1970

Bulletin of Bridgewater State College: Graduate School, 1970-1971 Catalog

Bridgewater State College

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### 1970-71 CALENDAR OF THE GRADUATE SCHOOL

#### FALL TERM

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<tr>
<th>Date</th>
<th>Event</th>
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<tr>
<td>8-11 Sept</td>
<td>Registration in Continuing Studies</td>
</tr>
<tr>
<td>11</td>
<td>Registration in Day Session</td>
</tr>
<tr>
<td>14</td>
<td>Classes begin</td>
</tr>
<tr>
<td>24</td>
<td>Last date for changes in registration in Continuing Studies</td>
</tr>
<tr>
<td>1 Oct</td>
<td>Last date for changes in registration in Day Session</td>
</tr>
<tr>
<td>9</td>
<td>Last filing date for November Comprehensive Examinations</td>
</tr>
<tr>
<td>12</td>
<td>No classes — Columbus Day</td>
</tr>
<tr>
<td>24</td>
<td>Graduate Record Examinations (Lecture Hall, Conant Science Building)</td>
</tr>
<tr>
<td>1-30 Nov</td>
<td>Comprehensive Examinations</td>
</tr>
<tr>
<td>2</td>
<td>Last date for receiving completed applications for December admission</td>
</tr>
<tr>
<td>26-29</td>
<td>Thanksgiving Recess</td>
</tr>
<tr>
<td>3 Jan</td>
<td>Christmas Recess</td>
</tr>
<tr>
<td>5</td>
<td>Last date for filing Application for Degree for students who</td>
</tr>
<tr>
<td></td>
<td>expect to receive the diploma in February</td>
</tr>
<tr>
<td>8</td>
<td>Last day of classes in Day Session</td>
</tr>
<tr>
<td>11</td>
<td>Reading Day in Day Session</td>
</tr>
<tr>
<td>14</td>
<td>Last day of classes in Division of Continuing Studies</td>
</tr>
<tr>
<td>16</td>
<td>Graduate Record Examinations (Lecture Hall, Conant Science Building)</td>
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#### SPRING TERM

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<tr>
<td>26-29</td>
<td>Registration in Continuing Studies</td>
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<td>29</td>
<td>Registration in Day Session</td>
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<tr>
<td>1 Feb</td>
<td>Classes begin</td>
</tr>
<tr>
<td>11</td>
<td>Last date for changes in registration</td>
</tr>
<tr>
<td>15</td>
<td>No classes — Washington's Birthday</td>
</tr>
<tr>
<td>19 Mar</td>
<td>Last filing date for April Comprehensive Examinations</td>
</tr>
<tr>
<td>1-30 Apr</td>
<td>Comprehensive Examinations</td>
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<tr>
<td>2</td>
<td>Last date for receiving completed applications for May Admission</td>
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<tr>
<td>22</td>
<td>Graduate Record Examination (Lecture Hall, Conant Science Building)</td>
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<tr>
<td>30 Apr</td>
<td>Last date for filing Application for Degree for June Commencement</td>
</tr>
<tr>
<td>21 May</td>
<td>Last day of classes in Day Session</td>
</tr>
<tr>
<td>24</td>
<td>Reading Day in Day Session</td>
</tr>
<tr>
<td>27</td>
<td>Last day of classes in Division of Continuing Studies</td>
</tr>
<tr>
<td>31</td>
<td>No classes — Memorial Day</td>
</tr>
<tr>
<td>4 June</td>
<td>Last filing date for July Comprehensive Examinations</td>
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<td>6</td>
<td>Commencement</td>
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#### SUMMER TERM

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<tr>
<td>1-2 July</td>
<td>Comprehensive Examinations</td>
</tr>
<tr>
<td>1-31</td>
<td>Classes begin</td>
</tr>
<tr>
<td>8</td>
<td>Last date for filing Application for Degree for students who</td>
</tr>
<tr>
<td></td>
<td>expect to receive the diploma in August</td>
</tr>
<tr>
<td>9</td>
<td>Last date for changes in registration</td>
</tr>
<tr>
<td>13 Aug</td>
<td>Last day of classes</td>
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Series 3, Volume 8, Number 2
BULLETIN OF
BRIDGEWATER STATE COLLEGE

FOUNDED IN 1840

GRADUATE SCHOOL

1970 – 1971

The Commonwealth of Massachusetts

DIVISION OF STATE COLLEGES

This Bulletin is a guide for information, and not a contract.
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Bridgewater State College shares the national tradition of providing high quality education supported in large part by the State. Serving qualified students throughout the Commonwealth and particularly those living in the southeastern area, this college is committed to encouraging the broad educational preparation which is equally essential for making a maximum contribution to profession, community, and nation, and for developing a sound personal life. While maintaining its historical concern for preparing teachers, Bridgewater also dedicates itself to the education of students who may be interested in other vocations and professions.

Bridgewater strives to provide an atmosphere of integrity, justice, and social concern and to develop within the student a self discipline which will be evident beyond the classroom. In addition to stimulating his intellectual curiosity, Bridgewater State College also provides the student with the opportunity to understand and appreciate the major contributions to man's knowledge of himself and of the physical and social world in which he lives.

It is the stated policy of the Board of Trustees of State Colleges that in matters of college admissions, all individuals will be evaluated on their merits without respect to their race, color, creed, natural origin, age, or sex, as prescribed in applicable federal and state law.

Bridgewater State College holds membership in the New England Association of Colleges and Secondary Schools and New England Conference on Graduate Education.

The College is located in the town of Bridgewater, a pleasant residential community located three miles from an expressway leading to major highways to New York, Boston, and Cape Cod. Motoring time to Boston is approximately 45 minutes; to New York, four and one-half hours; and to Cape Cod, one hour, bus service to Boston is available.

**ADMINISTRATIVE ORGANIZATION OF PROGRAMS**

The College conducts a day session for full-time undergraduates who have been matriculated for the degrees of Bachelor of Arts or Bachelor of Science, as well as afternoon and evening programs for full-time and part-time undergraduate and graduate students. The latter programs are for students who wish to take courses for self-improvement or certification, or for those who have been accepted for one of the following degree programs: Bachelor or Arts, Bachelor of Science in Education, Master of Arts or Master of Education.

Information relative to undergraduate degree programs is obtained from the Dean of Undergraduate Studies.

Information relative to graduate degree programs is obtained from the Dean of the Graduate School.
DIVISION OF CONTINUING STUDIES

The Division of Continuing Studies schedules courses for undergraduate, graduate, and audit credit, as well as non-credit courses. Information and guidance relative to graduate degree programs are not given through this Division.

Most graduate students earn all of their credits in courses offered through the Division. Classes are conducted afternoons and evenings, Monday through Thursday during the fall and spring terms. Summer session classes are also scheduled by the Division of Continuing Studies. It is essential that graduate students obtain the Division's brochure prior to each term (fall, spring and summer). Information relative to course offerings, office hours, course registration, tuition and related matters will be found in this brochure.

Students are limited to a maximum of six credits of work during the summer session. Teachers in service may not take more than six credits of work in any given term. If a graduate student should earn more than the permitted maximum number of credits in a given term, or summer session, such credits will not be applied toward meeting degree requirements.

Fall and Spring classes in the Division of Continuing Studies are scheduled between the hours of 5:00 p.m. and 10:15 p.m., Monday through Thursday. Each course meets once per week.

Summer school classes are scheduled by the Division of Continuing Studies between the hours of 8:30 a.m. and 12:45 p.m., Monday through Friday, and from 7:00 p.m. to 10:00 p.m. on Monday, Wednesday and Thursday of each week. Morning courses meet five times per week and evening courses meet three times per week.

Students who have been admitted to a degree program at Bridgewater State College may register in advance by mail. Advanced registration will guarantee enrollment in required degree courses. Students who wish to register in advance should obtain a registration form for each course at the Division of Continuing Studies Office. Changes in scheduling will be announced at registration or as soon thereafter as possible.

Courses marked G are strictly graduate courses whereas those designated UG may be taken for either undergraduate or graduate credit. In order to enroll in a G course or to obtain graduate credit in a UG course, a student must hold a bachelor's degree from a four-year college and, at the time of registering for a course, indicate on the registration form his intention of taking it for graduate credit. Courses marked U are strictly undergraduate courses. U courses may not be taken for graduate credit.

Successful completion of courses does not obligate the Graduate Committee to accept a student in a graduate program.
ACADEMIC FACILITIES

Boyden Hall is located on the upper campus, between School and Grove Streets. It contains administrative and business offices, the Horace Mann Auditorium, classrooms and offices for faculty members.

Burnell School is located on Grove Street, south of Boyden Hall. The school conducts classes from kindergarten through grade four. Students who are matriculated for the degree of Bachelor of Science in Education spend eight weeks observing and teaching classes at the Burnell School.

The College Center containing student lounges, an auditorium, and cafeteria is located on Park Avenue opposite Pope Hall and the Conant Science Building.

Conant Science Building is located on Park Avenue, on the lower campus. The building contains the Departments of Biological Sciences, Chemistry, Earth Sciences and Geography, Mathematics, Physics, Instructional Media and the Graduate Office.

Kelley Gymnasium is located on Park Avenue, on the lower campus. It contains two gymnasiums, an Olympic pool and other facilities for the Departments of Physical Education for Men and Women.

The Maxwell Library in essence honors and promotes the book (and non-book) as a center in the educational process. A large reference reading room with an interested library corps on duty, a mezzanine study area with carrels for individual study, and a basement retreat with open stacks for browsing all support an informal and "caring" atmosphere encouraging independent inquiry.

The library collection of 70,000 books, 860 journals, 3,000 pamphlets and 16 newspapers is abetted by an increasing number of materials on microfilm and microfiche, and by a select and wide variety of the indexes and abstracts which are the gates to a wide world of knowledge.

The Maxwell Library is shaped to be a laboratory for the library science curricula and a core for bibliographic guidance in all other subject areas and in realms of personal development. The library administration welcomes dialogue with those interested in expanding or improving its services.

New library facilities are presently under construction.

Stevens Greenhouse and Boyden Botanical Gardens are located on Park Avenue, on the lower campus between Pope Hall and the Conant Science Building. The facilities, which are managed by a horticulturist, are used by the Department of Biological Sciences for instruction and research.

STUDENT HOUSING

Undergraduate students are housed in the following dormitories: Great Hill, Durgin, Pope, Scott, Tillinghast and Woodward Halls.
At present, dormitory housing is not available for graduate students but there are a number of approved off-campus houses available for students who wish to pursue a full-time graduate program. A list of available housing may be obtained by writing the Dean of Students.

**RESIDENCE ASSISTANTSHIPS**

A limited number of residence assistantships are available. Students who are interested in obtaining such positions should write the Dean of Students.

**SCHOLARSHIPS AND FELLOWSHIPS**

There are, at present, no scholarships or fellowships for graduate students.

**NATIONAL DEFENSE STUDENT LOANS**

Graduate students who have been accepted by the Graduate School and are taking at least six credits of work per semester, are eligible to apply for National Defense Student Loan.

Students applying for such loans must present a letter to the Financial Aid Officer from the Dean of the Graduate School, attesting to their accepted status; and proof of registration for the required number of hours, from the Director of Continuing Studies or Academic Dean’s Office.

Applications must be submitted prior to March 15th for the summer session and July 1st for the fall and spring terms.

Graduate students (with accepted status) may borrow up to a maximum of two thousand, five-hundred ($2,500.00) per year; the total amount borrowed for all degree programs, both undergraduate and graduate, may not exceed ten thousand dollars ($10,000.00).

The repayment period and interest begin nine months after a student has completed his program. Total payment is due 10 years and nine months after a student has completed his degree program. Interest is at the rate of three percent (3%) per year on the unpaid balance. Repayment may be deferred up to three years if the borrower is serving in the Armed Forces, the Peace Corps, or Vista.

As much as one-half of the loan may be forgiven if the borrower becomes a full-time teacher at any level. The amount of forgiveness is ten percent (10%) of the amount borrowed for each year of teaching, up to a maximum of five years. If the borrower teaches in eligible schools in low-income areas, the rate of forgiveness may be fifteen percent (15%) per year.
COUNSELING

Students may have problems and needs that require special forms of help or guidance. Among these are questions and concerns about their educational programs and academic achievement, housing, finances, health, social adjustment, part-time work, and placement.

To assist students in making adjustments, intelligent plans and wise decisions, the College has provided professional staff services in the major areas of student needs.

The faculty-student relationship is the center of college counseling, for faculty are best qualified to guide the student in his academic and professional growth. Each graduate student works closely with a faculty adviser from whom he receives help and guidance in the pursuit of his graduate program. Additional guidance by a professional counselor may be arranged through the office of the Dean of Students.

From its beginning, the State College at Bridgewater has been committed to a positive appreciation for the religious values in both our past history and contemporary culture. To emphasize the affirmative role of religion in the life and thought of this academic community, the Christian Fellowship, Menorah Club, and Newman Club have been formed to minister to those of the Protestant, Jewish, and Catholic faiths. A Christian Fellowship House and a Catholic Chapel and Center are located near the campus.

HEALTH SERVICES

A hospital suite is located on the first floor of S. Elizabeth Pope Hall (Telephone ext. 386). Nursing services are available to all students of the college at all times. A doctor is on duty Mondays, Wednesdays, and Fridays from 8:00 a.m. to 12:00 noon.

STUDENT BOOKSTORE

The Student Bookstore is located in the basement of Boyden Hall. It will eventually be housed in the new College Center. The store has a drug and cosmetic rack, as well as supplies, souvenirs, textbooks, and leisure reading material.

The Bookstore is open weekdays from 8:15 a.m. to 4:00 p.m., and Monday through Thursday from 4:30 p.m. to 8:30 p.m.

Books may be paid for by cash or check. All checks should be made payable to Student Bookstore, Inc., with the student's home address appearing on the check. The store does not handle used books. Books may be returned to the store only if they are defective or courses for which they have been ordered are cancelled.

Returned books must be unmarked, in salable condition, and accompanied by Bookstore sales receipt.
CHANGE OF NAME AND/OR ADDRESS

Students should notify the Office of the Graduate School immediately, by using the appropriate form, of any change in name or address. Failure to do this may cause unfortunate complications and delays which inconvenience students. Forms are available at the Office of the Graduate School.

MOTOR VEHICLE REGULATIONS

Students should secure a copy of Traffic Control Regulations governing the use of motor vehicles. A parking decal (fee-$1.00) must be affixed to the left window of all motor vehicles on campus. Regulations and decal are obtainable at registration or at Campus Police Headquarters after registration.

SELECTIVE SERVICE

Information regarding Selective Service regulations and deferment may be obtained from the student’s Selective Service Local Board.

TEACHER CERTIFICATION

Teacher certification is the responsibility of the State Department of Education. All inquiries relative to certification should be addressed to the Director, Bureau of Teacher Certification and Placement, 182 Tremont Street, Boston, Massachusetts, 02111.

PLACEMENT SERVICE

The Bridgewater State College Teacher Placement services are available to graduate students seeking positions in the field of education. Position vacancies are posted on the placement bulletin boards in Boyden Hall, and are contained in placement folders indexed on the basis of type of vacancy and geographical location. Interviews with prospective employers are initiated by candidates themselves.

OTHER COLLEGE POLICIES

Information or additional information concerning such the matters as smoking, bulletin boards, vending machines, messages and library should be obtained at the time of registration.
Graduate Study

THE GRADUATE SCHOOL

The Graduate School acts as a coordinating institution among the several departments engaged in graduate instruction. The Dean and the Graduate Committee, together with administrators and faculty, work toward the maintenance of uniform standards for higher degrees.

The primary aim of the Graduate School is to produce graduates who are not only competent in their major field, but are also aware of their professional and community responsibilities. Another major goal is to foster research on the part of both faculty and students. Every graduate student is given an opportunity to engage in original investigation under the direction of a member of the faculty.

GRADUATE COMMITTEE

The Graduate Committee recommends policies relative to the Graduate School and graduate curricula. It reviews and makes decisions on applications to the Graduate School which have been previously considered by the appropriate academic departments.

OFFICE OF THE GRADUATE SCHOOL

The Office of the Graduate School, which is located in Room 211 of the Conant Science Building, is open from 9:00 a.m. to 5:00 p.m., Monday through Friday, except for legal holidays, throughout the year.

Appointments with the Assistant Director may be made by telephoning 697-6161 extension 301. Official notification of such matters as acceptance, grades, and status with respect to comprehensive examinations will be released only by letter.

Persons interested in working toward a master's degree should obtain a current copy of the Graduate School Catalog. This Catalog is published in August of each year and may be obtained at the Office of the Graduate School.

GENERAL POLICIES AND PROCEDURES

Students are responsible for all information given in the latest edition of the Catalog and also for any notices posted on the bulletin boards of the Graduate School, the Division of Continuing Studies, and the department in which the student is concentrating.

No major deviations from any graduate regulations are permissible unless they are approved by the Graduate Committee, or, in certain cases, by the Dean of the Graduate School.
DEADLINES

Students are reminded to consult the annual Calendar of the Graduate School for deadlines and dates relative to such matters as: admission, Graduate Record Examinations, examination requests, and filing applications for degrees.

TIME LIMITS

All requirements for the degree must be completed within six years from the date of acceptance. No graduate course offered for the degree may be more than six years old when degree requirements are completed.

REGISTRATION

All students who have been admitted to the Graduate School should preregister for courses by mail through the Division of Continuing Studies. Students enrolled in a degree program are required to take a minimum of one course each calendar year. This is to ensure that our facilities are used efficiently and that students remain in contact with their fields and make progress in their degree programs. Graduate students who do not meet this minimum registration requirement must request permission, from the Dean, to reenter the Graduate School.

A graduate student who enrolls for twelve or more credits is classified as a full-time student. Intention to enroll on a full-time basis must be reported to the Graduate School Office. A limited number of full-time graduate students may take courses in the day session. Information about these courses, and permission to enroll in them, may be obtained from the Dean of the Graduate School.

No full-time graduate student may register for more than fifteen credits during the fall and spring terms. No graduate student, either full-time or part-time, may register for more than six credits during the summer session. Any graduate student who earns more than the permitted number of credits in a given term or summer session may not apply more than the permitted maximum number of credits toward the degree.

DEPARTMENTAL PREREQUISITES

Departmental prerequisites may be required to ensure adequate preparation for graduate work in the area of concentration. Departmental prerequisites may be fulfilled after the applicant's acceptance by the Graduate School. Certain advanced courses require that students have completed certain prerequisites. Enrollment in such courses require that a Prerequisite Statement form be filed with the instructor. This form may be obtained from the instructor at the first class meeting and should be completed and returned to the instructor at the second class meeting. Failure to do so may result in the loss of any credit earned in such courses.
GRADING SYSTEM

Graduate Course Achievement will be rated A, B, C, WP (Withdrawn-Passing), WF (Withdrawn-Failing), INC (Incomplete), or AU (Audit). A course in which part of the work is not completed, for a valid reason, will be recorded as INCOMPLETE, provided the student has arranged with the instructor before the end of the term to complete the assigned work.

An incomplete course must be completed within thirty calendar days following the official close of the semester, or a grade of Failure will be recorded. Graduate students who receive grades of C or below (including WF) in more than two courses must withdraw from the program unless special permission to continue is recommended by the adviser, the Graduate Committee and the Dean of the Graduate School. A student who is given a C grade in a graduate course may not take more than one graduate course in the following term without the written permission of his adviser. This letter of permission must be deposited in the Graduate School Office prior to registration.

TRANSFER CREDITS

Students who have taken appropriate graduate courses, at either Bridgewater State College or at some other approved graduate school, prior to acceptance, may request that up to six credits, of grade "B" or better, be accepted in partial fulfillment of degree requirements. A form entitled Petition for Acceptance of Graduate Courses Taken Prior to Acceptance should be obtained from the Graduate School Office, signed by the adviser and returned by the student to the Graduate School Office. This form must be submitted by the student prior to matriculation if degree credit is to be obtained. The adviser will apprise the Graduate School and the student which courses have been accepted.

After acceptance, a maximum of six hours of grade "B" or better, taken at an approved graduate school, with the written approval of the adviser, may be transferred unless the student has already transferred such credits from courses taken prior to acceptance. In no case may more than a total of six appropriate hours be transferred from other graduate schools. Two copies of the transcript of courses taken off campus, after acceptance, must be sent directly to the Bridgewater State College Graduate School.

All courses taken after acceptance, in partial fulfillment of degree requirements, must have the approval of the adviser and be recorded on the Record of Graduate Program.

MATRICULATION

Admission to the Graduate School does not imply automatic matriculated status. Upon the recommendation of the adviser a candidate accepted by the Graduate School who has earned twelve credits of approved graduate work, is not on probation and has filed the Petition for Acceptance of Graduate Courses Taken Prior to Acceptance, may be admitted to matriculated status. Students
who are in a Master of Arts degree program must also have successfully completed the Preliminary Examination. The form Petition to be Admitted to Matriculated Status may be secured in the Graduate Office and should be submitted by the student to his adviser. The completed form should be filed by the student in the Graduate Office.

