1969

Gorham State College Catalog 1969

Gorham State College
University of Southern Maine

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Academic Calendar 1968-69

1968
First Semester

September 8 Residence Halls for Freshmen Open at Noon
September 10 Residence Halls for Upper Classmen Open at Noon
September 9-10 Registration and Testing
Adviser - Advisee Conferences
Faculty and Departmental Meetings

September 11 Classes Begin
October 3-4 MTA Convention — Classes in Session
November 8 End of First Quarter
November 12 Mid-term Grades Due in Registrar's Office
*November 28-29 Thanksgiving Recess (Classes End at Noon on Nov. 27)
December 1 Residence Halls Open at Noon
December 2 Classes Resumed
*December 20 Start of Christmas Recess (Classes End at Noon on December 20)

January 5 Residence Halls Open at Noon
January 6 Classes Resumed
January 13-17 Examination Week
*January 20-24 Between Semesters Recess

Second Semester

January 26 Residence Halls Open at Noon
January 27 Registration for Second Semester
January 28 Classes for Second Semester Begin
March 28 End of Third Quarter
*March 31-April 4 Spring Recess
April 7 Residence Halls Open at Noon
April 8 Classes Resumed
April 11 Third Quarter Grades Due in Registrar's Office
May 21 Reading Day, No Classes
May 22-29 Examination Week
May 30 Memorial Day, No Classes
June 1 Baccalaureate and Commencement

Student Teachers' Vacation Schedule — Second Semester:
January 27 Start of Student Teaching
Pending Public School Announcement — Observe Public School Vacation
March 31-April 4 Observe College Vacation
Pending Public School Announcement — Public School Vacation —
Student Teachers Hold Seminars at College

* During College recesses, all residence halls will be closed.

SUMMER SESSION

1969 — Six-Week: June 16-July 25; Three-Week: July 28-August 15
1970 — Six-Week: June 22-July 31; Three-Week: August 3-21

The Academy Building-Art Department
The History

Gorham State College began officially in 1878 when the Maine Legislature approved the establishment of Western Maine Normal School on the site of the Gorham Female Seminary. The Normal School opened on January 29, 1879 with six faculty members and 85 students.

The name of the School was changed to Gorham State Teachers College in 1945 and to Gorham State College in 1965. The 103rd Maine Legislature in 1968 created a state university system and the College became Gorham State College of the University of Maine.

The College has been served by four presidents: Dr. William Corthell (1878-1905), Dr. Walter F. Russell (1905-1940), Dr. Francis L. Bailey (1940-1960), and Dr. Kenneth T. H. Brooks, who was appointed President in 1960.

Gorham State College has developed over the years to its present size of over 1,200 students and 100 faculty members. The growth in size has been paralleled by a rapidly expanding curriculum. The industrial arts program was instituted in 1911. The College graduated its first class in the kindergarten-primary program in 1927. The first graduates in the full four-year curriculum were awarded degrees in 1938.

A program to prepare music teachers and supervisors was instituted in 1955 and one for the preparation of art teachers and supervisors in 1958. In the fall of 1966 the curriculum was expanded to include preparation for teaching at the secondary level and in 1967 to include a liberal arts program.

The College has long conducted a summer session and in 1964 established a graduate school.
ACCREDITATION/OBJECTIVES

Accreditation and Membership

The College is accredited by the New England Association of Colleges and Secondary Schools and the National Council for Accreditation of Teacher Education.

A membership is held in the Association of State Colleges and Universities, the American Council on Education, the American Association of Colleges for Teacher Education and the American Association of University Women.

The Objectives

The major purpose of Gorham State College is to provide a continuing supply of graduates to serve public education in the areas of Kindergarten-Primary, General Elementary, Junior High and Secondary Education, and the special fields of Art, Industrial Arts, and Music Education. An additional purpose is to provide a liberal arts program.

Teacher Education

The College seeks to graduate teacher candidates of professional competence and personal character whose careers will reflect their dedication to effective programs of teacher education. Its graduates are expected to be:
- Academically competent teacher candidates who are products of a responsible process of selection and retention.
- Those who have experienced a program of academic excellence providing both breadth through general education and depth in their special areas.
- Those with a sound understanding of self, of human growth and development, of the teacher-learning process, and of the cultural foundations of education.
- Those who have acquired sufficient student-teaching experience to enter professional life with a minimum of delay or difficulty.
- Those whose professional orientation enables them to understand, as well as assume, their roles in a democratic society, its schools and communities.

Liberal Arts

The College seeks to produce liberal arts graduates characterized by:
- Minds which have been enriched by exposure to the great ideas of western civilization, the "great books," the major achievements in science and technology, the theories of government, the creative works which make up our heritage. In addition, there should be a broad understanding of contemporary ideas, world problems, economic issues, forms of government, the challenges of today's science and technology. Intellectually, then, these students are oriented in relation to their cultural past and to the world in which they live.
- Moral character, understanding of self, awareness of ethical imperatives and values and an eagerness to help in the solution of problems of society.
- The ability to express ideas both orally and in writing.
- A developed aesthetic and critical sense, enabling the student to recognize and appreciate the best in the visual arts, music, and literature.
- A desire for more learning.
The Location

The College is located in the town of Gorham in the heart of southern Maine's most attractive cultural and recreational area. Portland, largest city in the State and only ten miles from the campus, offers many opportunities for the enrichment of student life.

The quiet serenity of a residential town has assured an ideal college setting. Through educational and civic activities both the students and faculty take a vital interest in the community and, in turn, many residents of Gorham warmly support College events.

Boston is only two-hours traveling time from the campus and provides a cosmopolitan experience and unparalleled research facilities for students and faculty alike. Easily accessible to the College is the Sebago Lake Region, a nationally famous resort area. The White Mountains are an hour's drive from the campus, and the Maine seacoast is easily reached in a half hour.

Thus, students and faculty at the College find the advantages of both city and country living within easy reach — winter and summer sports, cultural events, libraries, and a wide variety of social activities.

The Campus

Surrounded by towering pines and hardwoods, the 125-acre campus stands on a hill overlooking the town of Gorham to the south and the Sebago-White Mountain region to the northwest.

The architecture of the 15-building campus is a blend of traditional and modern designs. Earlier buildings express the College's deep traditions while those in the contemporary mode reflect the rapid development.
Major campus buildings include:

- **Bailey Hall Science Wing (1958)** — Contains the classrooms, laboratories and offices of the Science and Mathematics Departments, greenhouse, and a science museum maintained by faculty and students and available to visitors upon request.

- **Bailey Hall Library Wing (1961)** — Named for the third President of the College, Dr. Francis L. Bailey, the building contains a 45,000 volume library in a highly adaptable complex of stacks and reading areas. Included are conference rooms, a study-smoker, and music-listening area. The east side of the building contains classrooms, conference rooms, lounges, faculty offices, and facilities for closed circuit television.

- **Warren C. Hill Gymnasium (1963)** — Bears the name of a former Maine Commissioner of Education and graduate of the College. The 2,500-seat gymnasium provides facilities for men’s and women’s physical education, locker rooms, classrooms, and offices of the Health and Physical Education Department. The gymnasium is used for intramural and inter-collegiate athletics and other College functions.

