificial Intelligence. (Prerequisite: Consent of instructor. Independent Study form required.)

CSC 595 Computer Logic Design. Combinational logic design. Sequential logic design. Fault detection and fault tolerant design. Multi-valued logic. (Prerequisite: CSC 443.)

CSC 596 Topics in Information Systems. (Prerequisite: Consent of instructor. Independent Study form required.)

CSC 597 Topics in Data Communications. (Prerequisite: Consent of instructor. Independent Study form required.)

CSC 598 Topics in Data Analysis. (Prerequisite: Consent of instructor. Independent Study form required.)

CSC 599 Topics in Computer Science. (Prerequisite: Consent of instructor. Independent Study form required.)

CSC 610 Computer Science 1. An introduction to structured programming using PASCAL. Topics include: elementary data types, program control structures, character strings, array processing, procedures and functions, and an introduction to user defined data types.

CSC 611 Computer Science 2. Conceptual models of a computer, machine and assembly language. Internal data representation, programming methods, recursion. Basic data structures, stacks, queues, linked lists. Trees, tree searches and string processing. (Prerequisite: CSC 610)


CSC 640 Teaching Computer Science. A study of different programming languages used in high schools: PASCAL, BASIC, LOGO etc. A survey of computer topics covered in high school courses. Motivation and objectives in computer education. (Prerequisite: CSC 611)
CSC 650 **Executive Program.** A course of study designed to provide executive and management professionals with the skills required to make effective use of personal computers. The course provides an integrated format covering popular database and spreadsheet software packages as well as topics in data communication, office automation, networks, and computer-based expert systems. (10 hours, admission is restricted)

CSC 651 **Artificial Intelligence Program.** (10 hours, admission is restricted)

CSC 670 **Computer-Assisted Instruction.** Study and analysis of the use of the computer as an aid in instruction. Use of CAI languages such as PILOT. (Prerequisite: CSC 630)

CSC 680 **Programming with LOGO.** An introduction to LOGO, a powerful yet easy-to-learn language that both adults and children can use to express ideas.

CSC 696 **Master's Project.** Students may register for this course only after their advisor has approved a written proposal for their project. 2 credit hours. (Prerequisite: Consent of advisor. Independent study form required.)

CSC 698 **Master's Thesis.** Students may register for this course only after their advisor has approved a written proposal for their thesis. Students must continue to register for this course every quarter after their first registration in it until they complete their project or thesis to the satisfaction of their advisor. They earn two hours of credit for each such registration but only four credit hours of credit will apply for degree credit. (2 hours of credit; Prerequisite: consent of advisor. Independent study form required.)

**Courses From Other Departments**

PSY 443 **Psychology of Human Performance.** Consult the Department of Psychology Section of this bulletin for the description of this course.

SOC 415 **Information Systems and Society.** Consult the Department of Sociology Section of this bulletin for the description of this course.

SOC 467 **Organizations.** Consult the Department of Sociology Section of this bulletin for a description of this course.

**Courses Related to the MIS Degree**

All GSB courses, except GSB 520, 530, 540, 556, 557 and 558 will be offered each term.

GSB 501 **Mathematical Analysis for Decision Making.** The objective of this course is to introduce the student to mathematical concepts necessary for the analysis of business problems. Topics covered are: a brief review of college algebra; differential calculus and linear algebra. (Prerequisite: Graduate Standing)

GSB 503 **Organization Behavior: Micro Perspective.** This course will consider those aspects of psychology and social psychology that impact on the individual in his or her role as a member of a formal organization or a group therein. Specific attention will be given to the following topics: Individual Topics: Job satisfaction, personality factors, learning, socialization, organizational commitment, and evaluating and rewarding individual effectiveness; Small Group Topics: Communications, organizational change and organizational development. (Prerequisite: Graduate Standing)
GSB 504 Financial Accounting. An introduction to Financial Accounting; provides both a theoretical foundation and an opportunity to apply accounting logic in increasingly complex situations. The Accounting Model and information processing cycle are developed. The content of the Income Statement, Balance Sheet, and Statement of Changes in Financial Position are studied in detail and analyzed. (Prerequisite: Graduate Standing).

GSB 505 Contemporary Economic Analysis. The fundamental concepts, models, and analytic tools of micro- and macroeconomics required for competent decision making are explored. Economics, and the economic problem, are defined, and the micro issues of demand and supply, elasticity, cost, pricing, and distribution are covered as one explanation of economic activity inside the firm. In the macro area, emphasis is placed on measurement of economic activity, simple models of national output, fiscal and monetary policy, and inflation and unemployment. (Prerequisite: GSB 500, 501, 502, or their equiv).

GSB 507 Operations Management. This course provides an introduction and overview of the field of operations management. Major problems and issues in the field are addressed. Concepts both quantitative and qualitative and problem solving techniques used by operations managers are applied to both the manufacturing and services sectors. (Prerequisite: GSB 500, 501, 502 or their equiv).

GSB 508 Marketing Management. Major marketing institutions and the processes which facilitate the flow of goods and services from production to final consumption are studied. Analysis is made of the major factors which are considered at various stages of the consumer decision process. (Prerequisite: GSB 501, 502, 503 or their equiv).

GSB 509 Legal Aspects of Business—Fundamentals. A Study of the legal framework within which the U.S. businessman must operate in accordance with ethical considerations and social responsibilities is combined with the study of the application of substantive rules in the basic area of contracts. The second half of the term provides a study of the applications of the rules of the more specialized business contracts, namely, real and personal property, commercial paper, sales, and the laws of the agency. Landmark decisions in each of these areas will be discussed in exemplifying the manner in which law is applied to business. (Prerequisite: Graduate Standing).

GSB 510 Organizational Policy Formulation and Strategic Management. This is a "capstone course" drawing heavily on the subject matter covered in all prerequisite courses. Emphasis is upon the role of general management and the development of policies and strategies for the organization as a whole. Topics include: the relationship among functional, tactical, and strategic management; the identifications and integration of policy and strategy alternatives; the importance of the external environment; and the evaluation and execution of strategy. Case analyses will be used to afford the student the opportunity to apply some of the concepts and approaches developed in the course. (Prerequisite: GSB 500 through 509 and GSB 513 or their equiv).
GSB 513 Money, Banking and Economic Activity. A study of the complex relationship between fiscal and monetary policies and the business environment within which the individual investor, financial institutions, and the financial officers of business operate. Special topics include: role of money in the economy; financial markets and financial intermediaries with emphasis on commercial banks; commercial bank asset and liability management; central banking; monetary theories and monetary policy; and international finance. (Prerequisite: GSB 501, 502, 505 or their equiv).

ACCOUNTING

526 Applications of Quantitative Techniques for Management Uses. This course is concerned with the applications of quantitative analysis techniques to the solution of business problems. Topics include probability distributions, simulation of complex decision situations, the use of game theory in competitive situations, and linear programming techniques for allocating limited resources. The case method is used in this course. The use of mini and microcomputers will be required. Offered Winter. (Prerequisite: Completion of Phase I or equiv).

527 Construction and Use of Decision Models. The course covers the art of decision model construction and the application of existing decision models to managerial planning, control, and decision making. Existing models covered include linear programming and sensitivity analysis, learning curves, correlation analysis, inventory control models, PERT, and CPM. Students will learn to apply probability and utility theory to decision making under uncertainty, as well as to apply the concepts of game theory to conflict situations in a business setting. If time permits, the application of Markov processes and simulation to managerial planning and decision situations will be covered. Offered Spring. (Prerequisite: Completion of Phase I or equiv).

535 Accounting Systems. Today's business person requires a fundamental knowledge of computer-based information systems and their role in accounting functions and financial decision making. This course will enable the student to interface with accounting systems, to participate in their design and audit, and to use microcomputers effectively in financial planning, control, and analysis. Topics include: advance data processing concepts; computer security and controls; systems analysis, design, and implementation; hardware/software evaluation and selection; database systems; data communications; and office automation. Students will gain substantial hands-on experience on microcomputers using Lotus 1-2-3 and Lotus Symphony. Not offered 1985-86.

673 Database Systems. An introduction to database concepts and working details from the point of view of an information systems analyst who works more closely with management than with the computer facility. Topics include a comparison of file structure and database structure, the advantages of database structure, simple retrieval of data and complex database queries, the control of potential anomalies peculiar to databases, and database conceptual design. Laboratory exercises include the use of a relational database management system. (Cross-listed with Mgt. 673). Offered Winter, Summer. (Prerequisite: Acct./Mgt. 671 and Acct./Mgt. 676 or equiv. or permission).
674 Systems Analysis and Design: Concepts, Tools and Techniques. This course focuses on the phases involved in the systems life cycle and the basic techniques used in each of these phases. The scope of coverage is broad as the concepts of systems analysis and design are applicable to both manual and computer systems. This course includes organizing and controlling the systems study, feasibility studies, fact gathering systems design and implementation, preparation and presentation of reports, records management and other topics. Practical exercises and/or cases will give the students and opportunity to apply these techniques to realistic problems. (Cross-listed with Mgt. 674). Offered Autumn, Winter, Summer. (Prerequisite: Completion of Phase I and Acct./Mgt. 670 or equiv.).

675 Advanced Systems Techniques. This course assumes a familiarity with basic systems techniques and tools such as data gathering, recording, and analysis, flow charting, decision tables, system implementation, etc. Topics to be covered include systems concepts and philosophy, project management, advanced tools of systems analysis and design, the human element in systems, and the like. (Cross-listed with Mgt. 675). Offered Winter. (Prerequisite: Acct./Mgt. 676 or equiv. or permission).

676 Management Information Systems: Planning, Design and Implementation. Information, to be useful, must be timely, relevant, accurate and delivered at a reasonable cost. All too often, management is required to extract pertinent information from masses of raw data. This course will establish a framework to determine information needs of management and how to satisfy them. A systems approach is used to develop the various information subsystems in the organization, and their integration into a management information system (MIS). This synergistic approach combined with the computer promises a new frontier in management planning and control. Topics covered include MIS concepts, planning, design and implementation. Theoretical and practical tools in MIS design are discussed using cases or problems to reinforce the students' understanding. (Cross-listed with Mgt. 676). Offered Autumn, Spring. (Prerequisite: Acct./Mgt. 671 and Acct./Mgt. 674 or equiv.).

677 Information Systems Project Management. Projects are often late, over budget, technically inoperable, operationally infeasible, and in some cases never finished. One of the roots of this problem has been the lack of experienced management. What is needed are appropriate managerial procedures of planning, scheduling and control that are responsive to the needs of the environment. This course will define the essential components of good project management. Although the emphasis will be on management of systems and data processing projects, the concepts and techniques presented will be general enough to be of value to those involved with the design and implementation of any project. (Cross-listed with Mgt. 677). Offered Spring, Summer. (Prerequisite: Acct./Mgt. 674 or equiv. or permission).

678 Problems in Systems design and Management. Problems in systems design, analysis, implementation and management are presented, discussed and analyzed. The emphasis in this course is on developing an analytical ability for dealing with systems problems and a professional capability in planning and managing systems. (Cross-listed with Mgt. 678). Offered Spring. (Prerequisite: Act./Mgt. 676 or equiv. or permission).
Graduate Seminar in Decision Support Systems. A seminar on the planning, design and implementation of decision support systems (DSS). The emphasis of the course is on developing and building decision support systems. Consideration will also be given to End-Users DSS and the evaluation and selection of DSS packages. There will be hands-on experience in using microcomputer based packages, including Lotus Symphony and dBASE II. The course will include readings and a research paper and presentation. (Cross-listed with Mgt. 689). Offered Spring. (Prerequisite: Acct./Mgt. 676 or equiv. or permission).

MANAGEMENT

Advanced Production Management and Operations Research. An advanced treatment of production management activity, incorporating an intensive consideration of recent developments in management application of operations research. The techniques of operations research are examined and applied to production from the management point of view. Offered Autumn, Winter. (Prerequisite: Completion of Phase I or equiv).

Operations Research. This course focuses on a scientific approach to problem solving and model building. Topics covered include mathematical programming, integer programming, Markov processes, game theory and simulation. Emphasis is placed on application models, computer implementation and solutions. Offered Autumn. (Prerequisite: Mgt. 501).
Bala Batavia, Ph.D., Chairperson

**FACULTY**

**Professors**

Bala Batavia, Ph.D ........................................... North Carolina State University
James E. Clecka, Ph.D ........................................... Purdue University
James J. Diamond, Ph.D ........................................ Northwesern University
William M. Dugger, Ph.D ....................................... University of Texas
Animesh Ghosal, Ph.D ........................................... University of Michigan
William A. Hayes, Ph.D ........................................ Catholic University of America
William R. Waters, Ph.D ....................................... Georgetown University
Richard J. Wiltgen, Ph.D ....................................... University of Illinois

**Associate Professors**

Adolph E. Mark, Ph.D .......................................... University of Illinois
Michael S. Miller, Ph.D ........................................ University of Pittsburgh
Margaret E. Oppenheimer, Ph.D ................................ Northwestern University
Richard M. Thornton, Ph.D ..................................... Northern Illinois University
William Sander, Ph.D ........................................... Cornell University

**Assistant Professors**

Floyd R. Dill, Ph.D ........................................... Cornell University
Anthony Krautmann, Ph.D ..................................... University of Iowa
Thomas Mondshean, M.A. ...................................... University of Wisconsin

**Emeriti**

Frank J. Brown, Ph.D ........................................... Catholic University of America
VISITING FACULTY

Lecturer
Ashok Batavia, M.B.A, M.S.A ................................. DePaul University
Desree Ciecka, M.A ........................................... DePaul University

PURPOSE

The purpose of the graduate program of the Economics Department is to provide extensive knowledge and intensive analysis of economic theories and institutions. The program provides wide acquaintance with the basic sources in the field and initiates the student to habits of economic research. The degree in economics prepares the graduate, as a professional economist, to teach economics in high school and college, and to work as a business or a government economist doing forecasting and other tasks associated with that profession.

MASTER OF ARTS: ECONOMICS

Admission Requirements

For full admission, students must have the following:
Bachelor's Degree.
Nine courses in the social sciences. At least five of these courses are to be economics or finance. The economics courses are to include ECO 305 Pricing and Distribution Analysis and ECO 306 National Income Analysis or equivalent. The remaining courses may be in political science, sociology, psychology, statistics, history, or geography.
Note: Often the number of required courses is reduced when the analytic background and the maturity of the student are taken into consideration.
Degree Requirements

Thesis

Courses: Eleven (44 quarter hours)
Core Courses: Five (20 quarter hours)
- ECO 375 Introduction to Econometrics or equivalent
- ECO 505 Advanced Microeconomics
- ECO 506 Advanced Macroeconomics
- ECO 530 History of Economic Thought
- ECO 580 Topics in Quantitative Economics
- ECO 599 Seminar in Economics

Thesis Research: ECO 600 Thesis Research (8 quarter hours)

Additional Courses: Four (16 quarter hours)
The additional courses, to be chosen from economics and/or allied fields, require the student to have the written permission of the Program Coordinator or the Department Chair. Two of the four additional courses must be chosen from the 500 levels.

Thesis: The student must seek the approval of a faculty member in the department to write the thesis under his/her direction. Essential to this approval is acceptance of the thesis topic by the professor. If the thesis is evaluated as “excellent” and the student’s grade point is above average, the chairperson may dispense with the oral examination requirement that follows.

Oral Comprehensive Examination: This examination covers the thesis and the Area of Economics Concentration of the thesis. The specific areas a student may wish to concentrate in are listed below. The examination is taken after submission of the approved final draft of the thesis.

Non-Thesis

Courses: Eleven (44 quarter hours)
Core Courses: Five (20 quarter hours)
- ECO 375 Introduction to Econometrics I or equivalent
- ECO 505 Advanced Microeconomics
- ECO 506 Advanced Macroeconomics
- ECO 530 History of Economic Thought
- ECO 580 Topics in Quantitative Economics
- ECO 599 Seminar in Economics

Additional Courses: Six (24 quarter hours) The additional courses, to be chosen from economics and/or allied fields, require the student to have the written permission of the Program Coordinator or the Department Chair. Four of the six additional courses must be chosen from the 500 levels.

Written Comprehensive Examination: The comprehensive examination includes questions from the core courses (ECO 505, 506, 530, and 580 or 599) and in addition, either (a) a minimum of two questions from the student’s Area of Economic concentration, or (b) if the student has not chosen a concentration, questions from two courses chosen by the student with the approval of the chairperson or student’s advisor.
The examinations are usually given in the last half of November and the last half of April. Students must notify the chairperson in the last week of October or March of their intention to sit for the examination.

Note: GSB Courses, ECO 509 and ECO 556 cannot be used to fulfill degree requirements for M.A. students in economics.

Areas of Economic Concentration Courses

While not required, a student may acquire an Area of Concentration by completing four courses in one of the areas listed below.

**Business Economics**
- ECO 512 Applied Time Series and Forecasting
- ECO 514 Industrial Organization
- ECO 515 Business and Public Policy
- ECO 516 Economics of Taxation
- ECO 518 Labor Economics and Labor Relations
- ECO 576 Econometric Methods
- ECO 580 Topics in Quantitative Economics

**Development and International Economics**
- ECO 360 Economics of Underdeveloped Countries
- ECO 361 International Trade
- ECO 539 Comparative Economic Systems
- ECO 557 International Economics
- ECO 560 Development of American Economy
- ECO 561 Economics of Underdeveloped Countries
- FIN 557 International Finance

**Economics of Money and Finance**
- ECO 557 International Economics
- FIN 510 Advanced Monetary Theory and Banking
- FIN 557 International Finance
- FIN 599 Graduate Seminar in Finance

**Social Economics**
- ECO 320 Economics and the Common Good
- ECO 325 Economics of Poverty
- ECO 515 Business and Public Policy
- ECO 518 Labor Economics and Labor Relations
- ECO 539 Comparative Economic Systems
- ECO 560 Development of the American Economy
- ECO 561 Economics of Underdeveloped Countries
Urban and Manpower

ECO 325 Economics of Poverty
GEO 333 City Problems and Planning
MGT 333 Labor Law and Legislation
ECO 335 Resource, Energy, and Environmental Economics
ECO 368 Industrial and Commercial Location
ECO 518 Labor Economics and Labor Relations
ECO 550 Regional and Urban Economics

Quantitative Economics

ECO 380 Mathematics for Economics and Business I
ECO 512 Applied Time Series and Forecasting
ECO 576 Econometric Methods
ECO 580 Topics in Quantitative Economics
ECO 581 Mathematics for Economics and Business II

Economics as a Minor Field

Economics may be combined as a minor field only with those departments whose chairmen permit such a minor. The undergraduate prerequisites for taking graduate-level economics courses are eight courses in the social sciences. Six of these must be in economics or finance; the remaining two courses may be in political science, sociology, history, or geography.

Courses

All courses carry four quarter hours of credit unless otherwise noted.

ADVANCED UNDERGRADUATE COURSES

320 Economics and the Common Good. Economic theories, systems, and problems will be studied and analyzed in reference to the economic common good as defined in key modern documents, particularly the social encyclicals. Stress will be placed on both theory and practice.

325 The Economics of Poverty. Material and cultural, absolute and relative forms of poverty will be investigated insofar as they derive systematically, directly, and indirectly, from the American economy. Taking elimination of poverty as an appropriate objective, existing private, institutional and governmental activities will be analyzed, including economic activity itself. Personal, social, demographic, technological, and political background factors will also be brought to bear in the consideration of more successful antipoverty economic programs and policy.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>335</td>
<td>Resource, Energy, and Environmental Economics. Introduction to the fundamental problems of resource depletion and environmental deterioration; trade-offs between the use of natural resources, environmental pollution, and population growth; alternative methods to achieve an optimal ecological system. Economic analysis of cost-benefit techniques, the role of effluent fees, government subsidies, and legislative action.</td>
</tr>
<tr>
<td>360</td>
<td>Economics of Underdeveloped Countries. Application of the analytic skills of the economist to the special problems of underdeveloped countries. The view that development requires authoritarian control by the state is contrasted with the position that it may be accomplished by private economic decision-making.</td>
</tr>
<tr>
<td>361</td>
<td>International Trade. A study of international trade theory and policy. It examines the fundamental basis for trade and the question of equilibrium and disequilibrium in the world economy. It includes analyses of the Balance of Payments, international investment flows, and the position of the dollar in foreign exchange transactions. Modern international institutions are studied.</td>
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<tr>
<td>368</td>
<td>Industrial and Commercial Location. Analysis of the factors involved in selecting locations for the development of commercial and industrial facilities. (Cross-listed with GEO 368 and MKT 368.)</td>
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<tr>
<td>375</td>
<td>Introduction to Econometrics. This course introduces the student to the application of statistical methods to empirical testing of theoretical models of economic behavior. It proceeds from a discussion of mathematical models to probability theory and the methodology of statistical inference relevant to econometric work. Simple and multiple regression and correlation analysis will be emphasized along with a brief consideration of some problems raised by these methods of estimation.</td>
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<tr>
<td>380</td>
<td>Mathematics for Economics and Business I. This and the succeeding course are designed to provide a basic competency in the use of mathematics in Economics and Business. More and more, traditional as well as new concepts are discussed in the language of mathematics. In addition, successful study in the area of quantitative methods is greatly facilitated if the student has prior knowledge of the required mathematical tools. This first course consists of a general and elementary survey of three areas: the nature of a mathematical model, matrix algebra, and an introduction to calculus. All tools will be developed within the framework of problems common to Economics and Business. The student is assumed to have only a high school background.</td>
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**GRADUATE COURSES**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>505</td>
<td>Advanced Microeconomics. (Prerequisite: Graduate Standing) An advanced course in micro-economic theory. Extensive reading in the field is required and recent developments are examined. Emphasis is on those modern contributions which have made economic theory more realistic and applicable to the world of business.</td>
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</table>
506 Advanced Macroeconomics. (Prerequisite: Graduate Standing) An advanced course in macroeconomic theory that examines the determination of income, employment, and prices, and their interrelations. Covers traditional Keynesian as well as alternative models of output, consumption, investment, money demand, inflation, and unemployment. The dynamic character of income determination is emphasized, along with the effects of government policy, economic institutions, and social goals.

509 Business Conditions Analysis. (Prerequisite: Graduate standing) Examines the economist's measurement, analysis, and forecasts of the economy and relates various macroeconomic topics to the needs of the business sector. Topics include economic methodology and method; National Income and Product Accounts; the simple and advanced models of macroeconomic activity; analysis of consumption, investment, and government spending and finance; business cycles; international economics; macroeconomic problems and policies; and macroeconomic forecasting. (Cannot be used to fulfill degree requirements for M.A. students in economics.)

511 Business and Economic Forecasting. (Prerequisite: Graduate Standing. Cross listed with MAT 511) This course will be primarily concerned with macroeconomic data, variables, and predictions. Emphasis will be on the need for accurate predictions of economic activity and the importance of accurate predictions in implementing national economic policy and in making intelligent business decisions.

512 Applied Time Series and Forecasting. (Prerequisite: Graduate Standing.) Theory and computer implementation of the Box-Jenkins Techniques with emphasis on forecasting business and Economic activity. (Cross-listed with MAT 512.)

514 Industrial Organization. (Prerequisite: Graduate Standing) A course designed to supplement price theory by investigating the structure of markets and real-world pricing behavior. The focus is on observed industrial practices. In addition to the main concepts of economic theory needed to understand the problem of oligopoly pricing, the institutions in which large firms operate and analyzed. The links between market structure, conduct, and performance are explored. Primary emphasis is placed on the manufacturing sector of the U.S. economy, although the concepts can be applied to other industrialized economies as well.

515 Business and Public Policy. (Prerequisite: Graduate Standing.) A critical examination of the modern business economy in terms of the public purposes of the American people leading to consideration and development of major issues of public policy.