COMPREHENSIVE EXAMINATION

While students are expected to make satisfactory progress in their course work, the accumulation of credit hours is not regarded as the sole index of a student's progress or as a guarantee that he will be granted a degree. Each student must give evidence that he can integrate information and ideas from the various areas in which he is studying. The principal instrument for measuring this achievement is the Comprehensive Examination. This examination may be written and/or oral, and will be based upon the area of concentration and related fields as determined by the department. The examination may include the thesis. Only matriculated students may take the Comprehensive Examination. A student who plans to take the Comprehensive Examination should file the form entitled Examination Request. This form should be completed and filed by the student in the Graduate Office not later than the deadline indicated in the Calendar of the Graduate School. This examination must be taken when a student is in the last term of degree work or after the completion of all course work. A student who fails a Comprehensive Examination shall be given only one further opportunity to take it after he has made substantial progress in additional work prescribed by his adviser. The second examination may not be taken prior to the next examination period scheduled by the Graduate Office. Those who take the Comprehensive Examination will be notified of the results by mail.

COMMENCEMENT

Students who expect to fulfill all requirements for the master's degree in January, May, or August, should request the form Application for Degree from the Graduate Office. This form should be completed and filed by the student in the Graduate School Office during the last term of work no later than the deadline indicated in the Calendar of the Graduate School. Failure to file before the deadline will postpone degree conferral. A Commencement Fee of $17.00 is required at the time of filing this application.

Diplomas are awarded at the June Commencement and also during the months of February and August. Students who receive their diplomas in August or February, as well as those who complete their degree work in May or June, should plan to attend the June Commencement and wear appropriate academic regalia. Information relative to Commencement is sent to these students in May.

In the event that the student does not receive his degree at the anticipated time, he must file a new Application for Degree form in accordance with the deadline indicated in the Calendar of the Graduate School.
GRADUATE DEGREE PROGRAMS

The following degree programs are offered through the Graduate School. Requirements for admission to and completion of these programs are found in this section of the Bulletin and also under the appropriate department or departments.

MASTER OF ARTS

Master of Arts in Biology
Master of Arts in Chemistry
Master of Arts in History

MASTER OF EDUCATION

Master of Education in Elementary Education
Master of Education in Elementary School Mathematics
Master of Education in Guidance
Master of Education in Health Education
Master of Education in Instructional Media
Master of Education in Learning Disabilities
Master of Education in Reading
Master of Education in School Administration
Master of Education in School Librarianship
Master of Education in Secondary Education
(with a concentration in one of the following fields)
   Anthropology
   Behavioral Sciences
   Biological Sciences
   Creative Arts - art, music, speech and drama
   Chemistry
   Earth Sciences
   English
   Geography
   History
   Humanities - English, music, philosophy, modern foreign languages
   Mathematics
   Modern Foreign Languages
   Physical Sciences
   Physics
   Psychology
   Social Sciences
   Sociology
   Speech and Theatre
Master of Education in Special Education
ADMISSION

APPLICATION

Students seeking admission to a master’s degree program, either Master of Arts or Master of Education, must hold a bachelor’s degree from a four-year institution of acceptable standing. College seniors may be admitted on a conditional basis.

Applicants should specify the degree program (and also the area of concentration) when they request application forms. The Graduate School cannot send the appropriate application forms without this information. Applicants who, before admission, wish to change their proposed degree program or area of concentration must submit a written request as well as a new application form and new letters of reference. All students seeking admission to a Master of Arts program are required to have a conference with the chairman of the appropriate department. Applicants to the Graduate School should make certain that the following are on file in the Office of the Graduate School.

1. A formal application, in duplicate. Application forms may be obtained from the Graduate Office.

2. Three letters of recommendation, in duplicate, which indicate an estimate of the applicant’s ability to successfully pursue a graduate program in his proposed field of concentration. Two recommendations must come from members of a college faculty who have taught a candidate at the collegiate level. The third letter of recommendation may come from an employer. M.A. applicants must use two references who taught them in the appropriate area of concentration. Forms for recommendations are available at the Graduate Office. Only recommendations submitted on these forms will be considered in evaluating a candidate. The recommendations must be sent directly to the Dean of the Graduate School by the reference.

3. The results of the Aptitude Test of the Graduate Record Examination. The applicant must arrange to have his scores sent from the Educational Testing Service directly to the Dean of the Graduate School. Photocopies of scores and scores submitted by the applicant are not acceptable. Application forms and information relative to the GRE may be obtained from the Graduate Office. Since there is up to six weeks delay between the test date and the receipt of scores, applicants should take the test well in advance of the Graduate School’s deadline for receipt of completed applications. (See the Graduate School Calendar.) In addition, applicants applying for a Master of Arts program must submit the appropriate advanced test score.

4. Two copies of the official transcript of the applicant’s undergraduate college record, bearing the seal of the college. The transcripts must be sent by the college registrar directly to the Dean of the Graduate School. Applicants who have attended more than one undergraduate college, or have completed course work beyond the bachelor’s degree, should arrange to have duplicate transcripts of all of their course work from each college attended sent directly
to the Dean of the Graduate School. Graduates of Bridgewater State College should request the College Registrar to send transcripts to the Graduate Office. Applicants currently enrolled in the Division of Continuing Studies should request the Division to send their transcripts to the Graduate Office.

5. In addition to the above, there may be special departmental requirements relative to application.

An application is not complete, and no applicant will be considered for admission, unless all of the above documents have been received by the Dean of the Graduate School (and the interview held if required) on or before the appropriate deadline date indicated in the Calendar of the Graduate School. It is the obligation of the student to make certain that his application documents are received in time. One month after receiving the formal application, and monthly for three months thereafter (time permitting) a notice will be sent to applicants listing the documents that have not been received. Applicants will be notified when their application folders are complete. All transcripts and other documents submitted become the property of the Graduate School and will not be returned.

Applicants should check the Calendar of the Graduate School relative to deadlines for submitting completed applications. Completed applications received after a deadline will be considered at the next admission date.

**ACTION BY THE ACADEMIC DEPARTMENT**

The Dean of the Graduate School sends all completed applications to the academic department in which the applicant proposes to take his concentration. Departments are asked to make their recommendations to the Graduate Committee in April and November each year.

**ACTION BY THE GRADUATE COMMITTEE**

The Graduate Committee meets in May and December of each year to consider completed applications.

The Committee, after examine each applicant’s credentials and the academic department’s evaluation, makes its recommendations to the Dean of the Graduate School. The Committee may recommend:

1. That the applicant be admitted to the Graduate School. Graduate students accepted with course deficiencies will be required to take prescribed undergraduate work without credit toward the degree.

2. That the applicant be admitted as a probationary student and that he be reconsidered for admission to the Graduate School after the satisfactory completion of twelve credits of graduate work. A probationary student should file a form, *Petition for Removal from Probationary Status*, when he has completed twelve credits of graduate work with a grade of "B" or better in each course.

3. That the applicant be admitted conditionally pending the receipt of a
baccalaureate. A college senior, who is admitted to the program on condition, should request his college to forward a complete transcript as soon as possible.

4. That the applicant not be admitted.

The successful completion of graduate courses before application shall not obligate the academic department or the Graduate Committee to recommend an applicant for acceptance.

**ACTION BY THE DEAN OF THE GRADUATE SCHOOL**

The Dean, after reviewing the recommendations of the academic department and the Graduate Committee, notifies the applicant of the action taken. At the same time the Dean sends the student’s name to the chairman of the department in which he proposes to concentrate. The chairman assigns an adviser and the Graduate School sends the name of the student. The Graduate School also sends the student and his adviser copies of the form *Record of Graduate Program*. It is important that the student telephone his adviser at the College and make an appointment for planning his program. The student should bring his copy of the *Record of Graduate Program* to every conference with his adviser. The adviser’s copy is sent to the Graduate School when the student applies for his degree. Program planning conference should be arranged well in advance of each term.

Conferences with advisers may be difficult to arrange during holidays and vacations, in June prior to summer session registration, and between the close of summer session and registration for the fall term. During these times, all communication should be by mail or telephone.

**CHANGES IN PROGRAM**

A student wishing to change his area of concentration must: 1) petition the Graduate Committee in writing, through the Dean of the Graduate School; 2) file a new formal application; and 3) submit new references appropriate to the new area. Petitions are required for other program changes. The student and his adviser will be informed of the Committee’s action. Letters of petition must be filed in the Graduate School Office at least one week prior to the monthly meeting of the Graduate Committee. Meeting dates are posted on the Graduate School Bulletin Board.

**GENERAL REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS**

**CREDITS AND THESIS**

General requirements for the degree shall be a minimum of thirty approved graduate credits and a thesis approved by the department. The thesis should include results of original research and give evidence of high scholarship. Unless otherwise indicated by the major department, a maximum of ten semester hours may be allowed for the thesis and a minimum of eighteen graduate credits must
be completed in the field of specialization. Ordinarily, at least one-half of the degree credits must be earned in courses limited to graduate students. Such courses are designated in this catalog by the letter G. Each student must enroll in the thesis course listed under his major department. Students should request the brochure entitled *The Master's Thesis* from the Graduate School Office.

**PRELIMINARY EXAMINATION**

A Preliminary Examination is required during the semester following the successful completion of twelve credits of approved graduate credit. This examination may be written and/or oral. Its purposes are: 1) to determine the degree of skill achieved in relating and integrating graduate work completed to date, 2) to ascertain the readiness of the student for additional graduate work and 3) to enable the adviser to plan the remainder of the student's program. The Graduate School will apprise the student of his performance on the Preliminary Examination. Unsatisfactory performance may require that the student take additional course work and a second examination. If the student fails to perform satisfactorily a second time, he will be dropped from the degree program.

**FOREIGN LANGUAGE EXAMINATION**

A reading knowledge of one foreign language, specified by the major department, is required. Each student should consult with his adviser relative to departmental language requirements and procedures for taking the examination.

The foreign language requirement must be met before or when the student has completed eighteen approved graduate credits. Graduate students may not enroll in further work carrying degree credit unless the Foreign Language Examination has been passed.

Students should thoroughly familiarize themselves with the material presented under their major department or departments as well as that found in the sections of this Catalog entitled General Information and Graduate Study.

**GENERAL REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION**

**CREDITS AND THESIS**

General requirements for the degree shall be a minimum of thirty approved graduate credits. This requirement may be fulfilled by completing thirty graduate credits or twenty-seven credits and a thesis, unless otherwise indicated. The thesis should include results of original research and give evidence of high scholarship. Students who plan to do a thesis should request the brochure entitled, *The Master's Thesis* from the Graduate School Office. Ordinarily, at least one-half of the degree credits must be earned in courses limited to graduate students. Such courses are designated in this catalog by the letter G.

**REQUIRED COURSES**

All students enrolled in a program leading to the degree of Master of Education must complete the following courses:
In addition to the above, all students must complete at least one of the following courses. The course or courses elected from this group must be approved by the adviser.

ED 505 Historical Foundations of Education
ED 520 Psychological Foundations of Education
ED 580 Philosophical Foundations of Education
ED 590 Sociological Foundations of Education

Students enrolled in a program leading to the degree of Master of Education in Secondary Education with a concentration in an academic area must complete a methods course in the area of concentration. This course must be approved by the adviser. Any student who has taken such a methods course at either the undergraduate or graduate level may be exempted from this requirement, subject to approval by his adviser.

TEACHING REQUIREMENT

All students enrolled in a program leading to the degree of Master of Education, are required to fulfill the degree prerequisite of teaching experience. This requirement may be met, unless otherwise indicated under the department in which the student is concentrating, by either of the two following procedures.

1. Teaching Experience One full semester of successful classroom teaching experience at the appropriate level in an accredited public or private school.
2. Student Teaching A student who meets the minimum subject matter-requirements for certification in Massachusetts, is eligible to student teach when he has completed at least twenty-four credits of approved graduate course work. The student shall request the Graduate School to certify his eligibility by letter to the Director of Teacher Preparation and Placement. An application form entitled, Application for Off-Campus Student Teaching in the Public Schools, should be obtained from the Office of the Director of Teacher Preparation and Placement. The student should complete the application and file it with the Division of Continuing Studies at least ninety days prior to the beginning of student teaching. The student must register for the course ED 492 (Supervised Teaching in the Public Schools U) through the Division of Continuing Studies after his application has been approved.

Students should thoroughly familiarize themselves with the material presented under their major department or departments as well as that found in the sections of this Catalog entitled General Information and Graduate Study.
Departmental Requirements
and Course Descriptions

DIVISION OF THE BEHAVIORAL SCIENCES
DIRECTOR: PROFESSOR MOORE

Anthropology  Psychology  Sociology

The Division of the Behavioral Sciences offers a program leading to the degree of Master of Education in Secondary Education with a concentration in behavioral sciences. This program is designed primarily for teachers and future teachers of behavioral sciences. Course work in urban, African and black studies may be included in the student’s program.

In addition to meeting general degree requirements, the student must complete the concentration requirement by electing courses appropriate to his degree program. All courses must be approved by the adviser. Courses which may be taken are listed under the several departments within the Division of the Behavioral Sciences.

DEPARTMENT OF ANTHROPOLOGY

Chairman: Professor Moore
Assistant Professors: Stewart, Thomas, Wertz

The Department of Anthropology offers a program leading to the degree of Master of Education in Secondary Education with a concentration in anthropology. This program is designed primarily for teachers and future teachers of anthropology, natural sciences or social studies. It also prepares students for further graduate work in anthropology.

In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program. All courses must be approved by the adviser. Departmental offerings are listed below.

AN 205 Culture in Process UG  3 credits

Use of the inductive approach to examine the effect of culture on individuals and groups. Discussion and study of applied anthropological techniques used in planned programs to assist in adopting social change. Prerequisite: AN 201 or AN 202.
AN 207 Primitive Religion UG

The origins and development of religion in society, myth, ritual, magic and religious specialists. Areas will include Australia, African, American Indian, Near Eastern folk religion, and folk religion of the Negro in the new world.

AN 208 Religion in the Cultures of Asia UG

A survey of the beliefs and practices of Hinduism, Buddhism, and Islam, as related to their societal and cultural backgrounds. Attention will be given to aboriginal religions of the South Pacific and to the ancient religions of China and Japan, Taoism, Confucianism, and Shinto. The "great tradition" of philosophy will be compared with the "folk tradition" and actual practices of each religion in Asia today.

AN 210 Introduction to Folklore UG

The meaning and subdivisions of folklore: myth, folktale, proverb, riddles -- analyses of story elements, and major folklore areas.

AN 301 Introduction to Physical Anthropology UG

An introduction to the principles of Physical Anthropology as it relates to human evolution. Examination of present evidence, in an attempt to discover the origin of man. Such aspects of progress as homeostasis, primate radiation, body structure and posture, feeding ecology and behavior, evolution of the head and reproduction. Prerequisite: AN 201, or one year of natural science.

AN 302 Introduction to Archaeology JG

Examination of field methods, systems of data recording, analytical methods, and their conceptual basis. Abstract theory closely integrated with specific case material. Laboratory exercises in application of artifact analysis. Prerequisite: AN 201, or one year of natural science.

AN 304 Personality and Culture UG

A study of the interrelationships between individual and society, focusing on 1) major theories about the formation of personality by the surrounding structures, including Freudian theory and the Marxist concept of alienation; 2) a cross-cultural study of childhood; 3) adolescence in changing America; 4) several conceptions about the contemporary American personality as compared with personality structures in traditional society. Prerequisite: AN 201, or AN 202, or Major in Behavioral Sciences.
AN 305 Peoples and Cultures in India UG 3 credits
A survey of social structure in India, with emphasis on 1) the caste system; 2) the traditional Hindu and Islamic cultures; and 3) the effects of urbanization and modernization upon traditional structures. Prerequisite: AN 201, or AN 202, or ES 452.

AN 310 Peoples and Cultures of Africa South of the Sahara UG 3 credits
A survey of present cultures of tropical and subtropical Africa, problems of colonialism, acculturation, new nationalism and rapid social change. Prerequisite: AN 201, AN 202, ES 261, and SO 202.

AN 320 West Indian Negro Cultures in the Caribbean UG 3 credits
Survey of the West Indian Negro cultures in the West Indies including social organization, religion, political development and adjustment to modern conditions. Prerequisite: AN 201, or AN 202, or one semester of ES 261, or SO 202.

AN 322 Seminar: Afro-Asian Urban Cultures UG 3 credits
Description and analysis of urban cultures in Africa and Asia with special attention to problems of rapid social change, acculturation, political and economic developments. Prerequisite: AN 201, or AN 202, or one semester of ES 261, or SO 202.

AN 323 Theory of Culture UG 3 credits
A survey of early schools of cultural theory including Adolf Bastian, Lewis Morgan, Edward B. Tylor, the British Diffusionists, the German Historical-Diffusionist School, French Sociology, Functionalism, including Franz Boas and Malinowski. Current functional evolutionary theory. Prerequisite: AN 201, or AN 202, and AN 205.

AN 324 Human Evolution and Variation UG 3 credits
Application of the general evolutionary theory to man; primatology; human paleontology; race formation; cultural effects. Prerequisite: AN 201 and AN 301; and concentration in Biology, Physics, Chemistry, or Earth Science, or AN 301.

AN 325 Survey of West African Cultures UG 3 credits
An introduction to contemporary diversity in relation to language grouping, technologies, national problems and opportunities. With emphasis on the present. Prerequisite: AN 201, AN 202, ES 261, and SO 202.
AN 326 Survey of East African Cultures UG  
An introduction to the cultural diversities in relation to language grouping, technologies, national problems and opportunities with emphasis on the present. Prerequisite: AN 201, AN 202, ES 261, and SO 202.

AN 327 Seminar: Urban Centers in East and West Africa UG  
Major African cities and the culture of their hinterland focussing on cities like Nairobi, Kanipala, Kairo, Kumase and Monrovia and the role these cities play in shaping the lives of people in the surrounding territories. Prerequisite: AN 201, AN 202, ES 261, and SO 202.

AN 328 Archaeology of North America UG  
Survey of some of the historic and prehistoric Indian cultures in North America. Prerequisite: AN 201 and AN 302; or concentration in Biology, Physics, Chemistry, or Earth Science.

AN 402 Seminar on Field Methods UG  
Methods of field work for cultural anthropologists working in ongoing societies; design of field studies; techniques for collection and analysis of empirical data, experimental field projects. Prerequisite: AN 201 or AN 202.

AN 404 Seminar: Anthropology for Elementary Education UG  
Theory and techniques of teaching Anthropology to elementary students. Special course material in physical and cultural anthropology and prehistory and Archaeology. Grades 1 thru 6. Prerequisite: AN 201 or AN 202.

AN 406 Seminar: Archaeological Field Excavation, Survey and Research in Prehistoric Village sites in New England. UG  
Intensive training in excavation techniques, recordation, analysis, and interpretation of archaeological materials. Prerequisite: AN 302 and ES 484.

AN 502 Thesis GG  
Credit and hours to be arranged.
The Department of Psychology offers a program leading to the degree of Master of Education in Secondary Education with a concentration in psychology. This program is designed primarily for teachers and future teachers of social studies and/or psychology. It also prepares students for further graduate work in psychology.

In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program. All courses must be approved by the adviser. Departmental offerings are listed below.

PY 222 Psychology of Learning UG

An examination of the theoretical and research aspects of the learning process. Theories of Learning will be examined in relation to experimental design, and the learning situation. Prerequisite: PY 200.

PY 224 Child Growth and Development UG

A study will be made of the growth and development of the child from birth through pre-adolescence. Attention will be focused on biological, psychological, and social factors as well as moral forces which influence child behavior. Prerequisite: PY 200.

PY 226 Adolescent Psychology UG

The purpose of this course is to provide a better understanding of the adolescent. A study will be made of the major theories of adolescence. Physical, mental, moral, emotional, personality, and social aspects will be considered. Prerequisite: PY 200.

PY 227 Psychology of Exceptional Children UG

Emphasis will be on identification and understanding of the growth and development of exceptional children. Special techniques considered appropriate to the needs of such children will be treated. Emphasis will also be placed on the contribution the classroom teacher can make to the education and welfare of the mentally, emotionally, and physically handicapped child as well as the academically talented. Prerequisite: PY 200.
PY 228 Psychology of Mental Retardation (Subnormal Psychology) UG 3 credits

The symptomatology and etiology of mental retardation. Tests and other diagnostic devices will be examined. Etiologies such as cultural deprivation, maternal deprivation, and sensory deprivation will be considered as well as the traditional familial and organic causes. Therapeutic and remedial techniques (especially those based on psychological principles, such as operant conditioning) will also be studied. Prerequisite: PY 200.

PY 229 Abnormal Psychology UG 3 credits

A systematic study of behavior pathology with special reference to the psychopathology of physical illness, neuroses, psychoses, personality disorders, addiction, and acute and chronic brain disorders. Emphasis will also be placed upon etiology, symptomology, prognosis and prevention. Prerequisite: PY 200.

PY 230 Social Psychology UG 3 credits

The individual in social situations; attitude formation and change, culture and society, language and communication, leadership and group dynamics, personality characteristics and interpersonal relationships. Classic studies in prejudice, brainwashing, competition, and small group behavior. Prerequisite: PY 200.

PY 231 Psychology of Personality UG 3 credits

Basic concepts in the field of personality are presented with emphasis upon theories and such psychological aspects of human behavior as motivation, dynamics, and evaluation. Prerequisite: PY 200.