- **Woodward Hall (1955)** — Named for a former Vice-President of the College, Louis B. Woodward, the building provides dormitory accommodations for 96 resident men students.

- **Anderson Hall (1963)** — Named for Hayden L. V. Anderson, alumnus of the College and former Executive Director of Professional Services, Maine Department of Education. Contains lounges, study areas, and dormitory accommodations for 106 resident men students.

- **Russell Hall (1931)** — Bears the name of the second President of the College, Dr. Walter F. Russell. Contains a stage, 500-seat auditorium, workshop facilities, and offices of the Drama Department together with a gymnasium used for recreational and other campus activities.

- **Corthell Hall (1878)** — The College Administration Building is named for the first President, Dr. William Corthell. Contains administrative offices, information desk, bookstore, student lounge, classrooms, and offices of the Music and Education Departments. Also contains the Museum of Man and Culture which includes an extensive and significant collection of Caribbean and Pre-Columbian artifacts.


- **Academy Building** — Housed the original Gorham Academy and presented to the State of Maine in 1895. Renovated in 1966 to contain studios, offices and classrooms of the Art Department.

- **Upton-Hastings Halls (1960-1968)** — Named for long-time faculty members Miss Ethlyn Upton and Miss Mary Hastings. Contains lounges and dormitory accommodations for 300 resident women students. First floor Upton Hall houses the College dining facilities.

- **McLellan House** — Considered to be the oldest brick house in the State of Maine. Purchased and renovated by the College in 1966 and operated as an honor resident dormitory for 16 women students.

- **President’s Residence (1906)** — Provides living accommodations for the President of the College and his family.

- **All Faith Chapel** — The former Gorham Town Hall, acquired in 1961 by the College for use as a student chapel; houses the Gorham State College Art Gallery.

- **Industrial Education and Technology Center (1965)** — Contains offices, classrooms and laboratories for conducting programs in industrial arts and vocational-industrial teacher education. The Center has facilities for teaching concepts in the manufacturing, construction, power-transportation, electrical-electronics, graphic communications, and service industries.
Admission to the College

Academic Standards

The College recommends the following subjects as minimum academic preparation for students seeking admission to Gorham State College.

- **College Preparatory English** ........................................ 4 units
- **College Preparatory Math** ........................................... 2 units beyond 9th grade algebra
- **Science** ........................................................................ 2 lab units beyond 9th grade science
- **Social Science** ............................................................. 3 units
- **Foreign Language** ......................................................... 2 units (one language)

**Total = 15 Carnegie units**

Scholastic Aptitude Test and Achievements

All applicants are required to submit scores from the Scholastic Aptitude Test of the College Entrance Examination Board.

In addition to the Scholastic Aptitude Test, achievement scores are required of all candidates. Candidates are urged to submit the Scholastic Aptitude Test and achievement scores no later than January of the senior year. Test scores from comparable examinations will be considered on an individual basis.

1. Those students applying to the kindergarten-primary, general elementary, and specialized programs of art, music, and industrial arts must submit the English achievement score and an optional achievement score.

2. Those students applying to the junior high, secondary, and liberal arts programs must submit the English achievement score and an achievement score in the subject matter in which they plan to major. If a candidate selects to major in English, he may select an optional achievement.
Other Standards for Admission

Students must be graduates of an approved four-year high school, or meet requirements through the state high school equivalency examination.

Aptitude and character as evidenced by the recommendation of the high school principal or guidance counselor and by a transcript of the applicant’s high school record.

Good physical and mental health as evidenced by a medical examiner’s report. Completed medical reports are required before students are allowed to matriculate and register for classes.

Interview

Interviews are required of all students accepted for admission to the College. In the areas of Industrial Arts, Music and Art Education the interview is handled by the particular department. All other candidates are interviewed in the Admissions Office.

Additional Requirements for Admission to Areas of Specialization

Art

All applicants for the Art Education Program will be asked to appear before the faculty of the Art Department to present a portfolio of their work before they will be considered for admission to the College.

Industrial Arts

Applicants for the Industrial Arts Education Program are required to take special aptitude tests at the College; they should have had a minimum of one unit in either industrial arts or drafting (graphics) in high school, which will be considered in lieu of the foreign language requirement.

Music

All candidates for the Music Education Program will be asked to appear before the faculty of the Music Department for an instrumental or vocal audition. Written music aptitude and achievement tests will also be administered.

Admission to Advanced Standing

Students who have a year or more of study at any college may be admitted to advanced standing at Gorham State College if classroom, dormitory, and quota space is available. Advanced standing for work in accredited junior colleges, liberal arts colleges, technical schools, universities, and summer sessions is granted when the work is “C” grade or better in courses corresponding to those offered at Gorham State College.
All applicants for admission to advanced standing must complete the same forms as an incoming freshman and request that official transcripts be mailed to the Director of Admissions from any previous college(s) attended. Student copies are not acceptable. Copies of catalogs including course descriptions must accompany all transcripts submitted for evaluation.

Students seeking advanced standing must submit in addition to high school transcript, Scholastic Aptitude Test and achievement scores, and a character recommendation from the Dean of Men or Women of the college(s) previously attended.

ADMISSION PROCEDURES

The student who is interested in applying for admission to the College should follow the steps outlined below.

1. Obtain a copy of the College brochure and the necessary application forms from the Director of Admissions or from the high school principal or guidance counselor.

2. Discuss the advisability of attending Gorham State College with parents, the principal or guidance counselor. Be sure to make a realistic comparison of present achievements and aptitudes with those required for success at Gorham.

3. Select the program which promises fulfillment of personal ideals, interests and abilities. Be ready to take specific entrance examinations upon request by the College.

4. Follow the directions on the application form.

5. Mail the $5.00 application fee and application form to the Director of Admissions.

6. The high school will send a transcript of work completed along with recommendations and teacher evaluation.

7. Have scores submitted from the Scholastic Aptitude Test and the Achievement Test of the College Entrance Examination Board. Students are responsible to instruct testing centers to forward the results of tests to the Admissions Office at Gorham State College. Applicants who encounter any difficulty should check with the local high school guidance department or the College Admissions Office.

8. Personality, character, vision, speech, hearing, physical and mental health are basic considerations in admitting an applicant to the College. The Admissions Committee reserves the right to refuse admission to any candidate who is not fully qualified to meet College standards of personal fitness, scholarship, and moral conduct.

After the student's application has been reviewed and evaluated, the Director of Admissions will notify the applicant of the appropriate decision.

Upon acceptance, the student will be required to make appropriate deposits. A deposit of $30.00, which will be credited to his account, is required of each residence hall applicant. An additional fee of $25.00 for advanced tuition is also required. Checks should be made payable to Gorham State College and mailed to Mrs. Electa M. Brown, College Bursar.

Admission is not final until the student has satisfactorily completed all high school and Admissions Office requirements.