516 Economics of Taxation. (Prerequisite: Graduate Standing.) The economic effects of taxation and the objectives of taxation which include the collection of revenue for public sector projects, macro-economic stabilization and growth, and the attainment of social goals. Taxation is viewed as a pervading market distortion with corresponding effect on prices and resource allocation. The course also addresses the issue of the optimal tax system in light of the diverse goals of taxation.
Labor Economics and Labor Relations. (Prerequisite: Graduate Standing) A study of the American labor force; measurement, characteristics, behavior under changing income, employment, and technology. An examination of recent trends in real and money earnings and the distribution of the national income provides the basis for a critical economic analysis and appraisal of contemporary wage theory.

History of Economic Thought. (Prerequisite: Graduate Standing) A study of the evolution of the science of economics. Emphasis is on the important contributions made to the field by the great thinkers, starting with the Physiocrats and extending to the work of contemporary institutional and Post-Keynesian economists.

Comparative Economic Systems. (Prerequisite: Graduate Standing) A study of the theory and practice of modern economic systems. Attention will be devoted to the United States, the Soviet Union and other major nations.

Regional and Urban Economics. (Prerequisite: Graduate Standing) An analysis of the following topics: (a) the economics of urbanization and regional economic growth; (b) the economics of housing, land use, pollution, education, poverty, discrimination, and transportation; and (c) the elements of state and local finance.

The Global Economy. (Prerequisite: Graduate Standing) This course is designed to be an introduction to the economic environment in which international business operates. With the increasing interdependence of the global economy and the growing role of multinational enterprise, an understanding of international economic integration is vital to decision makers. The material covered will include both economic and financial aspects and cultural aspects of international business. (Cannot be used to fulfill degree requirements for M.A. students in economics.)

International Economics. (Prerequisite: Graduate Standing: ECO 361 or equivalent) Modern theories of international trade: Classical theory of comparative advantage, factor proportion of theory, factor price equalization, application to international trade of welfare economics, including regional economic integration, commercial policy and tariff problems.

Development of the American Economy. (Prerequisite: Graduate Standing) This course describes the economic development of the United States by tracing the effects of the significant innovations. Consideration is divided among the various American metropolitan economies.

Economics of Underdeveloped Countries (Prerequisite: Graduate Standing) An introduction to the analytic skills of the economist applied to the special problems of underdeveloped countries. The following topics are covered: the economic theory of development; development policy; and decision making in the developing world. In addition several case studies are examined.

Econometric Methods. (Prerequisite: ECO 375) The various fundamental problems in the application of statistical procedures to econometric estimation will be studied; multicolinearity, identification, serial correlation, and nonhomogeneity of error variance. In addition, more sophisticated estimation techniques will be studied, e.g., reduced form and multi-stage regression techniques.
Topics in Quantitative Economics (Prerequisites: Graduate Standing, ECO 305 or GSB 512, and ECO 380 or equivalent) This course is designed to expose students to the applications of quantitative and mathematical economics. Exact topics will be chosen by the instructor.

Mathematics for Economics and Business II. (Prerequisites: Graduate Standing and ECO 380) This course is a continuation of ECO 380. Areas of concentration will include: a survey of the relevant concepts of both differential and integral calculus, differential equations, difference equations, and the mathematics of statistical inference.

Seminar in Economics. (Prerequisite: Graduate Standing.) The course content depends upon the choice of the instructor. In recent years, the material chosen was literature explaining the nature of the science of economics, including the competing paradigms of the Austrian School, Schumpeter, solidarism, Max Weber, Institutionalism, and Post-Keynesianism.

Thesis Research. (Prerequisite: Permission of the Department Chairman) The student writing his thesis for the Master of Arts degree must register for this course. He will pursue his research under the direction and guidance of the graduate faculty. Eight quarter hours of credit is given upon the successful completion of the thesis.

Independent Study Available to graduate students of demonstrated capability for intensive independent work in economics. Prerequisite: Written permission of supervising faculty member and, Chairman, is required prior to registration. Courses cross-listed with CDG (not available for M.A. students in economics.)

The U.S. Macroeconomy and Chicago. Profile of Chicago’s economy, with emphasis on its development and current structure and contemporary links to international trade. The course will present principles of economics in terms of the Chicago economy and the national economy.

Introduction to Economics. (Cross-listed with CDG 417) A basic survey for educators who have not studied college-level economics. The course explains ways to introduce major economic concepts into the curriculum at all grade levels.

Teaching Economics in U.S. History. (Cross-listed with CDG 429) The use of economic concepts to interpret and analyze American history. The course traces the development of the United States economy and provides models for introducing economic development into junior and senior high school courses.

Teaching Consumer Education. (Cross-listed with CDG 430) An approach to consumer education that provides a basis for interpreting consumer choices as part of a larger system: the urban economy and the American economy. The course uses the Chicago area sites as well as current consumer education resources to deal with consumer economics issues. Meets the certification requirements for teachers of consumer economics in Illinois.

Teaching the American Economic System. (Cross-listed with CDG 431) The course explains basic economic concepts and provides tools of analysis that teachers can use to give students a clear understanding of the American economy and contemporary economic problems.
Implementing Economic Education Programs. (Cross-listed with Education 434.) This course deals with the practical issues that affect the successful introduction of economic education in an ongoing program. Participants will consider specific materials and methods for teaching economics and will identify the approaches that are most appropriate for different educational situations.

Teaching Money and Banking. (Cross-listed with CDG 435.) This course explains the financial system in the United States and considers essential concepts of inflation, credit creation, monetary policy, and investment. By using Chicago area financial institutions to focus on economic concepts, the course prepares educators to teach money and banking to junior high school students, high school students, and adults.

Integrating International Trade in the Curriculum. This course will combine curricular principles with the presentation of models for incorporating international trade in courses in economics, geography, political science, and urban science.

Social Economic Development. An examination of theories of economic development, including the role of the market, the enterprise system, and economic intermediaries. By considering the implications of major economic theories for Chicago's economic development, the course will prepare educators not only to teach about economic development but also to link those theories to the Chicago community.

Introduction to American Economic Development. (Cross-listed with CDG 441.) The course will trace the economic development of the United States with an emphasis on the Midwest in the 19th century. Focusing on the impact of innovation and the role of the city, the course will provide a framework for teaching Chicago's economic development.

Introduction to Business and Public Policy. (Cross-listed with CDG 442.) A history of government and business relations that emphasizes major issues that have affected the American economy, including property rights, labor, and welfare. The course will compare different kinds of economies: the market system with laissez faire; the market system with antitrust; administrative regulation; socialism.

Teaching Economics: Applied Basic Concepts. (Cross-listed with CDG 443.) This course will involve educators in economic education through actual instruction. As concepts are presented in the course, the participants will teach those concepts themselves to their students, using materials and methods organized for this course.

Chicago's Current and Future Economy. (Cross-listed with CDG 444.) Beginning with a survey of Chicago's development in the 19th century, the course examines contemporary Chicago and considers patterns and predictions of future development. By emphasizing the concepts of economic development and the trends in technology and human capital, the course provides a basis for interpreting Chicago's current economy and planning for its future.
Integrating Economics in the High School Curriculum. (Cross-listed with CDC 445.) The course presents a system for planning the integration of economic education in Chicago area high school curricula. The course will provide models for introducing economic development concepts into the curriculum in social studies, English, math, and other subject areas. Participants also will consider the organizational requirements for curricular innovation.

The Global Economy and the Chicago Economy. An introduction to international economics with a focus on the role of Chicago in the world economy. The course will deal with economic and financial aspects of international business and the impact of conditions and shifts in the international economy on Chicago's economy.
English

James S. Malek, Ph.D. ...............................Chairperson
John E. Price, Ph.D. .........................Director of the Graduate English Program

FACULTY

Professors
Bernard A. Brunner, Ph.D. .........................University of Chicago
Patricia Ewers, Ph.D. ............................Loyola University
William J. Feeney, Ph.D. ........................University of Oregon
Ellin M. Kelly, Ph.D. ..............................University of Wisconsin
James S. Malek .................................University of Chicago

Associate Professors
Stanley J. Damberger, M.A. ........................Sainst Louis University
Kristine Carrigan, Ph.D. ........................University of Wisconsin
Hugh J. Ingrasci, Ph.D. ........................University of Michigan
Patricia Murray, Ph.D. ........................University of Southern California
John E. Price, Ph.D. ..............................Loyola University
Lavon Rasco, Ph.D. ..............................Northwestern University
Frank Sheiman, Ph.D. .............................University of California at Berkeley

Assistant Professors
Carol Cyganowski, Ph.D ........................University of Chicago
Richard deCordova, Ph.D ........................University of California
William Fahrenbach, Ph.D ........................University of Toronto
Helen L. Marlborough, Ph.D ........................Brown University

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Emeriti

Rev. James Larkin, C.S.V., Ph.D ................................. Illinois University
Zahava McKeen, Ph.D ............................................ University of Chicago
Margaret M. Neville, Ph.D ..................................... Loyola University
Rev. John Smith, C.M., M.A ................................. DePaul University
Frederick I. Tietze, Ph.D ......................................... University of Wisconsin

PURPOSES

The purposes of the graduate program in English are to provide knowledge of English and American language and literature; to foster scholarly habits in bibliography, literary and cultural history, literary criticism, and the study of language; to cultivate independent critical ability, that is, the ability to read literary texts flexibly and comprehensively.

The Master of Arts program in English achieves these purposes through graduate courses (a required core, a series in English and American literature, and electives in writing and linguistics, literary criticism, and special studies), options for independent study and thesis research, and a written Master's examination.

MASTER OF ARTS: ENGLISH

Admissions Requirement

For full admission, students must have at least:

A bachelor's degree in English or the equivalent, or a bachelor's degree in another major with clear evidence of the ability to succeed in an advanced program in English and American language and literature.

Degree Requirements

A) 48 hours of graduate credit in English
B) Achievement of candidacy: A "B" average in four courses completed within two years of admission. Two of these courses must be ENG 400: Bibliography and Literary Research and ENG 470: Studies in Literary Criticism. Failure to meet these candidacy requirements will result in dismissal.
C) Completion of three core courses:
   ENG 400  Bibliography and Literary Research
   ENG 401  History of the English Language
   ENG 470  Studies in Literary Criticism
D) Six courses in literature, one each from these sections: Medieval, Renaissance, Restoration and Eighteenth Century, Nineteenth Century, Modern, and American Literature.

NOTE: Students may take no more than three literature courses in any one of the areas listed under d) above.
E) Three electives drawn from English and American period courses, Writing and Language, Literary Criticism, Special Studies, Independent Study (maximum of four hours), or Thesis Research (maximum of four hours; available for students exercising the Thesis Option.)
F) A passing grade on a written Master's examination, taken after course work is completed. The examination is based on a reading list drawn up by a department committee. The list is posted six months before the examination date.
Note: Under special circumstances and with the Director's approval, students may take a limited number of advanced undergraduate courses for graduate credit.

Thesis Option

A Thesis Option is available to students who have a promising idea for a scholarly or creative project. Proposals must earn the approval of an English Department graduate faculty member, who will serve as project director. Credit is earned through ENG 499 Thesis Research.

Courses

Courses carry four hours of credit unless otherwise noted.

Writing and Language

400 Bibliography and Literary Research. A general course for the guidance of students in methods of literary research.

401 History of the English Language. A systematic study of the nature, history, and usage of the English language. The course traces the language from its origin to its present status in England and America.

405 Composition Theory. Explores the development of contemporary theories of written composition; focuses on contexts for writing, the writing process, and reader-writer relationships.

488 Stylistics. Theory and practice in examining features of prose style; linguistic, rhetorical, and literary perspectives on style.

409 Topics in Writing. See schedule for current offering.

Medieval

411 Age of Chaucer. Chaucer's works in the context of his milieu.


413 Studies in Medieval Literary Forms. Alternating emphasis on poetic and narrative genres of the 14th and 15th centuries.

419 Topics in Medieval Literature. See schedule for current offering.

Renaissance

421 Studies in English Renaissance Prose. Major prose works, including More's Utopia, Sidney's Apology for Poetry, Bacon's Essays, and Milton's Areopagitica.
423  Studies in English Renaissance Drama. Tudor-Stuart drama, including works by Kyd, Marlowe, Jonson, Webster, and Ford.
428  Studies in Shakespeare. Study of selected plays through various critical and scholarly perspectives.
429  Topics in Renaissance Literature. See schedule for current offering.

Restoration and Eighteenth Century

434  Studies in Restoration and Eighteenth-Century Authors. Alternating emphasis on Dryden, Pope, Swift, and Johnson.
439  Topics in Restoration and Eighteenth-Century Authors. See schedule for current offerings.

Nineteenth Century

444  Studies in Victorian Poetry. Major Victorian poets, including Tennyson, Browning, Housman, and Arnold.
445  Studies in Nineteenth-Century British Fiction. Alternating emphasis on Austen, Scott, Dickens, Thackeray, the Brontës, Hardy, Eliot, Meredith, and Trollope.
449  Nineteenth-Century Topics. See schedule for current offering.

Modern

451  Studies in the Modern British Novel. Alternating areas of emphasis, including Woolf, Joyce, Lawrence, and Huxley.
452  Studies in Modern British Poetry. Alternating areas of emphasis, including Yeats, Auden, Lawrence, Dylan Thomas, and Hopkins.
453  Studies in Modern British Drama. Representative British and Irish plays from World War I to contemporary times.
459  Topics in Modern British Literature. See schedule for current offering.
American Literature

464 Studies in American Authors. Alternating emphasis on major writers, including Hawthorne, Melville, Poe, Whitman, Dickinson, Twain, and James.


466 Studies in Modern American Poetry. Alternating areas of emphasis, including Imagism, Eliot, Frost, and contemporary poetry.

467 Studies in American Drama. American dramatists and dramatic movements.

469 Topics in American Literature. See schedule for current offering.

Literary Criticism

470 Studies in Literary Criticism. Study of the theoretical foundations of literary criticism, exemplified by major texts from ancient Greece to the present.

479 Topics in Literary Criticism. See schedule for current offering.

Special Studies

484 Studies in Literature. See schedule for current offering.


487 Studies in Drama. Comparative studies in English, Continental, and American dramatic literature.

489 Topics in Comparative Literature. See schedule for current offering.

498 Independent Study. Written permission of supervising faculty member and of the program director is necessary before registration. Variable credit.

499 Thesis Research. Written permission of supervising faculty member and of the program director is necessary before registration. Limited to four credits.
History

Albert Erlebacher, Ph.D., Chairperson

FACULTY

Professors

Albert Erlebacher, Ph.D. ................................................................. University of Wisconsin-Madison
Joseph J. Lehmann, Ph.D. ............................................................... Northwestern University
Arthur Thurner, Ph.D. ................................................................. University of Chicago

Associate Professors

Donald Abramske, Ph.D. ................................................................. University of Chicago
Bruce L. Fenner, Ph.D. ................................................................. Cornell University
Robert Garfield, Ph.D. ................................................................. Northwestern University
Gregory C. Kozlowski, Ph.D. ............................................................ University of Minnesota
Susan E. Ramirez, Ph.D. ................................................................. University of Wisconsin-Madison
Sholom Singer, Ph.D. ................................................................. University of Chicago
Cornelius Sippel, Ph.D. ................................................................. University of Michigan

Assistant Professors

Thomas Croak, C.M., D.A. ............................................................... Carnegie-Mellon University
Lilly J. Edwards, Ph.D. ................................................................. University of Chicago
James P. Krokar, Ph.D. ................................................................. Indiana University

Emeriti

Robert F. Fries, Ph.D. ................................................................. University of Wisconsin-Madison
Ralph J. Mauillard, Ph.D. ............................................................... Loyola University
PURPOSE

The purpose of all courses offered by the Department of History is to provide a broad and critical acquaintance with the past experience of human society. Graduate courses involve wide contact with historical literature, including source materials; some practice in collecting, interpreting, and presenting data according to acceptable standards of method and style; and intensive discussion of the nature and problems of the discipline.

The degree program is intended to prepare the student for further advanced study, as well as to give him or her a disciplinary background adequate for those professions, in which a master's degree is ordinarily considered adequate, such as secondary school teaching and archival work.

MASTER OF ARTS: HISTORY

Admissions Requirement

For full admission, students must have the following:
Bachelor's degree: 48 quarter hours in the social sciences. At least 36 of the hours must be in history and include both European and United States History. Remaining 12 hours are to be in other fields of the social sciences.

Note: In special cases the Department may accept applicants who have not completed the minimum number of credit hours in history.

Degree Requirements

Thesis
Courses: minimum of 48 quarter hours, including
  HST 401 Historical Method and Bibliography
  HST 499 Thesis Research
Four 400-level history courses
Six 300-level history courses, including one in American (if not previously taken in undergraduate program)
one in European (if not previously taken in undergraduate program)
one in Latin America
one in East Asia
one in Islam

Note: In an exceptional case a 300-level course may be substituted for a 400-level course in the same field with the written consent of the student's advisor and the chairperson.

Reading knowledge of one foreign language, preferably French, German or Spanish. The department will accept as evidence of reading knowledge of a foreign language 18 quarter hours (12 semester hours) of college study successfully completed, or four years of high school study. Students who have earned less than 18 quarter hours or the equivalent in the study of a single foreign language must have evidence of reading knowledge by passing an examination set by the department. Examinations are available only in languages taught at the University.
Thesis

Written or Oral Comprehensive Examination: Type to be chosen by student. Examination covers two of the following fields of history:
- African
- Asian
- Medieval Europe 400-1500
- Modern Europe to 1850
- Modern Europe since 1850
- England to 1750
- Great Britain since 1700
- Islamic
- Latin America
- United States to 1860
- United States since 1860

Non-Thesis

Courses: minimum of 48 quarter hours, including
- HST 401 Historical Method and Bibliography
- Five 400-level courses
- Six 300-level history courses, including one in American (if not previously taken in undergraduate program) one in European (if not previously taken in undergraduate program) one in Latin America one in East Asia one in Islam

Note: In an exceptional case a 300-level course may be substituted for a 400-level course in the same field with the written consent of the student's advisor and the chairperson.

Written or Oral Comprehensive Examination: Type to be chosen by student. Examination covers two of the following fields of history:
- African
- Asian
- Medieval Europe 400-1500
- Modern Europe to 1850
- Modern Europe since 1850
- England to 1750
- Great Britain since 1700
- Islamic
- Latin America
- United States to 1860
- United States since 1860

History as a Minor Field

History may be combined as a minor with Education, English, Economics, Geography, and Philosophy. The prerequisites in history are 24 quarter hours, of which at least four must be in United States and four in European history.
Courses

All courses carry four quarter hours of credit unless otherwise noted.

Advanced Undergraduate Courses

301 History of Chicago. A history of the founding and evolution of Chicago from a frontier village to a major industrial, commercial, and cultural center.

322 History of Medieval Europe. The breakup of the Roman Empire, growth and development of Christianity and Islam, feudalism and the feudal states, the medieval papacy, the Slavic world, rise of urban life, transition to the modern age, decline of the influence of the church.

328 English Constitutional History. A study of Anglo-Saxon institutions; feudalism after the Norman conquest; growth of the common law; foundations of Parliament and the development of central administrative systems.

330 The Renaissance and the Reformation. A detailed consideration of the significant political, economic, intellectual, religious, and artistic developments of the early modern period.

332 French Revolution and Napoleon. Political and economic failure of the Old Regime, influence of the philosophers, the rise and fall of revolutionary Idealism, the spread of revolutionary principles, the development of imperialism and dictatorship under Napoleon, the settlement of Europe and the Congress of Vienna.

333 Europe from Metternich to Bismarck. The decline of the aristocratic-clerical order, the emergency of capitalism, the appearance of liberal states, and the rise of nationalism in Italy and Germany.

334 Europe in the Age of German Ascendancy. Continental culture, development of imperial rivalries, failure of internationalism and the coming of World War I.

335 Europe Since 1914. A study of the main currents of international affairs during the period, and domestic problems of the leading states, with emphasis upon the dynamic of power politics.

336 Expansion of Europe I: The Age of Discovery. A survey of the political, intellectual and scientific roots of the expansion of Europe and of the main voyages of discovery between 1400 and 1825.

337 Expansion of Europe II: The Age of Empires. Causes of the establishment of European empires in the 19th and 20th centuries, the nature and effect of empires, the reasons for their disappearance, and their legacy for Europe and the non-Western world.

338 Modern Britain Since 1715. (formerly 346) Development of Parliamentary sovereignty; social, political, and economic reforms; political parties and the rise of the labor movement; British foreign policy during the period.
Scholars and Samurai: Traditional Chinese and Japanese Civilizations. An examination of the major elements of traditional Chinese and Japanese civilization, emphasizing religion, philosophy, ethics, and political and social structures.

Revolutionary China and Modern Japan. An examination of the coming of the Europeans, the transformation of traditional Chinese and Japanese civilizations, the rise of nationalism and revolution in China, the modernization and militarization of Japan, and post-World War II developments in East Asia.

Islam in World History: the Foundations. A study of Islam as a religious faith, a civilizing tradition and a political system from the time of the Prophet to the 19th century.

Islam and the West in the Modern World. An examination of the economic, cultural and political interaction of Europe and the Islamic world.

The Origins of the Afro-Americans: Afro-American History to 1750. Europeans in West Africa, the middle passage, slavery in the West Indies, development of the Slave trade, introduction of slavery into the American colonies.

From Slavery to Freedom: Afro-American History, 1750-1865. Black participation in frontier life, in the War of 1812, in the growth of the cotton industry, in the Civil War and Reconstruction.

Toward Freedom: Afro-American History, 1860 to the Present. Reconstruction and its aftermath, Black self-help organizations, the Black Renaissance, Black participation in the World Wars, the civil rights movements.

The Black Mind in America. Black contributions in the areas of philosophy, theology, politics, literature, and art from 1619 to the present.

Themes in Afro-American History. Presents the historical roots of the conflict of the Black and White races in America and considers means proposed for resolving it.

Africa: The Age of Empires, African History to 1800. A study of African history from earliest times, concentrating on the political, social, and religious aspects of major African States and empires.

Africa: The Age of Conquest, African History 1750-1900. The focus is on the origins of Afro-European relations and the political, economic, and military causes of the European partition and occupation of the continent.

Africa: The Age of Revolution: African History 1900 to the Present. The workings of the colonial system, the rise and course of independence movements, and the history of individual African states since independence.

Themes in the History of Africa. In-depth studies in the political, religious, cultural, and economic aspects of African history; relates past development to present-day problems in the area.

Russia Under Khans and Tsars. The Kievan period, the Mongol Invasions, Ivan the Terrible, the emergence of modern Russia, 19th century tsarist autocracy and the formation of the radical tradition.

Soviet Russia, 1917 to the Present. The Bolshevik revolution, Stalin’s rise to power, the Five Year Plans, the Second World War and Russia’s place in the modern world.

History of Spain and Portugal. An analysis of the social, economic, political, and intellectual development of the Iberian Peninsula from the time of Ferdinand and Isabella.
358 **Eastern Europe to 1880.** A survey of the area's settlement by Slavic and non-Slavic peoples. The establishment of medieval states, the East European renaissance and reformation, and the growth and structure of multinational empires.

359 **Eastern Europe, 1800 to present.** A survey of the decline of empires and the rise of nation states; the destruction of traditional, agrarian societies; the impact of World War II; and the establishment of communist regimes.

361 **Conquest and colonial Rule.** An analysis of Indian cultures, Spanish and Portuguese colonialism, and the struggles for independence.

362 **Independence and Neo-colonialism in Latin America.** A survey of 19th-century Latin America, emphasizing the independence wars, nation building, ideological struggle and the rise of export economies.