PY 302 Psychological Theory UG 3 credits

Fundamental assumptions underlying the psychological enterprise, and issues which are the subjects of continuing debate in the field - e.g. casualty, determinism, methodological approaches, the control of behavior, concentrations of the nature of man. Reference will frequently be made to various schools of thought, contemporary and historical, and to the history of psychology in general. Prerequisite: PY 200.

PY 304 Attitude and Personality Measurement UG 3 credits

Techniques of attitude scale construction and personality assessment; projective tests, response-set and content inventories. Use of Likert scales, semantic differential, forced choice, equal-appearing intervals, and summated ratings. Standardization of tests. Issues and controversies in measurement. Prerequisite: PY 200 and MA 110, or equivalent.
PY 306 Experimental Psychology UG 3 credits

The shaping of behavior; laboratory conditioning, reinforcement, approach and avoidance of a goal, discrimination and generalization of physical cues, animal learning experiments. Experimental approaches to the study of human behavior. Prerequisite: PY 200.

PY 308 Experimental Social Psychology UG 3 credits

Recent research in social psychology, including developments in methodology, theory, and research findings. Situational and individual difference approaches useful in testing theories and hypotheses and in resolving conflicting findings of previous research. Research project required of student. Prerequisites: PY 230 and MA 110, or its equivalent.

PY 310 Seminar: Clinical Psychology UG 3 credits

Survey of diagnostic and treatment procedures and resources in clinical guidance work with children and adults; professional duties and skills of the clinical psychologist. Prerequisite: PY 200 and PY 300.

PY 312 Seminar: Attitude Change Research UG 3 credits

Empirical research in persuasion; communicator credibility, opinion differences, commitment, one-sided (pro) and two-sided (pro and con) arguments, coercion and threat, emotional and rational arguments. Theories of attitude change, including dissonance theory, balance theory, congruity theory, assimilation and contrast theory, and quasi-stationary equilibrium theory. Prerequisite: PY 200 and PY 304.

PY 322 Applied Social Psychology UG 3 credits

Effective communication, and better understanding of oneself; listening, conflict resolution, persuasion, goals and expectations, self-confidence. Contemporary problems such as dissent, minority groups. Guest speaker when possible. Prerequisite: PY 230.

PY 326 Seminar: Research Methods in the Behavioral Sciences UG 3 credits

Techniques for obtaining reliable information and minimizing artifact; surveys, personal interviews in depth, individual differences measures, and controlled laboratory conditions. Philosophy of methodology. Hypothesis formation, experimental design, statistical analysis, and data interpretation. Simple and multi-factorial research; role of theory in research. Prerequisite: Major in Psychology or Behavioral Sciences.

PY 400 Research Practicum UG 3 credits

Research methods and statistics. Individual or group research project. Prerequisite: Major in Psychology or Behavioral Sciences.
Supervised individual project and reading for students who have completed the major portion of their degree requirement. Prerequisite: Consent of Instructor and Departmental Chairman, and Major in Psychology or Behavioral Sciences.

PY 502 Thesis G

Credit and hours to be arranged.

DEPARTMENT OF SOCIOLOGY

Chairman: Professor Brown
Associate Professor: Greene
Assistant Professors: Thomas, Wertz
Visiting Lecturer: Gaughan

The Department of Sociology offers programs leading to the degree of Master of Education in Secondary Education with concentrations in sociology and urban studies. These programs are designed primarily for teachers of sociology and social studies. They also prepare students for further graduate work in sociology or urban studies.

In addition to meeting general degree requirements, the student must complete the departmental concentration requirements by electing courses appropriate to his degree program. All courses must be approved by the adviser. Departmental offerings are listed below.

SO 204 Sociology of Religion UG

Comparative study of religious systems and institutions, function and role of religion and the church in society; professional status, history and relations of the clergy.

SO 303 The Family UG

The family as a social institution in terms of its historical and cultural development. Analysis of psychological and social factors in contemporary family life. Prerequisite: SO 202, or AN 201, or AN 202.

SO 304 Social Stratification UG

Historical and contemporary examples of the range of stratification systems. Problems of class and caste, conflicts. Trends in class system and social mobility, with special attention given to similarities and differences of modern industrial societies. Prerequisite: SO 202, or AN 201, or AN 202.
SO 306 Urban Sociology UG

3 credits

A sociological and ecological analysis of the city in terms of urban institutional and personality patterns, folkways and mores. Ecological process and structure. The city as center of dominance over a trade area and hinterland. Prerequisite: SO 202, or ES 353, or AN 201, or AN 202.

SO 307 Urban Problems UG

3 credits

Poverty, intergroup conflict, breakdown in education, crime, delinquency and urban riots will be examined. Special emphasis will be on new approaches in education in the city—decentralization, community control, relevant curriculum. This course is especially planned for students preparing for urban teaching. Experience in a problem area will be an integral part of the course. Prerequisite: SO 202, or ES 353, or AN 201, or AN 202.

SO 309 Introduction to Social Welfare UG

3 credits

Institutional analysis of social welfare, social agencies. Sociological aspects of social work as a profession. Prerequisite: SO 202.

SO 310 Indian Cultural and Social Organization UG

3 credits

A descriptive and analytical examination of societies of the Indian subcontinent dealing with their cultural histories, economic, social, political and religious institutions. Problems of Cultural and social change. Prerequisite: SO 202, or AN 201, or AN 202.

SO 312 Urban Minority Relations UG

3 credits

A study of the relations between ethnic and racial groups in the United States, with particular attention to the Boston Irish, the Boston Italians, and the Negro-Americans. Concentration will be upon the Negro in America and the problems of identity. Prerequisite: SO 202, or AN 201, or AN 202, or ES 353.

SO 314 Case Work Methods UG

3 credits

Case work is based on recognition of internal psychological problems and external social causes of an individual's failure to function satisfactorily. Techniques of interviewing. Theoretical study of human behavior. Experience in social work agencies. Prerequisite: SO 309.

SO 316 Social Problems I: Non-conforming Behavior UG

3 credits

This course will deal with contemporary problems which are reflected in the behavior of individuals, but whose origins and causes lie outside of
individuals. Topics treated well include drugs, dope-addiction, crime, juvenile delinquency, divorce and other family problems, mental illness and other health problems, social class, and selected social issues. Attention will be given to social factors regarded as major contributions to these problems. Prerequisite: SO 202.

SO 318 Social Problems II: Structural Discontinuities and Value Conflict UG 3 credits

This course is a continuation of Social Problems I and will deal with unemployment, mass poverty, problems of mass communication, world population, growth, war, and other major problems involving total societal organizations. Problems will be treated from the standpoint of social change, resulting disorganization, and value conflict. Prerequisite: SO 202 or permission of the Instructor.

SO 400 Seminar: Social Theory UG 3 credits

The history of social theory and selected topics in modern social theories, analysis of alternative conceptual approaches and their methodological requirements. Prerequisite: Major in Sociology or Behavioral Sciences.

SO 402 Seminar: Research Methods in Sociology UG 3 credits

Application of scientific methods to the analysis of social phenomena, methodological orientation in sociology, types of research procedure, nature of sociological variables. Prerequisite: Major in Sociology or Behavioral Sciences.

SO 502 Thesis G

Credit and hours to be arranged.

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DIVISION OF THE CREATIVE ARTS
DIRECTOR: PROFESSOR RIDLON

Art  Music  Speech and Theatre

The Division of the Creative Arts offers a program leading to the degree of Master of Education in Secondary Education with a concentration in creative arts. This program is designed for teachers and future teachers of creative arts. In addition to meeting general degree requirements, the student must complete the concentration requirement by electing courses appropriate to his degree program. All courses must be approved by the adviser. Courses which may be taken are listed under the several departments within the Division of the Creative Arts.
The Department of Art does not offer a program at the master’s degree level at this time. Art courses may be taken in partial fulfillment of the creative arts concentration for the degree of Master of Education in Secondary Education with a concentration in Creative Arts, if approved by the adviser. Departmental offerings are listed below.

AR 280 Understanding the Arts UG

Development of a framework for visual understanding and enjoyment. Analytical techniques applied to specific objects chosen for study. Attention focused on social, historical, and psychological factors. Assigned readings and museum visits.

AR 370 Basic Design UG

Two and three dimensional surfaces and their structural possibilities. Elements of plastic expression related to increasingly complex concepts of space and form arrangement.

AR 372 Drawing I UG

Basic concepts: perspective, modeling in light and dark, contour drawing. Exploration of various media: pencil, pen and ink, charcoal, ink wash, etc.

AR 373 Drawing II UG

Advanced projects will be planned according to the individual’s style, development and media preference. Prerequisite: AR 372 or permission of the instructor.

AR 374 Crafts in Special Education UG

Direct experience with a variety of materials and processes adapted to the needs of special education. May be repeated once for credit.

AR 375 Crafts Design UG

Direct creative experience with materials including wood, paper, cloth, yarn, plastics, stone, and printing materials. Craftsmanship and design techniques will be stressed.

AR 377 Glassblowing I UG

Introduction to glass as a means of creative expression. Emphasis upon basic forming techniques and methods of design in glass.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Type</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AR 378</td>
<td>Glassblowing II UG</td>
<td>UG</td>
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<td></td>
<td>Further exploration of glassblowing. Emphasis on studio equipment, design, color, and advanced techniques.</td>
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<tr>
<td>AR 379</td>
<td>Sculpture UG</td>
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<td></td>
<td>Design experimentation with traditional and new techniques. Media will include wood, metal, and resins.</td>
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<tr>
<td>AR 381</td>
<td>Ceramic Design I UG</td>
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<td></td>
<td>Basic wheel forming and construction techniques in clay. Glazing. Prerequisite: None, but AR 370 is recommended.</td>
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<tr>
<td>AR 382</td>
<td>Ceramic Design II UG</td>
<td>UG</td>
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<td></td>
<td>Development of student's own design ideas and technical ability. Glaze and clay compounding. Prerequisite: AR 381.</td>
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<tr>
<td>AR 383</td>
<td>Metal Design I UG</td>
<td>UG</td>
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<td></td>
<td>Basic design, construction, and forming techniques. Jewelry, small constructed forms. Prerequisite: None, but AR 370 recommended.</td>
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<tr>
<td>AR 384</td>
<td>Metal Design II UG</td>
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<td></td>
<td>Advanced problems and techniques. Prerequisite: AR 383.</td>
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<tr>
<td>AR 387</td>
<td>Painting I UG</td>
<td>UG</td>
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<td></td>
<td>Instruction in basic skills, picture organization, and oil painting techniques. Individual solutions to assigned problems. Field trips to museums and galleries.</td>
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<tr>
<td>AR 388</td>
<td>Painting II UG</td>
<td>UG</td>
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<td>Advanced projects will be planned according to the individual's style development. Prerequisite: AR 387 or permission of the instructor.</td>
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<tr>
<td>AR 389</td>
<td>Independent Study I &amp; II UG</td>
<td>UG</td>
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<td>Special problems in any studio art offered. Arrangements made by the department chairman.</td>
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<tr>
<td>AR 390</td>
<td>Interior Design UG</td>
<td>UG</td>
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<td></td>
<td>Traditional and contemporary styles in furniture and interior design are studied in illustrated lectures and field trips. Problems in the selection and arrangement of home furnishings afford opportunity for the development of individual taste.</td>
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</table>
AR 391 History of Art UG  3 credits

This course is designed to acquaint the student with the major historical developments in art. The phenomenon of style is examined in conjunction with its relation to the historical process. Techniques of stylistic analysis are employed in the study of objects chosen from museum collections. There will be assigned readings and museum work.

AR 394 Renaissance Art and Architecture UG  3 credits

This course is concerned with the development of the arts of architecture, painting, and sculpture in the Early and High Renaissance, with special emphasis on their interrelationships and their relation to the artistic theories and cultural ideals of the time.

AR 395 Baroque Art UG  3 credits

Mannerist and Baroque styles of the 16th through 18th centuries will be studied, with emphasis on their origins in Italy and development through western Europe. Prerequisite: AR 391, or AR 394, or permission of the Instructor.

AR 396 Modern Art UG  3 credits

This course involves a study of painting, sculpture and architecture from Neo-Classicism to the present. Emphasis will be placed on major contemporary art movements. Prerequisite: AR 391 or permission of the Instructor.

AR 398 Arts of the Far East UG  3 credits

A selective review of major achievements in the arts of the Asiatic tradition, including those of India, Indonesia, China, Korea, and Japan. Comparison, when appropriate, with the arts of the West. Prerequisite: AR 391 or permission of the Instructor.

AR 399 The Arts of the Americas UG  3 credits

A survey of the arts of the early Americas, including the Inca, Toltec, Mayan, and Aztec cultures, with selected examples from the primitive Indian Arts of North America.
DEPARTMENT OF MUSIC

Chairman: Professor Falkner
Associate Professor: Ferry, Gannon, Hayward, Liberles
Instructors: Ellis

The Department of Music does not offer a program at the master's degree level at this time. Music courses may be taken, in partial fulfillment of the creative arts concentration for the degree of Master of Education in Secondary Education with a concentration in creative arts, if approved by the adviser. Departmental offerings are listed below.

MU 131 Applied Voice (lower division) UG 1 or 2 credits

Private lessons in voice for the beginning student and those with a limited background in singing. Basic concepts in posture, breathing, diction and vocalises stressed. Solo material selected from vocal literature in English with an introduction to literature in a foreign language. Permission of Instructor required.

MU 140 Class Piano I UG 3 credits

For beginning piano students who desire a fundamental approach to the keyboard. Includes correct use of the hands at the keyboard, playing of simple scales, chords, arpeggios and simple melodies; scale construction and use of I, IV and V chords.

MU 141 Applied Piano (lower division) UG 1 or 2 credits

Private instruction for the beginning piano student and those with a limited background in piano. Material selected according to the ability of the student. May be repeated for credit.

MU 240 Class Piano II UG 3 credits

A continuation of Music 140 with advanced keyboard work and more difficult melodies and rhythmic patterns. Use of II, III and VI chords, simple modulations and keyboard harmony. Prerequisite: MU 140 or permission of Instructor.

MU 255 Music Materials for Elementary Teachers UG 3 credits

For those who wish to become more actively involved with music in the classroom. Includes singing, use of instruments, listening, reading music and rhythmic activity. Prerequisite: MU 240 or permission of the Instructor.
MU 256 Choral Techniques UG 3 credits

Investigation and study of voice, problems, unison and part singing, children’s literature, solfeggio, melodic and rhythmic dictation. Prerequisite: MU 240 or permission of the Instructor.

MU 331 Applied Voice (upper division) UG 1 or 2 credits

Private lessons in voice for those who have satisfied the requirements of MU 131 (lower division). A continuation of vocalises, breath control, solo material selected according to the ability and interest of the student from the literature of French, German and/or Italian composers as well as contemporary works in English.

MU 341 Applied Piano (upper division) UG 1 or 2 credits

For the advanced student of piano who wishes to improve his ability at the keyboard. Material selected according to the ability of the student. Prerequisite: MU 141 requirements or permission of the Instructor.

MU 355 Creative Activities in Elementary School Music UG 3 credits

Practical experiences offered in free and directed rhythmic responses, use of melody, percussion and chording instruments, use of the piano and singing activities. Prerequisite: MU 240 and 255, or permission of the Instructor.

MU 363 Music of the Renaissance and Baroque Periods UG 3 credits

A study of vocal and instrumental, sacred and secular music through readings, lectures, listening and discussion of selected compositions representative of these two periods. Prerequisite: MU 160 or permission of the Instructor.

MU 364 Music of the Classical and Romantic Periods UG 3 credits

A study of vocal and instrumental music of these two periods through selected readings, lecture, listening and discussion. Prerequisite: MU 160 or permission of the Instructor.

MU 365 Music of the Contemporary Period UG 3 credits

A study of present day music and its relationship to the past; includes experimental and electronic developments; readings, lecture, listening and discussion. Prerequisite: MU 160 or permission of the Instructor.

MU 366 Music of the Opera UG 3 credits

A listener’s approach to opera with representative examples from Peri to present day composers. Works by composers from Germany, France, and
Italy will be studied along with contributions from England and America. Prerequisite: MU 160 or permission of the Instructor.

MU 370 Music Skills UG 3 credits

For the elementary teacher or undergraduate student who wishes a knowledge of the basic fundamentals of music to use as a basis for further study in music. Includes scales, chords, singing, playing simple instruments and rudimentary harmonic progressions.

DEPARTMENT OF SPEECH AND THEATRE

Chairman: Associate Professor Barnett
Associate Professors: DuBin, Pitts
Assistant Professor: Dunne, Friedman, Spencer, Tower, Warye

The Department of Speech and Theatre offers a program leading to the degree of Master of Education in Secondary Education with a concentration in speech and theatre. This program is designed primarily for teachers and future teachers of speech and theatre. It also prepares students for further graduate work in speech and theatre. In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program. All courses must be approved by the adviser. Departmental offerings are listed below.

ST 290 Speech Correction I UG 3 credits

An introduction to the problems of normal language and speech development in children. A study of the most common functional and organic communication disorders, with emphasis placed on identification and treatment of these problems in the classroom situation. Lectures, reading, research.

ST 291 Phonetics UG 3 credits

The primary emphasis of this course will be upon the study of the International Phonetic Alphabet, and its application to the sounds of the language. The factors of articulation, enunciation, and pronunciation will be noted along with drill work in connection with the sounds of acceptable speech. Further, stress will be placed upon an understanding of the vowels and consonants and upon modes of sound production. Prerequisite: ST 200.

ST 310 Oral Interpretation UG 3 credits

This course will offer opportunity for the study and practice of various styles of presentation in the oral interpretation of prose and poetry. A detailed evaluation and analysis of that material which is suitable for
preparation and delivery to the class will be made. This course is especially recommended for those students with a definite interest in literature and humanities. Prerequisite: ST 200.

**ST 330 Creative Dramatics UG**

This course is designed to give training and methodology in developing the child’s creative faculties through the use of dramatic play. Students will participate in classroom exercises, and work in laboratory sessions with children in order to put into practice the concepts of preparation and evaluation learned through class discussion and lecture.

**ST 360 Group Discussions UG**

Principles of interpersonal communication in group situations with stress on participation, leadership and reasoning.

**ST 370 Play Production UG**

This course is designed to treat the various aspects of school play production, ranging from classroom to all-school presentations on the elementary or high school level. It deals with such problems as selecting a play, casting, directing, lighting, costuming and designing, and building scenery. Practical work in the above activities will be required of all students.

**ST 380 Stagecraft UG**

This course will offer the opportunity for the study of the principles of stagecraft. Students will also receive practical experience in the design, construction, painting, rigging and handling of stage scenery. In addition, lighting the stage and prop construction will be studied to a limited degree. Practical work in all areas will be required on a laboratory basis. Prerequisite: ST 370.

**ST 390 Principles of Acting UG**

To develop an appreciation of and skill in the fundamentals of acting. Classroom exercises, improvisations, and scenes are aimed at providing the beginner with a basic technique which can be applied to the creation of any role. Prerequisite: ST 370.

**ST 395 Principles of Directing UG**

To provide the basic knowledge and techniques the beginning director will need in order to interpret a play to an audience. Among the areas covered are play analysis, composition, movement, characterization, and rehearsal techniques. Prerequisite: ST 370.
ST 420 Children’s Theatre UG 3 credits

This course is designed as a survey of the history and objectives of theatre for the child audience. It examines some of the special techniques of acting, directing, and producing plays for children. Attention is given to play selection and adaptation of children’s literature for dramatic presentation. Students will direct scenes or “Cuttings” as part of their class work. Prerequisite: ST 370.

ST 400 Creative Oral Techniques for Teaching UG 3 credits

In the advanced course the student is helped to assume leadership responsibilities in the development of both meaning and form in logical and creative modes of oral communication. The students learn to use the more complex areas of oral communication, i.e., role-playing, creative dramatics, story telling, interpretive reading and choral speaking to help him develop the total communicative process. Prerequisite: ST 200.

ST 430 Theatre History UG 3 credits

Trends in dramatic and theatrical developments throughout the world, from Greece to contemporary drama.

ST 460 Discussion and Debate UG 3 credits

Through frequent practice and intensive study the student is trained in the principles and methods of communication as they apply to the group situation. The functional aspects of group membership, discussion, debate, logic, and leadership will be given particular attention. Prerequisite: ST 200.

ST 490 Speech Science UG 3 credits

Anatomy and physiology of Speech and hearing mechanism. Background factors of speech disorders.

ST 500 Thesis G

Credit and hours to be arranged.

DIVISION OF THE HUMANITIES
DIRECTOR: PROFESSOR RIDLON

English  Foreign Languages  Philosophy

The Division of the Humanities offers a program leading to the degree of Master of Education in Secondary Education with a concentration in humanities. This
program is designed for teachers and future teachers of humanities. In addition to meeting general degree requirements, the student must complete the concentration requirement by electing courses appropriate to his degree program. All courses must be approved by the adviser. Courses which may be taken are listed under the several departments within the Division of the Humanities.