The College reserves the right to cancel the acceptance of any application it deems necessary for academic or personal reasons.
EXPENSES

FINANCIAL AID

Students seeking admission to Gorham State College who anticipate requesting financial aid must apply through the College Scholarship Service Program, Box 176, Princeton, New Jersey 08540. The Parents' Confidential Statement may be secured through the local high school guidance office or by writing to the Admissions Office at Gorham State College.

Married students applying for financial assistance must fill out forms provided by the College and return them directly to the Financial Aid Office at Gorham.

Annual Expenses
1968-69

TUITION:
- Maine Resident .......................................................... $100.00
- Non-Maine Resident .................................................... $200.00

ROOM:
- Dormitory Resident ..................................................... $340.00

BOARD:
- For all meals served in dormitory ................................ $414.00

STUDENT ACTIVITY FEE: ............................................... $ 25.00
REGISTRATION FEE: (must accompany application) .... $ 5.00
MEDICAL INSURANCE: (optional) ............................. $ 22.00
INFIRMARY FEE: .......................................................... $ 5.00
BOOKS: (estimated) ....................................................... $150.00

COURSE FEES:
- Art Education Majors
  - Freshmen, Sophomores, Juniors ......................... $ 30.00
  - Seniors ......................................................... $ 10.00
- Industrial Arts Education Majors
  - Freshmen, Sophomores, Juniors ......................... $ 30.00
  - Seniors ......................................................... $ 10.00
- Music Education Majors (Includes cost of private lessons) $240.00
- All other students .................................................. $ 10.00

ESTIMATED PERSONAL EXPENSES: ............................. $350.00

SCHEDULE OF PAYMENTS

Residence Hall students currently enrolled must make a combined tuition and room deposit of $55.00 on or before April 15. This deposit is to be applied to the first semester payment.

Commuting students currently enrolled must make a tuition deposit of $25.00 on or before April 15. This deposit is applied to the first semester payment.

The balance due on tuition, board and room for the first half year, plus all other fees for the full year, must be paid by August 15. The payment for the second half year must be made at a designated time before registration for the second semester.

Checks should be made payable to Gorham State College and directed to Mrs. Electa M. Brown, College Bursar.

Exceptions to the above schedule can be made only upon written request to the Bursar and upon approval by the Administrative Assistant of the College.
REFUND POLICY

No refunds of advance payments will be made unless these are requested prior to July 1. Refunds of other charges are made only when the student notifies the Bursar, in writing, of his official withdrawal from the College.

Non-refundable fees: Application or registration fee of $5.00.
Non-refundable after registration: Student Fees, Course Fees, and Room Rent.
Insurance: Prorated and refund made to student.

Tuition and board:

- Two weeks or less in attendance ........................................... 80%
- Two to three weeks ............................................................. 60%
- Three to four weeks ............................................................ 40%
- Four to six weeks ............................................................... 20%
- No refund after six weeks.

Warren G. Hill Gymnasium
Gorham State College offers various forms of financial assistance to students who show a definite financial need in completing their education.

Meeting the financial obligations of a college education is the prime responsibility of the student and his parents. Where a need for aid is shown the College may assist with loans, scholarships, or part-time work opportunities.

It is quite important that parents and students sit down to work out a financial framework for the period of time the student will be in college.

**Who May Apply**

Any full-time student matriculated for a degree or any candidate applying for admission to the College.

**How To Apply**

All applicants must file a Parents' Confidential Statement through the College Scholarship Service of Princeton, New Jersey. (Applications are available at the College Admissions Office or at the local high school guidance office.) Married students must complete a special form available at the College Financial Aid Office.

**When To Apply**

Students applying for admission to the College must submit the College Scholarship Service forms at the time they are applying to the College.

Recipients will be notified during the spring semester of their senior year in high school.

Students currently enrolled at the College who are required to submit College Scholarship Service forms must apply on or before April 1 for the coming academic year. Recipients will be notified at the time of billing, July 15.
Conditions For Awards

1. Financial Need

   Students are granted financial assistance based on definite need as indicated by the Parents' Confidential Statement and an evaluation made by the Financial Aid Committee.

2. Academic and Social Standing

   Students on academic or disciplinary probation will not be considered for any form of financial assistance and funds may be withdrawn if a student is placed on academic or disciplinary probation.

Sources of Financial Assistance

1. State of Maine Scholarship Grants

   Scholarships in the amounts of $100 and $200 are granted annually to approximately 200 students who are in good academic standing and show strong academic promise. Scholarship grants are applied to spring semester bills after the academic status of the student has been determined.

2. National Defense Student Loans

   Gorham State College participates in the National Defense Student Loan Program whereby students may borrow funds from the government with deferred payments until after completion of their degree work. Loans average approximately $300 for an academic year and may be applied to a student's bill for the fall and spring semester.

3. Federal Scholarships

   Gorham State College participates in the Educational Opportunity Grants Program. Grants are awarded to students of exceptional financial need.

4. United Student Aid Fund, Inc.

   Gorham State College is a participating member in the United Student Aid Fund, Inc. Program. Under the arrangements of this program students may borrow money directly from participating local banks with payments and interest deferred until the completion of their degree program. Students may borrow up to $1,000 annually as an undergraduate and up to $1,500 annually as a graduate student for a total not to exceed $7,500. Applications for this loan are to be secured directly from the participating bank.

5. Work Opportunities

   Funds are available whereby students may be employed to help defray college expenses. Jobs vary from library assistant, college dining service, secretarial, lab assistants to janitorial services. Job opportunities are also available in the town of Gorham for students to work part-time.

6. Scholarships

   Oftentimes students bring with them to the College scholarships which are granted by local organizations such as P.T.A., A.A.U.W., and others to aid in defraying their expenses. Scholarship grants vary from $50 to $200 annually. Students must assume the responsibility of notifying the College Bursar of any scholarship awards which will aid in defraying college expenses. Gorham State College each spring recognizes outstanding upperclass students at a Recognition Day Convocation with scholarships established by students and families interested in the future of the College.
SCHOLARSHIPS

Recipients of scholarships awarded at the College Recognition Day program are selected by the Financial Aid Committee in accordance with the qualifications as established by the donors of these scholarships. These awards are made on the basis of academic excellence and outstanding campus leadership.

Scholarships Awarded

- **Class of 1950**
  Given in memory of Barbara Payne. $100.00

- **Class of 1961**
  Awarded by members of Phi Sigma Pi Fraternity in memory of Donald Semmes. $50.00

- **Class of 1963**
  Given in memory of Nancy Chandler. $50.00

- **Alumni Association**
  Presented in memory of Walter E. Russell $100.00

- **Alumni, Southern Branch** $100.00

- **Alumni, Portland Branch** $100.00

- **Charles F. Martin** $50.00 or $100.00

- **Gertrude L. Stone** $100.00

- **Frances Howarth** $100.00

- **Frank F. Brown** $100.00

- **Fannie E. Gray** $100.00

- **Hervey Hanscom** $100.00

- **Bailey-Jenkins** $100.00
  Given by Richard Jenkins in memory of his parents and honoring Dr. Bailey.

- **Richard Goodridge** $50.00

- **George P. Davenport Loan Fund**
  To be used for making small loans to deserving students who are residents of the State of Maine, who are temporarily in need of money to pay expenses of their education. Small interest charge.