363 **Latin America: Struggle Between Left and Right.** A survey of 20th century Latin America from the Mexican Revolution to the present, emphasizing populism, revolution and counterrevolution.

364 **Dictatorships and Militarism in Latin America.** A study of causes, characteristics, and effects of dictatorships in Latin America, emphasizing the role of the military.


366 **United States—Latin American Relations.** A survey of political relationships between the United States and the Latin American nations.

367 **The Caribbean.** The history of the Caribbean from colonial times to the present, with special emphasis upon the role of the United States in the development of this region.

368 **Hispanics in the United States.** A study of Spanish speaking people in the United States and their relations with other Americans. The course will concentrate on Mexican Americans since the Mexican-American War, Puerto Ricans since 1898 and Cuban Americans since Castro.

370 **The Beginnings of American Civilization to 1760.** The discovery, exploration, and settlement of the eastern seaboard, with discussion of significant political, economic, and social consequences.

371 **The Age of the American Revolution.** The establishment of American independence, adoption of the Constitution; the first years of the republic considered in analytical detail.

372 **Jefferson, Jackson, and the Coming of the Civil War.** The historical forces that shaped the early growth and development of the republic.

373 **Civil War and Reconstruction, 1860-1877.** The causes of the war, its development, and major problems of the peace.

374 **The Emergence of Modern America, 1877-1914.** New cultural patterns, political party battles, growth of big business and organized labor, Populism and the Progressive period.

375 **America in the Age of World War, 1914-1945.** A consideration of World War I, the Twenties, the Great Depression, the New Deal, World War II.

376 **The United States Since 1945.** Significant developments in American life during the period after World War II.
America in the Nineteenth Century: The Development of the Pragmatic Tradition. A study of the social development of the American people and of patterns of thought, religion, and art.

American Civilization in the Twentieth Century: Ideas and History. Continues course 378.


Topics in American Studies. (Cross-listed with ENG 367) Taught in cooperation with the English Department. May carry credit in English or History.

United States Constitutional History to 1865. Examines the English colonial charters, the constitutional aspects of the American Revolution and the federal constitution; explores the concepts of federalism and separation of powers with reference to major supreme court decisions.

United States Constitutional History since 1865. Problems of industrial regulation, civil liberties, constitutional issues of the New Deal and controversies arising during and after World War II, including the major decisions of the Warren court.

Teaching History and the Social Sciences. Introduces methods, techniques, and basic problems encountered in the teaching of history and the social sciences.

The Law, the State, and Freedom in America. A pre-law discussion course dealing with major ideas of the law, government, and civil liberties in the United States from 1620-1896.

Historical Sources and Evidence: Nuremberg to My Lai. Designed to develop in the pre-law student analytic and adversary skills useful in the practice of law and to confront controversial issues dealing with values of the lawyer and the citizen.

Study Tour. An in-depth, on-site overview of the historical, political, social and economic reality of a foreign country. Credit is variable.

Independent Study. Prerequisites: Junior standing, approval of instructor and chairman.

Graduate Courses

Historical Method and Bibliography.

Colloquium in Latin American History. (Prerequisite: one 300-level course in Latin American History or consent of the instructor)

Colloquium in African History. (Prerequisite: one 300-level course in African History or consent of the instructor)

Colloquium in American History. (Prerequisite: one 300-level course in American History or consent of the instructor)

Colloquium in European History. (Prerequisite: one 300-level course in European History or consent of the instructor)

Colloquium in Islamic History. (Prerequisite: one 300-level course in Islamic History or consent of the instructor)
407 **Colloquium in Asian History.** (Prerequisite: one 300 level course in Asian History or (consent of the instructor))

492 **Extramural Internship.** Internships in alternative careers for history majors. Students are placed in work-study positions under faculty supervision to help prepare themselves for non-teaching careers which require background in historical technique. Credit variable.

499 **Thesis Research.** (Prerequisite: Consent of Chairman.) Variable credit.
**Interdisciplinary Studies**

Robert E. Brewer, Ph.D., Program Director

**College Coordinators**

Tom Dolan, M.A., Administrative Assistant to the Dean . . . College of Commerce
Joan M. Lakebrink, Ph.D., Director of
Graduate Programs . . . . . . . . . . . . . School of Education

**PURPOSE**

The Interdisciplinary Studies Program (ISP) at DePaul University offers a unique and flexible opportunity for the student to build a master's program around his or her individual interests.

The program transcends traditional departmental boundaries by allowing the student, with the advice and support of an appointed academic committee, to design a series of courses in a variety of substantive fields.

For example: an urbanologist interested in communications management can design a sequence of interrelated courses in the Departments of Management, English, Political Science and Public Services; someone interested in Arts and Management may tailor a program of courses selected from Arts and Sciences and the College of Commerce.

With proper planning virtually any combination of courses is open to the self-guided master's degree candidate.

**MASTER OF ARTS OR MASTER OF SCIENCE:
INTERDISCIPLINARY STUDIES**

**Admission Requirements**

For full admission, applicants must have the following:
- Bachelor's degree: adequate background in the appropriate fields required as preparation for the successful completion of the student's proposed program of study
- Written rationale for a proposed program of study: rationale to include both a statement of educational and/or vocational objectives and a proposed listing of courses to make up that program
Evaluation and approval of proposed program
Foreign Language or Research Tool: need to be determined as part of the proposed program evaluation and approval

Degree Requirements

Thesis

Courses: 48 quarter hours of graduate credit, including
1) ISP 499 Thesis Research (4 to 8 quarter hours),
2) maximum of 16 quarter hours of credit in 300-level courses, and
3) remainder of credit hours from 400/500 level courses.

Foreign Language or Research Tool: provided need for specific proficiencies in a foreign language, in computer science, or in statistics was determined initially as part of the student's proposed program of study.

Thesis

Final Oral Examination: conducted by the Thesis Advisory Committee members appointed by the Director of the Interdisciplinary Studies Program.

Non-Thesis

Courses: 48 quarter hours of graduate credit, including maximum of 16 quarter hours of credit in 300-level courses, and remainder of credit hours from 400/500 level courses.

Foreign Language or Research Tool: provided need for specific proficiencies in a foreign language, in computer science, or in statistics was determined initially as part of the student's proposed program of study.

Courses

ISP 498 Independent Study. No more than four quarter hours may be applied toward degree requirements.

ISP 499 Thesis Research. Registration for either four or eight quarter hours credit. Student must have written approval, before registering, of his/her thesis director.

ISP 602 Candidacy Continuation. This registration is required of all students who are not registered for courses but who occasionally use University facilities during completion of course requirements or research projects. Non-credit, $40.00 per quarter.
FACULTY

Professors

Avrom A. Blumberg, Ph.D ........................................... Yale University
Richard J. Meister, Ph.D ............................................ University of Notre Dame
Arthur W. Thurner, Ph.D ........................................... University of Chicago

Associate Professors

Stanley J. Damberger, M.A ......................................... Saint Louis University
Jeanne La Duke, Ph.D .................................................. University of Oregon
John E. Price, Ph.D ..................................................... Loyola University
Robert Rotenberg, Ph.D ............................................. University of Massachusetts at Amherst
Charles R. Strain, Ph.D .............................................. University of Chicago
J. Harry Wray, Ph.D ................................................... University of North Carolina at Chapel Hill

Assistant Professors

Simone Zurawski, Ph.D ............................................... Brown University
PURPOSE

The Masters of Arts in Liberal Studies (MALS) program is a multidisciplinary approach to graduate education which emphasizes liberal education rather than the preparation for a specific profession or career. It is particularly designed for mature learners established in a career or profession who wish to enrich their personal lives, to explore areas of knowledge that were bypassed in the earlier rush to prepare for a career and/or to pursue an avocation in a disciplined fashion.

The program is grounded in a set of four, team-designed core courses. These courses establish the aims and themes of the program, orient the student to a multidisciplinary approach to graduate education, and develop in the student advanced learning skills. They are organized around the theme “Sense of Person/Sense of Place.”

The other components of the program are colloquia, electives, and the integrating project. Colloquia are five-week topical studies that employ various approaches to one particular theme. Colloquia use various formats—guest lectures, panels, films, field experiences—to provide an intensive examination of an issue.

Electives are graduate courses chosen from traditional departmental offerings in the College of Liberal Arts and Sciences. Students select these courses with the aid of an advisor to build a program of study tailored to individual goals and interests. Included under electives are MALS special topics courses. These courses are drawn from existing course offerings in our departments, but they have been redesigned particularly for MALS students. Special Topics courses frequently build upon certain aspects of the core program.

Finally, in the “standard concentration” students complete an integrating project. The integrating project consists of an independent, creative work that refines and pulls together learning experiences and skills developed throughout the student’s course of study in the MALS program. Integrating projects may take the form of a research paper, an original work of prose or poetry, an exhibition or performance, or the like.

In addition to a Standard Concentration, the MALS program offers the Executive Concentration. This program has been specially designed to enhance the student’s professional training and experience by emphasizing the development of the skills of critical thinking, written communication, and creative imagination. The basis of the executive concentration is an expanded, seven course core program. Students may choose either concentration after consultation with an advisor.

MASTER OF ARTS: LIBERAL STUDIES

Admissions Requirements

For full admission, students must have the following:
Bachelor’s degree from an accredited institution.
Admission essay: this essay describes why the student is considering the MALS program, how it fits into a process of personal and intellectual development, and what the student hopes to accomplish by enrolling in the program.
Degree Requirements

Standard Concentration
Courses: completion of 48 quarter hours of graduate credit which must include:

Core Courses

- MLS 401 Visions of Self
- MLS 402 Perceptions of Reality
- MLS 403 The American Experience
- MLS 404 The City

All students will be expected to complete the required core courses with a cumulative average of 2.50. Students who do not achieve a 2.50 average in the core will be warned that they will probably experience serious difficulties in the elective portion of the program. They will be advised to consider withdrawing from the program.

Colloquia: two courses chosen from the MLS 430 series of colloquia. Topics vary from year to year. Unless otherwise indicated, all colloquia carry two hours of graduate credit. Students may take two additional colloquia in place of one elective as part of their program of study.

Electives: six courses chosen from existing departmental graduate courses with the aid of the student’s advisor. Courses must be selected from at least two different departments in order to preserve the multi-disciplinary character of the program. MALS students may take no more than three 300-level courses as part of their program.

Integrating Project: a project committee chosen with the aid of the advisor approves the topic of the integrating project. Students preparing their Integrating Project should register for MLS 499: Integrating Project; Research and Preparation. When the project is completed, the project committee will conduct an oral review which will emphasize the student’s own evaluation of the skills and ideas acquired in this culminating experience.

Executive Concentration
Courses: completion of 48 quarter hours of graduate credit which must include:

Core Courses

- MLS 401 Visions of the Self
- MLS 402 Perceptions of Reality
- MLS 403 The American Experience
- MLS 404 The City
- MLS 452 Great Ideas, Business and Society
- MLS 459 Writing in the Professions
- MLS 462 Seminar in Business Ethics

Electives: five courses chosen from existing departmental graduate courses with the aid of the student’s advisor. Courses must be selected from at least two different departments in order to preserve the multi-disciplinary character of the program. MALS students may take no more than three 300-level courses as part of their program.

Integrating Project: Optional in the Executive Concentration. If the student chooses to do an integrating project, MLS 499 must be taken in place of one of the student’s elective courses.
Core Courses

**MLS 401 Visions of the Self.** A study of the differing visions of the self as presented in significant documents from the history of ideas. Materials selected from classic texts of literature, philosophy, theology, psychology, and social science.

**MLS 402 Perceptions of Reality.** A survey, beginning with ancient Greece and ending with the modern world, of models of universal order as developed by natural scientists and literary and visual artists.

**MLS 403 The American Experience.** A chronological and thematic study of the location of self within American culture. Readings chosen to reflect both dominant and dissenting ideas at specific points of American history.

**MLS 404 The City.** A topical examination of the urban experience using the methods and sources of both historians and social scientists. Topics include survey of various images of the city, utopian and dystopian visions, and the uniqueness of the modern city.

**MLS 430 MALS Colloquium** Topics vary. See schedule for current offering.

Special Topics Courses:

**MLS 450 Chicago: Architecture and Urban Development** A study of urban architecture in Chicago from 1833 to 1984, including the role of planning, the purpose of open space, the place of tradition, the impact of modern design theories and evaluation of contemporary developments.

**MLS 452 Great Ideas: Business and Society** (Cross-listed with GSB 540). A study using primary sources of the basic ideas, aspirations and values which humanity strives to attain and which constitute the basis of fundamental demands on the world of business and its managers, their policies and decisions.

**MLS 453 Politics, Media and Everyday Life** (Cross-listed with PSC 321). An examination of various ways in which the mass media influence our perceptions of reality. Political, social and cultural implications of media processes are assessed.

**MLS 454 Parable and Imagination: The Literature of Subversion from Jesus to Borges** The self's vision derives from narrative imagination. But parables are the genre that makes imagination self-conscious and narrative self critical.

**MLS 455 Community and The City** (Cross-listed with Soc. 346 and 423). The course explores the possibilities for community life within urban settings. It emphasizes the development of network relations and cross cutting ties.

**MLS 456 The Uses of Autobiography** Study of selected autobiographical writings to serve as models for self-expression.
Endings and Imagination: The Literature of Ancient and Modern Apocalypse. Ancient apocalypse invoked a catastrophic vision of the self's future. Today religious visions are accompanied by the literature of secular apocalypse. Why does imagination become fascinated by apocalyptic endings?

Islam and the West in the Modern World (Cross-listed with HST 342). An examination of the economic, cultural and political interactions of Europe and the Islamic World.

Writing in the Professions (Cross-listed with ENG 301/COM 376). Improves writing skills useful in semi- and non-technical professions; emphasis on style, tone, awareness of purpose and audience, effective memo, proposal, and report design. Special attention given to writing skills connected with the MALs Integrating Project.

The Dilemma of the Modern Age (Cross-listed with SOC 473). The crisis of the individual's place in society is exposed through social sciences, philosophy, literature, art, and music. The distinctive features of and responses to modern culture—individualism, alienation, and depersonalization—are illuminated through multiple perspectives.


Seminar in Business Ethics (Cross-listed with PHL 640). A seminar in business ethics that centers on theoretical practical, and pedagogical issues.

Nationalism and International Conflict. This course will explore the social origins and development of national identities. How these identities have been manipulated to serve specific competitive interests in the past two hundred years will also be discussed.

The Culture of American Catholics. This course will attempt a sociological and historical investigation of the culture of American Catholics, with special attention to the literary works of contemporary American Catholic writers including Flannery O'Connor, Mary Gordon and Eugene Kennedy.

Mythology and the Dramatic Arts. (Cross-listed with ENG 365). Classical Mythology in Drama.

Law, the State, and Freedom in America. (Cross-listed with HST 394). Examination of the relationship of the individual to the state in America. The course will focus on The Federalist Papers and other documents central to our constitutional structure.

Selected Topics on Women in Literature. Topics vary. See schedule for current offering.

Advanced Study

Independent Study. Written permission of the student's advisor and the program director is necessary before registration.

Integrating Project: Research and Preparation. Students may register for this course after the integrating project proposal has been approved by the project committee. This course carries four hours of credit.
Mathematical Sciences

J. Marshall Ash, Ph.D., Chairperson

FACULTY

Professors

J. Marshall Ash, Ph.D. .................................................. University of Chicago
Jerry Goldman, Ph.D. ................................................... Illinois Institute of Technology
Roger Jones, Ph.D. ...................................................... Rutgers University
Walter Pranger, Ph.D. .................................................... Illinois Institute of Technology
Jacob Towber, Ph.D. ................................................... University of Chicago
Stephen Yagi, Ph.D. ................................................... University of Chicago
Yuen-Fat Wong, Ph.D. ................................................ Cornell University

Associate Professors

Jeffrey Bergen, Ph.D. .................................................. University of Chicago
Susanna Epp, Ph.D. .................................................. University of Chicago
Constantine Georgakis, Ph.D. ..................................... Illinois Institute of Technology
Lawrence Gluck, Ph.D. ................................................... Illinois Institute of Technology
Sigrun Goes, Ph.D. ................................................ Northwestern University
Jeanne LaDuke, Ph.D. ................................................ University of Oregon
Effat Moussa-Hamouda, Ph.D. ...................................... University of Iowa
Carolyn Narasimhan, Ph.D. ........................................ Northwestern University

Assistant Professors

Allan Berele, Ph.D. .................................................. University of Chicago
Jonathon Coher, Ph.D. ................................................ Washington University
Barbara Cortzen, Ph.D. ........................................ University of California at San Diego
Leonid Krop, Ph.D. .................................................. University of Chicago
PURPOSES

The Department of Mathematics offers a program in applied mathematics leading to a Masters of Science in Applied Mathematics. The program is designed to prepare students for careers in such areas as Statistics, Actuarial Science, and Operations Research. Many organizations realize the value of quantitative methods in their decision making process, consequently there is a need for individuals with such quantitative skills. The program is offered during the evening on DePaul's Lincoln Park campus. Students can complete the program in two years.

The purpose of the program leading to the degree of Master of Arts in mathematics education is to offer a timely response to the problem of a critical shortage of secondary and upper elementary school mathematics teachers. The program is intended to improve the quality of mathematics education in schools within the greater Chicago area by providing a demanding sequence of course to individuals carefully chosen for their capacity to rapidly apply what they learn at DePaul to their own classroom settings.

MASTER OF SCIENCE: APPLIED MATHEMATICS

Admission Requirements

For full admission, students must have the following:
Bachelor's degree.
Four quarters of calculus.
A course in linear algebra.
A course in statistics.
A course in computer programming.
(Note: Students without this background are invited to enroll in appropriate mathematics undergraduate courses to build the necessary foundation.)

Degree Requirements

Courses: 48 quarter hours of graduate level work in mathematics
Comprehensive Examination: Part I covers the material in MAT 451, 452 and 453.
Part II is based on courses from the students area of concentration.

Program Requirements:

The program consists of the following required courses:
MAT 451 Probability and Statistics I
MAT 452 Probability and Statistics II
MAT 453 Probability and Statistics III
MAT 456 Applied Regression Analysis
MAT 470 Advanced Linear Algebra
MAT 484 Applied Mathematical Modeling
MAT 485 Numerical Analysis
MAT 487 Operations Research I

Students select four additional courses from the set of electives related to their concentration. Approval of the student's graduate advisor is required for all electives. With the approval of the student's graduate advisor, students may take up to two electives from related disciplines such as Physics, Computer Science, and Commerce.
COMPUTER USAGE

The computer plays an important role in the program. It will be used to illustrate ideas that arise in various courses, to do the data analysis required in the statistics courses, to find solutions to problems in the operations research course, and to find numerical solutions to problems that arise in numerical analysis and mathematical modeling. Seminars will be offered on the use of statistical packages. These packages are likely to play an important role in the solution of the problems the student ultimately finds in his or her place of employment.

MASTER OF ARTS IN MATHEMATICS EDUCATION

Program Description

This six quarter degree program will be offered on an accelerated basis during intensive weekend sessions and may be taken while in-service at the rate of two courses per quarter. The stress in the program is on mathematical content, but significant amounts of time will be spent on methods of incorporating new teaching strategies and technologies in the classroom. The program is directly tied to secondary and upper elementary curriculum needs and is directed toward previously or currently certified teachers with degrees in non-mathematics fields or to teachers with bachelor's degrees in mathematics who wish to upgrade their command of the field. This program is administered by the Department of Mathematical Sciences in conjunction with the School of Education through the College of Liberal Arts and Sciences. Details regarding admission requirements, course schedules, etc. may be obtained from the Chairman of the Department of Mathematical Sciences.

Registration for M.A. in Mathematics Education program courses is open only to program majors or to those students who have the written authorization of the program director.
GRADUATE COURSES

Actuarial Science

461 Actuarial Science I. The Theory of Interest The theory and application of compound interest to annuities, amortization schedules, sinking funds, bonds, and yield rates. (Prerequisite: MAT 152 Offered Fall, 1986.)

462 Actuarial Science II. Basic Contingencies The theory and applications of contingency mathematics in life and health insurance, annuities, and pensions from both a probabilistic and a deterministic viewpoint. Topics include: survival distribution and life tables, life insurance and life annuities. (Prerequisite: MAT 461 and MAT 348 Offered Winter, 1987.)

463 Actuarial Science III. Advanced Contingencies A continuation of MAT 462. Topics include: net premiums, net premium reserves, multiple life functions, multiple decrement models, and valuation theory for pension plans. (Prerequisite: MAT 462 Offered Spring 1987.)

Applied Algebra and Analysis

470 Advanced Linear Algebra The course will cover matrix representation of linear transformations, inner product and rotations, eigenvalues and eigenvectors, diagonalization of symmetric linear transformations, principal axis theorem and positive definite quadratic forms, applications to geometry and statistics. (Prerequisite: Linear Algebra I Offered Fall 1987.)

481 Fourier Analysis and Special Functions The course covers the basic principles of discrete and continuous Fourier analysis and some of its applications currently used in scientific modeling. Students will use the computer to implement the computational algorithms developed in the course. Some of the topics covered will include Fourier transforms and their application to signal and image processing, discrete Fourier series, the fast Fourier transform algorithm and applications to digital filtering, and the Radon transform and its applications to Tomography. (Prerequisite: MAT 210, MAT 220 Offered Winter, 1987.)

484 Applied Mathematical Modeling Students will see mathematical models of real world problems, and learn techniques of mathematical model building. They will then be asked to build their own mathematical model of a real world problem. This course should be taken near the end of the students graduate program. (Offered Fall 1986.)

Quantitative Methods and Operations Research


Operations Research I Linear Programming The Linear Programming problem and its dual; the simplex method; transportation and warehouse problems; computer algorithms and applications to various fields. (Prerequisite MAT 220 and programming knowledge Offered Winter 1987.)

Operations Research II Optimization Theory Integer programming; nonlinear programming. (Prerequisite: MAT 487 Offered Spring 1987.)

Statistics and Probability

Probability and Statistics I Probability spaces; random variables and probability distributions; law of large numbers and the central limit theorem. (Offered Fall 1986, 1987)

Probability and Statistics II Joint probability distributions and correlation; sampling distributions; theory of estimation. (Prerequisite: MAT 451 Offered Winter 1987, 1988.)

Probability and Statistics III Testing of hypotheses; simple linear regression; one-way analysis of variance; nonparametric statistics. (Prerequisite: MAT 452 Offered Spring 1987, 1988.)

Multivariate Statistics The general linear model. Multivariate regression and analysis of variance; Discriminant Analysis; principal component and factor analysis; applications and use of statistical software. (Prerequisites: MAT 453 Offered Spring 1987.)

Applied Regression Analysis Simple linear, multiple and polynomial regression models. Selection of best regression equation and examination of residuals for homoscedasticity and autocorrelation. Use of statistical software. (Prerequisite: MAT 348 or MAT 452 Offered Spring 1987.)

Design and Analysis of Experiments Linear models and quadratic forms, Single, two and several factor experiments, incomplete designs, confounding and fractional factorial experiments. Response surfaces and partially balanced incomplete block designs. (Prerequisite: MAT 348 or MAT 452 Offered Spring 1986.)

The following courses are currently not planned to be offered in the evening during the 1986-1987 academic years, but could be offered if there were interest from a significant number of students. Some of these courses may be offered during the day.