DEPARTMENT OF ENGLISH

Chairman: Professor Ridlon
Professors: Chellis, DeRocco, Sheinfeld
Associate Professors: Gueren, Jarvis, Joki, McGinnis, Yokelson
Assistant Professors: Anderson, DeLisle, Keener, Krishnamurti, Smith, Nerney, Watson, Wood
Instructors: Angell, Fanning, Porter, Poule, Stanton

The Department of English offers a program leading to the degree of Master of Education in Secondary Education with a concentration in English. The program is designed primarily for teachers and future teachers of English. It also prepares students for further graduate work in English.

In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program. All courses must be approved by the adviser. Departmental offerings are listed below.

EN 200 Advanced Composition UG 3 credits
Expository writing is taught through frequent practice, analysis of models, and criticism by instructor and students.

EN 211, 212 Literary Classics of Western Civilization UG 3 credits each
Classic literature of Western Civilization will be studied in relation to historical background, but with particular emphasis on literary values. Among the works to be read are Homer's Iliad, tragedies of Aeschylus, Sophocles, and Euripides, Dialogues of Plato, selections from the Bible, Vergil's Aeneid, Dante's Inferno, Chaucer's Canterbury Tales, Cervantes' Don Quixote, plays by Shakespeare, Moliere, Goethe, and Shaw, and one or more modern novels.

EN 221, 222 Major English Writers UG 3 credits each
This course will emphasize the major figures of English literature from Anglo-Saxon times to the modern period. Authors will be studied in relation to historical background but with particular stress on literary values.
EN 230 Creative Writing UG  
This course provides the opportunity for work of a highly individual and creative nature, in fiction, non-fiction, verse, or drama. Suitable models for various genres will be studied, and frequent conferences will be held.

EN 231, 232 Major American Writers UG  
A general survey of American Literature from the Colonial beginnings to the present. Writers such as Franklin, Edwards, Irving, Poe, Hawthorne, Emerson, Whitman, Dickinson, Twain, James, Frost, Eliot, Faulkner, and Hemingway will be studied in their social and cultural contexts.

EN 235 The Short Novel UG  
This course will concern itself with the short novel as a form used by the writers of many countries. Works of Conrad, Dostoievsky, Faulkner, James, Joyce, Kafka, and Mann will be included.

EN 300 The History and Structure of the English Language UG  
The changes in the structure of the English language from Anglo-Saxon to modern English will be studied with attention to pertinent historical background. There will be an introductory study of structural linguistics and generative grammar.

EN 314 Literature of the Middle Ages UG  
This course will include non-Chaucerian writing in the Middle Ages with emphasis on lyricism, narratives and drama of the period. Among the works to be read will be Pearl, Piers Plowman, Gawain and the Green Knight, The Owl and the Nightingale, Everyman, selected miracle plays and Confessio Amantis.

EN 320 Chaucer UG  
This course is an introduction to Chaucer's life, times, and language. Although emphasis will be placed on the Canterbury Tales, other works will be examined also.

EN 330 Modern American Literature UG  
This course is designed to acquaint the student with the major literary trends in American writing of the twentieth century. The course focuses primarily on the novel, with examples from Dreiser, Hemingway, Fitzgerald, Lewis, Wilder, K. A. Porter, and Salinger.
EN 331, 332 United States Literature through the Nineteenth Century UG 3 credits each

In the first semester, the writings of the Puritans, Cooper, Brown, Poe, Emerson, Thoreau, Whitman, and Dickinson will be discussed. In the second semester, emphasis will be given to the novels and tales of Hawthorne, Melville, Twain, and James.

EN 335 Elizabethan and Jacobean Drama UG 3 credits

Reading and discussion of a number of plays with attention to contemporary social developments as well as to the historical development of the English Play.

EN 338 The Short Story UG 3 credits

The primary focus in The Short Story will be on the examination of the relationship between form and content in several British, American and continental short stories. A secondary concern will center on the historical development of the genre.

EN 340 Literature of the English Renaissance UG 3 credits

This course in the non-dramatic literature of the Age of Shakespeare will include the reading of works by such writers as Sidney, Spenser, Nashe, Marlowe, and Drayton. Although the emphasis will be on textual analysis, the historical, social, and cultural background of the period will also be examined.

EN 341, 342 Shakespeare UG 3 credits each

In this course selected plays of Shakespeare will be studied. In each quarter three plays, generally two tragedies and one comedy, will be read with attention to both language and thought.

EN 346 Southern Literature UG 3 credits

The course will begin with the Fugitives in the 1930's (Robert Penn Warren, Allen Tate, John Crowe Ransom, and Donald Davidson primarily) and their concern with the problem of the Southern writer's coming to grips with his identity as both a Southerner and an artist. From this point, the course will focus on the writings of such contemporary figures as William Faulkner, Tennessee Williams, Katherine Anne Porter, Flannery O'Connor, Carson McCullers, Eudora Welty, and Peter Taylor.

EN 350 The Modern English Novel UG 3 credits

This course entails a selective survey of major contributors to the English novel from Joseph Conrad through the school of the "Angry Young Men." Major attention will be given to the analysis of specific texts.
EN 353, 354 Modern Drama UG

This course will consider the main forces in modern drama. Starting with Ibsen, students will read and discuss selected plays of leading dramatists of Europe and America.

EN 360 The Victorian Novel UG

This course will concentrate on the major novelists of the 19th century: Dickens, Thackeray, Eliot, Meredith, and Hardy. Attention will be given to biographical and historical background.

EN 365 Victorian Prose and Poetry UG

The major emphasis will be placed upon the poetry of Tennyson, Browning, and Arnold, but the works of other 19th century poets such as Hopkins and Hardy will also be read and discussed. The essays of Carlyle, Arnold, Newman, Huxley, and others will also be studied.

EN 380 Milton UG

In this course the emphasis will be placed on the main poetical works of Milton: Paradise Lost, Paradise Regained, and Samson Agonistes. However, certain of the minor poetic works, as well as selected prose will be read also. Prerequisite: permission of the Instructor.

EN 383 Modern Irish Literature UG

This course will include Irish writing from 1890 to the present, with special emphasis on the works of Yeats, Synge, O'Casey, Joyce, O'Connor, and O'Faolain.

EN 386 English Romantic Poets UG

In this course the chief works of Wordsworth, Coleridge, Byron, Shelley, and Keats will be studied. Emphasis will be placed on textual analysis, but consideration will be given to historical background and to developments in philosophy and esthetic theory which have a direct bearing on Romantic poetry.

EN 387 Indo-Anglian Literature UG

This course will deal with literature written in English by Indian writers. The emphasis will be on fiction, particularly the novels and short stories dealing with the conflict between old and new in Indian national life.

EN 390 Literary Criticism UG

This course will serve as an introduction to the history of literary criticism from Aristotle to the present. Emphasis will be placed, however, on those
persistent esthetic, psychological, social, and cultural patterns which have helped shape the literature of our own age.

EN 391 Modern Literary Criticism UG 3 credits

This course will explore several twentieth-century critical approaches to literary analysis, interpretation, and evaluation. Particular attention will be given to literary concepts derived from psychoanalysis, sociology, anthropology, semantics, philosophy, and theology. Such topics as existentialist criticism, the "new criticism," and the theory of myth and symbol will be considered.

EN 392 Modern Poetry UG 3 credits

This course covers the major British and American poets of the 20th century with particular emphasis on the works of Hopkins, Yeats, Robinson, Eliot, Auden, and Thomas.

EN 393 Modern British Poetry UG 3 credits

This course covers the major British poets of the twentieth century with particular emphasis on the works of Hopkins, Yeats, Eliot and Thomas.

EN 394 Modern American Poetry UG 3 credits

This course covers the major American poets of the twentieth century with particular emphasis on the works of Robinson, Frost, Williams and Stevens.

EN 395 Eighteenth Century Literature UG 3 credits

This course will concentrate on the writings of several major literary figures, such as Swift, Boswell, Johnson, Defoe, Fielding, and Richardson.

EN 400 Techniques of Literary Research UG 3 credits

This course offers training in research procedures, with special reference to the materials and methods of literary study and publication. Various critical approaches to literature will be examined, and some evaluation of scholarly procedure will be made.

EN 492 Reading and Research UG credit arranged

This course offers the opportunity for independent study under the guidance of individual members of the department. To be considered for admission, one must be a senior of honor standing and must submit a general proposal for a topic or area of study.

EN 495 Seminar UG 3 credits

The topics explored and the areas covered in this course will vary from year to year. In 1970-71, the topic will be "Studies in Yeats and Eliot," in
which all the major poetry, and most of the minor poetry of both poets will be studied intensively.

EN 502 Thesis G

Credit and hours to be arranged.

DEPARTMENT OF FOREIGN LANGUAGES

Chairman: Associate Professor Arruda
Associate Professor: Briggs, Judah
Assistant Professors: Cotugno, Dawley, George, Giannini, Padula, Reordan, Shapiro
Instructor: Desuatels

The Department of Foreign Languages offers a program leading to the degree of Master of Education in Secondary Education with a concentration in foreign languages. This program is designed primarily for teachers and future teachers of foreign languages. It also prepares students for further graduate work in foreign languages. In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program. All courses must be approved by the adviser. Departmental offerings are listed below.

French

LF 181, 182 Advanced French UG 3 credits each

A concentration on more advanced aspects of the spoken and written French language. Conversational fluency through individual classroom participation is stressed. Prerequisite: LF 151, 152, or its equivalent.

LF 201 French Literature of the Middle Ages UG 3 credits

Reading in modern French translation reflecting main currents in medieval thought. Prerequisite: LF 181, 182, or its equivalent.

LF 252 Sixteenth Century French Literature UG 3 credits

The development of ideas, particularly humanist, in the works of Rabelais, the Pleiade and Montaigne. Prerequisite: LF 201 or its equivalent.

LF 281 French Conversation and Civilization UG 3 credits

Improvement of oral expression and pronunciation. Assigned topics on aspects of French Civilization to build vocabulary and to apply structures learned. Prerequisite: LF 181, 182, or its equivalent.
LF 301 17th Century French Literature UG

3 credits

The principal historical events and representative authors of France of the 17th century will be studied with the object of understanding Classicism as a literary movement. Prerequisite: LF 201 and 252, or their equivalent.

LF 352 18th Century French Literature UG

3 credits

The literary contributions of the Enlightenment and Encyclopedists to the French Revolution and pre-Romanticism. Prerequisite: LF 301 or permission of the Instructor.

LF 381 French Linguistics and Phonetics UG

3 credits

A linguistic approach to the sounds of the French language with emphasis on a mastery of the elements of correct standard pronunciation. Prerequisite: LF 181, 182, or its equivalent.

LF 401 19th Century French Literature UG

4.5 credits for 3 quarters

Through representative works the entire 19th century will be surveyed with special emphasis on principal literary movements: Romanticism, Realism and Symbolism. Prerequisite: LF 201, 252, 351, 352, or their equivalent.

LF 451 20th Century French Literature UG

4.5 credits for 3 quarters

Literary movements will be discussed and typical works of well-known authors will be read for class work and individual reports. Bourget, France, Gide, Proust, Claudel, Romains, Sartre, Camus and others. Prerequisite: LF 201, 252, 351, 352, or their equivalent.

LF 481 Advanced French Composition and Grammar UG

3 credits

A thorough study of French grammar to develop a written command of the French language. Prerequisite: LF 181, 182, or its equivalent.

German

LG 181, 182 Advanced German UG

3 credits each

Introduction to a more advanced level of the literature. Representative German authors will be read and discussed. Prerequisite: LG 151, 152, or its equivalent.

LG 191, 192 Scientific German UG

3 credits each

A systematic review of German grammar. Emphasis on vocabulary building for the reading of scientific material. Open to science majors as a substitution for LG 151, 152. Prerequisite: LG 101, 102, or its equivalent.
LG 201, 202 Survey of German literature UG 3 credits each

German literature from its beginnings to the present day. Representative works of the principle literary periods will be read and discussed. Prerequisite: LG 181, 182, or its equivalent.

LG 282 German Conversation and Civilization UG 3 credits

Designed to develop further the student's command of spoken German. Discussion topics will center upon aspects of German civilization and culture. Prerequisite: LG 181, 182, or its equivalent.

LG 301, 302 Modern German Literature UG 3 credits each

Ideas and Literary Currents of the modern period in the works of notable writers of the 20th century. Prerequisite: LG 201, 202, or its equivalent.

LG 351 German Romanticism UG 3 credits

Pertinent authors and their representative works. Romanticism as a literary movement. Prerequisite: LG 201, 202, or its equivalent.

LG 382 Medieval German Literature UG 3 credits

Highlights of medieval German Literature. Works of Wolfram von Eschenbach, Gottfried von Strabung, Hartmann von Ane and Walther von der Vogelweide. Prerequisite: LG 201, 202, or its equivalent.

LG 401 The Age of Goethe and Schiller UG 4.5 credits for 3 quarters

The Storm and Stress Period and Classical Period of German literature, with a focus upon Goethe and Schiller as the leading representatives of these movements. Prerequisite: LG 201, 202, or its equivalent. To be given in 1972-1973.

LG 451 German Drama, Prose and Poetry of the 19th Century UG 4.5 credits for 3 quarters

Representative writers of the century will be read and discussed, with particular emphasis upon Grillparzer, Kleist, Keller and Storm. Prerequisite: LG 201, 202, or its equivalent.

Portuguese

LP 181, 182 Advanced Portuguese UG 3 credits each

Stress on improvement of compositional and aural-oral skills. Literary texts from Brazilian and Portuguese literature. History of Brazil and Portugal. Prerequisite: LP 151, 152, or its equivalent.
Russian

LR 181, 182 Advanced Russian UG 3 credits each

Progressive development of the student's language proficiency through reading of scientific and literary texts, oral practice and written compositions. Prerequisite: LR 151, 152, or its equivalent.

Italian

LT 181, 182 Advanced Italian UG 3 credits each

A review of basic Italian grammar and presentation of more advanced structural elements. Stress on improvement of compositional and aural-oral skills. Varied cultural reading selections. Prerequisite: LT 151, 152, or its equivalent.

Spanish

LS 181, 182 Advanced Spanish UG 3 credits each

A more detailed study of Spanish grammar, Vocabulary development, correct pronunciation, and improved audio-oral skills. Cultural readings from Hispanic world. Prerequisite: LS 151, 152 or its equivalent.

LS 201, 202 Survey of Spanish Literature UG 3 credits each

Major literary movements, works and authors of peninsular Spanish literature from earliest times to the present. Prerequisite: LS 181, 182, or its equivalent.

LS 281 Spanish Conversation and Composition UG 3 credits

Improvement of oral and written proficiency through assigned and selected topics of conversation and composition. Prerequisite: LS 181, 182, or its equivalent.

LS 282 Spanish Civilization UG 3 credits

An introduction to the history, geography, social institutions, and culture of Spain. Prerequisite: LS 181, 182, or its equivalent.

LS 301 The Golden Age of Spanish Literature UG 3 credits

A study of the poetry, prose, and theater from the second half of the 16th century to the Baroque Age. Emphasis will be on the mystics, Gengora, Lope de Vega, Calderon, and Quenodo. Prerequisite: LS 201, 202, or its equivalent.
LS 351 Cervantes UG  
A study of the man and his works, with special emphasis on "Don Quixote." Prerequisite: LS 201, 202, or its equivalent.

LS 382 The Middle Ages UG  
A study of the evolution of Spanish literature through the first half of the 16th Century, Romances, Poema del Cid, La Celestina, Lazarillo de Tormes, El libro de Buen Amor. Prerequisite: LS 201, 202, or its equivalent.

LS 401 19th Century Spanish Literature UG  4.5 credits for 3 quarters  
The Romantic and Realist Movements. Representative works of the novel, poetry and drama. Caballero, Alarcon, Galdos, Valdes, Clarin, Bazan, Ibanez, Duque de Rivas, Gutierrez, Espronceda, Larra. Prerequisite: LS 201, 202, or its equivalent.

LS 451 20th Century Spanish Literature UG  4.5 credits for 3 quarters  
The Spanish novel, essay, poetry and drama from the Generation of '98 to the present. Unamuno, Baroja, Azorin, Machado, Jimenez, Lorca, Casono, Cela. Prerequisite: LS 201, 202, or its equivalent.

FL 390 Research Problem in Modern Languages UG  credit to be arranged  
A special project for advanced and honors students with a Modern Language concentration may be worked out with the Chairman of the Foreign Languages Department.

FL 502 Thesis G  
Credit and hours to be arranged.

DEPARTMENT OF PHILOSOPHY  
Acting Chairman: Professor Ridlon  
Associate Professors: Corkery, Joyal

The Department of Philosophy does not offer a program at the master's degree level at this time. Philosophy courses may be taken, in partial fulfillment of the humanities concentration for the degree of Master of Education in Secondary Education with a concentration in humanities, if approved by the adviser.

Departmental offerings are listed below.

PL 400 Comparative Religions UG  3 credits  
This course is designed to introduce to the students the tenets of the major religions.
PL 410, Existentialism UG 3 credits

A critical study of the existentialist movement in philosophy, concentrating on the concepts of human existence, anxiety, freedom decision, introduction to phenomenology. Reading from Keirkegaard, Heidegger, Sartre, Jaspers, Camus.

DIVISION OF NATURAL SCIENCES AND MATHEMATICS
DIRECTOR: DEAN HILFERTY

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DEPARTMENT OF BIOLOGICAL SCIENCES

Chairman: Professor Howe
Commonwealth Professor: Hilferty
Professors: Brennan, Cirino, Mish, Wall
Associate Professor: Morin
Assistant Professors: Hewitson, Jahoda
Instructor: Schaefer
Visiting Lecturer: Gabay

Master of Arts

The Department of Biological Sciences offers a program leading to the degree of Master of Arts in Biology, which is designed to prepare qualified students for research, further graduate study and teaching. An undergraduate major in biology, or its equivalent, is normally required for admission to this program. The student should have satisfactorily completed at least one semester of general botany and one semester of general zoology (or six semester hours of credit in a general biology course) as well as at least two semesters of calculus, organic chemistry and general physics.

In addition to meeting general degree requirements the student must complete courses appropriate to his degree program. All courses must be approved by the adviser. Departmental offerings are listed below.

Master of Education

The Department also offers a program leading to the degree of Master of Education in Secondary Education with a concentration in biology. This program is designed for teachers and future teachers of biology. It also prepares students for further graduate work in biology.

In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program. All courses must be approved by the adviser. Departmental offerings are listed below.
BI 281 Invertebrate Zoology UG 3 credits

The biology of invertebrates from a phylogenetic standpoint with emphasis on: taxonomy, morphology, histology, physiology, development, and natural history. Representatives of the principal classes of each phylum are studied. Prerequisite: BI 102 or permission of the instructor.

BI 282 Comparative Chordate Anatomy UG 3 credits

An ontogenetic and phylogenetic survey is made of chordate gross anatomy, supplemented by laboratory dissections of representative species. Emphasis is placed on the changes in chordate structure and biology that comprised their evolution, and an interpretation made of the whole series of change in the light of our modern knowledge of how evolution is brought about. Prerequisite: BI 102 or permission of the Instructor.

BI 283 Field Natural History UG 3 credits

The identification of local plants and animals with emphasis on the natural history of common animals, dominant biotic communities of Southeastern Massachusetts, general morphology and taxonomy of organisms, and techniques of collecting and preserving. Prerequisite: BI 101-102 or permission of the instructor.

BI 292 Plant Anatomy UG 3 credits

A comparative study of the structural, functional, developmental and phylogenetic characteristics of cells, tissues and organs in the vascular plants with emphasis on the angiosperms. Prerequisite: BI 101.

BI 300 Biochemistry UG 3 credits

A study is made of the functions, chemical transformations, and attendant energy changes associated with basic biological phenomena. Prerequisite: BI 101-102, CH 131-132, and MA 103-104, or permission of the Instructor.

BI 381 General and Comparative Physiology UG 3 credits

Physiological principles concerned in irritability, contraction, circulation, gas exchange, excretion, and hormonal regulation. Prerequisite: BI 102, CH 131-132, PH 181-182, and MA 103-104, or permission of the Instructor.

BI 385 Mammalian Physiology UG 3 credits

Consideration is given to general physiological principles and their application to the human body. Prerequisite: BI 102 and permission of the Instructor.
BI 393 Genetics UG 3 credits

The basic principles of heredity and variation in plants and animals, with emphasis on problem solving and historical development of the science. Prerequisite: BI 101-102, MA 103-104, or permission of the Instructor.

BI 395 Microbiology UG 3 credits

An introduction to the structure, function, and ecology of microorganisms with emphasis on bacteria and viruses. Prerequisite: BI 101-102, CH 131-132, or permission of the Instructor.

BI 397 Plant Physiology UG 3 credits

The growth and function of plants including cellular physiology, water relations, metabolism, respiration, photosynthesis, nutrition, growth regulation, and the influence of environment. Prerequisite: BI 101 and CH 131-132, or permission of the Instructor.

BI 405 Systematics and Evolution UG 3 credits

The theory of evolution and the operation of evolutionary forces as related to modern taxonomy, with emphasis on such topics as mutations, variations, hybridization, polyploidy, isolation, natural selection, population genetics, and the Zoological and Botanical Codes. Prerequisite: BI 393 or permission of the Instructor.