  - **Gertrude Prinn Scholarship** $100.00
  - **Woodward-Alumni Scholarship** $50.00

Anderson Hall lounge
STUDENT HEALTH SERVICES

To provide adequate student health services, the College maintains an infirmary with two full-time registered nurses who are available for consultation, first aid, and temporary emergency care. Two local physicians are available by appointment, and immunization clinics are conducted periodically.

Health and accident insurance, which is available for all students at a nominal fee, covers a portion of hospitalization, surgery, medication, and care by a physician.

Formal instruction in areas of health and physical education is an integral part of the College health program.

STUDENT HOUSING

The College provides living accommodations for men and women students. Woodward Hall houses 96 men and Anderson Hall, 106. Robie-Andrews Halls house 200 women and Upton-Hastings Halls, 300. The McLellan House has accommodations for 16 women. The College cafeteria is located at Upton Hall for all resident students.

College regulations require that all women students live in the residence halls unless they live at home or in the home of close adult relatives. To the extent that space is available, all men students are also expected to reside on campus.

Those who cannot be so accommodated will be assisted by the Dean of Men in finding appropriate rooms in Gorham. Students may either contract for all their meals at the College cafeteria or make their own arrangements off campus. The standard College rate will apply to those who choose to purchase their meals at the College.
STUDENT REGULATIONS

It is assumed that all students entering the College are willing to subscribe to the following: That a student is expected to show, both within and outside the College, respect for order, morality, and the rights of others, and such sense of personal honor as is demanded of good citizens and prospective members of the teaching profession. The College reserves the right to dismiss a student for actions that disrupt the normal educational process of the institution or for any behavior that brings discredit to the institution and the teaching profession.

The College requires certain standards of academic performance and of general good character for admission; if these are not maintained, the College suspends or dismisses the student. Every effort is made to provide adequate academic and personal counseling for all students, with the aim of enabling them to complete successfully their courses of study.

Gambling, use or possession of alcoholic beverages, use or possession of non-prescribed amphetamines or barbiturates, use or possession of hallucinogens, narcotics or marihuana, firearms or other dangerous weapons, and fireworks are prohibited from the College campus.

Motor Vehicles — The following students are authorized to park motor vehicles on campus in accordance with the conditions outlined in the motor vehicle guide.

1. Commuters attending day, evening, or graduate classes.
2. Junior and senior resident students. A motor vehicle must be registered at the College Bookstore on the first day that it is driven on campus.

Responsibility for Personal Property — The College does not under any circumstances assume responsibility for loss of or damage to personal property through fire, theft, or other causes. Persons desiring protection against possible loss or damage should purchase appropriate insurance unless it is found that parents already have desired coverage by means of a family policy.

16
STUDENT LIFE

The student at Gorham State College is considered to be an active member of the campus community. As such, he or she is encouraged to take an active interest in campus social and professional programs.

The College sponsors a number of educational, cultural and social activities including a Concert-Lecture Series, a Film Series, Homecoming, Visitation Day, Winter Carnival, Miss Gorham State Pageant, Recognition Day, convocations, seminars, and special programs.

Students participate with faculty in the establishment of policy and programs through membership on committees such as Concert-Lecture, Convocation, Publications, Athletic, Student Exchange, Traffic and Parking, Recognition and Visitation Days and Commencement.

CAMPUS ORGANIZATIONS

A student will find numerous extra-curricular opportunities on campus vital to his development as a person, citizen, and prospective teacher. Campus organizations provide a wide variety of activities — social, athletic, musical, artistic, intellectual, and religious.

Student Senate

The Student Senate coordinates and regulates all student activities on the campus. Primarily administrative in function, the Senate allocates and distributes student fees to various campus organizations and devises the campus-wide social calendar.

The Student Senate represents the official voice of the student body. It aids in planning campus development, serves as a community link between students and faculty, and lends support for the improvement of all student functions.

Student talent expressed
Music Organizations

MUSIC EDUCATOR'S NATIONAL CONFERENCE – The Music Educator's National Conference, a professional organization open to all students on campus, aims to present practical programs dealing with music education. In the spring it presents a concert of young musicians from public school music organizations.

A CAPPELLA CHOIR – The A Cappella Choir is a select vocal ensemble specializing in chamber music of all periods, from Renaissance to Contemporary. The A Cappella Choir performs at convocations, concerts, and other College functions.

BRASS ENSEMBLE – Brass Ensemble is a select group of advanced players, chosen from the college band, who specialize in the performance of brass chamber music. The group appears publicly several times a year at College concerts and community functions.

CONCERT BAND – The Concert Band is composed of students from all departments of the College who desire to develop their musical talents and skills by participating in a wind band. The band presents a number of public concerts each year.

GORHAM CHAMBER ORCHESTRA – The Gorham Chamber Orchestra provides an opportunity for both day and evening college students to develop their musical talents and skills by participating in a Chamber orchestra. The group meets one evening each week for a two-hour rehearsal.

GORHAM CHORALE – The Men's and Women's Glee Clubs are made up of over one hundred carefully screened members. The Chorale makes several public appearances during the college year.

MEN'S GLEE CLUB – The Men's Glee Club performs works, both traditional and modern, which are especially suited to male voices. Occasionally it joins the Women's Glee Club in campus concerts, television shows, and guest appearances.

WOMEN'S GLEE CLUB – Membership is open to all interested women. The group performs representative works for women's voices and combines with the Men's Glee Club to present choral works of greater scope. Several public concerts are given during the year.

The Arts

ART CLUB – The Art Club provides an outlet and an opportunity for its members for creating art objects in various media.

DRAMA CLUB – The Drama Club offers students experience in acting, directing, lighting, make-up, and set construction. The Club produces its own plays and sponsors dramatic productions from other institutions.

MODERN DANCE CLUB – Open to a limited number of students who seek training in the technique of modern dance, the Modern Dance Club provides an opportunity for work in choreography and experience in program planning.

Fraternal and Professional Organizations

FRATERNITIES:
The Interfraternity Council was created by fraternity men at Gorham State to govern and advise all fraternities on the campus. Its intent is to insure the continuity of purpose and high ideals expressed by all fraternities at Gorham through self-government.
Delta Chi fraternity was founded in 1890 at Cornell University. It has over 60 chapters at colleges and universities throughout the country. The Gorham State chapter has built a strong organization while adhering to the philosophy that a close association of college men promotes friendship, develops character, advances justice, and assists in the acquisition of a sound education.

Gamma Rho is the only local fraternity on the Gorham campus. They sponsor various student and community service projects throughout the year along with a professional program related to a teaching career.

Phi Mu Delta, founded in 1918 at the University of New Hampshire, is the oldest fraternal organization at Gorham State College. This organization prides itself in the close ties it maintains with its alumni members.

SORORITIES:
The Inter-Sororities Council is made up of delegates from each campus sorority. This group serves as a means of communication among the sororities relative to procedures for membership and to the maintenance of standards of social polish and academic achievement.

Alpha Xi Delta is a non-national sorority whose interests center around the growth and development of its members through community responsibility, work, and friendship.