Applied Abstract Algebra I The course will serve as an introduction to the algebraic structures found useful in applied mathematics, electrical engineering, and computer science. Applications of abstract algebra to algorithms and algebraic computing as well as to computer engineering in general are covered. Specific applications include automata theory, analysis of algorithms, and the fast Fourier transform. Topics covered include sets, induction, functions, relations and graphs, rings and Boolean algebras and semigroups and groups. These topics have applications to finite state machines, graph theory, switching circuits and functions, formal language, and coding theory.
Applied Abstract Algebra II This course is a continuation of MAT 400. Topics covered include lattices, linear algebra and field theory, linear machines, and algebraic coding theory. These topics have applications to decomposition and structure of finite state machines, to fast Fourier transforms, transfer functions and shift registers, and to BCH coding, decoding, and Reed-Solomon codes. (Prerequisite: MAT 400.)


Game Theory The minimax theorem for two-person zero-sum games. Two-person general sum games and non-cooperative person games; Nash equilibrium.

Stochastic Processes Markov chains; branching processes; Poisson process; queueing theory; telephone traffic problems; Brownian motion applications. (Prerequisite: MAT 348 or MAT 452.)

Nonparametric Statistics Inference concerning location and scale parameters, goodness of fit tests, association analysis and tests of randomness using distribution free tests. (Prerequisite: MAT 348 or MAT 452.)

Statistical Quality Control Control charts for means, standard deviations and attributes; acceptance sampling and sampling inspection using one and multi-stage sampling methods. Emphasis on industrial quality control problems. (Prerequisite: MAT 348 or MAT 451.)

Queueing Theory with Applications An overview of queueing theory: Queueing systems, related random processes, classification of queues. Priority queueing. Computer time sharing and multi-access systems. (Prerequisite: MAT 348.)

Applied Time Series and Forecasting Development of the Box-Jenkins methodology for the identification, estimation, and fitting of ARIMA, and transfer function stochastic models for the purpose of analyzing and forecasting stationary, non-stationary, and seasonal time series data. The course emphasizes practical time series data analysis using such computer packages as Sybll/Runner and BMDO, and application to economic, business, and industrial forecasting. (Prerequisite: MAT 348 or MAT 452.)

Sampling Theory and Methods Simple random, stratified, systematic, and cluster sampling. Multistage and area sampling. Random response and capture-release models. (Prerequisite: MAT 348 or MAT 452.)

Simulation Models and the Monte Carlo Method Techniques of computer simulation of the classical univariate and multivariate probability distribution models, and such random processes as random walk, Markov chains, and queues. (Prerequisite: MAT 348 or MAT 451.)

Mathematics Education

LOGO for Mathematics Teachers Study of the LOGO programming language and its application to problems arising in school mathematics. Connections with artificial intelligence for problem solving.


Calculus and Analysis for Mathematics Teachers, I. Real numbers, functions, limits, analytic geometry, the derivative and its applications. Introduction to LOGO computer language and study of some applications to classroom teaching using microcomputers.

Calculus and Analysis for Mathematics Teachers, II. Circular functions, the integral and its applications, exponential and logarithm. Study of important numerical algorithms and implementation using LOGO and microcomputers. (Prerequisite: MAT 610.)

Calculus and Analysis for Mathematics Teachers, III. Methods of integration, polar coordinates, conic sections, infinite sequences and series. Applications to numerical analysis and approximation with computer applications. (Prerequisite: MAT 611.)


Explorations in Turtle Geometry. (Prerequisite: MAT 607 and MAT 620, Corequisite: MAT 611) Use of the LOGO language to investigate topics in Euclidean, analytic, and differential geometry, and in topology. Closed paths, space filling designs, mazes, the Jordan Curve Theorem, and spherical geometry are among the topics included. Emphasis is on understanding key concepts (symmetry, interior, invariants, curvature) as well as on the role computation and computers could play in enriching mathematics curricula.

History of Mathematics Through Problem Solving, I. Coverage of early classical problems and techniques in number theory, algebra, and geometry from an historical point of view. Stress on both evolutionary aspects of the subjects and the solution of concrete problems.

History of Mathematics Through Problem Solving, II. Continuation of MAT 630. (Prerequisite: MAT 630.)

Probability and Statistics for Mathematics Teachers, I. Combinatorics, sets, probability, random variables, distribution and density functions, standard probability laws, jointly distributed random variables. Use of computers to illustrate distributions.

Probability and Statistics for Mathematics Teachers, II. Central Limit Theorem, point and interval estimation of parameters. Hypothesis testing, least squares and regression. Introduction to computer packages. (Prerequisite: MAT 650.)
Discrete Structures for Mathematics Teachers. Mathematical induction, modular arithmetic and number theory, graphs, matrices, fundamental algebraic structures and their morphisms.

Topics in Mathematics for Teachers. Diverse topics in mathematical modeling or mathematical appreciation germane to the secondary classroom. (Prerequisite: Consent of instructor)

Miscellaneous

Independent Study. Offered by arrangement. Approval by Department Chairman required.
FACULTY

Professors
Mary Jeremy Buckman, R.S.M., Ph.D., R.N ............St. Louis University

Associate Professors
Sally A. Ballenger, M.S., R.N ......................DePaul University
Edith Hogle, Ph.D., R.N ..............................Loyola of Chicago
Marilyn Kosmala, Ph.D., R.N. ........University of Illinois at the Medical Center
Grace G. Peterson, M.N.A., R.N. (Emeritus) ....University of Minnesota
Patricia Wagner, M.S., R.N .........................DePaul University

Assistant Professors
Juyne DeLessio, Ph.D., R.N .......................Illinois Institute of Technology
Sandra Sayles-Cross, M.S., R.N ...................Northern University

Instructor
Merle Kataoka-Yahiro, M.S.N., M.P.H., R.N. ....Rush & Northwestern Universities

Lecturer
Marcia McCaughey, M.S., R.N ...................DePaul University

Adjunct Professors
JoAnn Cascurida, D.C., M.S., R.N ..................DePaul University
Mary K. McCarthy, M.S., R.N ......................DePaul University
PURPOSE
The purpose of the graduate program in nursing is to prepare qualified nurses for leadership roles in teaching or administration. Provision is made for continued growth in clinical skills, as well as exploration and testing of various nursing theories.

The graduate program in nursing is based on the same philosophical principles as its undergraduate program. The conceptual framework of the graduate program articulates with and builds on the conceptual framework of the undergraduate program. Three vertical strands (nursing practice, research, and theory development) begun in the baccalaureate program, form the foundation of the graduate conceptual framework.

The first year of graduate studies introduces the three core roles of the master's program as organizing threads for the curriculum. The core roles (manager, teacher, and researcher) intertwine with and build upon the vertical strands of nursing, research, theory, and the collaboration process.

The second year of graduate studies allows each student through specifically designed learning experiences to pursue a functional role (either nursing education or nursing administration). Cognate courses are taken to support both advanced nursing practice and/or the functional role. A thesis completes the student's course of studies.

Students undertaking graduate study are expected to be self-directed adult learners.

MASTER OF SCIENCE: NURSING

Admission Requirements
Bachelor's degree from a National League for Nursing accredited program with an upper division in nursing.
Acceptable baccalaureate and/or graduate grade point average.
Students whose undergraduate cumulative GPA is less than 2.75 on a 4.0 scale will be required to successfully complete the GRE Aptitude Test prior to their registration for graduate classes.
Satisfactory achievement on the Graduate Record Examination Aptitude Test, (verbal, quantitative and analytical). (GRE tests taken five years or more prior to entry into the program must be retaken.)
Basic statistics course or its equivalent.
Physical assessment course.
Certification as a basic rescuer in cardiopulmonary resuscitation.
Current licensure as a registered professional nurse in Illinois.
Physical examination, positive rubella titer, and any other requirements of specific clinical agencies within the year of clinical and practicum courses.
Professional liability insurance must be maintained through the clinical and practicum courses and purchased through DePaul University.

Degree Requirements
Courses: minimum of 58 quarter hours.
Thesis
Comprehensive Oral Examination: qualification for this examination requires completion of a) all course requirements, b) completion of satisfactory thesis, and c) a professional portfolio.
### Curriculum

#### FIRST YEAR

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<th>Autumn Quarter</th>
<th>Quarter Hours</th>
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<tbody>
<tr>
<td>Nursing Core</td>
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<tr>
<td>400—Theoretical Components of Nursing</td>
<td>4</td>
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<tr>
<td>410—Advanced Statistics</td>
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<tr>
<td>451—Effective Organization and Administration of the Division of Nursing</td>
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<td>—OR—</td>
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<td>458—Dynamics of Teaching</td>
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<tr>
<td>Nursing Core</td>
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<tr>
<td>401—Research in Nursing I</td>
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<td>436—Advanced Clinical Nursing</td>
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<td>422—Applied Physiology</td>
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<td>GSB 504 Financial Accounting</td>
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<th>Spring Quarter</th>
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<td>Nursing Core</td>
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<td>437—Advanced Clinical Practice</td>
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<td>Cognate</td>
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<tr>
<td>GSB 511 Accounting Analysis for Decision Making (for nursing administration major)</td>
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#### SECOND YEAR

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<tr>
<th>Autumn Quarter</th>
<th>Quarter Hours</th>
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<td>Nursing Education</td>
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<td>455—Dynamics of Curriculum</td>
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<td>Cognate</td>
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| Nursing Administration |               |
| 432—Dimensions of Nursing Administration | 4 |
| Cognate | |
| GSB ELECTIVE |

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<th>Winter Quarter</th>
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<td>Nursing Education</td>
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<td>459—Practicum in Teaching</td>
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<td>470—Perspectives on Collaboration</td>
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<td>457—Practicum in Nursing Administration</td>
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<td>470—Perspectives on Collaboration</td>
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| Nursing Administration |               |

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<th>Spring Quarter</th>
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<td>Oral Examination</td>
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All courses are four quarter hours unless otherwise indicated.

**Cognates in Nursing**

NSG 422  *Applied Physiology.* (This course, or its equivalent, is required for students in the education functional role.)

NSG 423  *Political, Economic, and Legal-Bioethical Issues in Health Care Management.*

**Graduate Courses**

400  *Theoretical Components in Nursing.* A seminar course designed to examine the nature, function, and development of concepts, models, and theories. The structure of a theory will be analyzed in reference to the relationship between its components and the type of theoretical statements utilized. Selected theories in nursing will be critiqued.

401  *Research in Nursing I.* (Prerequisite: NSG 410) A seminar course emphasizing the concepts of the research process through presentation, discussion, and analysis of various research approaches, methodologies, research designs, instrumentation, and ethical issues. Critiques of published nursing research will enable the student to utilize concepts presented to evaluate current studies.

405  *Research in Nursing II.* (Prerequisite: NSG 401) This course will allow the student to identify a research problem, formulate a proposal, and conduct an original study terminating in a completed thesis. This study will be done under the guidance of a research advisor following a prescribed format. Computer laboratory fee.

406  *Extended Research.* This course will be required for students who do not complete their thesis during the quarter after all other course work is completed. (Zero credit. Fee will be fifty dollars ($50.00) per quarter.)

410  *Advanced Statistics.* This course will emphasize the applied statistical approach focusing on parametric and non-parametric formulae. Examples will be derived from the health science disciplines.

422  *Applied Physiology.* A seminar course focusing on physiological concepts examined within the context of current knowledge, research, and application to the clinical practice setting. Each body system will be explored and interrelated to provide a comprehensive base from which students will develop functional expertise.
Political, Economic, and Legal-Bioethical Issues in Health Care Management. (Prerequisites: Graduate student standing or consent of instructor.) This course focuses on the political and economic forces which determine the resources available for health care services, and the legal and ethical dimensions of health services. Political philosophy and financial bases of health service systems are examined. Legal issues are examined in relation to the role of government in health systems, and the effect of laws on patient care are discussed. Ethical issues associated with the administration of the nursing component of a health system are considered.

Advanced Clinical Nursing. A clinical and seminar course designed to provide the student with an opportunity to examine the collaboration process, as well as, to expand his scope of nursing practice in adult health. The student examines theories of nursing, as well as, theories relevant to the core roles of clinician, teacher and manager, and the application of these theories to patients in selected clinical and other settings. The clinical focus is on the testing of specific theories of nursing and other disciplines, as students collaborate with other professionals for the improvement of patient care.

Advanced Clinical Practice. A clinical and seminar course designed to provide the student with an introduction to the various functional roles, and to further expand the scope of collaboration in clinical practice. The focus is on the testing of specific theories of nursing and other disciplines as they apply to the selected subspecialty of the student. The emphasis is on the unit/organizational levels, as well as, interpersonal skills, which promote quality patient care. The student utilizes theoretical components from nursing and other disciplines to examine how consultation can facilitate the resolution of complex patient/family care needs.

Seminar in Selected Topics in Nursing. This course is reserved for a) individual study at a graduate level; b) special seminars organized from time to time to accommodate the needs of groups interested in specific topics.

Effective Organization and Administration of the Division of Nursing. Theoretical concepts of nursing leadership, management, and supervision are explored. This examination is based on a synthesis of concepts, principles, and theories from organizational development, social and psychology, industrial psychology, social systems theory, nursing management and leadership, psychology of groups, and sociology. Systems theory provides an overall framework.

Dimensions of Nursing Administration. (Prerequisite: NSG 437 or consent of the instructor.) The various components of the role of the nurse executive officer are explored. Areas specific to nursing administration are examined such as the utilization of a professional standards board, staff development, labor relations, and management by objectives.

Dynamics of Curriculum. (Prerequisite: NSG 437 or consent of the instructor.) Theories, principles and methods for shaping and changing a nursing curriculum are examined. Sources and issues for curriculum decisions are analyzed, and curriculum evaluation strategies are discussed. A theory of nursing is utilized to construct a selected nursing curriculum.
Practicum in Nursing Administration. (Prerequisites: NSG 451 and NSG 452) Guided experience in appropriate activities in a dynamic hospital division of nursing. Needs and interests of the student are integrated into the experience. Behavior and actions of various administrative and staff personnel are evaluated in relation to applicable theory with emphasis on the activities of the nurse executive officer. (6 hrs.).

Dynamics of Teaching. Theories, principles, and methods of teaching and learning (for application to nursing education) are examined. Emphasis is placed on how to arrange factors external to the learner in order to achieve the most efficient and effective learning. A philosophy of teaching-learning is synthesized and then integrated with a selected philosophy of nursing.

Practicum in Teaching. (Prerequisites: NSG 455 and 458) Observation, investigation and application of theories, principles and methods of teaching and learning is carried out in selected nursing education settings. The individual's objectives for the practicum are emphasized in the extant educational setting. (6 hrs.)

Perspectives on Collaboration. A seminar course designed to successfully share the talents, knowledge and skills of the graduate students with advanced preparation in the specialty area of nursing education or nursing administration. The collaboration process will be utilized between the graduate students of both functional areas: to achieve a changing and blending of nursing and service; to provide an opportunity to know, trust, and appreciate one another; and, to discuss shared avenues to increase the quality of care.
Philosophy

Thomas N. Munson, S.T.L., Ph.D., Chairperson

FACULTY

Professors
Parvis Emad, Ph.D. ........................................ University of Vienna
Manfred S. Frings, Ph.D .................................. University of Cologne
James Keating, Ph.D ........................................ Catholic University of America
Gerald F. Kreische, Ph.D .................................. University of Ottawa
Thomas N. Munson, S.T.L., Ph.D ........................ University of Louvain

Associate Professor
Robert A. Cooke, Ph.D .................................. University of Chicago
Mary Jeanne Larrabee, Ph.D ................................. University of Toronto

Assistant Professor
Kenneth D. Alpern, Ph.D ............................. University of Pittsburgh
Steven G. Houhgate, Ph.D ............................. Cambridge University
David W. Pellauer, Ph.D ............................... University of Chicago

Adjunct Associate Professor
David A. White, Ph.D ................................ University of Toronto

Emeriti
Bernard J. Boelen, Ph.D .............................. University of Louvain
Robert Lechner, C.Pp.S, Ph.D ........................ University of Fribourg
Bruno Switalski, S.T.D., Ph.D ......................... University of Toronto
PURPOSES

The purposes of the Department are: 1) to prepare those for teaching and research who have the scholarly competence to pursue academic work culminating in the master’s or doctor’s degree; and 2) to offer to the capable adult whose philosophical goals are non-vocational the opportunity to study seriously for personal enrichment the value orientation of the Department.

In keeping with the interests of its faculty and the need for focus on the graduate level, the Department concentrates on phenomenology, life philosophy, philosophies of existence, and the historical sources of these movements.

Implementation

The Department offers directed research, courses, seminars, symposia, and colloquia that should guide and stimulate the student in an investigation of various philosophies and philosophical problems. It also stresses faculty counseling so that the program of each student can be tailored to his or her particular needs.

DEGREE PROGRAMS

Master of Arts

The Department offers both a thesis and a non-thesis program leading to the master’s degree. Students taking a terminal Master’s degree can profit from the experience of writing a thesis. A student advancing to the doctorate may find that a thesis offers a perspective for the doctoral dissertation.

Master of Arts/Master of Business Administration

DePaul University’s Graduate Division of Liberal Arts and Sciences and the Graduate School of Business have designed a program which combines study in philosophy (emphasizing business ethics) with study in business leading to the Master of Arts and the Master of Business Administration degrees. The M.A./M.B.A. program recognizes the increasing concern of the public and the business community with ethical issues. The integrated curriculum combines the strengths of the two disciplines and enables the student to obtain the two degrees simultaneously at a considerable reduction in time.

Admittance into both the Graduate Division of Liberal Arts and Sciences and into the Graduate School of Business is required. The applicant must also be accepted by the joint committee which coordinates the M.A./M.B.A. curriculum. The program is restricted to highly qualified and motivated students.

Additional information may be obtained by requesting the brochure on this combined program from either college. For information on admission to the Graduate Division of Liberal Arts and Sciences, contact Room 1603 Lewis Center, 25 E. Jackson Blvd., Chicago, IL 60604; (312) 341-8870.

Doctor of Philosophy

The Department offers courses, seminars, independent studies and dissertation direction culminating in the award of a Ph.D. in philosophy. While the program touches diverse areas of philosophy, its chief orientation is toward continental phenomenology.
MASTER OF ARTS: PHILOSOPHY

Admission Requirements

For full admission, students must have the following:
Bachelor's degree.
Satisfactory completion of a minimum of 44 quarter hours (or its equivalent) in major sequence in philosophy.

Degree Requirements

Thesis

Courses: 44 quarter hours of graduate study, including:
28 quarter hours of philosophy courses numbered 400 and over.
8 quarter hours in philosophy courses numbered 300 and over or, if the necessary prerequisites are met and the Department gives written approval, the 8 quarter hours may be taken in fields related to philosophy.
8 quarter hours in PHL 699 thesis Research.
The master's written comprehensive examination.
1. The examinations, which are intended to test the student's comprehensive knowledge of the field, are offered twice a year, in Fall and Spring, on three successive Saturdays.
2. Examination I (ancient/medieval) consists of three one-hour examinations on Plato, Aristotle and Aquinas.
Examination II (modern) consists of four one-hour examinations on Descartes, Hume, Kant and Hegel.
Examination III (post-modern) consists of three one-hour examinations on Husserl, Heidegger and Sartre.
3. The student will have a choice of questions, which are broadly worded to assure comprehensive knowledge.
4. The students must pass nine out of ten examinations. An examination on only one thinker from each group may be repeated a third time.

Non-Thesis

Courses: 44 quarter hours of graduate study, including:
32 quarter hours of philosophy courses numbered 400 and above.
12 quarter hours in philosophy courses numbered 300 and above or, if the necessary prerequisites are met and the Department gives written approval, these hours may be taken in fields related to philosophy.
The master's written comprehensive examination. (See above)
MASTERS OF ARTS: PHILOSOPHY/MASTER OF BUSINESS ADMINISTRATION

Admission Requirements

For full admission, students must have the following: Bachelor's degree Admittance into both the Graduate Division of Liberal Arts and Sciences and the Graduate School of Business Acceptance by the Joint Degree Committee coordinating the M.A./M.B.A. Program

Degree Requirements

Courses: 24 quarter hours of graduate Philosophy courses including: PHL 513, 514, 527, 640, 641; and one of PHL 639, PHL 656, or a specified REL graduate seminar.

56 quarter hours of cognate courses in the Graduate School of Business of which a minimum of 16 to 20 quarter hours are from the major field for the M.B.A. One 4 quarter hour integrated seminar, GSB 510.

Written Qualifying Examination: Successful completion of an examination that tests philosophical knowledge gained through coursework in the Joint Degree Program, and that measures the ability to integrate ethical analysis with the material from the GSB core courses.

Competence in Logic: Successful completion of a specified course in logic or of an examination.

DOCTOR OF PHILOSOPHY: PHILOSOPHY

Admissions Requirement

For full admission, student must have Master of Arts degree in Philosophy or its satisfactory equivalent. Academic work must be comparable to that offered at DePaul and must present clear evidence of the applicant's ability to pursue successfully the doctoral program.

Degree Requirements

Following are the minimal degree requirements. Additional study may be required depending on the student's academic background and his or her achievement in the program.

Courses: minimum of 108 quarter hours of post-baccalaureate credit including 48 quarter hours in philosophy offerings numbered 400 and above. These credit hours must include courses, seminars, and independent study.

Unless waived, the student is also required to pass a course or examination in Symbolic Logic and American and Anglo-American philosophy (e.g., PHL 304, 451, 452, 470, 655).

Additional credits in PHL 699 Thesis Research to complete total of required hours in post-baccalaureate work.

Residency: three consecutive quarters of full-time residence, i.e., registration for eight quarter hours.
Qualifying Examination: The doctoral examination are offered twice a year, in Fall and Spring, on three consecutive Saturdays. They consist of two-hour written examinations aimed at testing the student's ability to handle philosophical problems in metaphysics, theory of knowledge and ethics. In each examination, the student will be offered a choice of issues for discussion.

The student may repeat only one examination.

Foreign Language reading. The student is expected to exhibit facility with one foreign language, usually in the area of specialization. This examination need not be taken during the scheduled examination week.

Admission to doctoral candidacy: approval of the Dean of Graduate School given when the student has 1) successfully passed the Qualifying Examination, the language requirement, all course requirements (excluding PHL 699 Thesis Research), and 2) completed the requirements for full-time residency.

Candidacy Continuation: registration in non-residency or resident candidacy continuation required each quarter between admission to candidacy and graduation.

Time Limitations: between admission to the doctoral program and admission to doctoral candidacy: not more than four years;
   between admission to candidacy and the oral examination: not less than eight months, and not more than five years.

Dissertation: Departmental Committee approval of topic and outline of dissertation given only after admission to candidacy approved.

Oral examination: defense of the dissertation or a public lecture.

Dissertation Abstract: 350-word abstract of the dissertation filed with the Graduate Division, Liberal Arts Loop office.

Courses

Courses listed in the 300 series provide background or general orientation, and are intended for advanced students in undergraduate philosophy or beginning students in graduate philosophy. All courses carry four quarter hours of credit unless otherwise noted.

Cognitive Skills

301  Basic Logic.
302  Symbolic Logic. (301 recommended, but not required.)
303  Critical Thinking.
305  Philosophy of Language.

History, Traditions, and Foundations

304  Introduction to Analytic Philosophy.
310  Greek Thought: The Roots of Western Culture.
311  Medieval Thought: Reason and Faith.
312  Modern Thought: Ideas in Revolution.
313  Contemporary Thought: The Human Condition.
314  Existentialism.
315  American Philosophy: Political Ideals and Pragmatism.
320 Systems of Metaphysics.
321 Theories of Knowledge.
325 Basic Concepts of Phenomenology.

Value Studies
340 Philosophy of Religion.
341 Philosophy of the Arts.
342 Philosophy of Law.

Topics and Controversies
350 Philosophy and the Natural Sciences.
361 Figures in Intellectual History.
362 Themes in Eastern Thought.
370 Existential Thinking.
383 Philosophical Themes in Literature.
396 Selected Topics. (e.g., phenomenology of resentment, theory of interpretation, philosophy and technology, etc.).