BI 410 Marine Biology UG 3 credits

An introduction to the marine ecosystems with emphasis on factors involved in the growth, diversity, and distribution of populations occupying the marine habitats of the Eastern Atlantic coast. Prerequisite: BI 101-102, BI 281, BI 283, BI 393, BI 397, CH 131-132, MA 103-104, PH 181-182, or permission of the Instructor.

BI 411 Ecology UG 3 credits

The dynamics and evolution of populations, communities, and ecosystems are emphasized. Students become acquainted with the communities of Southeastern Massachusetts through field studies. Prerequisites: BI 281, BI 283, BI 393, BI 397, CH 131-132, MA 103-104, PH 181-182, or permission of the Instructor.

BI 413 Mycology UG 3 credits

An introduction to the fungi: their structure, taxonomy, physiology, and genetics. The techniques and importance of the fungi in solving biological problems will be stressed. Prerequisite: BI 101, BI 393, and CH 131-132, or permission of the Instructor.
BI 422 Radiation Biology UG 3 credits

The utilization, safety precautions and biological effects of unstable isotopes and electromagnetic radiation. Prerequisite: BI 101-102, CH 131-132, MA 103-104, PH 181-182, or permission of the Instructor.

BI 427 Cytology UG 3 credits

Cellular morphology and organization including descriptions of major intracellular processes and the functional significance of cellular structures. Prerequisite: BI 101-102, or permission of the Instructor.

BI 502 Thesis G

Credit and hours to be arranged.

BI 520 Neurophysiology G 3 credits

The physiology of central and peripheral nervous systems, receptors, and muscles, considered in both vertebrates and invertebrates. Prerequisite: BI 102, BI 381, CH 131-132, MA 103-104, and PH 181-182, or permission of the Instructor.

BI 521, 522 Intertidal Biology G (NSF) 3 credits for each semester

The conduction of a biological inventory of intertidal habitats; taxonomic identification of intertidal flora and fauna, stressing diversity of organisms and the application of modern systematics to current research in marine science; and environmental analyses, emphasizing the interrelationships of all factors of the marine environment. Prerequisites: A broad foundation in biology and at least one year each of college physics, chemistry, and mathematics.

BI 530 Entomology G 3 credits

A study of the biology and control of insects with emphasis on the taxonomy of the orders and major families. Formation of an identified insect collection is required. Prerequisite: BI 101-102, or permission of the Instructor.
DEPARTMENT OF CHEMISTRY

Chairman: Professor Chipman
Associate Professors: Marganian, Souza
Assistant Professors: Daley, Pagano

Master of Arts

The Department of Chemistry offers a program leading to the degree of Master of Arts in Chemistry, which is designed to prepare qualified students for research, further graduate study and teaching. An undergraduate major in chemistry, or its equivalent, is normally required for admission to this program. Applicants must have satisfactorily completed the following courses: one semester of differential calculus, one semester of integral calculus, two semesters of calculus based physics, two semesters of general chemistry with laboratory, one semester of analytical chemistry, two semesters of organic chemistry and two semesters of physical chemistry. Other laboratory courses in chemistry are desirable.

In addition to meeting general degree requirements, the student must complete at least 30 graduate credits in chemistry which shall include at least six semester hours of thesis credit (CH502).

Each graduate student must satisfactorily complete the following core curriculum or present evidence that it has been successfully completed.

CH 450 Instrumental Analysis
CH 597 Advanced Physical Chemistry I
CH 598 Advanced Physical Chemistry II
CH 591 Advanced Organic Chemistry I
CH 592 Advanced Organic Chemistry II
CH 444 Advanced Inorganic Chemistry

A reading knowledge of German or Russian is required for the degree. All courses must be approved by the adviser. Departmental offerings are listed below.

Master of Education

The Department of Chemistry offers a program leading to the degree of Master of Education in Secondary Education with a concentration in chemistry. This program is designed primarily for teachers and future teachers of chemistry.

In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program. All courses must be approved by the adviser. Departmental offerings are listed below.
CH 241 Inorganic Quantitative Analysis UG 4 credits
A study will be made of the classical and modern methods for the volumetric and gravimetric determination of elements and groups. Prerequisite: CH 132, or permission of the Instructor.

CH 242 Principles of Inorganic Chemistry UG 3 credits
Modern structural concepts of inorganic chemistry and descriptive inorganic chemistry are presented at an intermediate level. Prerequisite: CH 241, or permission of the Instructor.

CH 250 Instrumentation UG 3 credits
The physical chemistry basic to modern analytical instrumentation will be discussed as the basis for the study of instrumental analysis. Lecture and laboratory. Prerequisite: CH 132, or permission of the Instructor.

CH 252 Recent Developments in Inorganic Chemistry UG 3 credits
Current topics, such as ligand field theory of coordination complexes, molecular orbital theory, stereochemistry, crystallography, rare-earth elements, nonaqueous solvents, spectroscopy, and kinetics of inorganic reactions will be treated, according to the interests of the students. Prerequisite: CH 132.

CH 343, 344 Organic Chemistry UG 4 credits each
A survey will be made of the chemistry of organic compounds from the points of view of synthesis, structure and reactions, including some study of the mechanisms of organic reactions. Prerequisite: CH 132, or permission of the Instructor is prerequisite for CH 344.

CH 381, 382 Physical Chemistry UG 4 credits each
A study will be made of the laws governing the physical and chemical behavior of compounds. Prerequisite: CH 132 and MA 210. CH 381 is prerequisite to CH 382.

CH 390 Research Problems in Chemistry UG credit and hours to be arranged
Special projects for advanced students desiring individual instruction in the methods of chemical research. Prerequisite: permission of the department.

CH 440 Advanced Organic Chemistry G 3 credits
This course will include selected topics in organic chemistry such as physical organic chemistry, mechanisms, alicyclic and heterocyclic chemistry or advanced synthetic methods. Prerequisite: CH 343, 344 and permission of the Instructor.
CH 441, 442 Qualitative Organic Analysis UG 3 credits for each semester

This course will review the reactions of organic compounds with emphasis on reactions of importance for classification and identification. Laboratory work involved the identification of both simple compounds and mixtures. Prerequisite: CH 344.

CH 444 Advanced Inorganic Chemistry I G 3 credits

A brief survey of atomic and molecular structure will be followed by a discussion of chemical applications of group theory, legend field theory, molecular orbital theory and spectroscopy of inorganic compounds. Synthesis and reaction kinetics of representative members of the transition metal complexes will be discussed in detail.

CH 450 Instrumental Analysis G 3 credits

Theory and practical application of instrumental methods are applied to chemical analysis. The course will include pH measurements, electrodeposition, potentiometry and spectroscopy. Prerequisite: CH 381 and CH 382. CH 382 may be taken concurrently.

CH 461, 462 General Biochemistry UG 3 credits for each semester

A study will be made of the chemical components of living matter and the major processes of cellular metabolism. Prerequisite: CH 343, 344, and permission of the Instructor.

CH 480 Special Topics in Physical Chemistry G 3 credits

Topics of an advanced nature in physical chemistry will be selected, with an emphasis on recent developments in the field. (Possible topics: N.M.R., E.S.R., elementary quantum mechanics, statistical thermodynamics). Prerequisite: CH 382 and permission of the Instructor.

CH 481, 482 Modern Structural Chemistry G 3 credits each semester

The structural approach, based on the concept of electron pairing in molecular orbitals, will be applied to inorganic and, to a lesser extent, organic chemistry. Topics to be covered will include: electronic structure and chemical bonding, spectroscopy, acid-base chemistry, stereochemistry, equilibrium, elementary thermodynamics, electrochemistry and modern nuclear chemistry.

CH 502 Thesis G

Credit and hours to be arranged.
CH 581 Modern Organic Chemistry G 3 credits

A study of organic chemistry from a theoretical viewpoint which excludes most of synthetic organic chemistry from consideration. Topics to be covered will include: the structure and charge distribution of functional groups, structure proof by chemical and physical methods, stereochemistry, inductive effects, resonance, steric effects, and organic reaction mechanisms.

CH 582 Biochemistry G 3 credits

A study of the chemical components of living matter and of the major processes of cellular metabolism, including the fundamental chemical characteristics of biological compounds and enzymatic reactions.

CH 583 Dynamic Organic Chemistry G 3 credits

A survey of organic chemistry from a mechanistic viewpoint. Topics to be studied will include: kinetics of organic reactions, determination of the mechanisms of organic reactions, substitution reactions, elimination reactions, concerted reactions, molecular rearrangements, the reactions of carbonium ions, carbanions and free radicals.

CH 584 Survey of Biochemical Reactions G 3 credits

A survey of biochemical reactions from a mechanistic viewpoint. Emphasis will be placed on the study of the mechanism of reactions that are important in biochemical systems. Topics to be studied will include: the role of inorganic ions in biochemistry, mechanism of enzyme action, oxidative phosphorylation and electron transport, biogenetic schemes, and the transfer of genetic information. A knowledge of organic chemistry (CH 583 or equivalent) is a prerequisite for this course.

CH 585 Atomic and Molecular Structure G 3 credits

A modern approach to atomic and molecular structure will be developed and applied to selected cases from inorganic and organic chemistry. Topics to be covered will include the following: atomic structure, the molecular orbital approach to molecular structure, antibonding orbitals, introductory ligand field theory, geometrical and optical isomerism, conformational analysis, correlation of structure and reactivity, and the conservation of orbital symmetry.

CH 591 Advanced Organic Chemistry I, Structure G 3 credits

Instrumental techniques of organic structure determination such as infra-red, ultraviolet and proton magnetic resonance spectroscopy and methods of separation and identification. Classic examples of modern structure proofs will be considered in detail. Students will conduct a literature search on the structure of an organic molecule and present a
short seminar on this structure proof. Practical experience with IR, UV, NMR and gas chromatography of the structure of an unknown organic molecule.

CH 592 Advanced Organic Chemistry II, Mechanism and Synthesis G 3 credits

A one-semester course in advanced organic chemistry designed for participants who have some background in elementary organic chemistry. Topics to be considered will include recent developments in the mechanism of organic reactions and organic synthesis. Special topics may include valence tautomerism, biogenetic synthesis, photochemistry, cycloaddition reactions and the Woodward-Hoffman rules for the conservation of orbital symmetry.

CH 597 Advanced Physical Chemistry I, Chemical Thermodynamics and Statistical Thermodynamics G 3 credits

The zeroth, first and second laws of thermodynamics, entropy and free energy functions. Probability and the thermodynamics, functions from a statistical consideration, the partition function.

CH 598 Advanced Physical Chemistry II, Atomic and Molecular Structure and Kinetics G 3 credits

An introduction to quantum chemistry, rotational and vibrational energy levels, first, second and third order reactions, the Arrhenius Equation and energy of activation, consecutive reactions, collision and transition state theories.

DEPARTMENT OF EARTH SCIENCES AND GEOGRAPHY

Chairman: Professor Maier
Professor: Furlong, Macewicz
Associate Professors: Boutilier, Fellows
Assistant Professors: Enright, Furlong
Instructors: Dillman, Drake

The Department of Earth Sciences and Geography offers programs leading to the degree of Master of Education in Secondary Education with a concentration in either earth sciences or geography. These programs are designed primarily for teachers and future teachers of earth sciences and geography. They also prepare students for further work in either earth sciences or geography.

In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program. All courses must be approved by the adviser. Departmental offerings are listed below.
ES 107 Management and Preservation of Natural Environment UG 3 credits

This course is devoted to a detailed examination of the occurrence, exploitation and conservation of natural resources, including minerals, soils, water, forests, grasslands, fisheries, wildlife, recreation areas and scenery. Public and private conservation policy is examined against current technical and philosophical developments. Emphasis is placed on conservation in the United States. Prerequisite: Permission of the Instructor.

ES 192 Historical Geology UG 3 credits

Historical Geology is a study of the major geological events on the earth as revealed by the structure and composition of the rocks and the evolution of the fossil record. Prerequisite: ES 181.

ES 252 Geography of Anglo-America UG 3 credits

In this course the fundamentals of geography are applied in the analysis of geographic regions of Anglo-America. This course is designed to give familiarity with the methods of securing, organizing, and presenting geographical data. Prerequisite: ES 181, ES 182, or ES 200.

ES 301 Astronomy II UG 3 credits

The major concern of this course is a study of the earth, moon, planets, sun, and other stars and galaxies. Emphasis is placed on such topics as the new findings of radio astronomy and the uses of earth satellites. Day and evening observations.

ES 302 Astronomy II UG 3 credits

This course deals with stars, galaxies, stellar evolution, instrumentation, and cosmology. Day and evening observations.

ES 303 Meteorology UG 3 credits

This is an introductory course in which atmospheric behavior, weather elements, and cyclonic phenomena such as hurricanes, tornadoes, and frontal circulations are analyzed.

ES 304 Climatology UG 3 credits

A study will be made of climatic elements and climatic controls and their application to the analysis of climatic regions of the world. Prerequisite: ES 303.

ES 305 Oceanography I UG 3 credits

This course will present a survey of marine biology and chemistry with emphasis on current research as well as past achievements in each field.
ES 306 Oceanography II UG  3 credits

A study will be made of ocean water temperature, circulation, shore lines, ocean basins, and mineral resources.

ES 315 Cartography UG  3 credits

This course aims to train students in the graphic presentation of geographic data, and acquaint them in the latest techniques of map construction.

ES 353 Urban Geography UG  3 credits

The geographic aspects of the city, including location, function, land use patterns, and tributary areas, will be analyzed. Prerequisite: ES 182, or ES 200, or AN 307, or SO 306, or permission of the Instructor.

ES 362 Economic Geography UG  3 credits

In this course the mineral, plant, and soil resources of the world are studied with emphasis on their location and present and potential uses. Manufacturing regions and the transportation systems that link the various regions of the world are also considered. Prerequisite: ES 181, or ES 182, or ES 200; or permission of the Instructor.

ES 372 Mineralogy UG  4 credits

This course will present an introduction to crystallography followed by the determinative and physical mineralogy of important rocks and ore minerals. Prerequisite: A knowledge of chemistry.

ES 462 Geology of North America UG  3 credits

Each of the physiographic provinces of North America will be studied in terms of their geomorphology and structural relationships. Prerequisite: ES 181.

ES 464 Economic Geology UG  3 credits

This course considers the geochemical and physical processes that produce metallic and non-metallic mineral deposits. Prerequisite: ES 181.

ES 475 Paleontology UG  3 credits

Topics covered will be a survey of the fossil record and an introduction to invertebrate and vertebrate paleontology. Emphasis will be placed on the most important phyla and environmental relationships. Prerequisite: ES 181 and ES 192, or background in Biology.
ES 483 Structural Geology UG  
3 credits

This course consists of a study of the architecture of the earth as related to rock structures, their origin, and description. Prerequisite: ES 181.

ES 484 Geomorphology UG  
3 credits

Emphasis will be placed on a study of the relationships between gradational and tectonic forces and the resulting surface configuration of the earth. Prerequisite: ES 181, and ES 182.

ES 502 Thesis G

Credit and hours to be arranged.

ES 504 Geography of USSR G  
3 credits

The geography of environment, resources and population are studied in relation to history and the present economic and social system of the Soviet Union. Prerequisite: ES 200 and ES 252, or ES 181 and ES 182, and permission of the Instructor.

ES 513, 514 Field Methods in Earth Science (NSF) G  
3 credits per semester

The development by participants of inquiry oriented field investigations for use by local school systems. Background lectures in field mapping techniques and regional geology. Open only to NSF participants.

DEPARTMENT OF MATHEMATICS

Chairman: Associate Professor Abramson
Associate Professors: Bent, Chincarelli, Harrington, Lemos, Mailloux, Makokian, McEntegart
Assistant Professors: Gleason, Quindley, Scalisi, Simpson
Instructors: Lambiase, Moore, Sutherland

The Department of Mathematics offers a program leading to the degree of Master of Education in Secondary Education with a concentration in mathematics. This program is designed primarily for teachers and future teachers of mathematics. It also prepares students for further graduate work in mathematics.

In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program. All courses must be approved by the adviser. Departmental offerings are listed below.

MA 210 Calculus I UG  
3 credits

This course includes inequalities, relations, functions, limits and continuity, the differentiation of algebraic functions, with applications to geometry, maxima and minima. Prerequisite: MA 106 or equivalent.
MA 211 Calculus II UG

This course is a continuation of Calculus I. The definite integral, differentiation and integration of the trigonometric and exponential functions, methods of integration, applications. Prerequisite: MA 210 or equivalent.

MA 212 Calculus III UG

This course is a continuation of Calculus II. Methods of integration and applications, partial differentiation, infinite series, multiple integration, applications. Prerequisite: MA 211 or equivalent.

MA 301 Abstract Algebra I UG

Introduction to the theory of rings, integral domains and fields through a study of integers, rational numbers, real numbers, complex numbers and polynomials; elementary group theory.

MA 303 Number Theory UG

Development of the number system, the Euclidean Algorithm and its consequences, theory of congruences, number-theoretic functions, Diophantine equations, quadratic residues.

MA 307 Linear Algebra I UG

Vectors and analytic geometry of space, vector spaces, systems of linear equations, determinants, linear transformations, and matrices.

MA 308 Linear Algebra II UG

Linear transformations and matrices, the algebra of matrices, bilinear and quadratic forms, polynomial rings, characteristic values and vectors of linear transformations, similarity of matrices, applications. Prerequisite: MA 307 or equivalent.

MA 310 Group Theory UG

Groups, subgroups, homomorphisms, normal subgroups and quotient groups, generators, normal structure and the Jordan-Holden theorem, direct products of groups. Prerequisite: Permission of the Instructor.

MA 316 Differential Equations UG

Ordinary differential equations of first and second order, linear differential equations with constant coefficients, the Laplace transform, applications. Prerequisite: MA 212 or equivalent.
MA 317 Sequences and Series UG 3 credits

Elementary point-set theory, Heine-Borel theorem, Cauchy sequences, convergence tests for infinite series, absolute convergence, power series, Taylor series and Fourier series. Prerequisite: MA 212 or equivalent.

MA 325 Foundations of Geometry UG 3 credits

A study of axiomatic systems, finite geometries, axiomatic Euclidean geometry, various non-Euclidean geometries, Klein's Erlangen program, transformation groups, invariant properties.

MA 326 Projective Geometry UG 3 credits

The principle of duality, perspectivity, projectivity, harmonic sets, cross ratio, transformation groups, projective theory of conics.

MA 331 Theory of Sets and Elementary Logic UG 3 credits

This course includes truth tables, rules of inference, method of proof, the algebra of sets, graphs of functions, and cardinal numbers. Prerequisite: MA 211 or permission of the Instructor.

MA 332 History of Mathematics UG 3 credits

The development of elementary mathematics from ancient to modern times.

MA 350 Fundamental Concepts of Mathematics UG 3 credits

An introduction to the most fundamental concepts of analysis, geometry, and algebra. Basic elements of set theory, a survey of the real and complex number systems, topics from number theory, permutations and combinations, plane analytic geometry, functions, sequences.

MA 351 Modern Mathematics for Elementary School Teachers I UG 3 credits

The objective of this course is to provide minimum background in modern mathematics for teachers of grades 4, 5, 6. This course will be devoted to a study of base positional notation and arithmetic of different bases, elementary set theory and logic, the real number system and its subsystems.

MA 352 Modern Mathematics for Elementary School Teachers II UG 3 credits

This course is designed for additional background in modern mathematics for teachers who have successfully completed the Level I course or its equivalent. This course will be devoted to a continuation of the study of the number systems of arithmetic and their applications to algebra and informal geometry. Prerequisite: MA 351.
MA 353 Modern Algebra for Elementary School Teachers UG 3 credits

The integers, integral domains, and topics from number theory; equivalence relations and congruences; real numbers, complex numbers, and fields; polynomials, group theory. Prerequisite: MA 352 or equivalent.

MA 354 Modern Geometry for Elementary School Teachers UG 3 credits

Plane geometric figures, curves and surfaces, congruence, measures, coordinate geometry, parallelism and similarity, non-Euclidean geometries. Prerequisite: MA 352 or equivalent.

MA 355 Probability and Statistics for Elementary School Teachers UG 3 credits

Permutations and combinations, finite sample spaces, random variable, binomial distributions, statistical applications. Prerequisite: MA 352 or equivalent.

MA 356 Calculus for Elementary School Teachers UG 3 credits

Graphs and curves, functions, differentiation and integration of algebraic and transcendental functions, applications. Prerequisite: MA 352.

MA 401 Advanced Calculus I UG 3 credits

This course includes fundamental theorems on limits and continuity, properties of derivatives, theory of integration. Prerequisite: MA 212 or equivalent.

MA 403 Probability Theory UG 3 credits

Permutations and combinations, calculus of probabilities, discrete and continuous random variables, expectation, elementary probability distributions, methods of estimation, sample spaces. Prerequisite: MA 212 or equivalent.

MA 407 Topology UG 3 credits

The elements of point set topology: closed sets and open sets in metric spaces, continuous mappings, connectedness, separation theorems and homotopy, applications. Prerequisite: MA 212 or equivalent.