Kappa Delta Epsilon is a national professional sorority. Its goals are to promote scholastic achievement, educational interests, and projects of service for the campus and community. Its membership is made up of persons actively engaged in the preparation for teaching.

Zeta Chi Epsilon is a social sorority established with the purpose of promoting friendship, scholarship, leadership, and service.

STUDENT EDUCATION ASSOCIATION — The Student Education Association is an affiliated group concerned with the changing problems and responsibilities of American education. As a member of the Maine Teachers Association and the National Education Association, the S.E.A. supports their codes of ethics, their policies and programs, offers informal coffees for student teachers, and sponsors speakers on foreign education.

INDUSTRIAL ARTS PROFESSIONAL ORGANIZATION — Open to all industrial arts students and faculty, the IAPO brings community professional programs to the College, encourages the exchange of ideas and the discussion of problems, and promotes further professional development through either membership or participation in state, regional, and national industrial arts associations.

INDUSTRIAL ARTS DEVELOPMENT COUNCIL — Serves the Department in an advisory capacity. Its membership consists of two elected representatives from each class and two faculty members. Its chief purposes are to discuss and to seek ways and means of fostering greater efficiency within the program and of improving faculty-student relationships.

EPSILON PI TAU — International honorary fraternity in industrial arts and industrial vocational education. Recognizes junior and senior students who have achieved scholastic honors and have made significant contributions in their major. Its purposes are to esteem the function of skill; to promote social and professional efficiency; and to foster and reward research.
ORGANIZATIONS

Student Publications

HILLCREST – The Hillcrest, the annual College yearbook, is edited by members of the junior class. The staff is distinguished by editorial and administrative skill, originality, and initiative. It handles a variety of assignments: editing, layout, advertising, business management, art, and photography.

THE OBSERVER – The College newspaper is staffed and published by students interested in all aspects of journalism. The Observer serves as an outlet for journalistic talents through a variety of news resources: editing, reporting, feature articles, art work, and photography.

LITERARY MAGAZINE – The Gorham State Literary Club edits and publishes the College literary magazine. Contributors to the magazine include both students and faculty. The magazine is staffed entirely by students with special interest and skills in editing, layout, advertising, art, photography, and business management.

Religious Groups

STUDENT CHRISTIAN ASSOCIATION – The Student Christian Association, an inter-denominational organization on campus, provides spiritual guidance and fellowship. The organization provides a variety of programs including films, speakers, discussions, debates, and projects.

NEWMAN APOSTULATE – The Newman Apostulate, a national collegiate religious organization, enables the student to share more intelligently and spiritually in Christian worship and to increase his knowledge of the role of Catholicism in today’s world. The Apostulate participates in religious, intellectual, and social activities.

INTER-VARSITY CHRISTIAN FELLOWSHIP – The Inter-Varsity Christian Fellowship serves to stimulate active participation in the spiritual and religious development of the student body.

Special Interest Groups

CHESS CLUB – The Chess Club was organized by chess enthusiasts to provide ready competition for the confined players in the community, to help teach novices, and to insure campus-wide improvement in a fascinating and relaxing pastime.

COMMUTERS CLUB – The Commuters Club provides a forum for the benefit and interest of all non-resident students. The Club maintains active participation in various social and educational activities.

DEBATING CLUB – This club is open to all students whose interests lie in research, discussions, and debating of a wide variety of topics.

NORTH AMERICAN TRAVEL ASSOCIATION – Students interested in personal and professional improvement through travel join in fund-raising activities to finance their annual trip to points of interest in the Eastern and Central states as well as Canada.

OUTING CLUB – The Outing Club serves to provide students with an opportunity for healthful enjoyment all through the college year. Some of its activities include overnight camping trips, skiing excursions, and hiking.

PUBLIC AFFAIRS CLUB – The Public Affairs Club sponsors activities for students interested in contemporary social and political issues. The Club sponsors assembly programs, visiting international scholars, teacher workshops, and student participation in conferences at other colleges.

SKI CLUB – The Gorham State College Ski Club provides a healthy outlet for all students interested in winter sports. Along with various weekend ski trips, the Ski Club also sponsors social functions on the campus.

VARSITY “G” CLUB – A service organization made up of men earning letters in varsity sports competition, the Varsity “G” Club assumes responsibility for sponsoring special athletic events and assists in the College intramural program.

VETERANS CLUB – The Veterans Club is designed to provide greater educational and social development for those students with military experience. The Club maintains a very active interest in service projects for both the community and the College.

WOMEN’S ATHLETIC ASSOCIATION – Stressing student leadership and college-wide participation in sports, the WAA sponsors such sports as softball, basketball, volleyball, tennis, trampoline, archery, and fencing.
Intercollegiate Athletics

Intercollegiate athletics, an integral part of the physical education program, provides special opportunities to develop physical skills and encourage leadership and sportsmanship among outstanding athletes.

As one of the members of the New England State College Athletic Conference, the Huskies compete successfully in varsity cross-country, soccer, basketball, baseball, tennis, and golf. A freshman schedule completes the present program.

As a member of the National Association of Intercollegiate Athletics (District 32), the College has participated in district play-offs in soccer, basketball, and tennis. Gorham State is also a member of the National Collegiate Athletic Association and the Eastern College Athletic Conference.

The Warren Hill Gymnasium is one of the best designed and adequately equipped sports facilities in the area.

Men's Intramural Athletics

The Physical Education Department conducts an intramural program for men students emphasizing voluntary participation in a variety of team and individual sports during free time. Activities include tennis, golf, touch football, soccer, cross-country, volleyball, basketball, softball, and table tennis.
Placement of Graduates

The responsibility of Gorham State College for assisting its graduates in securing positions is recognized and accepted by the Placement Office. The aim of this service is twofold: to help each graduate secure the position for which he is best qualified by training, experience, and personality; and to assist school officials in finding qualified teachers who will meet the needs of their systems.

The Director of Placement keeps complete files of candidates showing their scholastic record, qualifications for teaching, and personal characteristics. The Office informs students concerning location of positions, grade levels, and salaries; arranges personal interviews between school officials and candidates for positions.

The Director plans visitations for seniors, before contracts are signed, to the schools in which they show professional interest; and guides prospective teachers in preparing credentials, participating in placement interviews, and evaluating the desirability of various teaching situations.

An analysis of first-year graduate positions by teaching level, salary, and geographic distribution is published every fall and is available at the Placement Office.

The Alumni Association

The Alumni Association of Gorham State College aims to promote the progress of the College and to supplement its facilities. Those active in the Association are increasingly aware of its responsibility to the development of the College. Greater financial support by members is making possible more services by the Alumni Office.

The Board of Directors meets regularly and the full Council several times a year. A directory is published periodically and the Alumni News is sent to all graduates three times a year. A Reunion Weekend in June climaxes the year's activities.

The Association and its branches are making an effort to convey to graduates, especially to those of recent years, the importance to Gorham of continued support of and participation in alumni activities.
The Academic Policies

The Advisory Program

An orientation program is provided for new students at the beginning of the fall term. It includes placement tests, social events, discussion groups, and tours. The program gives the new student an opportunity to meet faculty members, faculty advisers and upper class student advisers, to learn more about college services, and to complete registration.