GRADUATE COURSES

Courses in the 400-500 series are intended to be specific, dealing with individual philosophers, their backgrounds and subsequent influences. They are meant to be detailed both analytically and critically. Normally they are open only to students with graduate academic standing. All courses carry four quarter hours of credit unless otherwise noted.

Traditional Philosophers
410 Plato I. A study of Plato's life and early dialogues.
411 Plato II. A study of the middle and later dialogues.
415 Aristotle I. A study of Aristotle's life and selected topics of his theoretical philosophy: Organon, Physics, Psychology, and Metaphysics.
416 Aristotle II. A study of aspects of Aristotle's practical and productive philosophy: Ethics, Politics, Rhetoric, and Poetics.
420 Augustine. A study of Augustine's philosophy through an examination of some of his major writings.
425 Aquinas. A study of his philosophy, especially its relations to theology, through an examination of selected major works.
435 Descartes. An examination of Descartes' role as the father of modern philosophy; issues of the Regulae, the Discours, and the Meditations.
440 Spinoza. A study of the Ethics and/or the Theologico-Political Treatise.
510 Kant I. An introduction to the Critical Philosophy of Kant by concentrating on the Critique of Pure Reason.
PHL 511 Kant II. A study of the Critique of Practical Reason or the Critique of Judgment.

515 Hegel I. An Introduction to Hegel: The Phenomenology of Spirit.

516 Hegel II. Readings in the Science of Logic or the Philosophy of Right.

520 Marx. A study of selected topics and works from both Marx/Engels and their disciples.

Anglo-American Philosophers

451 Early American Philosophy. Selected readings in James, Dewey, Pierce, Santayana. (Replaces 453, 455, 457, 459)

452 Contemporary American Philosophy. Readings in selected topics and authors.


495 Advanced Symbolic Logic. A study of modal logic, multi-valued logics, logical antimonies, the logic of relations, theory of computation, and the philosophical presuppositions of logical systems. (Prerequisite: Philosophy 302 Symbolic Logic or equivalent.)

600 Seminar on American Philosophy.

20th Century Philosophers

German Philosophers

525 Nietzsche. An introduction to the philosophy of Nietzsche through Beyond Good and Evil, Also Spake Zarathustra and selected topics and works.

535 Husserl I. An introduction to Husserl through a study of selected topics and works.

536 Husserl II. Selected topics and works.

540 Scheler I. An introduction to Scheler, with emphasis on the phenomenology of value.

541 Scheler II. Selected topics and works (Resentment, etc.)

550 Heidegger I. An introduction to Heidegger through study of a major work and one of the Marburg lectures.

551 Heidegger II. Selected topics and questions.

557 Topics in Continental Philosophy.

French Philosophers

560 Marcel. A study of Marcel's Philosophy of Existence with special attention given to his major work, The Mystery of Being.

565 Merleau-Ponty I. A study of The Phenomenology of Perception with consideration given to Merleau-Ponty's place in contemporary philosophy.

566 Merleau-Ponty II. A study of the themes of his social philosophy and final ontology.
Sartre I. A study of Being and Nothingness with attention given to Sartre's early phenomenological studies as background and to some of his literary works and criticism, such as Nausea and Saint-Genet.

Sartre II. The Social Thought of Jean-Paul Sartre. A study of A Critique of Dialectic Reason along with appropriate literary works and more recent political writings.

Ricoeur. A study of Ricoeur's philosophy and phenomenology of the will with stress on its background and its place in contemporary French phenomenology.

Trends in Contemporary French Philosophy. A look at the increasing importance of structuralism, philosophy of language, and hermeneutics in contemporary French thought.

Ethics and Value Studies

Theoretical Foundations of Normative Ethics I. A comparative overview of the ethical writings of Aristotle and Aquinas, with emphasis on the natural law tradition.

Theoretical Foundations of Normative Ethics II. A comparative overview of Kant's moral theory and Mill's moral theory.

Philosophy, Ethics and Economics. An examination of classical and contemporary theories from Smith and Marx to Friedman, Held, and others.

Seminar on Contemporary Problems.

Seminar on Rawls, Nozick and the Contractual Tradition. A study of the contract model from its roots in Locke and Rousseau to the work of Rawls and Nozick.

Problems in Ethics. A seminar in business ethics that centers on theoretical, practical, and pedagogical issues.

Seminar on the Continental Tradition in Ethics. A comparative discussion of the ethical theories of Scheler, Hartmann, and Brentano.

Seminar on the Social and Political Thought. A study of selected writings of key social and political thinkers.

The above courses represent the core of the Department's graduate offerings. In addition, the Department regularly offers seminars, tutorials, and independent studies for specialized graduate work.

Special Studies Courses

Thesis Research. Independent investigation of a philosophical problem for the thesis/dissertation. The problem is assigned by the chairman or his designate after consultation with the student. Direction and advisement is given by the thesis director. Variable credit.

Independent Study.
Resident Candidacy Continuation. Students admitted to candidacy for the doctoral degree who have completed all course and dissertation registration requirements but who are regularly using the facilities of the University for study and research are required to be registered each quarter of the academic year until the dissertation and final examination have been completed. Non-credit, $388.00 per quarter. (Prerequisite: Admission to candidacy.)

Non-Resident Candidacy Continuation. This registration provides for doctoral candidates already admitted to candidacy who are not in residence and need only occasional use of University facilities, including the libraries. Non-credit, $400.00 per quarter. (Prerequisite: Admission to candidacy.)
Zuhair M. El Saffar, Ph.D., Professor and Chairman

Physics

FACULTY

Professors
Zuhair M. El Saffar, Ph.D. ................. University of Wales, Great Britain
Edwin J. Schillinges, Ph.D. ................. University of Notre Dame
Thomas G. Stinchcomb, Ph.D. ............. University of Chicago
Donald O. Van Ostenburg, Ph.D. .......... Michigan State University, Chairperson,
                                      Graduate Committee

Associate Professors
Anthony F. Behof, Ph.D. .................. University of Notre Dame
Gerard P. Lietz, Ph.D. ..................... University of Notre Dame
Margaret Stautberg Greenwood, Ph.D. .... University of Colorado

Assistant Professors
Martin J. Durbin, M.S. .................... DePaul University Emeritus

EMERITUS
Mary L. Boas, Ph.D. ....................... Massachusetts Institute of Technology
Julius J. Hupert, Ph.D. ................. Northwestern University
PURPOSE

The purpose of the Graduate Physics Program is to develop professional competence in its students. To fulfill this purpose, the Department offers the following degree programs: Master of Science in Physics, Master of Science in Applied Physics and Master of Science in Teaching Physics.

As a public service to the educational, scientific and technological communities of the Chicago area, the Department offers graduate and advanced undergraduate courses in the evenings for industrial scientists and engineers. The evening offerings emphasize the physics and the mathematical skills so necessary for the successful mastery of sophisticated and rapidly changing technologies.

DEGREE PROGRAMS

Master of Science: Physics

Master of Science: Applied Physics

Master of Science: Teaching of Physics

MASTER OF SCIENCE: PHYSICS (thesis)

Admission Requirement

For full admission, students must have the following:
Bachelor's degree: satisfactory completion of a suitable program in advanced physics beyond a general physics course. Candidates with less extensive backgrounds should consult with the chairperson of the Departmental Graduate Committee about course prerequisite(s) to graduate study.

Note: Strongly recommended that the student submit the results of the GRE Physics examination at the time of application.

Degree Requirements

Courses: a minimum of 44 quarter hours of graduate credit (11 courses), including:

PHY 395 Methods of Theoretical Physics III
PHY 410, 411, 412 Theoretical Physics I, II, III
PHY 480 Thesis Research

Two of the following:

PHY 420 Electrodynamics I
PHY 440 Theoretical Mechanics I
PHY 460 Quantum Mechanics I
Two 400-level physics courses. Additional courses from 300 or 400 level. Selection from courses in biological sciences, chemistry, mathematics, physics, or other minor field with the written approval of the Departmental Graduate Committee. The exact number of the additional courses required is dependent upon credit earned from PHY 480 Thesis Research.

Candidacy Examination: A three hour written examination based on student's general knowledge of physics.

Degree Candidacy: upon satisfactory completion of the candidacy examination and upon satisfactory completion of all course requirements, excluding PHY 480 Thesis Research, the student may make application for Degree Candidacy. Upon advancing to degree candidacy, the student is now eligible to enroll in PHY 480.

Thesis: based on independent research in theoretical or experimental physics is generally required. However, a review thesis reflecting study of a broad subject or development of an interdisciplinary, historical or educational theme is also acceptable.

As a rule, one course credit of 4 quarter hours in PHY 480 is applicable to the thesis research. An additional course credit (4 credit hours) for thesis research may be allowed with the written approval of the student's Faculty Advisor. In no case will more than two thesis research course registrations be applied to the Master of Science degree.

An oral examination on the thesis.

MASTER OF SCIENCE: APPLIED PHYSICS (thesis)

Admission Requirements: The science requirements in the program are the following: Complete sequence of courses in general physics, complete sequence of courses in mathematics including integral calculus

Degree Requirements

Courses: a minimum of 44 quarter hours of graduate credit (11 courses), including:

- PHY 395 Methods of Theoretical Physics
- PHY 410, 411, 412 Theoretical Physics I, II, III
- PHY 478 Topics in Applied Physics
- PHY 480 Thesis Research
- PHY 490, 491 Solid State Physics I, II

Other courses cannot be substituted for the above without the approval of the Applied Physics Committee.
A choice of the following:

**PHY 405** Physical Principles of Telecommunications
**PHY 424** Electrodynamics of Plasma
**PHY 442** Applied Mechanics
**PHY 451** Analog Signal Processing
**PHY 452** Digital Signal Processing
**PHY 454** Modern Optics
**PHY 459** Thin Film Microelectronics
**PHY 465** Nuclear Physics
**PHY 466** Radiation Physics
**PHY 492** Solid State Device Physics
**PHY 493** Introduction to Nuclear Magnetic Resonance
**PHY 498** Digital Signal Processing

Additional courses from 300 or 400 level. Selection from courses in biological sciences, chemistry, mathematics, computer science or other minor fields with the written approval of the Applied Physics committee. The exact number of the additional courses required is dependent upon credit earned from PHY 480 thesis research.

Thesis: The thesis requirement is the same as Master of Science: Physics, except, the thesis may involve the building of a piece of equipment used in departmental research areas.

**MASTER OF SCIENCE: PHYSICS OR APPLIED PHYSICS**
(non-thesis)

**Degree Requirements**

In special cases and with the approval of the appropriate Graduate Committee, the thesis requirement may be replaced with two advanced level physics courses.

**MASTER OF SCIENCE: TEACHING OF PHYSICS**

**Admission Requirements:**

The same as the requirements for Applied Physics.

**Degree Requirements**

Eleven courses planned in individual consultation with a faculty member.
ADVANCED UNDERGRADUATE COURSES

The following list represents courses scheduled as undergraduate courses. To be used as graduate credit, a grade of B or better must be earned.

310 Mechanics.
320 Electricity and Magnetism.
331 Active Circuits—Solid State Devices.
332 Logic Design—Theory and Practice.
340 Thermal Physics.
350 Optics.
360 Twentieth Century Physics I.
361 Twentieth Century Physics II.
370 Experimental Physics I.
393 Methods of Theoretical Physics I.
394 Methods of Theoretical Physics II.
395 Methods of Theoretical Physics III.
396 Microprocessors.
397 Computer Interfacing.

Graduate Courses

These courses carry, as a rule, four quarter hours of credit. When a deviation from this rule is justified, the applicable number of credit hours is shown in the specific schedule applicable to the academic quarter in question. Scheduling of courses is announced quarterly.

405 Physical Principles of Telecommunications. This course treats the concepts of Physics on which communications are based, such as basic electricity, circuit elements, transmission lines, and fibers. Included will be a discussion of combinational and sequential digital circuits. The format consists of lecture and laboratory exercises.

411 Theoretical Physics I. Lagrangian formalism; angular momentum; central forces and celestial mechanics; particle systems and rigid body rotation about fixed axis; accelerated coordinate systems.

410 Theoretical Physics II. Electrostatics and magnetostatics in vacuum and in media; Poisson's equations; Green's Theorem; use of Green's functions; electromagnetic induction; Maxwell's equations; the Poynting vector; electromagnetic wave propagation.

412 Theoretical Physics III. Schrödinger equation, operators, eigenvalues; series of eigenfunctions; physical interpretation; one and three-dimensional applications.
Electrodynamics. (Prerequisite: PHY 411) Further studies of electromagnetic wave propagation; scattering; dispersion; bounded structures and guided waves; electromagnetic radiation, including multipole radiations and radiation from systems of radiators; special theory of relativity as applied to electrodynamics; charged particle collisions and radiations.

Electrodynamics of Plasma. (Prerequisite: PHY 411) Introduction to plasmas; single particle motions in electric and magnetic fields; treatment of plasmas as fluids; electrodynamic properties of plasmas.

Logic Design. Application of switching theory to the solution of logic design problems. (Prerequisite: PHY 232 or consent.) Analysis and design of synchronous and asynchronous sequential networks. Required laboratory project.

Theoretical Mechanics. (Prerequisite: PHY 410) Variational principles; Lagrangian and Hamiltonian mechanics; rigid body dynamics; small oscillations; special relativity theory; canonical transformations; Hamilton-Jacobi theory.

Applied Mechanics. (Prerequisite: PHY 310) Mechanics of continuous media; strain and stress tensors; fluid dynamics; mechanical waves; applications to acoustics and geophysics.

Statistical Mechanics. Principles of statistical mechanics; applications to weekly interacting systems such as the classical plasma and Fermi gas; strongly interacting systems; transport theory; fluctuations and irreversible processes, phase transitions.

Analog Signal Processing and Systems. (Prerequisite: PHY 331) Analog filter design. Systems analysis via convolution, Laplace and Fourier techniques. Laboratory.

Digital Signal Processing and Systems. (Prerequisite: PHY 332) Discrete-time signals and systems. Digital filters, DFT, and FFT. Laboratory.

Modern Optics. An advanced optics course with emphasis on topics in coherence theory, polarization of light, Fourier transform; spectroscopy, optical transfer functions and holography.

Thick Film Microelectronics. (Prerequisite: PHY 331) An introduction to the fabrication, design, and applications of thick-film hybrid microcircuits. Laboratory.

Quantum Mechanics. (Prerequisite: PHY 412) Review of basic quantum theory; vector spaces; linear operators; observables; commutators; projection operations; representations; angular momentum theory; systems of identical particles; invariance.

Nuclear Physics. (Prerequisite: PHY 412 or equivalent) Theoretical and phenomenological approaches to nuclear structure and strong, electromagnetic, and weak interactions of nuclei. Topics of study include the theory of scattering and decay of nuclei, resonances, nuclear models.

Radiation Physics. (Prerequisite: PHY 361 and 395 or equivalent) Interactions of X-rays, nuclear radiations, etc, with matter; radiation detectors: dosimetry; shielding; applications to medical physics.

Solid State Physics I. Periodicity and classification of crystal structure; X-ray diffraction; reciprocal lattice; crystal binding; phonons. Debye theory of heat capacity; inelastic scattering, anharmonic interactions and thermal conductivity.
Solid State Physics II. The free-electron gas model; energy band theory; theory of metals and alloys; intrinsic and impure semiconductors; transport phenomena; dia- and para-magnetism, ferromagnetism, and antiferromagnetism.

Solid State Device Physics. Physics background for the operation of such devices as the bipolar transistor; the junction field effect transistor (JFET); surface field-effect transistors (MOSFETS); charge coupled devices; Gunn oscillators, the solar cell, etc.

Introduction to Nuclear Magnetic Resonance. (Prerequisites: PHY 393, 360). The resonance condition, absorption lines, free induction decays, theory of relaxation phenomena, imaging.

Microprocessor Interfacing. Design and construction of microcomputer based peripherals and adapters. (Prerequisite: PHY 345.) Driver software, PCB construction and bus structures. Required laboratory project.

Seminars and Independent Study Courses

Topics in Applied Physics. This course number is reserved for Individual study at the graduate level. Special seminars organized from time to time to accommodate the needs of groups of students in specialized subjects of topical interest.

Thesis Research. This course number designates research performed to gather thesis material. Up to two registrations are allowed.
Psychology

Sheldon Cotler, Ph.D., Chairperson

FACULTY

Professors
Sheldon Cotler, Ph.D ........................................ Southern Illinois University
Leonard A. Jason, Ph.D ........................................ University of Rochester
John M. Reisman, Ph.D ......................................... Michigan State University
Edwin S. Zolik, Ph.D ........................................... Catholic University of America

Associate Professors
Robert E. Brewer, Ph.D ........................................ Southern Illinois University
Mari J. K. Brown, Ph.D ........................................ Columbia University
Linda Campos, Ph.D ........................................... University of Pennsylvania
Ernest J. Doleys, Ph.D ........................................ University of Missouri
Frederick Heilizer, Ph.D ........................................ University of Rochester
Sheila Ribordy, Ph.D ........................................... University of Kansas
W. La Vone Robinson, Ph.D ................................ University of Georgia
Robert J. Tracy, Ph.D ........................................... Texas Christian University
Midge Wilson, Ph.D ........................................... University of North Carolina

Assistant Professors
Jane Halpert, Ph.D ........................................... Wayne State University
Joseph Orban, Ph.D ........................................... Virginia Polytechnic Institute and State University
Patrick Tolan, Ph.D ........................................... University of Tennessee
Adjunct Faculty

Melany E. Baehr, Ph.D. ...........................................University of the Witwatersrand
Robert W. Cavanagh, Ph.D ........................................Loyola University
Della Controssi, A.C.S.W . ........................................University of Illinois
Robert L. Davenport, Ph.D .........................................DePaul University
Kurt R. Elster, Ph.D ................................................Illinois Institute of Technology
Hector Machabanski, Ph.D .........................................University of Kentucky
Catherine Pines, Ph.D ...............................................Emory University
William Terris, Ph.D .................................................Illinois Institute of Technology
Derise E. Tolliver, Ph.D ..............................................Duke University

PURPOSES

The general purpose of the graduate programs in psychology is to provide qualified students with the opportunity to become thoroughly acquainted with the methodology and content of scientific psychology and trained in the quantitative methods and scientific rigor necessary for the understanding of human behavior and personality.

A specific purpose is application: the utilization of psychology for the benefit of individuals and society. A major function of the graduate programs in psychology is to help the student develop an awareness of the unity of psychological study and practice. The student comes to appreciate that psychology is both a "pure" and "applied" science, and that these aspects are not mutually exclusive.

DEGREE PROGRAMS

The Department of Psychology offers graduate work leading to the degrees of Master of Arts and Doctor of Philosophy. Available programs leading to these degrees are as follows:

Master of Arts

Clinical Psychology
General Experimental Psychology
Industrial/Organizational Psychology

Doctor of Philosophy

Clinical Psychology
General Experimental Psychology
Industrial/Organizational Psychology

Additional information concerning graduate programs may be obtained by writing to the Chairperson, Department of Psychology.
Admission Requirements

The Department accepts as graduate students only those who show definite promise for completing the requirements for advanced degrees. Meeting the minimum admission standards or having extensive undergraduate course work in psychology does not guarantee acceptance, since the number of applicants who can be admitted is limited.

Preference is given to those applicants who have a well-balanced background of psychology courses, and some background in science and mathematics. Students who do not have an undergraduate major in psychology but who otherwise satisfy these requirements are encouraged to apply.

For consideration for admission, the applicant must have the following:
Bachelor's degree.
Satisfactory undergraduate scholastic average.
Minimum of 32 quarter hours (i.e., 21 semester hours) in psychology. A 3 semester hour (4 quarter hour) elementary statistics course is to be included in this minimum.

The Departmental Graduate Admission Committee will determine, on the basis of a consideration of each student's proposed program of study, whether the minimum 32 quarter hours in psychology is sufficient for advanced study. The student judged to be deficient in prerequisites or other respects will be required to take, without graduate credit, such courses as necessary to remedy any deficiencies upon entering Graduate School.

Graduate Record Examination results of the Verbal and Quantitative tests and of the Advanced Test in Psychology are required.

Three letters of recommendation.
Applicants must complete both a departmental application form and the general LAS Graduate Application.

Students considering application to the M.A.-Ph.D. programs in Clinical Psychology should be aware of the following:
In 1985-86, over 200 students applied to the doctoral program in clinical psychology. Of the applicants, eleven were admitted to the entering M.A.-Ph.D. program. The clinical faculty wishes applicants to know that the faculty carefully evaluate all the application materials and emphasize the following criteria:
Completeness of credentials: When important pieces of information, such as transcripts, are lacking, the faculty is compelled to reject the applicant. Last year about one applicant in seven was rejected on this basis. Your application materials should be complete by January 31. We begin the process of evaluating applications in February.

GRE scores and Grade Point Average: Combined Verbal and Quantitative GRE scores of about 1200 are expected of applicants to the doctoral program. The undergraduate grades of applicants are expected to average substantially higher than "B" in psychology courses. Typically, successful applicants to our program have an undergraduate GPA of at least 3.5 (B) and combined GRE scores of over 1200. However, these criteria are not followed rigidly.

Undergraduate preparation: Students are expected to have had courses in statistics, experimental psychology, abnormal psychology, and other areas in psychology to enable advanced study in this field.
Prior graduate study: The department considers students with prior graduate study in clinical psychology or closely related fields, but almost all of our students enter the program without other advanced degrees.

Interests: The clinical programs emphasize training in clinical child psychology and clinical community psychology. Obviously those who have no special interest in those areas would be better served elsewhere. Further, we accept only those applicants who intend to work toward the doctorate and do not consider applicants for a terminal Masters degree for admission.

Minority status: The clinical faculty strongly encourages applications from minority students. About 1/3 of the graduate students in clinical psychology admitted in the last two years were members of minority groups.

MASTER OF ARTS: CLINICAL PSYCHOLOGY

Degree Requirements

Courses: minimum of 72 quarter hours including 4 hours thesis credit, but not including credit for pre-practicum or practicum courses. (Note: Students are expected to carry a minimum of 12 hours per quarter.)

Core Courses: four of the following:

- PSY 402 Perceptual Processes or 404 Learning Processes
- PSY 406 Physiological Processes
- PSY 430 Advanced Social Psychology
- PSY 437 Advanced Personality or 439 Advanced Developmental Psychology

NOTE: With the written consent of their advisor, students may waive one or two courses in the core sequence and replace them with graduate courses in Clinical Psychology.

Statistics Courses:

- PSY 410, 411, 412 Advanced Statistics I, II, III

Additional Courses:

- PSY 481 Intelligence Testing
- PSY 482 Personality Assessment
- PSY 484 Behavioral Assessment
- PSY 486 Advanced Psychopathology
- PSY 488 Principles of Psychotherapy
- PSY 500 Professional Ethics and History of Clinical Psychology
- PSY 574 Pre-practicum
- PSY 577-583 Practicum
Degree Candidacy: during the Winter Quarter of the second year of graduate study, each student is evaluated for acceptance as a candidate for the doctoral degree. Only those students who have given evidence of satisfactory academic performance as graduate students, and have had a research proposal for the master's thesis approved, will be advanced. The Department reserves the right to require the student to take special or oral examinations to fulfill this requirement. Students denied candidacy will be required to withdraw from the doctoral program.

Research Thesis: complete a thesis on a topic approved by the Department.

Thesis Examination: the examination, in the field of the graduate student, may be, but is not necessarily, limited to a defense of the student's thesis.

MASTER OF ARTS: GENERAL EXPERIMENTAL PSYCHOLOGY

Degree Requirements

Courses: minimum of 48 quarter hours including 4 hours thesis credit.
(Note: Students are expected to carry a minimum of 12 hours per quarter.)