MA 412 Mathematical Statistics UG 3 credits

Fundamental statistical methods, tests of significance and estimation based on large or small samples, simple correlation, linear regression, statistical inference, sequential analysis. Prerequisite: MA 403 or equivalent.
MA 415 Numerical Analysis UG

MA 416 Vector Analysis UG
Elementary set theory, vector space theory, inner product spaces, vector algebra, vector differential calculus, differential invariants, integral vector calculus, Stoke's theorem. Prerequisite: MA 212 or equivalent.

MA 422 Advanced Calculus II UG
Functions of several variables, partial derivatives, multiple integrals, sequences and series. Prerequisite: MA 401 or equivalent.

MA 440 Complex Analysis I UG
Analytic functions of a complex variable, differentiation and integration in the complex plane, Cauchy's theorems, infinite series, Laurent expansions, theory of residues. Prerequisite: MA 422 or equivalent.

MA 465 Applied Mathematics UG
The partial differential equations of physics, orthogonal functions, integral transforms. Prerequisite: MA 212 or equivalent.

MA 490 Research Problems in Mathematics UG credit and hours to be arranged
Special projects for advanced students desiring individual instruction in the methods of mathematical research. Prerequisite: Permission of the department.

MA 502 Thesis G
Credit and hours to be arranged.

MA 587 Matrix Algebra (NSF) G
Vectors and vector spaces, the algebra of matrices, elementary and matrix operations, systems of linear equations, determinants, linear transformations, characteristic roots, quadratic functions, applications to geometry. Open only to participants in the In-Service Institute.
This course is designed to prepare teachers to teach advanced placement calculus and to provide a solid foundation in concepts upon which topics covered in the latter part of such a course rests. Topics to be studied will include: infinite sequences, infinite series, transcendental functions, elementary differential equations, calculus of vectors. Open only to participants in the NSF I - Service Institute.

DEPARTMENT OF PHYSICS

Chairman: Professor Calusdian
Professors: Palubinskas, Weygand
Associate Professor: Blanchard, Harris

The Department of Physics offers programs leading to the degree of Master of Education in Secondary Education with a concentration in either physics or physical sciences. These programs are designed primarily for teachers and future teachers of physics or physical sciences. They also prepare students for further graduate work in either physics or physical sciences.

In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program. All courses must be approved by the adviser. Departmental offerings are listed below.

PH 243, 244 General Physics UG

A calculus-based study of the phenomena of mechanics, heat, sound, electricity, magnetism, and light. Prerequisite: MA 210, MA 211. PH 243 is a prerequisite to PH 244.

PH 371 Biophysics, Macroscopic Aspects UG

Study of the structure, function, and control of the skeletal, muscular, nervous, blood-vascular and other body systems of living things, particularly the human being, on the macroscopic or large-system level. This course may be taken independently of PH 372. Prerequisite: Satisfactory completion of a college-level course in physics and in biology, or the consent of the Instructor.

PH 372 Biophysics, Microscopic Aspects UG

Study of the structure, function, and control of living things, particularly the human being, on the microscopic or molecular level. This course may be taken independently of PH 371. Prerequisite: Satisfactory completion of a college-level course in physics and in biology, or the consent of the Instructor.
PH 381 Thermal Physics UG 3 credits
Thermodynamics, kinetic theory of gases, and statistical mechanics. Prerequisite: PH 244.

PH 385 Optics UG 4 credits
Study of Geometrical and Physical Optics. Prerequisite: PH 224.

PH 386 Nucleonics UG 3 credits
Nuclear instrumentation, the fission process and its applications, nuclear reactors, radiation shielding, radioactive waste disposal, and the application of nuclear technology to specific areas of the physical sciences. Prerequisite: PH 243, 244.

PH 387 Modern Physics UG 3 credits
Atomic and nuclear structure, elementary particles, kinetic theory, relativity, quantum theory, introduction to quantum mechanics, and nuclear theory. Prerequisite: PH 243, 244.

PH 388 Electricity and Magnetism UG 4 credits
Electrostatic and magnetic theory, direct and alternating current circuits, introduction to Maxwell's equations and radiation. Prerequisite: PH 243, 244.

PH 389 Mechanics UG 3 credits
Vector treatment of forces, torques; dynamics of particles and rigid bodied; work and energy; momentum; small oscillation theory; Lagrangian and Hamiltonian formulation of dynamics. Prerequisite: PH 243.

PH 390 Research Problems in Physics UG credit to be arranged
This course provides the opportunity for advanced students to investigate individual topics not usually covered in the required curriculum. Prerequisite: Permission of the department.

PH 392 Electronics UG 3 credits
Fundamentals of semiconductor and vacuum tube electronics will be presented and supported with physical principles. Laboratory experiments will provide a working understanding of electronic measurements and basic electronic circuits. Prerequisite: PH 243, 244.
PH 402 Quantum Mechanics UG 3 credits

Wave nature of matter; the Schrodinger equation; Application of the Schrodinger Equation to the electron, the hydrogen atom, multi-electron atoms and radiation. Prerequisite: PH 403.

PH 403 Mathematical Physics UG 3 credits

The purpose of this course is to develop the students' ability to solve many of the types of problems arising in modern physics and chemistry. Topics to be included are: Linear differential equations, vector analysis, partial differential equations, Sturm-Liouville theory, Fourier series, Laplace transform, and orthogonal functions.

PH 405 Nuclear Physics UG 3 credits

Nuclear Forces, Nuclear Models, Nuclear Reactions, Radioactivity, and Elementary Particles. Prerequisite: PH 387.

PH 502 Thesis G

Credit and hours to be arranged.

PH 583 Physics of the Atom G 3 credits

This course is the study of the atomic view of matter and radiation. Among the topics covered are: the kinetic theory of gases, theory of the electron, Bohr’s theory of the atom, many electron atoms, theory of molecules and solids, classical theory of radiation, the quantum theory of radiation and spectra, and the theory of relativity.

PH 584 Physics of the Nucleus and Elementary Particles G 3 credits

This course is a study of the nucleus and the relationship of the elementary particles. Among the topics covered are: nuclear structure, radioactivity, nuclear reactions, nuclear accelerators, conservation laws, symmetry and invariance principles, unified view of the elementary particles, and cosmic rays.

PH 585 Physics of the Solid State G (NSF) 3 credits

This course will present a unified treatment of the basic models used to describe solid state phenomena. Topics to be covered will include: crystal structure; electric, magnetic and thermal properties of matter; transport properties of metals and semi-conductors; band theory; superconductivity. This course is open only to participants in the National Science Foundation In-Service Institute.
PH 587 Radiation Physics I G 3 credits

Wave propagation and the electromagnetic spectrum, interference, diffraction, polarization, coherence theory, electromagnetic theory. This course is open only to participants in the National Science Foundation In-Service Institute.

PH 588 Radiation Physics II G 3 credits

Blackbody radiation, photo-electric effect, the Bohr Model of the Atom and Atomic Spectra, the Schrodinger equation and applications to radiation problems. This course is open only to participants in the National Science Foundation In-Service Institute.

PH 594 Special Topics in Junior High Science I G (NSF) 6 credits

An introduction to the Junior High School science programs developed by the Princeton Project and by the Educational Research Council of America. Lectures, laboratory work, model classes, and field trips will be included in this course. This course is open only to participants in the National Science Foundation College-School Cooperative Institute.

PH 595 Special Topics in Junior High Science II G (NSF) 3 credits

A continuation of the course PH 594 in which the Princeton Project and the Educational Research Council's Junior High science programs are studied and evaluated. This course is open only to participants in the National Science Foundation College-School Cooperative Institute. Prerequisite: PH 594.
Master of Education in Guidance

The Department of Education Services offers a program leading to the degree of Master of Education in Guidance. This program is designed for present and future counselors and guidance directors.

In addition to meeting general degree requirements, the student must satisfactorily complete: ED 430, ED 530, ED 534, and either ED 443 or ED 450; one year of successful teaching, at the appropriate level, in an accredited school; as well as the departmental concentration requirement. The latter is met through the election of courses appropriate to the degree program. All courses must be approved by the adviser. Departmental offerings are listed below.

Master of Education in Learning Disabilities

The Department also offers a program leading to the degree of Master of Education in Learning Disabilities. This program is designed for experienced teachers and only those who have successfully completed one full year of teaching in an accredited school may apply for admission to this program. Students may take a program which emphasizes: specialization within the classroom; special class management; itinerant teaching or tutoring.

In addition to meeting general degree requirements, the student must satisfactorily complete: ED 410, ED 411 and PY 228, as well as the departmental concentration requirement. The latter is met through the election of courses appropriate to the degree program. All courses must be approved by the adviser. Departmental offerings follow.
Master of Education in School Administration

The Department also offers a program leading to the degree of Master of Education in School Administration. This program is designed for present and future department heads, district office managers and principals. Only those who have successfully completed one full year of teaching in an accredited school may apply for admission to the program.

Applicants who plan to prepare for administrative positions at the elementary school level must have fulfilled the teaching requirement at the elementary school level, and those who plan to prepare for administrative positions at the secondary school level must have fulfilled the teaching requirement at the secondary school level. Those who anticipate working in such capacities as curriculum directors and superintendents, should plan to do graduate work beyond this degree.

In addition to meeting general degree requirements, the student must satisfactorily complete: ED 430, ED 568 and either ED 561 or ED 562. Students whose primary interest is in elementary school administration, must elect ED 561. Students whose primary interest is in secondary school administration, must elect ED 562. All applicants must complete an interview with the Education Services Department prior to acceptance. This interview will be arranged by the department. The student must also satisfy the departmental concentration requirement. The latter is met through the election of courses appropriate to the degree program. All courses must be approved by the adviser. Departmental offerings are listed below.

Master of Education in Special Education

The Department also offers a program leading to the degree of Master of Education in Special Education. This program is designed for teachers and future teachers of handicapped children and exceptional children, including the academically talented. In addition to meeting general degree requirements, the student must satisfactorily complete: ED 410, ED 411 and PY 228, as well as the departmental concentration requirement. The latter is met through the election of courses appropriate to the degree program. All courses must be approved by the adviser. Departmental offerings are listed below.

ED 400 History of American Education UG 3 credits

An examination of the development of education in America from colonial times up to the present with the consideration of probable future directions.

ED 401 Comparative Education UG 3 credits

Representative educational patterns from Asia, Africa, Europe, North and South America and their relationships to social institutions and problems.
ED 402 Team Teaching UG 3 credits

Emphasis will be placed on the nature, objectives, and development of the team teaching idea; its organization, team makeup, planning and instruction; student grouping and scheduling; facilities, materials and equipment; instruction and adaptation to existing conditions; the ungraded school; and team teaching and the community.

ED 403 Professional Ethics UG 3 credits

Ethical principles upon which the Education Profession is based, those standards which should guide professional service in a moral not legal sense. Emphasis will include: criteria of a profession as applied to teaching; responsibility and privileges of the profession; codes of ethics - nature, formation, interpretation, application, and enforcement; professional organizations - purpose, organization and achievements; relation of the professional role to private life; and interpretation of specific current situations including those suggested by class members.

ED 404 Fundamentals of Data Processing UG 3 credits

Introduction to the theory and methodology of electronic data processing. Development of the history and classification of computers. Examination of machine and symbolic languages, storage methods, peripheral equipment and numbering systems. Emphasis on the role of the computer in the educational systems of today.

ED 405 Teaching Basic Driver Education UG 3 credits

Basic knowledge and skills in teaching Driver Education. Emphasis will be placed on human characteristics of the driver, classroom techniques and driving skills. Acceptable for certification.

ED 410 Introduction to Special Education UG 3 credits

A survey of all phases of Special Education emphasizing the program for mentally and physically handicapped children, for emotionally disturbed children, and for the academically talented. Equal consideration will be given to the slow learner and the perceptually handicapped.

ED 411 Methods and Materials in Special Education UG 3 credits

The planning, developing and guiding of pupil experiences in order to attain desired outcomes through the functional application of the subject matter. The philosophy, general and specific aims, identification and classification, and curriculum development of the educational program for retarded children will be stressed.
ED 412 Organization and Administration of Special Education UG 3 credits

A comprehensive study of the psychological diagnosis, the personnel, the curriculum, the facilities, the complete pupil services in an effective Special Education program. Prerequisite: PY 200 and ED 410.

ED 413 Industrial Arts in Special Education UG 3 credits

The planning procedure, the necessary equipment, and the required techniques needed to implement both craft and industrial arts programs and to improve motor coordinative skills. Prerequisite: PY 200 and ED 410.

ED 414 Domestic Arts in Special Education UG 3 credits

Procedures for teaching practical domestic knowledge such as home management, cooking, sewing, appearance, home nursing, child care and budgeting. Prerequisite: PY 200 and ED 410.

ED 415 Methods and Materials for the Academically Talented UG 3 credits

Emphasis on the identification and placement of gifted pupils in our schools and the related program, enrichment activities, creative development, method and materials, modified curriculum, administration, motivation and treatment of underachievement. Prerequisite: PY 200.

ED 416 Teaching the Slow Learner UG 3 credits

Emphasis is placed upon identification, methods of instruction, proper social and vocational adjustment, and concrete presentation of all academic activity for this type of pupil. Prerequisite: PY 200.

ED 417 Teaching Emotionally Disturbed Children UG 3 credits

Classroom facilities including carrels, learning experiences, administrative functions, educational materials and the administration of the program will be emphasized. Prerequisite: PY 200 and PY 410.

ED 418 Etiology, Dynamics and Treating of Emotionally Disturbed Children UG 3 credits

The causes, characteristics, behavioral aspects and accepted syndromes for identification will be emphasized as well as the psychiatric procedures involved. Prerequisite: PY 200 and ED 410.

ED 419 Workstudy Program in Special Education UG 3 credits

Workstudy programs for mentally retarded students will be carefully studied for the purpose of the most effective work/vocational placement
and follow-up to insure gainful employment. Legal information and labor rights will be presented. Prerequisite: PY 200 and ED 410.

**ED 420 Educational Measurement UG**

3 credits

Procedures for developing and evaluating classroom teacher-made tests and a survey of standardized testing practices used in the K-12 program. Prerequisite: PY 200.

**ED 426 The Trainable Mentally Retarded UG**

3 credits

The complete responsibility of the school, the community and the residential school in regard to identification, training, physical facilities, and instructional techniques will receive consideration. Prerequisite: PY 200 and ED 410.

**ED 427 Guidance in Special Education UG**

3 credits

The complete diagnostic process, understanding of case summary, educational guidance throughout the school attendance, and vocational guidance. Prerequisite: PY 200, ED 410.

**ED 428 Rehabilitation and Special Education UG**

3 credits

Review of all the procedures and processes of helping the mentally retarded, the physically handicapped, the emotionally disturbed, and the multi-handicapped through the medium of rehabilitation services. Prerequisite: PY 200, ED 410.

**ED 430 Principles and Practices in Guidance UG**

3 credits

Emphasis will be placed on the philosophy and historical development of the guidance movement; the need for guidance; the nature of guidance; the nature of guidance services in the schools of today; the personnel, facilities, and procedures involved; and the role of the classroom teachers in guidance.

**ED 480 Philosophy of Education UG**

3 credits

An introduction to thinking critically and imaginatively about education through reading and discussion of primary sources. Emphasis is placed on understanding the philosophical presuppositions which underlie educational practices and policies.

**ED 492 Supervised Teaching in the Public Schools U**

6 credits

Provision of opportunity under regular classroom conditions for continuous supervised experiences in all classroom activities of the public schools. Experience is gained in the study of individual differences,
teaching techniques, and classroom management. Supervision is given by the classroom teacher and by members of the college faculty. Students are expected to carry a minimum responsible teaching load equal to 50% of the regular classroom teachers’s assignment. Prerequisite: This course (experience) is open only to students matriculated for a degree at the State College at Bridgewater (B.S., A.B. or M.Ed.). M.Ed. Students must have completed: 1. all other prerequisite courses; 2. 24 credits of appropriate graduate requirements for the degree; and 3. 18 credits in the subject matter area in which the Student Teaching is to be done. These hours are to be approved by the Director of Teacher Preparation.

Preparation.

ED 500 Research and Evaluation G 3 credits

Emphasis on the evaluation of completed research and the carrying out of a research study utilizing the criteria developed during class presentations. Prerequisite: ED 420.

ED 505 Historical Foundations of Education G 3 credits

A study of the contemporary American School and of the trends, forces and ideas which influenced its development.

ED 513 Seminar in Special Education G 3 credits

A careful research to help determine changes in this field so that improved services and techniques might be realized. Prerequisite: At least 24 credits toward the M.Ed. in Special Education.

ED 514 Directed Study in Special Education G 3 credits

Individual research and preparation for the Master’s thesis. Prerequisite: At least 24 credits toward the M.Ed. in Special Education.

ED 515 Teacher Orientation to Learning Disabilities G 3 credits

Acquaint in-service teachers with current statistics concerning children with learning disabilities and encourage appreciation of the spectrum of difficulties these children have. Diagnosis and evaluation will be studied in conjunction with the fields of perceptual handicaps, physiology, neurology, and psychology. Prerequisite: PY 200 and ED 330.

ED 516 Development of Visual and Perceptual Skills in Young Children G 3 credits

Development of vision as part of a sensory-action system with stress on the interaction between the functional and clinical aspects of vision care in the growing child. Considerable time devoted to the recognition of perceptual skills and classroom problems involved in learning and learning difficulties. Prerequisite: ED 545 or consent of the Instructor.
ED 517 Development of Thought and Language in Young Children G 3 credits

Heavy emphasis on the basic principles of child growth and development. Language development in the whole child will be complemented and supplements with a concentration on language disorders, testing and remediation.

ED 518 Workshop in Learning Disabilities G 3 credits

Structuring of materials based on methodology in teaching perceptually handicapped children, and the experiential tutoring with children previously diagnosed by clinics or recommended upon completion of the SPEP forms.

ED 519 Supervised Teaching of the Perceptually Handicapped G 3 credits

Supervised teaching (or tutoring) in a program for perceptually handicapped.

ED 520 Psychological Foundations of Education G 3 credits

A systematic exploration of the various psychological principles related to teaching and application of these principles in specific classroom situations. Special emphasis on social psychology, dynamics in interpersonal relationships and group processes, motivation, and discipline theory. Prerequisite: PY 200 and one of the following: PY 222, PY 224 or PY 226.

ED 522 Measurement of Intelligence - Binet G 3 credits

Training for administration, scoring and interpretation of the Binet Intelligence Scale. A test kit is a necessity. Prerequisite: PY 200 and ED 420.

ED 524 Measurement of Intelligence - WPPSI, Wais & Wisc G 3 credits

Training for administration, scoring and interpretation of the Wechsler Intelligence Scales. Test kits are necessary. Prerequisite: PY 200 and ED 420.

ED 530 Counseling Theory and Practice G 3 credits

Emphasis will be placed on the principles of counseling and the application of the basic techniques to the counseling process. The roles of both guidance personnel and teachers will be stressed. Case studies will be used and situational problems discussed. Prerequisite: ED 430.
ED 531 Organization and Administration of Guidance Programs G 3 credits

Procedures for creating and operating a program of guidance services in the public school including basic principles and practices and how guidance services and activities can be adapted, organized, and administered. The course will give special attention to immediate NDEA Act applications. Prerequisite: ED 430.

ED 532 Practicum in Counseling G 3 credits

Emphasis will be on the practice of counseling. Multiple counseling sessions using tapes will be emphasized. Supervised observation will be included to help measure individual assessment of growth and competence. Prerequisite: ED 530.

ED 533 Psychological Tests in Guidance G 3 credits

Introduction of the school counselor to the basic principles of psychological testing and the most commonly used instruments for assessing intelligence achievement, aptitude, interest and personality. Prerequisite: ED 420 and ED 430.

ED 534 Occupational and Educational Information G 3 credits

A study in the methods of presenting occupational and educational information in formal guidance programs and in units on vocations in subject matter classes. Educational information will be considered and collected. Individual situations will be explored and recommendations made. Prerequisite: ED 430.

ED 535 Principles and Practices in Placement G 3 credits

The methods and materials used in placement in educational programs beyond secondary school, in public schools, in private schools, and in pre-primary schools. The various approaches to in-school needs of children and the role of guidance personnel as members of the educational team in the satisfaction of these needs. Objective testing programs as they pertain to academic placement will be considered. Prerequisite: ED 430.

ED 560 The American Public School Today G 3 credits

(Replaces Principles and Practices of School Administration) A survey of the principles of school organization and administration; program, pupil services, personnel, plant and equipment, and public relations. Emphasis on common practice, issues and trends. Experience in staff participation through the use of the administrative process in class work and projects both individual and group. A core course for all M.Ed. programs and a prerequisite for courses in school administration.
ED 561 Elementary School Administration G 3 credits

The application of the general principles of school administration to the specific problems of the elementary school. Emphasis on the areas of elementary program, plant, services, pupil control and accounting, personnel and public relations. Prerequisite: ED 560.

ED 562 Secondary School Administration G 3 credits

The application of the general principles of school administration to the specific problems of the secondary school. Emphasis on the areas of secondary program, pupil administration, plant and facilities, personnel and public relations. Prerequisite: ED 560.

ED 563 Personnel Administration in Public Schools G 3 credits

The nature, development, and important of personnel administration and the general principles, preparation and procedures for its implementation. Special topics will include selection, orientation, assignment, supervision, rating and the establishment of the type of morale essential for the most effective teaching-learning atmosphere. Prerequisite: ED 560.