Every student is assigned an adviser whose primary function is to assist the student in the selection of courses. Normally the adviser is from the department in which the student will major. In cases where this is impossible the student may be reassigned by the end of the sophomore year.

The adviser is available for scholastic or personal consultation at his own or at the student's request. In addition the student is encouraged to meet with an individual faculty member, the Dean of Academic Affairs, the Assistant to the Dean, and the Deans of Men and Women when they can be of assistance.

Attendance Policy

The attendance policy shall be left to the discretion of the individual faculty member. Each semester, it shall be the responsibility of the faculty member to inform the student in each class of his attendance requirements for that class. A copy of his attendance requirements shall be on file in the office of the Dean of Academic Affairs.

When a faculty member wishes the Office of the Dean of Academic Affairs to place a student on a no-cut basis or to drop the student from the course with a failing grade due to excessive absences, he must notify the Office of the Dean of Academic Affairs in writing.

The Grading System

A letter system of reporting final grades is used. A, B, C, D, F, Inc. and W represent the levels of achievement. The basis for determining a grade is the relative extent to which the student has achieved the objectives of the course.

The grade A symbolizes work of superior quality achieved only by the ablest students. B rank indicates work of a quality substantially better than the minimum requirements. C represents work of a satisfactory but average quality.

The D implies a less than satisfactory quality but is acceptable for credit except in the Secondary Education majors and minors and in transfer. F is a failing grade and indicates work of such an unsatisfactory quality that no credit is given.

Inc. indicates that the student has failed to complete specific course requirements. W represents withdrawal from a course.

Pass-Fail Option

In the fall of 1967 the pass-fail option was instituted for an experimental period of three years. Students are permitted to enroll for a maximum of six hours of pass-fail credits in any one semester to a maximum of 18 hours, exclusive of student teaching and the related seminar, of the total credit hours required for graduation. Student teaching and the related seminar are considered as a block for election of the pass-fail option. Required courses in the Core Curriculum and in the student's major may not be taken pass-fail. Only one course in the minor may be taken pass-fail.
ACADEMIC POLICIES

Course Credits

Since a minimum of 128 credit hours is required for graduation, thirty-two should be earned each year. To progress satisfactorily through college a student is expected to carry sixteen credit hours each semester. Permission must be obtained from the advisor and the Office of the Dean of Academic Affairs if a student wishes to carry less or more than the required sixteen hours.

A course rated F does not carry credit and must, unless it is a free elective, be repeated and passed; if it is a free elective course, another elective may be approved in its place by the faculty adviser.

An Inc. mark must be satisfactorily removed by the middle of the following semester in which the grade was given. It is the student's responsibility to remove the Inc. rank by consulting his instructor; otherwise the Inc. will be changed to an F by the Registrar.

A scholastic warning is prepared by the instructor for students whose academic performance is below average at mid-semester. The Dean of Academic Affairs will notify each student, his parents, and his adviser of the instructor's warning. The report is designed to help the student analyze his deficiencies by conferring with his instructor and his adviser.

Independent Study

Junior and senior students with a 3.0 or above average in their major may register for independent study in that major for one to six credits. No more than three credits may be earned in a semester. Permission of the instructor is required for enrollment.

Class Status

Class status is determined by the number of acceptable credit hours the student has earned toward the degree. For freshmen status students will have earned up to 25 credit hours; for sophomores, 26 to 58; for juniors, 59 to 90; and for seniors, 91 to 128 credit hours.

The single exception to the above scale exists when a student transfers from another institution, or from another curriculum within our own College, with an accumulation of credit hours acceptable as elective credits.

Teaching Certificate

No teaching certificate will be issued to graduating seniors except upon the recommendation of the College faculty.

Grade-Point Averages

The academic standing of each student is computed by the Registrar at the end of every semester. The following table represents the rating scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Quality-Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
</tr>
</tbody>
</table>

To qualify for the degrees of Bachelor of Science and Bachelor of Arts, a student must have earned a minimum cumulative quality-point average of 2.00.
Semester cumulative minima are as follows:

<table>
<thead>
<tr>
<th></th>
<th>Cumulative Minimum for good standing</th>
<th>Cumulative Minimum for probationary standing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen, end of first semester</td>
<td>1.35</td>
<td>1.15</td>
</tr>
<tr>
<td>Freshmen, end of second semester</td>
<td>1.60</td>
<td>1.35</td>
</tr>
<tr>
<td>Sophomores, end of first semester</td>
<td>1.80</td>
<td>1.60</td>
</tr>
<tr>
<td>Sophomores, end of second semester</td>
<td>2.00</td>
<td>1.80</td>
</tr>
<tr>
<td>Juniors and Seniors, end of each semester</td>
<td>2.00</td>
<td>1.80</td>
</tr>
</tbody>
</table>

A student who fails to obtain the minimum for probationary standing for his class is dismissed from the College. Students whose cumulative grade-point averages fall below the minimum required for continuation in good standing and above the dismissal point are placed on academic probation the following semester. Failure to improve academically and inability to meet the minimum for good standing result in automatic dismissal from the College.

Any student whose semester average falls below 1.0 is automatically dismissed for at least one semester.

A program conference with the Dean
The Graduate School

The graduate programs at Gorham State College have as their purposes the following:
1. An advanced intellectual challenge to the student;
2. An opportunity for extended depth in scholarship;
3. Assistance in furthering professional competency;
4. An awareness of pertinent research and contemporary development.

Those wishing to pursue graduate courses in the summer session who have not previously enrolled should obtain detailed information before registering. Descriptive material and application forms are available upon request from the Director of Graduate Studies at the College.

Students who are not candidates for a master’s degree at Gorham must receive prior approval from the Dean of Academic Affairs before registering for graduate courses.

The programs lead to the degree of Master of Science in Education to be attained by one of the following methods:

The Classroom Teacher
The requirements of the thesis program are:
- 18 credit hours in general education (liberal arts) courses
- 9 credit hours in professional education courses
- 3 credit hours for the completion of an approved thesis
- 3 credit-hour course in thesis preparation

The requirements of the non-thesis program are:
- 18 credit hours in general education (liberal arts) courses
- 6 credit hours in professional education courses
- 3 credit hours in a research seminar in professional education sometime during last 12 hours of work
- 6 credit hours in courses to be selected by the student

Comprehensive Examinations

Industrial Arts
12-18 credit hours in general education (liberal arts)
- 6 credit hours in professional education
6-12 credit hours in Industrial Arts
- 3 credit hours in a research seminar in professional education

Comprehensive Examinations

Elementary and Junior High Guidance
21 credit hours in liberal arts (including psychology). Courses in Group Dynamics, Psychology of Learning (K-6) or Psychology of Self (7-9), and Individual Psychological Testing must be included among the 21 credits.
- 3 credit hours in Statistics and Research. This course would be substituted for the Research Seminar currently required in existing programs.
- 6 credit hours in professional education:
  a. 3 credits in counselling
  b. 3 credits in a course entitled The Philosophy, Organization and Administration of Guidance Services
- 3 credits in Supervised Practice in Guidance and Counselling
  This course will give the prospective guidance director practical experience with a qualified counsellor under the direction of a college coordinator.