Core Courses: four of the following:
- PSY 402 Perceptual Processes
- PSY 404 Learning Processes
- PSY 406 Physiological Processes
- PSY 430 Advanced Social Psychology
- PSY 437 Advanced Personality
- PSY 439 Advanced Developmental Psychology
- PSY 500 Professional Ethics and History of Psychology

Statistics Courses:
Three courses: PSY 410, 411, 412, Advanced Statistics I, II, III

Degree Candidacy: upon completion of at least half of the graduate course requirements, each student is evaluated for acceptance as a candidate for the master's degree. Only those students who have given evidence of satisfactory academic performance as graduate students will be advanced. The Department reserves the right to require the student to take special or oral examinations to fulfill this requirement. Students denied candidacy will be advised to strengthen areas of scholastic weakness or to withdraw from the program.

Research Thesis: complete a thesis on a topic approved by the Department.

Thesis Examination: either written or oral, the examination, in the field of graduate study, may be, but is not necessarily, limited to a defense of the student's thesis.
MASTER OF ARTS: INDUSTRIAL PSYCHOLOGY

Degree Requirements

Courses: minimum of 72 quarter hours including 4 hours thesis credit.
(Note: Students are expected to carry a minimum of 12 hours per quarter.)

Core Courses: four of the following:
- PSY 402 Perceptual Processes
- PSY 404 Learning Processes
- PSY 406 Physiological Processes
- PSY 430 Advanced Social Psychology
- PSY 437 Advanced Personality
- PSY 439 Advanced Developmental Psychology

Statistics Courses:
Three courses: PSY 410 411, 412 Advanced Statistics I, II, III

Core Courses in the Industrial Psychology Area:
- PSY 440 Psychology of Work and Motivation
- PSY 441 Psychology of Leadership
- PSY 442 Personnel Psychology
- PSY 443 Psychology of Human Performance
- PSY 444 Job and Performance Evaluation
- PSY 445 Psychology of Organizational Training
- PSY 446 Psychological Theories of Organizations

Other Required Courses: Additional courses are required to attain the 72 hours, including PSY 500, Professional Ethics and PSY 590, Thesis Seminar. These courses should be taken with the consent of the student’s advisor.

Degree Candidacy: upon completion of at least half of the graduate course requirements, each student is evaluated for acceptance as a candidate for the master’s degree. Only those students who have given evidence of satisfactory academic performance as graduate students will be advanced. The Department reserves the right to require the student to take special or oral examinations in fulfilling this requirement. Students denied candidacy will be advised to strengthen areas of scholastic weakness or to withdraw from the program.

Research Thesis: complete a thesis on a topic approved by the Department.

Thesis Examination: either written or oral, the examination, in the field of graduate study, may be, but is not necessarily, limited to a defense of the student’s thesis.

DOCTOR OF PHILOSOPHY: PSYCHOLOGY

The Department offers programs in Clinical, General Experimental, and Industrial/Organizational Psychology. The Clinical Program offers special emphasis in Clinical Community and Clinical Child Psychology. Within the General Experimental Program the student may specialize in learning physiological, developmental and social psychology.
Admission Requirements

Students holding a bachelor's degree are not admitted directly into doctoral programs. During the second week of the Winter Quarter of the student's second year, an evaluation of the student's progress in meeting course and degree requirements is made by the faculty. Assuming such progress is satisfactory, the student is formally admitted into the doctoral program.

DOCTOR OF PHILOSOPHY: CLINICAL PSYCHOLOGY

Degree Requirements

Courses: minimum of 120 quarter hours beyond the bachelor's degree, including the following:

Core Courses:

PSY 361 History and Systems of Psychology or passing a special exam in this area
PSY 402 Perceptual Processes or 404 Learning Processes
PSY 406 Physiological Processes
PSY 430 Advanced Social Psychology
PSY 437 Advanced Personality or 439 Advanced Developmental
PSY 486 Advanced Psychopathology
PSY 481 Intelligence Testing
PSY 482 Personality Assessment
PSY 484 Behavioral Assessment
PSY 488 Principles of Psychotherapy
PSY 500 Professional Ethics and History of Clinical Psychology
PSY 569 Seminar in Program Evaluation
PSY 597 Master's Thesis Research (4 hours)
PSY 599 Dissertation Research (12 hours)

Note: The student is required to take additional courses consistent with an area of specialization in Clinical Child or Clinical Community Psychology.

Doctoral Candidacy Examination: designed to assess the student's knowledge of experimental psychology and the student's area of specialization. The examination is given in four sections. Two sections cover two minor areas of experimental psychology selected by the student from the areas of learning, perception, physiological psychology, personality, developmental psychology, industrial/organizational psychology, and social psychology. A third section for clinical students consists of an examination in the areas represented by the required courses in Clinical Psychology. A fourth section consists of an examination in the student's area of clinical-child or clinical community specialization.

Admission to Doctoral Candidacy: formally given to the student who has successfully passed the Doctoral Candidacy Examination; the student has no more than five years from this date to complete requirements for the doctorate.

Candidacy Continuation: registration in course(s) or resident or non-resident candidacy continuation required each quarter between admission to candidacy and graduation.

Internship: one-year internship in facility approved by the Director of Clinical Training. Student's fourth year in program is usually the internship year.
Dissertation: Departmental Committee approval and acceptance of topic and outline of dissertation given only after admission to candidacy approved.

Oral Examination: student to defend his or her dissertation and to show competence in the general field of psychology and in the area of specialization.

Time Limitations: 1) between admission to the doctoral program and admission to doctoral candidacy: not more than four years; and 2) between admission to candidacy and the final examination: not less than eight months and not more than five years.

DOCTOR OF PHILOSOPHY: GENERAL EXPERIMENTAL PSYCHOLOGY

Degree Requirements

Courses: a minimum of 120 quarter hours beyond the bachelor's degree, including the following:

Core Courses:

PSY 361 History and Systems of Psychology or passing a special exam in this area
PSY 402 Perceptual Processes
PSY 404 Learning Processes
PSY 406 Physiological Processes
PSY 430 Advanced Social Psychology
PSY 437 Advanced Personality
PSY 439 Advanced Developmental Psychology
PSY 500 Professional Ethics and History of Psychology
PSY 597 Master's Thesis Research (4 hours)
PSY 599 Dissertation Research (12 hours)

Description of Sample Program: Developmental Psychology.

Coursework for a student specializing in Developmental Psychology would include the Core Courses listed above plus the required sequence in Statistics. In addition, the student will supplement his training by taking additional courses chosen with the aid of his advisor. Choice of additional courses will depend upon the student's particular research interests and career goals. For example, courses may be taken from the areas of industrial and/or child clinical psychology. Possible additional courses are Psychopathology of the Child (PSY 487), Personality Assessment (PSY 482), Behavior Modification (PSY 454), Seminar in Developmental Psychology (PSY 555), Psychology of Leadership (PSY 441), Psychology of Human Performance (PSY 443), and Job and Performance Evaluation (PSY 444). The Seminar in Developmental Psychology (PSY 555) focuses on current research in the area of development and may be taken during both the second and third years.

Research experience is considered an integral part of the student's training and will begin in the first year. With the help of his advisor the student will begin to plan his thesis project which usually will be conducted during this second year in the program. Research experience during the third year might involve a continuation of the line of research initiated in the thesis project. Alternatively the student may be-
gin to develop a new line of research in preparation for his or her dissertation. The dissertation project usually is conducted during the fourth year. Typically the graduate student will conduct at least two complete research studies and prepare them for publication in a professional journal.

**Doctoral Candidacy Examination:** designed to assess the student's knowledge of experimental psychology and the student's area of specialization. The examination is given in three sections. The first two sections cover two minor areas selected by the student from the areas of learning, perception, physiological, personality, developmental, industrial/organizational, and social psychology. The third section consists of an examination in the student's area of specialization.

**Admission to Doctoral Candidacy:** Formally given to the student who has successfully passed the Doctoral Candidacy Examination; the student has no more than 5 years from that date to complete requirements for the doctorate.

**Candidacy Continuation:** registration in course(s) or for resident or non-resident candidacy continuation required each quarter between admission to candidacy and graduation.

**Dissertation:** Departmental Committee approval and acceptance of topic and outline of dissertation given only after admission to candidacy approval. Research for the dissertation should normally be completed during the student's fourth year in the program.

**Oral Examination:** student to defend his or her dissertation and to show competence in the general field of psychology and in the area of specialization.

**Time Limitations:** 1) between admission to the doctoral program and admission to doctoral candidacy: not more than four years; and 2) between admission to candidacy and the final examination: not less than eight months and not more than five years.

Note: Detailed information on the above degree requirements is listed in a separate departmental brochure. It may be obtained from the Department.

**Doctor of Philosophy: Industrial/Organizational Psychology**

**Degree Requirements**

**Courses:** a minimum of 120 hours beyond the bachelor's degree, including twelve dissertation hours and the following:

**Core Courses:** All core courses plus either a course in history and systems or passing a special exam in this area.

**Statistics Courses:** Psychology 418 Multivariate Analysis and Psychology 419 Factor Analysis. Psychology 420 Advanced Research Methods, and Psychology 450 Psychological Measurement.

**Industrial Psychology Courses:** All core courses in the I/O area: PSY 440, 441, 442, 444, 445, 446.

**Electives:** Additional courses with consent of the student's advisor to attain the required 120 credit hours. Electives are grouped into two areas: methods and content. At least one course must be taken in each area. Method courses include Math 454, 456, 457; Computer Science 423, 424, and 432. Content courses include Management 526, 560; Marketing 545; Psychology 425, 434, and 443.
Doctoral Candidacy Examination: designed to assess the student's knowledge of psychology and the student's area of specialization. The examination is given in five sections. The first two sections cover two minor areas selected by the student from the areas of learning, perception, physiological, personality, developmental and social psychology. The third section consists of an examination in the areas represented by the required courses in industrial/organizational psychology. The fourth area is in the area of the student's specialization in I/O psychology. The fifth section is an oral examination in the area of I/O psychology.

Admission to Doctoral Candidacy: Formally given to the student who has successfully passed the Doctoral Candidacy Examination; the student has no more than 5 years from that date to complete requirements for the doctorate.

Candidacy Continuation: Course(s) or registration in resident or non-resident candidacy continuation required each quarter between admission to candidacy and graduation.

Dissertation: Departmental Committee approval and acceptance of topic and outline of dissertation given only after admission to candidacy approval. Research for the dissertation should normally be completed during the student's fourth year in the program.

Oral Examination: student to defend his or her dissertation and to show competence in the general field of psychology and in the area of specialization.

Time Limitations: 1) between admission to the doctoral program and admission to doctoral candidacy: not more than four years; and 2) between admission to candidacy and the final examination: not less than eight months and not more than five years.

Note: Detailed information on the above degree requirements is listed in a separate departmental brochure. It may be obtained from the department.

Courses

All courses carry four quarter hours of credit unless otherwise noted.

COURSES FOR ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS

333 **Child Psychology.** (Prerequisite: PSY 105 or 106) Description and evaluation of principles and theories of development from conception through childhood.

334 **Adolescent Psychology.** (Prerequisite: PSY 105 or 106) Biological, Cognitive, Emotional, and Social Development, covers theories and research on normal and abnormal development during adolescence.

347 **Social Psychology.** (Prerequisite: PSY 105 or 106) Survey of social psychological principles emphasizing individual behavior in a social context.

351 **Theories of Personality.** (Prerequisite: PSY 105 or 106) Survey of major personality theories with separate emphasis on clinically-derived and research-derived theories. Freudian psychoanalysis is especially emphasized in the clinical area. Personality research philosophy is presented separately and as part of the research-derived theories.
<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>353</td>
<td>Abnormal Psychology</td>
<td>(Prerequisite: PSY 105 or 106)</td>
<td>Description of the nature, symptoms, and etiology of psychological disorders.</td>
</tr>
<tr>
<td>354</td>
<td>Ecosystems and Behavior</td>
<td></td>
<td>Environmental psychology dealing with environmental pollution, systems theory, crowding, deprivation, institutionalization and architecture, and their effect upon man.</td>
</tr>
<tr>
<td>355</td>
<td>Small Groups and Leadership</td>
<td>(Prerequisite: PSY 347)</td>
<td>Study of behavior of individuals in groups and the analysis of leadership styles as a function of the type of task and group structure.</td>
</tr>
<tr>
<td>356</td>
<td>Introduction to Psychological Measurement</td>
<td>(Prerequisites: PSY 105 or 106 and 240)</td>
<td>Measurement in psychology; emphasis on standardization, reliability, validity; test and scale development. Materials fee $5.00.</td>
</tr>
<tr>
<td>360</td>
<td>Theories of Learning</td>
<td>(Prerequisite: PSY 105 or 106)</td>
<td>A survey of the classical and modern theories of learning.</td>
</tr>
<tr>
<td>361</td>
<td>History and Systems of Psychology</td>
<td>(Prerequisite: PSY 105 or 106 or consent)</td>
<td>Historical development of psychology and its fields.</td>
</tr>
<tr>
<td>362</td>
<td>Cognitive Process</td>
<td>(Prerequisite: PSY 105 or 106)</td>
<td>A survey of modern cognitive psychology with major emphasis on information processing theory.</td>
</tr>
<tr>
<td>367</td>
<td>Psychology of Exceptional Children</td>
<td>(Prerequisite: PSY 105 or 106)</td>
<td>Comprehensive introduction to the study of special children—those children who do not reach their fullest potential because of physical, social, cognitive, or behavioral factors.</td>
</tr>
<tr>
<td>368</td>
<td>Computer Programming</td>
<td>(Prerequisite: PSY 240 or consent)</td>
<td>Laboratory fee $15.00. Introduction to word processing, writing computer programs in BASIC or FORTRAN, and use of Statistical Packages such as SPSS or BMDP.</td>
</tr>
<tr>
<td>370</td>
<td>Research Methods in Developmental Psychology</td>
<td>(Prerequisite: PSY 333 or equivalent)</td>
<td>(Prerequisite: PSY 333 or equivalent) Laboratory fee $5.00. Overview of methods and associated problems unique to conducting research with humans, both in the laboratory and the field.</td>
</tr>
<tr>
<td>375</td>
<td>Perception</td>
<td>(Prerequisite: PSY 105 or 106)</td>
<td>Environmental and stimulus control of behavior; chemical control of perception.</td>
</tr>
<tr>
<td>377</td>
<td>Physiological Psychology</td>
<td>(Prerequisite: PSY 105 or 106)</td>
<td>The nervous system and endocrine functions as related to behavior.</td>
</tr>
<tr>
<td>378</td>
<td>Comparative Psychology</td>
<td>(Prerequisite: PSY 105 or 106)</td>
<td>Patterns of behavior shown by various animal species.</td>
</tr>
<tr>
<td>380</td>
<td>Industrial and Organizational Psychology</td>
<td>(Prerequisites: PSY 105 or 106)</td>
<td>Application of theories and methods of psychology to the study of human behavior in business, industrial, and other organizations.</td>
</tr>
<tr>
<td>381</td>
<td>Personnel Psychology</td>
<td>(Prerequisite: PSY 380 or consent)</td>
<td>Application of concepts from differential psychology and measurement to employee selection, performance appraisal, placement and training in business and other organizations.</td>
</tr>
</tbody>
</table>
Organizational Behavior. (Prerequisite: PSY 380 or consent) Application of theories in leadership, work and motivation, and job satisfaction to employee and management behavior. Applied social psychology in an organizational context.

Engineering Psychology. (Prerequisite: PSY 380 or consent) Application of experimental psychology and individual differences to the design of man-machine systems, work environments, and living environments. (Cross-listed with PSY 443).

Consumer Behavior and Advertising. (Prerequisite: PSY 380 or consent) Application of psychological principles and methods to advertising, marketing, product development, sales, and propaganda.


Psychology of Alienation. (Prerequisites: PSY 105 or 106) Causes of individual and group alienation, and the resultant behavior.

Psychology of Language. (Prerequisite: PSY 105 and 106) Development of language in children, and effects of language on thinking.

Advanced Topics in Psychology. (Prerequisites: Senior standing and consent of Chairman)

Field Work and Study. (Prerequisite: Junior standing and consent of Chairman) Supervised experience in selected off-campus settings and associated readings.

Reading and Research. (Prerequisites: Senior standing and consent of Chairman)

GRADUATE COURSES

When prerequisites are stated in numbers below 400, an equivalent course taken elsewhere is acceptable. Where no prerequisite is listed, students not majoring in psychology must obtain the consent of the instructor. Psychology majors who do not meet the prerequisites for a given course must obtain the consent of the instructor.

Perceptual Processes. Analysis of the variables involved in the determination of perception with particular attention to the problems of space, motion, distance, size, form, the aftereffects and the constancies.

Learning Processes. Survey of classical and instrumental conditioning, biological constraints, attention, memory, and practical applications. Major theoretical approaches include stimulus-response, early cognitive theories and information processing theory.

Physiological Processes. The functional role of neural systems important for the processes of motivation, emotion, sleep, memory, and cognition.


Advanced Statistics I. An introduction to sample spaces, random variables, distributions and parametric statistics. Sampling, the concept of sampling distributions of statistics.

Advanced Statistics II. (Prerequisite: PSY 410) Point estimation procedures are compared for a variety of parameters. Analyses of variance; planned and post-hoc contrasts; orthogonal polynomials.
Advanced Statistics III. (Prerequisite: PSY 411) Linear and non-linear regression and correlation.

Methods in Behavioral Research. Principles and techniques of research design in behavioral, social and clinical research; questionnaires, interview schedules, rating scales involving multivariable analysis. Application of parametric and non-parametric tests. Application of research findings to professional practice.

Multivariate Analysis. Theory and statistical techniques underlying the analysis of multiple measurements.

Factor Analysis. Theoretical foundations, methods of analysis, and comparison of various factor analytic models.

Advanced Research Methodology. Design, and analysis, of basic and applied psychological research with an emphasis on statistical software.

Advanced Experimental Design.

Instrumentation. Design, construction and use of instrumentation in the behavioral sciences. (Variable credit)

Cognitive Processes. Seminar course on student-selected topics. Some past topics have dealt with imagery, memory, hypnosis, the use of conditioning principles in human communication, belief systems, and the use of metaphor in stories.

Sensory Processes. Receptor system processes and their relations to psychological phenomena, with attention to similarities and differences among sensory systems and to general principles of sensory integration and orientation.

Advanced Social Psychology. Contemporary theory and research in social behavior, emphasizing the behavior of the individual in a social context.

Attitude Analysis. Theory and research in attitude formation and organization, communication and persuasion, resistance to persuasion, and measurement techniques.

Social Judgment. Theory and research in judgment of social stimuli, perceiving and evaluating persons, and social comparison processes.

Small Group Behavior. Theory and research in group formation, conformity, power and communication structures, cohesion, and task performance. The emphasis is on the behavior of persons within groups.

Advanced Personality. Critical analysis of research in personality with emphasis on the development and testability of major constructs in contemporary research.


Psychology of Leadership. Current research and theories in organizational psychology relating to leadership, supervision, job performance, and managerial training. Emphasis is on theoretical development and empirical evaluation of constructs in contemporary research.
Personnel Psychology. Contemporary methods in the testing, selection, placement, and appraisal of persons in an organizational setting. Emphasis on methodological techniques and legal ramifications on personnel practices.

Psychology of Human Performance. Survey of research and theory on basic psychological processes relevant to the study of man-machine interaction and human factors design. Emphasis is on the use of course content in practical settings through projects on the design and evaluation of man-machine systems.


Psychology of Organizational Training. Critical analysis of techniques and research pertaining to training and development. Emphasis on traditional training programs and innovative organizational development techniques.

Psychological Theories of Organizations. Theory and research in the social psychology of organizations relating to organizational design, analysis, systems, and processes.

Psychological Measurement. Logical and mathematical principles underlying test construction with emphasis on evaluating the reliability and validity of scores.

Applied Statistical Prediction. Applications of statistics and psychological measurement to the problems of predicting human performance. Several computer programs will be used to analyze data.

Behavior Modification. Analysis of principles, practices, and research related to the modification of human behavior.

Emotions and Emotional Development. This course covers contemporary theories of emotions, the development of emotions, the development of emotion recognition skills and relationships among emotions, cognition, and social behavior.

Research Issues in Assessment. Analysis of research and current issues concerning intellectual and personality assessment. (2)

Individual Intelligence Testing I. Theories of intelligence and cognitive development. Introduction to the administration of verbal and various nonverbal tests including the Stanford Binet, Wechsler Intelligence Scale for Children and Wechsler Adult Intelligence Scale and the clinical use of these instruments. Materials fee $10.00.

Personality Assessment. Administration and scoring of the Rorschach and Thematic Apperception Test and other tests. Evaluation of tests and needed areas of research and development.

Advanced Psychodiagnosis. Advanced study of projective techniques and other assessment methods, with emphasis on analysis, interpretation and integration of all pertinent clinical data, and report writing.


488 Principles of Psychotherapy. Analysis of theoretical approaches to psychotherapy.
490 Understanding and Helping Troubled Children. Integration of developmental theory, psychopathology, and treatment methods with regard to working with troubled children. This special course is designed to benefit professionals already in child-related fields.
491 Treatment Methods with Children. Consideration of a variety of treatment approaches used to help alleviate the psychological problems of children with emphasis on play psychotherapy.
492 Principles of Consultation. The principles and dynamics involved in the various types of consultative relationships. Techniques of consultation with parents, teachers, agencies, physicians and others in regard to problems and deviancy, methods of management and treatment. (2)
493 Clinical Community Psychology.
495 Evaluation and Research in Community Mental Health.
500 Professional Ethics and History of Psychology. (2)
510 Behavioral Medicine. Concerned with development and integration of psychological and biomedical science knowledge and techniques relevant to health and illness. Prevention, treatment, and rehabilitation at individual, group, and systems levels are dealt with.
520 Minority Issues. Consideration of minorities as related to clinical psychology.

Seminars numbered 550 through 570 may be taken for credit more than once with the consent of the instructor. Variable credit of one to four quarter hours of credit unless otherwise noted.

550 Seminar in Teaching Psychology.
551 Seminar in Experimental Psychology.
552 Seminar in Neuropsychology.
553 Seminar in Personality Research.
555 Seminar in Developmental Psychology.
556 Seminar in Social Psychology.
557 Seminar in Learning and Cognitive Processes. (Prerequisite: PSY 404)
558 Seminar in Advanced Statistics. (Prerequisite: PSY 412.)
559 Seminar in Industrial/Organizational Psychology. (4 hours)
562 Seminar in Family Therapy. (Prerequisite: PSY 574.) (4 hours)
564 Seminar in Clinical Research. (Prerequisites: PSY 476 and 488.)
566 Seminar in Psychopathology.
568 Seminar in Community Psychology. Analysis of theories of community and human behaviors from the standpoint of general systems principles. (4 hours)
Seminar in Program Evaluation. Analysis of major research programs dealing with social and mental health problems with emphasis on epidemiological and socio-clinical research methods. (4 hours)

Seminar in Psychotherapy Research.
All practicum courses numbered 574 through 583 require the consent of the Director of Clinical Training. Six practica courses must be taken for graduation. Pre-practica should be taken Fall, Winter and Spring Quarters of the student's first year. All practica carry 0 credit hours.

Pre-Practicum in Clinical Psychology. May be repeated three times.

Practicum in Clinical Assessment. Supervised experience in intake interviewing, psychological evaluation, and case conference presentation in a clinic, hospital or community agency setting.

Practicum in Clinical Psychology. Supervised experience in diagnostic assessment, intervention planning, psychotherapy and report writing through varied assignments to campus or community agencies.