ED 564 Public School Supervision G 3 credits

The philosophy and function of supervision and the roles of the various staff members responsible for supervision in a modern public school. Prerequisite: ED 560.

ED 565 School Finance and Business Administration G 3 credits

The financial support for public schools from local, state, and federal governments. School budgets, accounting, and purchasing procedures, distribution of supplies and services, transportation, food service, management and maintenance of the school plant. Prerequisite: ED 560.

ED 566 School Plant Administration G 3 credits

For the specialist in school administration who may ultimately go on to school district administration as an assistant superintendent, business manager, director or buildings and grounds or superintendent. In depth coordination of the many factors involved in planning, construction, maintaining and administering the modern school plant. Prerequisite: ED 560.

ED 567 Administration of the School Activity Program G 3 credits

The nature and function of student activities, the management of the activity program (with an administrative emphasis) and an analysis of the types of student activities.
ED 568 Seminar in Problems of School Administration G 3 credits

The final professional course for administration majors. Study and analysis of current problems and issues in elementary and secondary school administration. Student solutions to these problems will be presented to the class as a whole. Prerequisite: Twenty-four (24) credit hours must be completed toward the Master's Degree in School Administration including five (5) other Administration courses. Consent of major adviser is also necessary.

ED 569 Legal Aspects of School Administration G 3 credits

A general overview of the legal rights, duties and liabilities of school personnel in general relationship to the school committee in Massachusetts. The course is intended for administrators, prospective administrators, and classroom teachers interested in the legal aspects of school committees, school property, teaching contracts, tenure, prevention of injury and accidents to students, relationships with parents, and a general survey of educational law cases at the local, state, and national level.

ED 570 Federal Assistance to American Education G 3 credits

The goals, content, federal priorities, and evaluation of federal-aid-to-education programs will be studied with particular emphasis on implications to schoolmen. Special attention will be devoted to the various titles of the Elementary and Secondary Education Act of 1965 and its subsequent revisions and amendments.

ED 580 Philosophical Foundations of Education G 3 credits

A critical and intensive analysis of selected concepts and beliefs which function as the basis of recent philosophies of education and their relation to current educational practices and policies. Readings from recent philosophers of education. Prerequisite: ED 480.

ED 590 Social Foundations of Education G 3 credits

A critical examination of the effects of various social institutions, groups, and situations on educational policy and content. Prerequisite: SO 202.
DEPARTMENT OF ELEMENTARY EDUCATION

Chairman: Associate Professor Dickinson
Professors: Deasy
Associate Professors: Francis, Gamson, Nadal, Sprague, Wood
Assistant Professors: Marion Doyle, Mary Doyle, Kent, King, Menice
Instructors: Phillips, Thornell, Wallace

Master of Education in Elementary Education

The Department of Elementary Education offers a program leading to the degree of Master of Education in Elementary Education. This program is designed for teachers and future teachers of grades one through six. It is flexible enough to meet the needs of those with a background in the liberal arts as well as those who have an undergraduate major in elementary education.

In addition to meeting general degree requirements, the student must satisfactorily complete ED 450 and ED 554 as well as the departmental concentration requirement. The latter is met through the election of courses appropriate to the degree program. All courses must be approved by the adviser. Departmental offerings are listed below.

Master of Education in Elementary School Mathematics

The Department in conjunction with the Department of Mathematics offers a program leading to the degree of Master of Education in Elementary School Mathematics. This program is designed for teachers and future teachers of elementary mathematics. In addition to meeting general degree requirements, the student must satisfactorily complete: ED 350, ED 351, ED 550, MA 353 and MA 354 as well as the departmental concentration requirement. The latter is met through electing education and/or mathematics courses appropriate to the degree program. All courses must be approved by the adviser. Departmental offerings are listed below.

Master of Education in Reading

The Department also offers a program leading to the degree of Master of Education in Reading. This program is designed for present and future curriculum specialists in reading and language, reading consultants, reading supervisors and teachers of remedial reading.

In addition to meeting general degree requirements, the student must satisfactorily complete: ED 541 (ED 542, ED 543) and ED 544 as well as departmental concentration requirement. The latter is met through the election of courses appropriate to the degree program. All courses must be approved by the adviser. Departmental offerings follow.
ED 330 Teaching of Reading in the Elementary School UG 3 credits

A consideration of how reading instruction is initiated, how basic reading abilities are developed, and how growth in voluntary reading is encouraged. The essentials of an effective developmental reading program will be examined with attention to organizing reading groups and evaluating progress. Prerequisite: PY 200.

ED 331 Developmental Reading in the Secondary School UG 3 credits

A study of the techniques used to develop reading skills in the secondary school, evaluation of the modern reading materials available, a study of techniques used to analyze students' reading needs and a survey of administration of reading programs in the secondary school with implications for teachers as well as administrators. Prerequisite: PY 200.

ED 340 Methods and Materials in Elementary Language Arts UG 3 credits

Stress on the new language-focused approach to English and the modern concepts of English grammar and usage. Creative strategies and ideas in teaching the skills and abilities of listening, speaking, and writing. Prerequisite: PY 200.

ED 350 Methods and Materials in Elementary Mathematics UG 3 credits

Acquaintance with the purpose and content of the contemporary elementary school mathematics curriculum. Emphasis is placed on a study of a wide variety of effective teaching procedures and instructional materials designed to meet the varying abilities within the elementary school classroom. Prerequisite: PY 200 and MA 351, or permission of the Instructor.

ED 351 Improving Math Instruction in the Elementary School UG 3 credits

Appraisal of current mathematics programs, evaluation of individual pupils with a class, consideration of current instructional procedures and materials designed to provide for individual differences. Prerequisite: ED 350.

ED 360 Methods and Materials in Elementary Music UG 3 credits

The music program in the elementary grades including objectives, curriculum, personnel, pupil characteristics, meeting of individual differences, rhythmic activities, music reading and listening, creative teaching and general procedures, equipment and materials. Prerequisite: MU 110.
ED 362 Methods and Materials in Elementary Art UG 3 credits

The objectives of art education, role of the classroom teacher, developmental stages in the creative growth of children; materials, processes, tools and teaching procedures which will foster this growth at the various grade levels; correlation of art with other subject fields; and evaluation of student progress.

ED 370 Kindergarten Theory and Methods UG 3 credits

The Philosophy of modern kindergarten education - including exploration of emerging theories and new approaches. Developmental characteristics and learning styles of the young child are studied and related to initial school experiences designed to foster maximum growth. Curriculum methods and materials are examined and evaluated. Opportunities will be provided to observe the kindergarten child in the classroom. Prerequisite: PY 200.

ED 450 Elementary School Curriculum UG 3 credits

Roles of the administrator, the teacher, the parent and the child in the development of the changing curriculum in the elementary school. Use of action research, in-service training, innovations for curriculum improvement, school organizations, team teaching, the non-graded school, individualized instruction, the revaluation of objectives, and democratic values.

ED 452 Methods and Materials in Elementary Education UG 3 credits

Effective ways of vitalizing the teaching-learning process through teacher-pupil planning, participation and evaluation. Emphasis on creative teaching and the individualized approach. Resource persons, lectures, reports, discussions and displays of materials will be used. Prerequisite: PY 200.

ED 460 Methods and Materials in Elementary Science UG 3 credits

Goals of elementary school science instruction and the methods of attaining them through "newer" science programs, problem-solving, experimentation, and varied instructional media are examined. Prerequisite: PY 200.

ED 470 Methods and Materials in Elementary Social Studies UG 3 credits

Emphasis is placed on current trends including objectives, curriculum, creative pupil-teacher planning, teaching techniques involving extensive use of instructional media and study tours of New England. Prerequisite: PY 200.
ED 474 Methods and Materials in Primary Education UG 3 credits

Emphasis on insight into ways of teaching Primary-Grade children, taking into consideration the basic philosophy of their education and promoting an understanding that each child is a unique individual. Stress on effective organization and management, what to teach, how to teach, the importance of skill development, the necessity for drill, and the use of practical creative techniques. Prerequisite: PY 200.

ED 540 Improving Reading Instruction G 3 credits

A consideration of how the teaching of reading can be improved through a thorough analysis of pupils' instructional needs, differentiated instruction in all essential skills, and a planned program to encourage voluntary reading. Current approaches and reading materials will be examined. The implications of differences among pupils in language and perceptual development, cognitive development and learning rate, and attitudes and values will be discussed. Prerequisite: PY 200.

ED 541 Diagnosis and Correction of Reading Difficulties I UG 3 credits

Designed to prepare both elementary and secondary remedial reading teachers, Part I of this course will emphasize the identification of specific instructional needs, development of remedial plans, and provision of highly motivated instruction to overcome indicated weaknesses. Prerequisite: ED 330 or ED 540.

ED 542 Diagnosis and Correction of Reading Difficulties II G 3 credits

In Part II, attention will be focused on formal diagnostic procedures, theories of causation, and problems encountered in organizing and administering remedial programs. Prerequisite: ED 541.

ED 543 Effective Reading Programs G 3 credits

An examination of current and evolving practices and programs in the teaching of reading. Teachers, reading specialists and administrators will be helped to develop practical plans for insuring that their own reading programs successfully meet the needs of all their students. Prerequisite: ED 330 or ED 540 or permission of the Instructor.

ED 544 Seminar in Reading and Language G 3 credits

Application of research methods and findings to the improvement of all aspects of reading and language instruction. Each student will make an extensive study of a significant problem related to the teaching of oral expression, written expression, reading, spelling or handwriting. Prerequisite: ED 330 or ED 540 or permission of the Instructor.
ED 545 Clinical Practicum in Remedial Reading G       3 or 6 credits

A limited number of qualified students will be given opportunity for practice work in intensive remedial instruction. Prerequisite or co-requisite: ED 541 and permission of the Instructor. Applications for this practicum should be made in advance.

ED 550 Practicum in the Elementary School Mathematics Program G  3-6 credits

Students accepted will pursue an individualized program of advanced study and research, focused on a substantive topic pertaining to the elementary school mathematics program, and eventuating in an acceptable documented report. Periodic meetings will be scheduled by the Instructor. Each student's program must be approved by the Instructor and the department chairman. Prerequisite: completion of, or enrollment in, all other required courses in the degree program.

ED 551 Discovering Science - A Survey of Current Elementary School Science Programs G       3 credits


ED 554 Seminar in Elementary Education G       3 credits

An integration of formal study, current research and personal experience. Each student will make an extensive study of significant problem in elementary teaching. Prerequisite: 24 approved G credits with a minimum of 12 credits in elementary education.

DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION FOR MEN

Chairman: Professor Lehmann
Associate Professors: Knudson, Swenson
Assistant Professor: Mazzaferro
Instructors: Braun, Deep, Yeskewicz

DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION FOR WOMEN

Chairman: Professor Comeau
Associate Professor: Thornburg
Assistant Professor: Coakley, Kransinski, Phillips, Tufts
Instructors: Ekas, Gross, Hogg, Hurst, Rugen, Schopp, Smith, Wolfgram, Yeamans

The Departments of Health and Physical Education jointly offer a program leading to the degree of Master of Education in Health Education. This program
is designed for present and future nurses, public health personnel, social workers and teachers. The following are departmental undergraduate course prerequisites which may be fulfilled after admission: HE 151, ED 480, PY 200, PY 224 or PY 226 and three additional credits in health education. Credits earned in these courses may not be counted toward the thirty graduate credits required for the degree.

In addition to meeting general degree requirements, the student must satisfactorily complete: a thesis; HE 465, HE 495 and HE 590, as well as the departmental concentration requirement. The latter is met through the election of courses appropriate to the degree program. All courses must be approved by the adviser. Departmental offerings are listed below.

**HE 385 Nutrition and Fitness UG**

The course will include information concerning fundamentals of nutrition, and the relation of nutrition to cultural patterns, dental health, and total health and fitness. Current nutrition problems will be discussed. Recent research in this area will be investigated. The New England Dairy and Food Council will assist in planning the course outline, will provide approved films, and suggest speakers.

**HE 455 First Aid UG**

The content of this course will include lecture, discussion, and practice of first aid skills, leading to the completion of the Red Cross Standard, Advanced and Instructor First Aid Certificates. The objectives will be to encourage good safety practices and attitudes; to prepare the individual to give first aid care to himself, his family and others.

**HE 465 School Health Program G**

This course is designed to acquaint the elementary classroom teacher with the areas of the school health program: health services, health education and healthful school living. Emphasis will be placed on the objectives and goals of health education within and throughout the total school curriculum, organization of the school health services and basic issues and problems in school health.

**HE 475 Community Health Education UG**

This course is concerned with the history and development of public health programs; the relationships of health departments -- local, state, and federal, -- public and private agencies, and the school health program. Problems and principles of the community health programs based on local needs will be considered. The course is designed for classroom teachers, health specialists, and others interested in community health. Prerequisite: a course in personal health education.
HE 485 Methods in Health Education UG 3 credits

Advanced course for health specialists, elementary school classroom teachers and physical educators. Emphasis will be placed upon selection of health content and the latest and most effective methods and techniques in teaching health.

HE 495 Health Problems G 3 credits

Current health problems related to the school and community will be presented. Topics will be based on needs and interests of class participants. The school's responsibility for education in these areas will be discussed.

HE 499 Sex and Family Living Education UG 3 credits

Emphasis will be on objectives, content of curriculum, methods and techniques of teaching in this area. The role of the school and community regarding education for family living will be discussed. A view of the entire educational curricula and its aims will be studied as it relates to education for family living.

HE 590 Seminar in Health Education G 3 credits

Independent research study in area of health education.

HE 502 Thesis G

Credit and hours to be arranged.

PE 349 Methods of Teaching and Calling the Modern Square Dance UG 3 credits

The modern square dance will be analyzed as to its make-up and place in the physical education curriculum. Basics included in the modern square dance will be presented in progression. The techniques of teaching will be emphasized as students are taught to perform these fundamentals. As dances are not memorized in the modern square dance, the method of learning to call individual basics will be stressed and emphasis placed on the mechanics and function of each. Time will be spent on phrasing, timing, and voice. An analysis of square dance music as it relates to figure composition, as well as a simple method of composing dances, will be made.

PE 360 Organization of Girls' Intramural and Extramural Activities UG 3 credits

Concerned with the construction of a balanced program of co-curricular activities based upon sound educational objectives implemented with the current standards and guidelines established for the junior and senior high school girl. The roles of the coach and officials are coordinated to bring about the best of educational experience for the participant.
PE 370 Theory and Practice of Physical Education in the Elementary School UG 3 credits

Concerned with Physical Education Activities and skills throughout the Elementary Grades. Emphasis will be on preparation and teaching techniques for the classroom teacher, specialist and supervisor. A laboratory experience will be a required part of the course.

PE 380 Introduction to Recreation UG 3 credits

Covers the history of recreation from colonial days to the present. Particular emphasis is placed on the cultural views and their relationship to recreation. The various types of recreation presently seen and the impact of leisure time on the future will also be discussed.

PE 382 Programs in Recreation UG 3 credits

This course deals with the fundamental aspects of program planning in Recreation. The programs of various agencies, both public and private, will be discussed. Items given special attention are: Senior Citizens Programs, Physically and Mentally Retarded Programs and Pre-primary Programs.

PE 387 Sociology of Sport UG 3 credits

Examination and analysis of the types of forces at work in American society and how they relate to sports. Among the topics to be included are the influences of our cultural heritage, philosophy of education, politics, religion, economy, ethnic, mass media, and internationalism. Lectures, readings, class discussions, and written assignments will be directed toward enhancing the individual's understanding of the values of sport in our society yesterday, today, and tomorrow.

PE 395 Measurement and Evaluation in Physical Education UG 3 credits

The construction and use of written tests, skill tests, and other measurement devices in physical education; methods of administration and use of data.

PE 424 Problems in Physical Education and Athletics UG 3 credits

Course content includes the recognition, discussion and systematic analysis of controversial issues and problems. Among topics to be studied are the optimum use of facilities, ethical practices, financing the program, relationships with non-school programs, interscholastic athletic competition below high school level, youth fitness, crowd control, injury prevention, program evaluation, and community organization for health, physical education and recreation. Particular attention is given to problems suggested by class members.
PE 425 Care and Prevention of Athletic Injuries UG 3 credits

A basic course to illustrate the methods of prevention, correction, care and treatment of athletic injuries. Training and conditioning programs will be studied. Class time will be devoted to lectures, discussions, and practical work. Taping and use of physical therapy equipment will be covered in the course content.

PE 426 Organization and Administration of School Athletics UG 3 credits

This course involves the study of athletic policies and regulations on the local and state levels, administrative plans, contest management, the purchase and care of equipment, athletic awards, finance and budget, athletic facilities, scheduling, public relations, the intramural program, and trends in interscholastic athletics. Lectures, reading, class discussions, and written assignments will be directed toward the enrichment of the athletic programs in the school systems represented.

PE 427 Public Relations in Physical Education UG 3 credits

This course is designed to develop competencies in the area of public relations specifically for those engaged as teachers of physical education, coaches and athletic administrators and for those preparing for such positions. The course content will include the study of a public relations philosophy, the unique public relations aspects of the physical education program, specific and practical techniques, relationships with media personnel, relationships with the various internal and external publics, and the planning and preparation of annual reports, speeches, brochures, displays, demonstrations and press releases. Course projects are planned to help upgrade the public relations programs in the departments and schools represented.

PE 434 Foundations of Physical Education UG 3 credits

This course is concerned with the nature and scope of physical education. The course content includes the scientific foundations of physical education; the objectives and how they are best achieved; the philosophy of physical education as a part of total education; the relationship of physical education to health, recreation, camping and outdoor education; the history of physical education; the qualifications and responsibilities of physical education personnel; and challenges and problems facing the physical education profession. The latest available materials and information from the President's Council on Physical Fitness will be included.

PE 435 Current Trends in Dance and Sport UG 3 credits

Advanced techniques and methods of teaching selected sports, gymnastics
and dance. Strategy in game play and competitive gymnastics will be included. Both theoretical and practical experiences provided.

PE 440 Current Issues in Physical Education UG 3 credits

Study of trends and forces in education as they effect physical education: expansion of knowledge, philosophy, purposes, content, relevance, etc. and the implications for curriculum, higher education, and research in physical education.

PE 480 Physical Education for Exceptional Children UG 3 credits

Adaptation of physical education activities to meet the varying needs of exceptional children. Nearby schools and institutions provide opportunities for practical experience.

PE 490 Philosophy and Principles of Physical Education G 3 credits

Discussion of facts and principles that serve to formulate a philosophy of physical education. Study of the relationship of physical education to general education.

DEPARTMENT OF INSTRUCTIONAL MEDIA

Chairman: Professor Rosen
Assistant Professor: Lee
Instructor: Ward

The Department of Instructional Media offers a program leading to the degree of Master of Education in Instructional Media. This program is designed for present and future media specialists.

The following is a departmental undergraduate course prerequisite which may be fulfilled after admission: ED 443 or ED 450. Credits earned in this course may not be counted toward the thirty graduate credits required for the degree.

In addition to meeting general degree requirements, the student must satisfactorily complete: IM 450, IM 452, IM 453, IM 456, IM 460 and IM 464, as well as the departmental concentration requirement. The latter is met through the election of a course appropriate to the degree program. All courses must be approved by the adviser. Departmental offerings are listed below.

IM 420 Advanced Audiovisual Education UG credits and hours to be arranged

This is a directed study course. The student will concentrate on the coordination of audiovisual materials in his field of choice and will build a course of study in the chosen concentration. Prerequisite: IM 310 or IM 450.
IM 424 Seminar in Instructional Media UG 3-6 credits

Systematic review of literature and research techniques and technology in Instructional Media. Prerequisite: IM 450, IM 452, IM 453, IM 456, IM 457, IM 458, IM 460, and IM 464.

IM 450 Techniques and Media of Audiovisual Instruction UG 3 credits

This course is designed to improve instruction through the appropriate use of new techniques and media of communication and instruction in the classroom and/or in industry. The student learns the operation, care and repair of equipment, and sources of materials according to his personal needs, lesson planning and application of techniques and media.

IM 452 Science of Photography in Education UG 3 credits

This course is designed to give instruction in the basic philosophy, scope, educational planning, and techniques of preparation of photographic instructional materials. Students will be taught preparation of color and black and white slides, stills, filmstrips, and transparencies for overhead projection, and photography and darkroom techniques. Prerequisite: IM 450.

IM 453 School Public Relations UG 3 credits

It is the purpose of this course to teach the necessity for a well-informed public to foster good school public relations. All necessary media will be discussed; radio, television, newspapers, magazines, school publications, teacher-parent and administrator-teacher-parent relationships.

IM 454 Script Writing Techniques for Radio and Television UG 3 credits

This course is designed to give the student skills in writing for Radio and TV. Developing a sense of the dramatic and the understanding of the science of human psychology will also be studied. Prerequisite: IM 450, IM 452, IM 453, and IM 456.

IM 456 Radio and TV Studio Operation and Control UG 3 credits

The student will learn all of the technical data necessary to direct TV programs and to operate a radio station. The student will be prepared to take the examination for 1st, 2nd, or 3rd class license. Prerequisite: IM 450, IM 452, and IM 460.