Comprehensive Examinations
Elementary and Junior High Administration
18-21 credit hours in liberal arts (including psychology)
  Psychology of Learning is required.
  3 credit hours in Statistics and Research. This course would be substituted
  for the Research Seminar currently required in existing programs.
  6 credit hours in professional education:
    a. 3 credits in Administration
    b. 3 credits in Supervision
  3-6 credit hours (elective) in professional education courses. School Law and
  Measurement and Evaluation are strongly recommended. Courses in
  Public Relations, Curriculum, Current Practices, and/or Problems of
  Elementary and Junior High Education are also acceptable.

Comprehensive Examinations

ADMISSION TO THE GRADUATE SCHOOL

Admission is selective in nature. The applicant will be judged on the basis
of previous academic record and potentiality for graduate work.

Admission to Graduate Study

Application for admission to the Graduate Division should be made to the
Dean of Graduate Studies. Candidates must submit transcripts of all undergradu­
ate and graduate study, scores on the Miller Analogies Test, or the Graduate
Record Examination, and three references. Upon admission to graduate study
candidates will be assigned a major adviser. Within six months the candidate and
his major adviser will submit a planned sequence of courses to the Dean of Grad­
uate Studies.

Residence

All students enrolled either full- or part-time are required to attend a minimum
of two summer sessions at Gorham State College.

Course Load Limitations

No student may carry more than six semester credit hours of part-time study
in a regular academic semester or in any six-week summer session.

Time Limitations

Students must fulfill all requirements for the graduate degree within eight
years of the date of completion of their first graduate course, including transfer
work.

Teaching Experience

Candidates with less than a 2.5 cumulative undergraduate record must com­
plete one year of successful teaching before being considered for admission. They
may be required to complete six additional hours of undergraduate work with “B”
grades or better.

Transfer Credits

Graduate students may transfer a maximum of six semester credit hours into
the Gorham graduate program.

Minimum Grade Requirements

For successful completion of the degree program, a student shall be required to
obtain a “B” average for all courses. No grade below “C” in any course is accept­
able.

Comprehensive Examinations

Comprehensive Examinations required of the non-thesis candidates shall be
prescribed and administered by the Graduate Study Council.
The Evening College

The College conducts an Evening Division Program which serves the needs of students for higher education courses at the freshman and sophomore levels as well as adult extension courses of interest to the general community.

A person who has a high school education or its equivalent and who believes that he can pursue college work with profit is admitted to all evening courses for which there are no prerequisites.

The Evening College is designed to meet the needs of the following:

- Recent high school graduates unable to attend day college because of limited enrollment quotas or for financial reasons.
- Adults unable to attend college during day hours who wish to earn college credits.
- Teachers in-service wishing to earn credits toward an undergraduate degree.
- Adults interested in self-improvement but not concerned with a degree.

Enrollment in the Evening College is not in itself the equivalent of matriculation for a degree. Neither is enrollment an assurance of admission to day-college courses. Qualified Evening College students do, however, have priority in admission; if space can be found, they will be accommodated.

Course content, instructional levels, and grading standards in the Evening College are intended to be identical with those in the degree-program. Accordingly, credits earned in the Evening College may be submitted, upon the student’s matriculation, toward a degree at this College or at another institution of his choice. Courses offered, each of which carries three semester-hours of credit are listed herewith:

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng</td>
<td>100e - 101e</td>
</tr>
<tr>
<td>Ms</td>
<td>100e - 101e</td>
</tr>
<tr>
<td>Sci</td>
<td>100e - 101e</td>
</tr>
<tr>
<td>SS</td>
<td>100e - 101e</td>
</tr>
<tr>
<td>SS</td>
<td>200e - 201e</td>
</tr>
<tr>
<td>Ed</td>
<td>100e</td>
</tr>
<tr>
<td>FA</td>
<td>100e</td>
</tr>
<tr>
<td>Fr</td>
<td>100e</td>
</tr>
<tr>
<td>Eng</td>
<td>200e</td>
</tr>
<tr>
<td>Eng</td>
<td>210e</td>
</tr>
<tr>
<td>Psy</td>
<td>200e</td>
</tr>
<tr>
<td>Psy</td>
<td>300e</td>
</tr>
<tr>
<td>Sci</td>
<td>200e</td>
</tr>
<tr>
<td>SS</td>
<td>202e</td>
</tr>
<tr>
<td>SS</td>
<td>203e</td>
</tr>
</tbody>
</table>

See catalog for detailed course descriptions.

Undergraduate Summer Session

Gorham State College holds an annual Summer Session. It presents a balanced program of liberal arts and professional courses designed to meet the needs of undergraduates who are accelerating their program or removing deficiencies, high school graduates interested in academic enrichment and teachers seeking certification or renewal of same.

The evening scene
The Academic Programs

TEACHER EDUCATION

All curricula and programs require four years for completion. Upon graduation, the student receives the Bachelor of Science degree and the proper teaching certificate. The College prepares teachers in the following course programs:

Kindergarten-Primary

The Kindergarten-Primary curriculum qualifies students to teach in the kindergarten through grade eight, with emphasis on kindergarten through grade three.

General Elementary

The General Elementary curriculum qualifies graduates to teach grades kindergarten through eight, with emphasis on grades four through six.

Junior High

The Junior High curriculum qualifies students for teaching in a self-contained classroom in the upper elementary grades, or for departmental work in Junior High School. Special preparation is offered for positions in the fields of English, Mathematics, Science, and Social Sciences.

Secondary (7-12)


Art

The Art curriculum is the only approved program in state colleges in Maine for the preparation of art teachers and supervisors. Graduates of this program qualify to teach or supervise art in all grades of the public schools.

Industrial Arts

The Industrial Arts curriculum prepares teachers for the teaching of industrial arts in elementary and secondary schools. It is the only college program in the State of Maine in this specialized field.

Music

The Music curriculum qualifies graduates to teach or supervise vocal and instrumental music in all grades. It, too, is the only program of its kind in the State Colleges.