Practicum in Child Clinical Procedures. Supervised practice in the diagnosis and treatment process of the problems of children and adolescents. May be repeated twice.

Advanced Practicum in Clinical Psychology.

Practicum in Community Mental Health.

Practicum in Special Areas in Psychology.

SPECIAL STUDIES

Thesis Seminar. (0)


Psychological Research. A course involving intensive readings in contemporary psychological literature. (Arranged by prior consultation with the Chairman.)

Colloquium. Required of all graduate students. Lectures by psychologists and members of the faculty. (No credit.)

Internship in Clinical Psychology. (Arranged with consent of Director of Clinical Training.) (No credit.)

Master's Thesis Research. Original investigation of a specific research problem. (1 to 4)

Master's Candidate Research. (Prerequisite: PSY 597) Open to Master's candidates who have fulfilled all requirements for the degree and who are devoting full time to thesis research and study. (0 hours; tuition equal to one four-hour course.)
599  **Dissertation Research.** (1 to 12 hours per quarter)

701  **Resident Candidacy Continuation.** (Prerequisite: Admission to Candidacy) Students admitted to candidacy for the doctoral degree who have completed all course and dissertation registration requirements and who are regularly using the facilities of the University for study and research are required to be registered each quarter of the academic year until the dissertation and final examination have been completed. Non-credit, $388.00 per quarter.

702  **Non-Resident Candidacy Continuation.** (Prerequisite: Admission to Candidacy) This registration provides for doctoral candidates who have been admitted to candidacy who are not in residence and need only occasional use of University facilities, including the libraries. Non-credit, $40 per quarter.
Public Services

Grace Budrys, Ph.D., Director

FACULTY

Professors
Rosemary S. Banran, Ph.D ........................................ Loyola University
Joyce Sweeney, Ph.D ........................................ Northwestern University

Associate Professors
Larry Bennett, Ph.D ........................................ Rutgers University
Grace Budrys, Ph.D ........................................ University of Chicago
Kenneth Fidel, Ph.D ........................................ Washington University
John T. Leahy, S.T.D ........................................ Loyola University

Assistant Professor
Eleanor French, Ph.D ........................................ The Maxwell School, Syracuse University

Lecturers
John P. Barrett, M.S.I.R ........................................ Loyola University
Robert Cassiani, M.S.I.R ........................................ Loyola University
Allan Fine, M.B.A ........................................ City University of New York
William Hay, M.B.A ........................................ DePaul University
Anne C. Keays, M.B.A ........................................ Northwestern University; J.D., Chicago-Kent College of Law
Leo Kreczynski, M.S., J.D ........................................ Northern Illinois University
Marjorie P. Piechowski, Ph.D ................................ University of Wisconsin-Milwaukee
Stanley Tarr, M.B.A., C.P.A ........................................ Northwestern University
Amando Triana, Ph.D ........................................ Northwestern University
PURPOSES

The Management of Public Services Program was created to provide academic training for people interested in developing or enhancing those skills which are necessary to carry out administrative work. The program uses an interdisciplinary approach drawing upon the knowledge bases developed by political science, sociology, and economics. The curriculum reflects a commitment to achieve a balance between a theoretical and an applied approach to the challenge of the administrative work role.

While the skills required to manage organizations in the public sector are becoming largely indistinguishable from skills used in the private sector, the ultimate goals of not-for-profit versus for-profit organizations provide a sharp distinction. The Management of Public Services Program aims to keep this distinction firmly in the forefront in its course offerings. The courses focus on the means which will best achieve the goals that public service, human service, and other not-for-profit organizations aim to achieve.

PROGRAMS

Master of Science Degree in Management of Public Services.

Joint Degree—Master of Science degree in Management of Public Services and Juris Doctor degree in Law.

Certificate in Administrative Foundations in Public Services.

MASTER OF SCIENCE: MANAGEMENT OF PUBLIC SERVICES

Admission Requirements

For full admission, students must have the following: Bachelor's degree conferred by an accredited institution. Grade point average of at least 2.5 on a scale of 4.0. GRE scores are not required; however, if GRE, LSAT, or GMAT scores are available, they may be submitted to strengthen the application. Two letters of recommendation are required. They may be written by a person in a supervisory position at the place of employment or by a faculty member familiar with the individual's work.

Students who have completed their undergraduate education outside of the United States must complete the placement test offered by the English Language Institute at DePaul University before submitting their application materials to the MPS Program.

Prerequisite courses. Fulfillment of these courses is required to achieve full acceptance into the master's degree program. Students who are accepted on a conditional basis maintain this status until the prerequisites are fulfilled.

MPS 402 Financial Foundations of Administration, or equivalent
MPS 403 Economic Foundations of Administration, or equivalent
Degree Requirements

Courses: successful completion of 52 quarter hours of graduate credit. (Each course carries 4 credit hours unless otherwise specified.) Included in this requirement are the following courses:

Core Courses (30 credit hours)

MPS 500 Functions of the Administrator
MPS 507 Information Technology
MPS 533 Management Planning and Control Systems
MPS 540* Bureaucracy, Public Policy, and the American Polity
MPS 553 Organizations
MPS 590 Statistics for Decision Making (2 credit hours)
MPS 598 Research in Administration I
MPS 599 Research in Administration II

*Note: MPS 543, Health Care Policy, may be substituted to fulfill this requirement.

Elective Courses (22 credit hours) These courses are designed to address a content area or to develop an analytical skill. Students are free to choose elective courses according to their interests. A maximum of two courses may be taken in departments other than MPS. Permission of the Director must be obtained prior to registration for such courses in order to ascertain whether or not the course will apply to the student's course of study.

Concentration: Students may focus on one of the following areas of concentration:

I. Content Area Concentrations
   Health Care Administration
   Law Enforcement Administration
   Not-for-Profit Organizational Management
   Public Administration and Public Policy
   Community and Urban Development
   Youth Services Administration

II. Analytical Skills Concentrations
   Financial Planning and Control
   Information Management
   Economic Analysis

Grades: No more than two “C” grades will be accepted in courses leading to the M.S. degree.

JOINT PROGRAM: MANAGEMENT OF PUBLIC SERVICES AND JURIS DOCTOR

The College of Liberal Arts and Sciences and the College of Law offer a joint program of study leading to the M.S. degree in the management of public services and the J.D. degree in law. The joint degree program is available to both day and evening students.

The student is responsible for gaining admission to the College of Law and the MPS Program independently. Once admitted to both degree programs, the student may petition to be accepted into the joint degree program.

In practice, since all first-year courses are required, the student may not take elective courses leading to the joint degree during the first year of study.
CERTIFICATION PROGRAM: ADMINISTRATIVE FOUNDATIONS IN PUBLIC SERVICES

A program leading to a certificate in Administrative Foundations in Public Services is also available. This program is designed for people who wish to pursue course work covering basic administrative skills. College credit is awarded for completion of these courses. The two 500-level courses may be credited toward the M.S. Degree program.

Admission Requirement

For full admission, the student must have a Bachelor’s degree conferred by an accredited institution.

Certification Requirements (12 credit hours)

Courses: successful completion of the following four courses:
MPS 402 Financial Foundations of Administration (3 credit hours)
MPS 403 Economic Foundations of Administration (3 credit hours)
MPS 500 Functions of the Administration (4 credit hours)
MPS 590 Statistics for Decision Making (2 credit hours)

Courses

Courses are conducted on an evening and/or intensive weekend basis. All courses are worth four credit hours unless otherwise indicated.

PREREQUISITE COURSES

MPS 402 Financial Foundations of Administration. An introduction to the discipline of accounting as applied to not-for-profit organizations. (3 credit hours)
MPS 403 Economic Foundations of Administration. Review of basic economic behavior concepts and principles in understanding the development of public services. (3 credit hours)

*Note: MPS 402 and 403 may be taken on a Pass/Fail basis, unless otherwise indicated upon admission to the Program.

CORE COURSES

500 Functions of the Administrator. This course introduces students to the concepts of research and related theory which apply to the administrative process. Traditional administrative function models (decision making, interpersonal relations, goal setting) and administrative skills (planning, organizing, staffing, coordinating, and directing) are reviewed. Alternative models are explored.
Information Systems. Preliminary theoretical understanding of the computer and its applications. Principles of computerization, data base, and management information systems stressed. (Lab fee)

Management Planning and Control Systems. (Prerequisite: MPS 402 or equivalent) Concepts underlying public and non-profit finance; management planning and control methods as well as the budgeting models that accomplish these functions. Also preparation for the financial administration sequence.

Bureaucracy, Public Policy, and the American Polity. Bureaucracy examined as the pervasive means of organizing complex activities in the public and private sectors, and in relation to its utility as a decision-making and implementation structure in the context of other political institutions.

Organizations. (Prerequisites: MPS 500.) Theory and research which focuses on organizational structures and processes, goals, means and success measures as well as organizational problem areas.

Statistics for Decision Making. A review of statistical and analytical techniques most frequently utilized in public sector organizations. Topics include descriptive and inferential statistics, hypothesis testing, prediction theory, and correlational techniques. (2 credit hours)

Research in Administration I. Students are expected to design and carry out a research project based on a problem they have identified. The primary aim of the course is to provide students with sufficient knowledge about scientific research methods to make them well-educated consumers of research.

Research in Administration II. (Sequel to MPS 598.) The final product of this course is a master's paper describing the administrative problem and steps taken to investigate it as outlined in MPS 598. (Lab and Binding fees.)

CONCENTRATION COURSES

(To be taken concurrently with or upon completion of core courses.)

Management Control for Non-Profit Organizations. (Prerequisite: MPS 553) Relationship of accounting information to the management functions of planning and control. Emphasis on management techniques and decision models which aid in the financial planning and control functions.

Budgeting and Program Evaluation. (Prerequisite: MPS 533) Pragmatic approach to resource allocation and budget preparation methods; the preparation and presentation of an actual budget document.

Operations Research. (Prerequisite: MPS 507) Advanced treatment of scientific management and operations research. Techniques include linear and non-linear programming, simulation models, etc. Each technique examined and applied to practical case studies. (Lab fee)

Advanced Statistics. (Prerequisite: MPS 590) Study of the various sampling distributions, the use of testing hypotheses, and the concept of power of a test, as well as non-parametric methods utilized in solving management problems. Computerized packages will be utilized. (Lab fee)

Human Relations. The primary focus is on human, as opposed to technological, aspects of administration. Research on small group processes and related administrative techniques is reviewed.
Public Sector Financial Administration. (Prerequisite: MPS 509 and consent of Director) A budgeting laboratory. Topics include the sources of revenue and the nature of expenditures for governmental, not-for-profit, and other public sector institutions.

Monetary and Debt Management. (Prerequisite: MPS 533) Examination of cash management principles and administration of government debt, the various financing methods, as well as the market for public sector issues.

Administrative Processes and Organizational Structure of Health Care Organizations. (Cross-listed with SOC 435) A case-study approach focusing on the relationship between structure and process given the variation between the clinical and administrative approaches to issues presented in the case materials.

Planning for Organizational Growth. The course is designed to provide an understanding of the interface between strategic planning and marketing as related to non-profit organizations. The course outlines skills needed to integrate these activities at the level of strategy, development, implementation, and evaluation.

Personnel Theory and Practice. General and special managerial functions of the personnel department and its relationship to other organizational functions. Particular emphasis on human resource planning and development.

Organization Development. The course addresses organizational structures and processes and the values and behaviors of the people who work within them. The emphasis is on the role of the administrator in improving the quality of life in organizational environments and organizational effectiveness.

Wage and Salary Administration. Topics included are methods of job evaluation for management and non-management positions, appraisal of personnel performance, construction of wage scales, fringe benefits, and related court decisions, as well as development of benefit packages.

Administrative Case Analysis. (Prerequisite: completion of at least four core courses) This course simulates administrative problem-solving situations using a case analysis format. Cases are used based on a variety of problems that regularly confront administrators. The experience involves learning to identify the basic problems, gather relevant background information, and evaluate the potential effects of possible courses of action.

Marketing for Service Organizations. (Prerequisite: MPS 500) This course explores the resources and constraints of not-for-profit service organizations regarding their marketing responsibilities, and discusses the formulation of marketing strategy particularly useful to them.

Intergroup Relations. Complexities of selected groups and their problems. Consideration of the social and economic adjustments for racial, ethnic, and religious groups, and the current proposals for the reduction of intergroup tensions. Specific areas of interest may include minority groups, equal opportunity employment issues, lobbying and interest groups, as well as labor relations.

Industrial Psychology. Application of the psychological principles of learning, perception, and adjustment to work. Special attention to personnel placement and selection, motivation and morale, training, and introduction to human engineering.
Human Resource Administration in Health Care Organizations. Analysis of various personnel and industrial relations functions as they affect the human resource component of health care organizations and the role of a human resources department in such organizations.

Health Care Delivery Systems. (Cross-listed with SOC 437) Examination of systems which provide health services. Comparative analysis made of the evolution of health care systems on local, national, and international levels; the effects of social policy in health care delivery systems also included.

Determinants of Public Policy. (Cross-listed with PSC 320) Examination of the process of public policy making. Considers the context which limits the range of possible policy options, and details the structure of the policy process. Case studies of specific public policies used to illustrate how the process works.

Policy Analysis. (Cross-listed with PSC 322) Problems of measuring the impact of public policies. Examination of the commonly used means of evaluating public program impacts, with emphasis placed on their respective strengths and weaknesses. In addition, consideration of the role of policy analysis in the policy making process, and hence the political implications of policy analysis.

Health Care Policy. Development of state and national health legislative policy and a survey of the current private, state, and federal policies. Analysis of such major policy areas as private reimbursement, planning access to care, cost containment, manpower development, research, and prevention.

Law Enforcement Policy Issues. (Cross-listed with SOC 440) Theory, application, and impact on policies in criminal law on police, corrections, and the courts.

Policies and Urban Development. (Cross-listed with SOC 426) Sequel to MPS 555 (SOC 425). Community agencies viewed as problem-solving organizations. Concentration on the impact of state and local governments on community organizations and how community organizations influence social policy.

Planning, Policy, and Politics. (Cross-listed with PSC 329) Public planning explored as a particular component of the policy-making process. Examples drawn from the United States as well as from other political systems. Attention directed to particular substantive fields; also discussion of the relationship between planning and the broader dimensions of the particular economy.

Medical Sociology. (Cross-listed with SOC 431) Overview of health-seeking behavior focusing on the population receiving health care services, those providing services, and the organizational settings in which services are delivered.

Management of Training and Development. Methods utilized to identify training needs and certain principles necessary to develop and manage in-service training programs. Major topics include needs assessment, curriculum design and planning, and general supervision of instruction.

Law and the Human Services. An understanding of the laws related to fair treatment of personnel. Introduction to the variety of social and legal issues involved in the dimension of work. Various topics will be considered.
Principles and Practices of Supervision. Supervision viewed from a human resources perspective, dealing with motivation, responsibility, and success at work as means to intrinsic satisfaction.

Urban and Community Analysis. (Cross-listed with SOC 422) Quantitative analysis of urban issues including social area analysis, patterns of segregation, neighborhood change, and other selected topics.

Strategies of Community Organizations. (Cross-listed with SOC 425) Strategies and techniques used in the formation and process of community organizations. Primary conceptual emphasis from sociology, but a considerable interdisciplinary content included: application of social science knowledge to bring about social change.

Law Enforcement and Community Relations. (Cross-listed with SOC 444) Cross-cultural analysis of the policies and practices of law enforcement agencies and their impact on the communities they serve.

Medical Economics. Addresses the financing and delivery of health care services. Also discussed are public policies for economic efficiency and equity in the distribution, cost, and quality of health care services. The role of profit in health care organizations is also considered.

Labor Relations and Government Policy. Examination of legal requirements and constraints which affect the collective bargaining process. Emphasis upon the historical background of labor law and on the Supreme Court decisions affecting the application of these laws to labor relations. Review of present public policy regarding labor law and its impact on services.

Law and Administration of Justice. (Cross-listed with SOC 443) Analysis of legal systems and their implementation: jurisprudence and its role in the development and change of legal systems; role of the courts and the police as related to community social problems.

Crime, Delinquency, and Systems of Correction. (Cross-listed with SOC 442) Study of major criminological theories and their application to systems of corrections.

Institutional Reaction to Deviants. (Cross-listed with SOC 447) Examination of the social organization of the societal response to individuals labeled as deviant. Acquaints the student with the sociological examination of deviant processing institutions and familiarizes the student with the major conceptual frameworks which explain the functioning of such institutions and which assess the consequences of such processing.

Youth Services, Health, and Welfare. (Cross-listed with SOC 434) Review of research on various youth problems (e.g., substance abuse, pregnancy, runaways) and consideration of efforts at amelioration and control.

Sociology of Youth. (Cross-listed with SOC 461) Critical analysis of literature on non-delinquent youth; focus on the social contexts within which the transition to adulthood occurs.

Youth Service Delivery Systems. (Cross-listed with SOC 436) Consideration of the current state of youth services in Illinois. Analysis of the administration of agencies and their programs: program design, the funding process, intervention strategies.

Systems Analysis and Design. First part of a two-course sequence on the basic tools of general systems methodology: Analytical skills and problem-solving ability on a theoretical basis in dealing with systems analysis, managing systems facilities, and basic systems techniques.
Advanced Systems Techniques. (Prerequisite MPS 574) Application of general systems methodology to project planning. A very pragmatic approach taken to develop solutions to various situations. Case studies utilized in developing the student's problem-solving abilities.

Problems in Systems Design and Management. Prepares student to integrate users with the systems functions in understanding organizational constraints as applied to an overall computer system. Emphasis placed on special topics of planning and managing a component of a larger system. Course stands alone from the other systems courses in developing project plans.

Special Topics. (2 credit hours)

Communications for Managers: Current Theory and Practice. This course is designed to develop writing skills used in administrative work. Emphasis on purpose, organization, tone; effective proposal and report writing. (2 credit hours)

Community Needs Assessment. Use of census data to develop demographic profiles of the community, identify community resources, and determine community needs for specific services. (2 credit hours)

Ethics in Administration. Problems faced by administrators which introduce an ethical dimension into the decision-making process. Alternatives identified and implications for action are discussed. Case materials used. (2 credit hours)

Seminar in Administration: Special Topics.

SPECIAL STUDIES COURSES

Independent Study. (Prerequisite: consent of program director) Special topics chosen for study. A project/practicum report: the culmination of either a study done in a work setting or library-based research. (Variable credit)

Internship. Supervised work experience during one or more quarters. Focus on management skills in an organizational setting. This course may be taken as an elective course. (Variable credit)

Candidacy Continuation. Required of all students who are not registered for regular courses but who occasionally utilize University facilities during completion of course requirements and/or research. Non-credit, $40.00 per quarter.
Rehabilitation Services

William A. Calzaretta, Ph.D., Program Director

FACULTY

Associate Professor

William A. Calzaretta, Ph.D., C.R.C ...................... Northwestern University

Lecturers

Harry Allen, Ed.D ........................................... University of Arkansas
Gary Austin, Ph.D ........................................... Northwestern University
James Bitter, Ed.D ........................................... University of Northern Colorado
James E. Bodner, Ph.D .................................... Illinois Institute of Technology
Carol A. Calzaretta, M.M .................................. Northwestern University
James Ciecka, Ph.D ......................................... Purdue University
Alex Devience, J.D .......................................... Loyola University
Jerry Dincin, Ph.D .......................................... Northwestern University
Donald Galvin, Ph.D ........................................ University of Michigan
Peter Griswold, M.A ....................................... Michigan State University
Norman Grunewald, M.S ................................... DePaul University
William Hay, M.B.A ........................................ DePaul University
Donald Jackson, M.S ....................................... DePaul University
Cathy Lobo, Ph.D ........................................... Northwestern University
Janes Lundstrom, M.S ..................................... DePaul University
Herman Muro, Ph.D ......................................... New York University
Diane Neuhauer, M.B.A .................................... Loyola University
John Newman, Ph.D ........................................ Emory University
Donald Olson, Ph.D ........................................ Northwestern University
Louis Pansino, Ed.D ......................................... University of Illinois
Dominic Parisi, Ph.D ....................................... Northwestern University
Majorie P. Piechowski, Ph.D ............................... University of Wisconsin
William Salyers, Ed.D ..................................... University of Indiana
Alfred Slicher, M.A .................................. Northwestern University
Marvin Spears, M.A .................................. University of Minnesota
Stanley B. Tarr, M.B.A., C.P.A. ................. Northwestern University

Professor Emeritus
William Gellman, Ph.D. .......................... University of Chicago

PURPOSES

Programs are offered in rehabilitation services to qualified students to provide:
the knowledge and skills required to manage, supervise, and administer the varying
rehabilitation facilities developing the vocational and personal competencies of dis-
abled persons; the training of men and women to meet the standards of professional-
ism in the field.
Four core areas of concentration provide the foundation necessary to develop well-
prepared professionals in the rehabilitation field:
Programmatic: Provision of services to rehabilitate disabled persons.
Resource Utilization: Organization of resources such as staff, board of directors, fund-
ing sources, and rehabilitation research for effective management.
Community: Interagency collaboration leading to the development and use of com-
munity resources and the formation of rehabilitation facility/agency networks.
Planning: Use of socioeconomic data and current trends in legislative, professional
and advocacy areas to plan for effective rehabilitation facility programs, and the
professional development of staff within the rehabilitation profession.

PROGRAMS

Certifications
Rehabilitation Facility Administration Psychosocial Rehabilitation

Master of Science
Management of Rehabilitation Services

CERTIFICATION: REHABILITATION FACILITY ADMINISTRATION

May be taken by persons not entering the degree program.
Designed to provide students with a background in accounting, economics, manage-
ment, and the legal and philosophical fundamentals of rehabilitation.

Admission Requirements

Employment in a related rehabilitation work setting and/or Program Director approval.
Certificate Requirements

Courses (twelve quarter hours)
RSA 402 A&B  Introduction to Rehabilitation Philosophy (3 credit hours)
RSA 403 A&B  Organization and Managerial Foundations (3 credit hours)
RSA 406 A&B  Economic Principles for Social Service and Personnel Administration (3 credit hours)
RSA 407 A&B  Business Law and Accounting—Principles in the Not-For-Profit Organizations (3 credit hours)

Note: A student may request in writing a waiver of three to six quarter hours of credit, based upon previous academic coursework taken within the last six years. The request must be submitted at time of application or at least four weeks prior to the first scheduled class meeting. Official course descriptions from an accredited institution must accompany all requests and official transcripts must be forwarded to the department.

CERTIFICATION: PSYCHOSOCIAL REHABILITATION

May be taken by persons not entering the degree program.
Designed to provide rehabilitation professionals with training in the practice and theory of the psychosocial approaches for psychiatrically disabled persons.
New students seeking careers in this area will be provided with the fundamentals necessary for a successful pursuit of a degree program.

Admission Requirements

Employment in a related rehabilitation work setting and/or Program Director approval.