IM 457 Advanced Photography Techniques UG 3 credits

This course is designed to give preparation in advanced theory of photography and the preparation of projected photographic materials; slides, stills, filmstrips, motion pictures, and overhead transparencies.
Advanced techniques of darkroom usage and salon printing will be an integral part of the course. Prerequisite: IM 452.

**IM 458 Radio and TV Production UG**  
3 credits

This course is designed to make the student proficient in the production of radio and TV programming, with stress upon being able to make, obtain, and set up necessary props, backgrounds, trick camera shots and sound effects. Prerequisite: IM 450, IM 452, IM 453, IM 456, and IM 460.

**IM 460 Graphics for Instructional Media UG**  
3 credits

This course is designed to give instruction in the graphic arts pertaining to new technology in education. The student will learn the techniques of mechanical and hand lettering and layout. Students will prepare materials by color-lift, Thermofax, Technifax, A-O, and will learn the basic techniques for copying 2'' x 2'' slides. Prerequisite: IM 450 and IM 452.

**IM 464 Management of an Instructional Media Department UG**  
3 credits

The course is designed to cover all phases of operating an Instructional Media Department: budgeting, purchasing, staffing, services, analysis of materials and equipment. Prerequisite: IM 450, IM 452, IM 453, IM 456, and IM 460.

**IM 502 Thesis G**

Credit and hours to be arranged.

**DEPARTMENT OF LIBRARY SCIENCE**

Chairman: Associate Professor Bouchard  
Associate Professor: Vining  
Assistant Professor: Oakley  
Instructors: Lee, Neubauer

The Department of Library Science offers a program leading to the degree of Master of Education in School Librarianship. This program is designed for present and future school librarians.

In addition to meeting general degree requirements, the student must satisfactorily complete: ED 560, LI 310 or LI 320 (both are recommended and at least one must be taken to meet the Massachusetts School Librarian Certification requirements) and LI 595. The student must complete the departmental concentration requirement by electing courses appropriate to his degree program. All courses must be approved by the adviser. Departmental offerings follow.
LI 310 Children's Literature UG  
3 credits

Reading interests of children from pre-school years through the elementary grades with emphasis on: the contribution that reading can make toward the process of growing up; criteria for evaluation and analysis of children's books; types of books available today. Topics covered are: history of literature for children; illustrators; folk-tales; myths; modern fanciful tales; fiction; poetry; books in special fields, such as, history, science, travel.

LI 320 Literature for Young Adults UG  
3 credits

Survey of literature for the adolescent designed for junior and senior high school teachers and librarians. It includes a brief history of the development of this literature, the evaluation of publishers, and the psychology of the adolescent reader.

LI 370 Reference Materials and their Use UG  
3 credits

Outlines appropriate procedures in various disciplines. A bibliographic search diary gives practical application of techniques using all the resources of the library.

LI 430 School Library Administration UG  
3 credits

Principles and practices in school library administration and service; the role of the library in the school's educational program; pupil instruction in library use; the planning and equipping of the library; and other aspects of library organization.

LI 440 Cataloguing and Classification UG  
3 credits

An introduction to cataloguing and classification. Emphasis is on the Dewey Decimal classification and Sears subject headings. Some time is given to the general processing of books.

LI 446 Technical Services UG  
3 credits

An overview of the acquisition, cataloguing, circulation, and maintenance of the instructional materials in the library.

LI 450 An Introduction to the Library (The School Library, a Survey) UG  
3 credits

Introduces teachers, administrators, and beginning librarians to the role of the library in education and the expanded services needed to meet the new methods of teaching.
LI 451 Storytelling UG 3 credits

Theory and practice of the art of storytelling. Emphasis is on examination of the literary sources, experience in selection and presentation of stories, and techniques in cultivating appreciation of literature in children from kindergarten through grade 8.

LI 452 Selection of Library Materials (Media Selection) UG 3 credits

Criteria and policies in selection for reader interest and curriculum enrichment, with emphasis on practical applications and appraisal of bibliographic aids and current review practices.

LI 455 Literature of Science and Technology UG 3 credits

A continuation of LI 370. Background, trends, and bibliographic control of the natural and physical sciences, pure and applied, including principles of information storage and retrieval.

LI 456 Literature of the Humanities UG 3 credits

A continuation of LI 370. Background, trends, and bibliographic control in literature, the arts, philosophy, and religion.

LI 457 Literature of the Social Sciences UG 3 credits

A continuation of LI 370. Background, trends, and bibliographic control in history, political science, education, and the behavioral sciences, including organizations, periodicals, and government publications.

LI 464 Use and Organization of Non-print Materials UG 3 credits

Survey of the standards and innovations in school media programs and exposure and proficiency in the use and organization of non-print materials currently used in libraries.

LI 502 Thesis G

Credit and hours to be arranged.

LI 548 Advanced Cataloguing and Classification G 3 credits

Gives primary consideration to the Library of Congress classification and subject headings. Some attention will be given to non-book materials. Prerequisite: LI 440.
LI 553 The History of Libraries G 3 credits

Form and function of the library as an institution in social and intellectual settings. Included are classical, medieval, and scholarly libraries; the development of modern public and academic libraries; and the school library movement, particularly in Massachusetts.

LI 566 Systems Approach to Libraries (Automation in the Library) G 3 credits

Survey of developments in information retrieval and other library applications of modern procedures in acquisition, circulation, management, and periodical control.

LI 569 The Book Arts (History of the Printed Book--Seminar on the Book) G 3 credits

Traces the development of the written word from the earliest alphabet to today's computerized publishing. The history, art, and science of the book include field study of book production; manuscripts; rare books and bindings; and award winning books.

LI 576 Research Problems in Library Literature (Research and Evaluation in Library Science) G credits to be arranged

Is designed for special projects for advanced students desiring individual instruction in the methods of library research. Prerequisite: permission of the Department.

LI 590 Seminar on School Librarianship G 3 credits

Intended as a culminating exercise in administrative school librarianship. It will include study and analysis of current problems and issues in elementary and secondary school library administration. Students will seek solutions to these through reading and research. Results will be presented to class. Prerequisite: a minimum of fifteen elective credit hours toward the Master of Education in School Librarianship, and consent of the adviser.

LI 595 Practicum G 3 or 6 credits

A field assignment may be taken for 3 or 6 semester hours credit. It is the equivalent of 8 or 16 weeks of practice teaching and library duties of a professional nature, depending on the student's background and upon the recommendation and approval of the adviser.
The Department of Secondary Education, in conjunction with most of the academic departments, offers a program leading to the degree of Master of Education in Secondary Education with a concentration in an academic area. This program permits a student to take all of his electives in the area of concentration or to distribute his electives between the area of concentration and professional education. All electives must be approved, in advance, by the adviser. Those interested in this degree program should consult the appropriate academic department for further information. Departmental offerings are listed below.

**ED 310 Principles of Secondary Education UG** 3 credits

A study of the secondary schools in a democratic society with a particular stress on the following problems: history, philosophy, objectives, curriculum, structure, articulation, the learning process, methods, materials, individual differences, discipline, management and evaluation. Students become involved in helpful learning experiences in the educational community and learn from personal contact how the secondary schools are attempting to solve their problems.

Secondary Education 3 credits each

ED 312 Teaching Social Studies in the Secondary School UG
ED 314 Teaching English in the Secondary School UG
ED 319 Teaching Science in the Secondary School UG
ED 322 Teaching Mathematics in the Secondary School UG
ED 324 Teaching Modern Foreign Language in Secondary School UG

The above courses are comparable in purpose and design, differing as application is made to a particular subject field. The main emphasis will be on the establishing of objectives, the choosing of appropriate content, procedures, and materials, and the techniques of planning necessary to accomplish the objectives. Other topics will include classroom organization and management, meeting of individual differences, evaluation and reporting of progress, and recent developments in methodology and subject matter. Prerequisite: PY 200.

**ED 316 Methods and Materials of the ESCP UG (NSF)3 credits for two semesters**

An introduction to the teaching of Earth Science at the secondary school level, using the methods and materials developed by the Earth Science
Curriculum Project. This course is open only to participants in the National Science Foundation College-School Cooperative Institute.

ED 317 Methods and Materials of the HSGP UG (EDPA) 3 credits each semester

An introduction to the teaching of Geography at the secondary school level, using the methods and materials developed by the High School Geography Project. This course is open only to participants in the EDPA College-School Cooperative Institute.

ED 440 Methods and Materials in Secondary Education UG 3 credits

Emphasis will be placed on the analysis of the problems of the modern secondary school. Topics will include: the learning process; establishing of objectives; classroom organization and management; meeting individual differences; evaluation; correlation between subject matter fields; and recent developments in methodology and subject matter. Primarily for those interested in gaining certification, undergraduates with no teaching experience, and teachers who have been away from the classroom for many years. Prerequisite: PY 200.

ED 443 Secondary School Curriculum UG 3 credits

Purposes of the modern secondary school and the curriculum needed to implement them: historical origins, evolution, modern development and future possibilities. Planning curriculum guides, participating in evaluations and national curriculum committee work will be stressed.

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DEPARTMENT OF ECONOMICS

Acting Chairman: Professor Fiore
Instructors: Antoniotte, Freeman

The Department of Economics does not offer a program leading to the master's degree at this time. Economics courses may be taken, in partial fulfillment of the social sciences concentration for the degree of Master of Education in Secondary Education with a concentration in the social sciences, if approved by the adviser. Departmental offerings follow.
EC 320 Comparative Economic Systems UG 3 credits

Analysis of central economic problems faced by nations in organizing economic activity; comparison of theories and institutions of capitalism and liberal socialism.

EC 400 Economic Principles and Problems UG 3 credits

Significant economic concepts, institutions, and problems of a free enterprise system.

EC 420 Principles of Investment UG 3 credits

Introduction to mechanics of stock market and analysis of various investment media for individual investment portfolios.

DEPARTMENT OF HISTORY

Chairman: Professor Fiore
Commonwealth Professor: Melville
Professors: Bates, Cole, Herrick, Husek
Associate Professors: Doiron, Keay, Noel, Oien, Rotstein, Spence
Assistant Professors: Clifford, Lythgoe, Myers, Silvia, Wolff
Instructors: Christensen, O'Connell, Stonehouse, Yin

Master of Arts

The Department of History offers a program leading to the degree of Master of Arts in History, which is designed to prepare qualified students for research, further graduate study and teaching. An undergraduate major in history, or its equivalent, is normally required for admission to this program.

In addition to meeting general degree requirements, the student must complete courses appropriate to his degree program. All courses must be approved by the adviser. Departmental offerings are listed below.

Interested persons are asked to make an appointment with the Chairman of the Department.

Master of Education

The Department also offers a program leading to the degree of Master of Education in Secondary Education with a concentration in history. This program is designed for teachers and future teachers of history and social science teachers. It also prepares students for further graduate work in history.

In addition to meeting general degree requirements, the student must complete the departmental concentration requirement by electing courses appropriate to his degree program. All courses must be approved by the adviser. Departmental offerings follow.
**HI 271 Introduction to Political Science UG**

This course provides a consideration of the definitions, theoretical foundations, and historical evolution of the principles of politics. The fundamental concepts in political science are examined: state, politics, law, and a general analysis of the place of government in modern society. (N.B. Graduate credit will be given only if the student has had no undergraduate course in political science.)

**HI 272 American Government: The Federal System UG**

The Constitution of the United States is studied in detail as the basis of the Federal System. Topics of study include the development of the democratic process in America, and the organization, power, procedures, function, services, and finances of the United States Government.

**HI 315 Nineteenth Century Europe UG**

This course is primarily concerned with the political, social, and intellectual developments in the principal countries of Europe from the rise of Napoleon to the end of the century.

**HI 316 Twentieth Century Europe UG**

Particular focus on background, development and effects of the two world wars.

**HI 317 British Political History Since 1603 UG**

England and her empire to 1815 with stress on parallel developments in American history, including economic and social factors.

**HI 318 British Empire and Commonwealth UG**

Political development to the present with emphasis on the rise and fall of the Second Empire.

**HI 325 American Labor History UG**

The pre-industrial and industrial periods. Emphasis on the reciprocal relationships of workingmen, Negroes, immigrants and urbanization and industrialization.
HI 333 Latin America: The Colonial Period UG 3 credits

Indigenous peoples of the area; exploration and conquest, institutional development of the empire to the revolts against Spain in the nineteenth century.

HI 334 Latin America: The National Period UG 3 credits

From the revolutions against Spain to the present. Concentration on Mexico and two or three other states.

HI 343 The Ancient World: Near East and Greece UG 3 credits

From prehistoric times to the Hellenistic Empires.

HI 344 The Ancient World: Rome 3 credits

From its beginnings to the barbaric invasions.

HI 353 Historiography UG 3 credits

Writings of major historians; evaluation through professional journals and book reviews. Limited to fifteen. Students are expected to elect HI 354.

HI 354 Study and Writing of History UG 3 credits

The techniques of historical research and preparation of papers requiring such techniques. Analysis and evaluation of source materials will be stressed. Prerequisite: HI 353.

HI 431 Contemporary Affairs UG 3 credits

National and international problems, using magazines, newspapers, telecasts and recent books. Political, economic, social and scientific developments.

HI 415 Modern Russia to 1917 UG 3 credits

Political, social and economic factors in the history of Russia from the end of the fifteenth century to the Revolution will be considered.

HI 416 History of the U.S.S.R. UG 3 credits

The political, social, intellectual, and diplomatic development of Russia will be considered. Prerequisite: HI 415 and a survey course in European history.
HI 419 Intellectual History of Modern Europe UG
3 credits
From the close of the Middle Ages to the present. 3 periods weekly for one and one-half semesters.

HI 421 History of Massachusetts UG
3 credits
From the days of the Pilgrims and Puritans to the present. In the modern period emphasis is on social, economic, and constitutional history.

HI 425 The Social and Intellectual History of the United States to 1914 UG
4.5 credits
The economic, social and cultural development to the eve of the First World War, with emphasis on the transformation from an agricultural to an industrial society.

HI 426 History of the American City UG
3 credits
Political, architectural, economic, social, cultural, and population factors in the growth and development of American cities since colonial times.

HI 427 American Immigration History UG
3 credits
Patterns of migration to the United States with particular emphasis on the nineteenth and twentieth centuries.

HI 428 American Economic History UG
3 credits
Economic development of the United States with particular emphasis on the period of industrial development.

HI 430 Europe in the Middle Ages UG
3 credits
From the fall of Rome to the Renaissance.

HI 432 Modern European Imperialism UG
3 credits
Africa and Asia considered as contrasting phases of European expansion in the nineteenth and twentieth centuries.

HI 433 Africa Since 1800 UG
3 credits
The impact of Islamic and European cultures on the peoples of Africa; creation of colonial empires.

HI 436 The Renaissance and the Reformation UG
3 credits
Western Europe from the decline of feudal institutions to the emergence
of the modern state system, with emphasis on cultural and intellectual affairs.

HI 437 Modern France UG 3 credits
From the Revolution of 1789 to the present.

HI 441 American Negro History UG 3 credits
From the colonial period through the present.

HI 461 History of East Asia UG 4.5 credits
Emphasis on China and Japan in the nineteenth century.

HI 481 United States Foreign Relations to 1900 UG 3 credits
From the American Revolution to 1900.

HI 482 United States Foreign Relations since 1900 UG 3 credits
United States foreign relations since 1900.

HI 483 United States History: Progressive Era UG 3 credits
The rise of the Progressive movement in American history to the early 1920's as reflected in politics, government, and the social and intellectual life of the era.

HI 484 Recent American History UG 3 credits
The development of the modern America through the isolationism and boom of the 1920's, the Great Depression, the New Deal, World War II, and the role of the United States in world affairs will be considered.

HI 485 United States History: The Civil War UG 3 credits
Background and causes of the war, the military and naval aspects, Civil War music, art, and literature, diplomacy of the Civil War, the home front in the war, the plans for reconstruction, and military reconstruction. Lectures will be supplemented by slides, motion pictures, and recordings.

HI 487 The American Revolution 1763-1987 UG 3 credits
Background and causes of the American Revolution, the military, social, political, and diplomatic aspects of the Revolution. The government under the Articles of Confederation, and the problems engendered by the attainment of political independence.
HI 488 United States History: The Colonial Period 1607-1763 UG 3 credits

The settlement and growth of the English colonies in America, England's colonial policies, economic and institutional development in the provincial period, the wars with the Indians, the rivalry with the French in America.

HI 489 United States History: The Early National Period UG 3 credits

The course of United States history from the establishment of the republic to the election of Andrew Jackson will be studied.

HI 490 Jacksonian Democracy and the Coming of the Civil War UG 3 credits

The election of Andrew Jackson and the "rise of the common man," the Whig-Democrat rivalry, the Texas question, Manifest Destiny, the rise of abolitionism, the events leading to the outbreak of the Civil War.

HI 491 English History to 1603 UG 3 credits

The course of English history from Roman times to the accession of the Stuart dynasty will be studied.

HI 492 Modern France UG 3 credits

The history of France from the rise of Napoleon Bonaparte to the end of World War II will be considered in this course.

HI 493 Modern German History UG 3 credits

The course of German history from the reign of Frederick the Great to the end of World War II will be considered.

HI 493 United States History 1865-1900 UG 3 credits

Beginning with the Reconstruction period this course traces the economic, political, and diplomatic history of the United States to the end of the nineteenth century.

HI 501 Seminar in Historical Methodology G 3 credits

The basic methods of historical research and historical writing and the proper use of primary and secondary sources, bibliography, documentation, and annotation will be studied. Varieties, analysis and evaluation of source materials and construction of narrative will be considered.

HI 502 Thesis G

Credit and hours to be arranged.
HI 505 Directed Study G
506
3 credits
Directed study or research in a given area to be approved by the chairman of the department.

DEPARTMENT OF POLITICAL SCIENCE

Chairman: Professor Larson
Assistant Professor: Clifford
Instructor: Yin

The Department of Political Science does not offer a program leading to the master's degree at this time. Political science courses may be taken, in partial fulfillment of the social sciences concentration for the degree of Master of Education in Secondary Education with a concentration in the social sciences or in partial fulfillment of the history concentration for the degree of Master of Education in Secondary Education with a concentration in history, if approved by the adviser. Departmental offerings are listed below.

PO 271 Introduction to Political Science UG
3 credits
Development of statecraft from ancient time to the present.

PO 272 American Government: The Federal System UG
3 credits
The constitutional authority, organization, activities, and political processes of the national system.

PO 273 U.S. and Massachusetts Constitution UG
Audit
Structure of government and rights and responsibilities according to Federal and Commonwealth constitutions.

PO 371 Comparative Government UG
3 credits
Political behavior and governmental systems in Great Britain, France and the Soviet Union.

PO 377 American Government: State and Local Government UG
3 credits
Government and politics with emphasis on Massachusetts affairs.

PO 471 International Relations UG
4.5 credits
The patterns of inter-state relations and the factors motivating the behavior of nations.
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DIRECTIONS FOR CORRESPONDENCE

The general address for all correspondence is: Bridgewater State College, Bridgewater, Massachusetts 02324. In order to avoid delay, correspondents are requested to note the following directions.

Requests for undergraduate catalogs should be addressed to the Registrar. Requests for catalogs of the Graduate School should be sent to the Office of the Graduate School. Requests for brochures of the Division of Continuing Studies should be addressed to the Office of the Division of Continuing Studies.

Inquiries concerning requirements for concentrations and majors in a given department should be addressed to the chairman of that department.

Requests for transcripts should be sent as follows:

Students who hold a bachelor’s and/or a master’s degree from this college should write to the Registrar.

Students who have not completed their bachelor’s degree should write to the Registrar for a transcript of courses taken through the Day Session, and to the Director of Continuing Studies for a transcript of courses taken through the Division of Continuing Studies.

Students who have earned their baccalaureate but who have not completed their master’s degree at Bridgewater State College, should write to the Director of Continuing Studies for a transcript of courses taken in the Division of Continuing Studies and to the Registrar for transcripts of courses taken in the Day Session.

There is a charge of $1.00 per transcript.

Inquiries concerning employment, health services, housing, loans, and scholarships, should be addressed to the Director of Student Personnel.

Inquiries concerning the Summer Session at Bridgewater State College should be addressed to the Director of Continuing Studies.

Inquiries concerning the Summer Session at Hyannis should be addressed to the Director of the Hyannis Summer Session.

Inquiries relative to the Graduate School should be addressed to the Dean of the Graduate School.

Inquiries concerning placement and student teaching should be addressed to the Director of Teacher Preparation and Placement.

Inquiries concerning Continuing Studies should be addressed to the Director of Continuing Studies.

Inquiries concerning financial aid should be addressed to the Financial Aid Officer.

Inquiries concerning alumni affairs should be addressed to the Executive Secretary of the Alumni Association.

Inquiries concerning academic employment should be addressed to the chairman of the appropriate department.

Inquiries concerning non-academic employment should be addressed to the Assistant to the President.

Inquiries concerning teacher certification should be addressed to the Director of Teacher Certification, Department of Education, 182 Tremont Street, Boston, Massachusetts.

Matters not covered above, and correspondence bearing upon the general interests of the College, should be addressed to the President.