Certificate Requirements

Courses (twelve quarter hours)
RSA 410 A&B  Psychosocial Rehabilitation Foundations I (6 credit hours)
RSA 412 A&B  Psychosocial Rehabilitation Foundations II (6 credit hours)

MASTER OF SCIENCE: MANAGEMENT OF REHABILITATION SERVICES

Admission Requirements

For full admission, student must have the following:
Bachelor’s degree conferred by an accredited institution

Degree Requirements

Courses: 48 quarter hours (core courses), 6 quarter hours (independent study research courses).
Successful completion of the certificate course requirements in Facility Administration, or their equivalent is a prerequisite.
Core Courses:

RSA 638 Computer Utilization and Introduction to Management Sciences in Rehabilitation
RSA 639 Fiscal and Human Resource Management
RSA 640 Theories and Concepts in Rehabilitation Practice
RSA 641 Management Theories and Concepts
RSA 642 Rehabilitation Programming: Principles and Practices
RSA 643 Managerial Principles and Practices
RSA 644 The Supervision of Programs and Staff
RSA 646 Rehabilitation Clients: The Hidden Disabilities
RSA 647 Research Methods and Statistics in Rehabilitation Administration
RSA 648 Rehabilitation Clients: The Self Evident Disabilities
RSA 650 Social Psychology of Rehabilitation Administration
RSA 653 Program Evaluation and Funding in Rehabilitation
RSA 655 The General Management of the Rehabilitation Facility
RSA 657 Job Placement Strategies and Technical Communication in Rehabilitation
RSA 691 Management Seminar in Advanced Organization Concepts
RSA 692 Rehabilitation Seminar: Emerging Issues and Trends

Note: Degree students, with the written consent of the Program Director, may waive one or two of the core courses and replace them with other rehabilitation courses.

Special Studies Courses

RSA 660 Topics in Rehabilitation Research
RSA 661 Selected Topics in Rehabilitation Research
RSA 662 Candidacy Continuation

Master's Project: Completed under the guidance of a departmental faculty advisor.

Note: Detailed information on the above Certificate/Degree requirements and program policies is listed in separate departmental brochures. They may be obtained from the department.

Schedules for Completing Programs

Students may choose to complete the certificate or degree programs through either an Intensive or a Day schedule.

Intensive Schedule

This schedule accommodates the educational goals of working students who reside in the Rehabilitation Services Administration Federal Region V.

Off-campus intensive schedules are often available locally and regionally.

A course offered on an intensive schedule covers a 10-week period, but contains only six days of actual class meetings. Students receive a syllabus prior to the class meetings. The first weeks of the quarter are devoted to independent reading and preparation as recommended by the instructor. The class then meets for 2 three-day sessions in Chicago, at the University or in other off-campus locations locally or regionally.

Typical length of time for completion of the degree program on the intensive schedule is 10 quarters or 2 ½ years. Each course, offered on the intensive schedule, carries three quarter hours of academic credit and is the full academic equivalent of a 10-week resident course. Entry into intensive schedules (both on and off-campus) is typically in the autumn and spring quarters of the academic year.
Day Schedule

The day schedule offers a six quarter in-residence program designed for full-time students. Entry into the full-time day schedule is annually; typically, classes commence in the autumn quarter and are scheduled contingent on enrollment demands.

NON-DEGREE

For non-degree students who wish to increase their knowledge and expertise in the field of rehabilitation, credit for designated courses is available.

Admission Requirement

Program Director approval.

Courses Available

All courses listed below are four hours of credit unless otherwise specified.

RSA 100 Human Potentials Seminar
RSA 611 Family Systems and Disabilities
RSA 612 Gerontological Rehabilitation
RSA 614 Rehabilitation Client Populations
RSA 615 Marketing Strategies in Rehabilitation
RSA 616 Principles and Practices of Private Rehabilitation
RSA 654 The Cornell Management Game (3 credit hours)

Professional Development Seminar Series

Today's rehabilitation professional is faced with a rapidly changing work environment. Faced with changing federal laws and programs, advancing medical and engineering technology, changing funding priorities, and increasingly complex management problems, rehabilitation professionals want educational programming which will keep them abreast. The Professional Development Seminar Series offered by DePaul University provides one and two day seminars on topics responding to current trends and issues to Rehabilitation. Registration fees vary by seminar.

Commission on Rehabilitation Counselor Certification Continuing Education Units are offered in all CRCC approved seminars. To be added to the mailing list for all Series brochures, contact the Rehabilitation Services Program.
Unless otherwise stated, all courses are three credit hours.

CERTIFICATE COURSES: REHABILITATION FACILITY ADMINISTRATION

RSA 402 A&B  Introduction to Rehabilitation Philosophy. A review of the historical and philosophical foundations of rehabilitation. Emphasis is on the development of societal values, attitudes, and beliefs as applied to disabled individuals. A descriptive overview of the federal/state rehabilitation system is provided.


RSA 406 A&B  Economic Principles for Social Services and Personnel Administration. A—An introduction of basic economic behavior concepts and principles in understanding the development of welfare services in general and rehabilitation in particular. B—Personnel Administration—The structure, role and techniques of the personnel organization in recruitment, selection, placement, job analysis and job description are reviewed.

RSA 407 A&B  Business Law and Accounting Principles for the Not-For-Profit Organization. A—Business Law—The fundamental principles of law pertaining to business, not-for-profit organizations, unions and government regulations and ethics, are examined and applied to the rehabilitation setting. B—Accounting Principles—Accounting concepts and fundamentals applied to the not-for-profit organization.

Note: The above courses or their equivalent, are required to meet the admission requirements for the master's degree program in the Management of Rehabilitation Services.

CERTIFICATE COURSES: PSYCHOSOCIAL REHABILITATION

RSA 410 A&B  Psychosocial Rehabilitation Foundations I. An introduction to theories and concepts of psychosocial rehabilitation. (6 credit hours.)

RSA 412 A&B  Psychosocial Rehabilitation Foundations II. A survey of the principles and practices of psychosocial rehabilitation. A pre-practicum designed as an on-site experience is required in this course. (6 credit hours)
DEGREE COURSES:

When prerequisites are stated, an equivalent course taken elsewhere is acceptable upon written consent of the Program Director.

RSA 611 Family Systems and Disabilities. A study of systems theory applied to the current practice of identifying and assessing family interactional patterns with disabled family members. (4 credit hours)

RSA 612 Gerontological Rehabilitation. Selected theories of psychosocial aspects of aging. Such concerns as stress reactions to retirement, physical disabilities, impact of reduced economic resources, and other personal-social changes in aging are reviewed. Topics will address the knowledge needed by students concerned with rehabilitation of aging clients in institutional, community, and home settings. (4 credit hours)

RSA 613 Strategies for Job Placement. Designed to prepare rehabilitation personnel in the development of job placement and job readiness programs within the Rehabilitation process. (4 credit hours)

RSA 614 Rehabilitation Client Populations. Principles and practices of rehabilitation programming relative to the care and treatment of special populations. (4 credit hours)

RSA 615 Marketing Strategies in Rehabilitation. This course explores the resources relevant to Rehabilitation programs and not-for-profit organizations in general. The formulation of marketing strategies are discussed. (4 credit hours)

RSA 616 Principles and Practices of Private Rehabilitation. The goals, objectives, methods, and techniques used in private for-profit rehabilitation are studied. (4 credit hours)

RSA 638 Computer Utilization and Introduction to Management Sciences in Rehabilitation. (Prerequisite: RSA 647 or equivalent) The use of the computer in Facility Administration and the quantitative methods for decision-making in management are explored.

RSA 639 Fiscal and Human Resource Management. (Prerequisite: RSA 407 or equivalent) A—Fiscal Management—the relationship of accounting information to management control, accounting techniques, budgeting, and fiscal administration are examined. B—A seminar with emphasis placed on the human factor in the rehabilitation process. Specifically, behavioral decision making, motivation, accountability, wage and salary administration and labor relations are addressed.

RSA 640 Theories and Concepts of Rehabilitation Practice. (Prerequisite: RSA 402 or equivalent) An examination of the philosophical, behavioral, and cultural foundations of rehabilitation practice.

RSA 641 Management Theories and Concepts. (Prerequisite: RSA 403 or equivalent) A critical review of management theories and the underlying management philosophy. A specific emphasis will be placed upon the consideration of current trends related to the management of an organization's social and community responsibility to disabled persons.

RSA 642 Rehabilitation Programming: Principles and Practices. The goals, objectives, methods, and techniques used in rehabilitation programs are studied.

RSA 643 Managerial Principles and Practices. (Prerequisite: RSA 641 or equivalent) Operation systems, employing the case method; development of analytical skills and problem-solving ability; administrative management operations, concepts, and philosophies are studied.
RSA 644 **The Supervision of Programs and Staff.** A study of the administrative, programmatic and professional aspects of supervision.

RSA 646 **Rehabilitation Clients: The Hidden Disabilities.** This course will provide basic medical and psychosocial information about the impact of the hidden disabilities.

RSA 647 **Research Methods and Statistics in Rehabilitation Administration.** Formulation of empirical questions, basic design, statistical methods, and the utilization of research in rehabilitation will be explored.

RSA 648 **Rehabilitation Clients: The Self Evident Disabilities.** This course will provide basic medical and psychosocial information about the impact of self-evident disabilities.

RSA 650 **Social Psychology of Rehabilitation Administration.** Contemporary issues in management and rehabilitation will be examined within the context of human interaction.

RSA 653 **Program Evaluation and Funding in Rehabilitation.** A study of the methods used in planning and evaluating rehabilitation programs. Fund raising in the not-for-profit sector will be explored.

RSA 654 **The Cornell Management Game.** A seminar employing the technique of learning by discovery. Computerized experiences focus on the decision-making processes of the rehabilitation facility manager.

RSA 655 **The General Management of the Rehabilitation Facility.** The problems of marketing, contract procurement, operations, production management, and budgeting within a public sector framework are critically examined.

RSA 657 **Job Placement Strategies and Technical Communication in Rehabilitation.** A—Principles and practices in programming associated with job placement of disabled individuals are examined. B—Technical Communication in Rehabilitation—Fundamentals of the writing skills applicable by rehabilitation administrators and supervisors.

RSA 691 **Management Seminar and Advanced Organization Concepts.** Emphasis on analyzing the tasks and problems encountered in managing rehabilitation agencies and facilities. An examination is made of the current issues confronting management.

RSA 692 **Rehabilitation Seminar: Emerging Issues and Trends.** Identification and examination of emerging trends and issues in the field of Rehabilitation are studied.

**SPECIAL STUDIES COURSES**

RSA 100 **Human Potentials Seminar.** This seminar is designed as a structured group process, and focuses on the identification of individual personal resources. To accomplish this, the student is assisted in discovering his or her personal and vocational goals.
RSA 660 **Topics in Rehabilitation Research.** (Independent Study) A research oriented course which allows the student to work independently under the guidance of the instructor, to review existing literature pertaining to the Management of Rehabilitation Programs and the development of a M.S. project topic.

RSA 661 **Selected Topics in Rehabilitation Research.** (Independent Study) Continued supervised investigation of the student's identified M.S. project. (Binding fee required.)

RSA 662 **Candidacy Continuation.** This registration provides for degree-seeking students who have been admitted to candidacy who are not enrolled in a course in a given quarter and need occasional use of the University facilities. Required of all students completing previous course requirements and/or M.S. project research. (Non-credit)
Sociology

Charles S. Suchar, Ph.D., Chairman

FACULTY

Professors
Rosemary Bannan, Ph.D.....................................................Loyola University
Roberta Garner, Ph.D.....................................................University of Chicago
Joyce Sweeney, Ph.D......................................................Northwestern University
Deena Weinstein, Ph.D....................................................Purdue University

Associate Professors
Therese Baker, Ph.D.......................................................University of Chicago
Judith Bootcheck, Ph.D..................................................Purdue University
Grace Budrys, Ph.D......................................................University of Chicago
Kenneth Fidel, Ph.D.......................................................Washington University
John Koval, Ph.D..........................................................University of Oregon, Eugene
Robert Rotenberg, Ph.D..............................................University of Massachusetts at Amherst
Charles Stevens, Ph.D..................................................Northwestern University
Charles Suchar, Ph.D....................................................Northwestern University

Lecturers
Noel Barker, M.A........................................................University of Illinois, Urbana
Catherine Ryan, J.D......................................................Northwestern University

Emeritus
Lavinia Raymond, Ph.D................................................University of Sao Paulo
PURPOSE

The purpose of the graduate program in Sociology is to enable students to study sociological principles, ways of knowing, and sociological findings in areas of current interest and commitment. The one required course for all students, Sociological Perspectives, gives an overview to both the theoretical and methodical issues which guide the discipline.

Three specialized areas offer more detailed training in applied sociology; Urban Studies; Law and Society; and Health and Human Services with a special emphasis on Youth Services. As an alternative to specialized training, the student may develop a program in general sociology.

Training at the master's level in sociology is applicable to employment in such areas as law enforcement, corrections services, urban planning, public and private administration, health and welfare services, youth services, community organizations, and education.

A limited number of assistantships and traineeships are available to graduate students, as well as internships. Additional information is available upon written request to the Chairperson, Department of Sociology.

MASTER OF ARTS: SOCIOLOGY

Admission Requirements

For full admission, students must have the following:
Bachelor's degree.
The Department accepts as graduate students only those who show definite promise for completing the requirements for the advanced degree. Preference is given to applicants who have had undergraduate study in social science, who are currently employed in jobs related to the Department areas of specialization, or who have an expressed interest in these specialized areas.

One page written statement describing the applicant’s reason for wishing to undertake graduate study in sociology is required.

Degree Requirements

There are three options in the Master of Arts in Sociology program:

Master of Arts in Sociology with Essay

SOC 405 Sociological Perspectives
Eleven additional courses. Students must complete 44 hours in courses from specialized areas.

Essay: A literature review or analytical essay indicating mastery over a body of literature. It should be prepared in conjunction with one of the specialized courses.
Master of Arts in Sociology with Research Project

SOC 405 Sociological Perspectives
SOC 411 Logic of Research Design and Evaluation
SOC 412 Data Analysis (A course in Qualitative methods may be substituted for Soc 412.)

Nine additional courses. Students must complete 36 hours in courses from specialized areas.

Research Project: Students will design and carry out a research project and prepare a final research report in the two-quarter methods sequence.

Master of Arts in Sociology with Thesis

SOC 405 Sociological Perspectives
SOC 411 Logic of Research Design and Evaluation
SOC 500 Thesis Research I
SOC 501 Thesis Research II

Eight additional courses. Students must complete 32 hours in courses from specialized areas.

Thesis: The design for the thesis project may be set up in SOC 411. A student must select an advisor and together they will set up a committee of three faculty. A thesis proposal hearing is required at the commencement of the project and an oral presentation at its completion.

INTERNSHIPS

Students are encouraged to serve as an intern in an organization or institution in order to undertake a study in conjunction with a research, administrative, or counseling position. Students should see the internship coordinator and register for SOC 498.

ADVANCED UNDERGRADUATE COURSES

Graduate students may take 300-level undergraduate courses for graduate credit with permission of the Chairperson. A graduate student in an advanced undergraduate course must receive an "A" or "B" to obtain graduate credit.

The Sociology Department offers advanced undergraduate courses in the areas of law and society, urban studies, social services, juvenile justice, and foundations of sociology. Please refer to the Undergraduate Bulletin for the complete listings.

GRADUATE COURSES

All courses carry four quarter hours of credit unless otherwise noted.

Core Courses:

405 Sociological Perspectives. Examines sociological theories, methods and concepts through a study of the work of contemporary sociologists.
Methods Courses:

411 Logic of Research Design and Evaluation. Selection of research strategies and methods for carrying out a research project. Research methods include survey design, experiment and quasi-experimental approaches for assessing the consequences of social programs. Research proposal formulated. (Cross-listed with MPS 598.)

412 Data Analysis. The implementation of a research project. Analytic techniques, data processing, and the preparation of a written research report. (Cross-listed with MPS 599.)

Sociological Background

240 Introductory Statistics for the Social Sciences. (Prerequisite: MAT 101 or two years of high school math or consent of instructor) Presentation and description of data, contingency table construction and interpretation, introduction to multivariate analysis, correlation and hypothesis testing. This course is desirable for students who have not had a previous statistics course. It does not carry graduate credit.

401 Sociological Theory: Concepts and Perspectives. Introduction to the major theories of sociology in the development of the discipline. Desirable for students taking essay option.

Courses in Specialized Areas

Urban Studies

420 Urban Sociology. Introduction to advanced level studies in applied urban sociology: contemporary urban theory, research, and policy issues.

422 Urban and Community Analysis. Quantitative analysis of urban issues including social area analysis, patterns of segregation, neighborhood change, and other selected topics. (Cross-listed with MPS 554.)

423 Urban Cultural Areas. Ethnological approach to urban life stressing the qualitative analysis and evaluation of different types of urban communities, community organizations, and urban life styles.

424 The Sociology of Housing. An in-depth approach to a major urban issue with a focus on federal and Chicago-area policies.

425 Strategies of Community Organizations. Strategies and techniques used in the formation and process of community organizations. Primary conceptual emphasis from sociology, but a considerable interdisciplinary content included; an application of social science knowledge to bring about social change. (Cross-listed with MPS 555.)

426 Policies and Urban Development. (Sequel to SOC 425.) Community agencies viewed as problem-solving organizations. Concentration on the impact of state and local government on community organizations and how community organizations influence social policy. (Cross-listed with MPS 545.)

Other courses recommended for students in this area include Intergroup Relations, Social Deviation and Collective Behavior.
Health, Education, and Welfare

430 Medical Anthropology. Issues in the health care fields arising from cultural diversity in the clinical context. Topics include culturally-based theories of disease and treatment-expectations, ethnic differences in locating symptoms and responding to pain and problems of intercultural communication.

431 Medical Sociology. Analysis of the social system of health care: practitioners, organizations, patients, and their multiple interrelationships. An evaluation of problems in health care delivery systems. (Cross-listed with MPS 547.)

432 Social Services in Contemporary Societies. Analysis of the concept of welfare evaluation of the social organization of welfare and the problems of welfare service systems. The interrelationships between welfare and the family, employment, health and crime are explored.

433 The Sociology of Education. Analysis of educational organizations and their effects—including characteristics of institutional structures, teaching as an occupation, and the relationship between educational attainment and social mobility.

434 Youth Services: Health and Welfare. Review of research on various youth problems (e.g., substance abuse, pregnancy, runaways) and consideration of efforts at amelioration and control. (Cross-listed with MPS 565.)

435 Administrative Processes and Organizational Structure of Health Care Organizations A case study approach emphasizing the interaction of the clinical, administrative, and other components of the health care team, the formulation of policy, and the control and distribution of resources. (Cross-listed with MPS 517.)

436 Youth Service Delivery Systems. Consideration of the current state of youth services in Illinois. Analysis of the administration of agencies and their programs: program design, the funding process, intervention strategies. (Cross-listed with MPS 567.)

437 Health Care Delivery Systems. Consideration of the current state of health care delivery in the United States, the growth and projected direction of health care in the future. Implications of national policy on local delivery; cross-national comparisons and economic conditions will be considered. (Cross-listed with MPS 537.)

Other courses recommended for students in this area include Sociology of Youth, Socialization, Social Deviance, Sex Roles, and Social Inequality.

Law and Society

440 Law and Social Science. Analysis of the American legal system as an instrument of social control, social change, and social reform. The impact of social science research on public policy decisions.

442 Crime, Delinquency and Systems of Correction. Study of major criminological theories and their application to systems of corrections. Present trends at federal, state, city, and private correctional institutions. (Cross-listed with MPS 563.)

443 Law and Administration of Justice. Analysis of legal systems and their implementation; jurisprudence and its role in the development and change of legal systems; role of the courts and the police as related to community social problems. (Cross-listed with MPS 562.)
Law Enforcement and Community Relations. Examination of the policies and practices of law enforcement agencies and personnel and their impact on the communities they serve. (Cross-listed with MPS 556.)

Law Enforcement Policy Issues. Theory, application, and impact of policies in criminal law on police, corrections, and the courts. (Cross-listed with MPS 544.)

Institutional Reaction to Deviants. Examines theories and research on the social organization of institutions that label and process deviants. (Cross-listed with MPS 564.)

Other courses recommended for students in this area include Intergroup Relations, Social Deviation and Collective Behavior.

General Electives

Social Policy and Social Change. Examines the process of policy-making and the effects of policies on individuals, organizations, and communities.

Information Systems and Society. Examines the societal impact of information systems and computer technology. A social scientific perspective for comprehending technologically induced social change at the level of the larger social system and in terms of the life styles and careers of individuals in society.

Advanced Statistics I. An introduction to sample spaces, random variables, distributions and parametric statistics, sampling, and the concept of sampling distribution. (Cross-listed with PSY 410.)

Advanced Statistics II. Point estimation procedures are developed for a variety of parameters. Interval estimation and hypothesis testing are compared. Linear regression, correlation, and analysis of variance are studied. (Cross-listed with PSY 411.)

Sociology of Youth. Critical analysis of literature on non-delinquent youth; focus is on the social contexts within which the transition to adulthood occurs. (Cross-listed with MPS 566.)

Socialization. A synthesis of relevant psychological and sociological perspectives relating to the individual's acquisition of patterns of behavior and culture in social groups.

Social Psychology. The influence of group life on personality development, social interaction, and social behavior.

Social Inequality. An analysis of inequalities in power, wealth, and prestige with an emphasis on the concept of social class, trends in social mobility, and relationships to current social topics such as housing, welfare, and political participation.

Intergroup Relations. Theoretical perspectives on minority groups emphasizing processes of group formation, patterns of prejudice and discrimination, and an evaluation of methods to reduce prejudice and/or discrimination.

Collective Behavior. Study of social trends, social movements, communications, and crowd behavior. Emphasis on processes of social change, includes examination of historical and cross-cultural case material.

Organizations. The functioning, premises, and consequences of formal organizations will be considered using a variety of perspectives. (Cross-listed with MPS 553.)
SOC 468 Social Deviation. An analysis of the various theoretical positions and findings in the sociology of deviant behavior, emphasis upon such topics as the labeling of deviants, the analysis of deviant careers, patterns of deviant socialization, and the roles of agents or agencies of social control.

SOC 469 Middle Age and Aging. A look at the changing age composition of the population; meaning and societal definition of aging, the different types of responses to growing older, and the various Social Programs designed for the aged.

SOC 470 Sex Roles. Attention to the growing literature and empirical research on changing patterns in economic, psychological, and social outcomes for women and men. Consideration of various theories of sex differentiation and inequality.

SOC 471 Sociology of Knowledge. An analysis of the social forms of knowledge and the social processes by which individuals acquire this knowledge. The institutional organization and social distribution of knowledge.

SOC 472 Sociology of Religion. An historical and contemporary analysis of the interrelationship between religion and society. Emphasis upon the sacred-secular and church-sect typologies, new religious movements and religion's contributions to societal values, beliefs and meaning systems.

SOC 473 The Dilemma of the Modern Age. The crisis of the individual's place in society and in the world itself—the dilemma of modernity—is exposed through Social Science, Philosophy, Literature, Art, and Music. The distinctive features of and responses to modern culture—individualism, alienation, and depersonalization—are illuminated through the multiple perspectives that form the modern mind. (Cross-listed with MLS 460)

SOC 490 Afro-American Culture. Intended for teachers in order that they may examine the contributions of the black community to American culture; gain a functional understanding of the social, economic and political development of blacks in America; gain an insight into problems created in America because of non-acceptance relationships. (Cross-listed with EDU 450.)

SOC 495 Special Topics in Sociology. Special courses will be offered as students and faculty identify selected topics of common interest.

SOC 498 Internship. Students may be placed with agencies where they will have the opportunity to participate in activities such as research and counseling. Credit may vary but is subject to the limit of eight quarter hours.

SOC 499 Independent Study.

Thesis Research

SOC 500 Thesis Research Seminar. The thesis research should culminate in the acceptance of a thesis proposal.

SOC 501 Thesis Research. The student works independently toward the completion of the thesis.
The Vincentian Character of DePaul University

DePaul, a Catholic university, takes its name from St. Vincent DePaul. The religious community founded by Vincent, commonly known as “Vincentians,” opened the university and endowed it with a distinctive spirit: to foster in higher education a deep respect for the God-given dignity of all persons, especially the materially, culturally, and spiritually deprived; to instill in educated persons a dedication to the service of others. In each succeeding generation the women and men of DePaul have pursued learning in this spirit of Vincent DePaul.
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