In addition to the regular curriculum all music majors will meet the following requirements:
1. Participation in at least two recitals a year, and presentation of solo recital in junior and senior year.
2. Fulfillment of minimum requirements in both voice and piano, regardless of major instrument.
3. Participation in at least two musical organizations without credit.
Core Requirements for Teacher Education

General Education
Every student is required to complete a minimum of 43 credit hours in general education, as follows:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>College Health</td>
<td>2</td>
</tr>
<tr>
<td>English</td>
<td>9</td>
</tr>
<tr>
<td>English Composition</td>
<td>(6)</td>
</tr>
<tr>
<td>Literature (American, English or World)</td>
<td>(3)</td>
</tr>
<tr>
<td>History and Appreciation of Art</td>
<td>3</td>
</tr>
<tr>
<td>History and Appreciation of Music</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics (assigned)</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>Analytic Geometry and Calculus (math majors)</td>
<td>(4)</td>
</tr>
<tr>
<td>Physical Education (Two years)</td>
<td>2</td>
</tr>
<tr>
<td>Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Speech</td>
<td>2</td>
</tr>
<tr>
<td>Science</td>
<td>7</td>
</tr>
<tr>
<td>Biological Science</td>
<td>(4)</td>
</tr>
<tr>
<td>Physical Science</td>
<td>(3)</td>
</tr>
<tr>
<td>Social Science</td>
<td>9</td>
</tr>
<tr>
<td>Modern Civilization</td>
<td></td>
</tr>
<tr>
<td>Choice of 2 courses from the following:</td>
<td></td>
</tr>
<tr>
<td>Ancient Civilization</td>
<td>(3)</td>
</tr>
<tr>
<td>U. S. History (either half)</td>
<td>(3)</td>
</tr>
<tr>
<td>Principles of Geography</td>
<td>(3)</td>
</tr>
<tr>
<td>American Government</td>
<td>(3)</td>
</tr>
<tr>
<td>Sociology</td>
<td>(3)</td>
</tr>
<tr>
<td>Principles of Economics</td>
<td>(3)</td>
</tr>
</tbody>
</table>

Total: 43 credit hours

Professional Education
Every student except those in Secondary Education is required to complete a minimum of 26 credit hours in professional education as follows:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>The American School</td>
<td>2</td>
</tr>
<tr>
<td>Human Growth and Development</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy of Education</td>
<td>3</td>
</tr>
<tr>
<td>Curriculum, Methods and Materials</td>
<td>6</td>
</tr>
<tr>
<td>Student Teaching</td>
<td>12</td>
</tr>
</tbody>
</table>

Total: 26 credit hours

In both general and professional education there are additional or special requirements which will be indicated in each curriculum as it is set forth.
Curriculum for Kindergarten-Primary Education Majors

General Education

All kindergarten-primary education majors are required to complete the basic forty-three credit hours in general education. The additional general education requirements are:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Science</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Physical Science</td>
<td>3</td>
</tr>
<tr>
<td>Fundamentals of Art</td>
<td>2</td>
</tr>
<tr>
<td>Fundamentals of Music</td>
<td>2</td>
</tr>
<tr>
<td>Children's Literature</td>
<td>2</td>
</tr>
</tbody>
</table>

Total: 18

Professional Education

All kindergarten-primary education majors complete the basic twenty-six hours plus nine additional credit hours. The complete professional program is as follows:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ed 100 The American School</td>
<td>2</td>
</tr>
<tr>
<td>Psy 300 Human Growth and Development</td>
<td>3</td>
</tr>
<tr>
<td>Ed 300 Primary Curriculum, Methods and Materials</td>
<td>3</td>
</tr>
<tr>
<td>Ed 303 Primary Reading</td>
<td>3</td>
</tr>
<tr>
<td>Ed 305 Primary Arithmetic</td>
<td>3</td>
</tr>
<tr>
<td>Ed 308 Science and Health for the Primary School Teacher</td>
<td>2</td>
</tr>
<tr>
<td>Ed 401 Philosophy of Education</td>
<td>3</td>
</tr>
<tr>
<td>Ed 402 Student Teaching</td>
<td>12</td>
</tr>
<tr>
<td>Ed 403 Seminar in Primary Education</td>
<td>2</td>
</tr>
<tr>
<td>Ed 411 Measurement and Evaluation</td>
<td>2</td>
</tr>
</tbody>
</table>

Total: 35

All students in the kindergarten-primary curriculum are considered as education majors. In addition to the general and professional requirements they are required to complete two academic minors of eighteen credit hours each, or a major of thirty credit hours. General education requirements may be counted toward the major or the two minors.
Curriculum for Elementary Education

Majors

General Education

All elementary education majors are required to complete the basic forty-three credit hours in general education. Their additional requirements, the same as those for the kindergarten-primary curriculum, are eighteen credit hours.

Professional Education

All elementary education majors complete the basic twenty-six credit hours plus an additional nine credit hours. The full professional program follows:

<table>
<thead>
<tr>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ed 100</td>
</tr>
<tr>
<td>Psy 300</td>
</tr>
<tr>
<td>Ed 302</td>
</tr>
<tr>
<td>Ed 304</td>
</tr>
<tr>
<td>Ed 306</td>
</tr>
<tr>
<td>Ed 310</td>
</tr>
<tr>
<td>Ed 401</td>
</tr>
<tr>
<td>Ed 402</td>
</tr>
<tr>
<td>Ed 404</td>
</tr>
<tr>
<td>Ed 411</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

The basic curriculum course (Ed 302) provides the overall framework within which the specific courses offer instruction as to plans and unit work. Ed 302, 304, 306, and 310 are carefully planned to prevent undesirable duplication.

All students in the elementary curriculum are considered as education majors. In addition to the general and professional requirements they are required to complete two academic minors of eighteen credit hours each, or a major of thirty credit hours. General education requirements may be counted toward the major or the two minors.
Curriculum for Junior High Education

Most students will find either the Elementary Education Curriculum (K-8) or the Secondary Education Curriculum adequate for their needs. However, those who wish to be certified exclusively in grades seven through nine may pursue the Junior High Curriculum.

The general education requirements are the basic forty-three credit hours plus twelve hours (three in Science, six in Social Science and three in Mathematics). The professional education requirements are as follows:

<table>
<thead>
<tr>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ed 100 The American School 2</td>
</tr>
<tr>
<td>Psy 300 Human Growth and Development 3</td>
</tr>
<tr>
<td>Ed 307 Junior and Senior High Reading 2</td>
</tr>
<tr>
<td>Ed 309 Secondary Curriculum (7-12) 3</td>
</tr>
<tr>
<td>Ed 401 Philosophy of Education 3</td>
</tr>
<tr>
<td>Ed 402 Student Teaching 12</td>
</tr>
<tr>
<td>Methods Course in Major 3</td>
</tr>
<tr>
<td>Methods Course in Minor 3</td>
</tr>
</tbody>
</table>

Thirty hour subject matter majors are available in English, History, Mathematics, Biological Science, Earth Science, and Physical Science. In addition, there are Science area and Social Sciences area majors of forty credit hours. A minor of eighteen credit hours must be obtained in one of the following: Biological Science, Earth Science, English, Geography, History, Mathematics, Physical Science, or Social Sciences. Copies of these programs are available in the offices of the department chairmen and the Office of the Dean of Academic Affairs.

Curriculum for Secondary Education

General Education

Secondary Education majors must complete the basic general education requirements with exceptions which vary according to the specific programs which the students enter.

Professional Education

The following 21 hours are required:

<table>
<thead>
<tr>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psy 300 Human Growth and Development 3</td>
</tr>
<tr>
<td>Ed 309 Secondary Curriculum (7-12) 3</td>
</tr>
<tr>
<td>Ed 402 Methods Course in Major 3</td>
</tr>
<tr>
<td>Ed 402 Student Teaching 12</td>
</tr>
</tbody>
</table>

All students in the Secondary Education Curriculum are required to complete a major of 36 credit hours and a minor of 18 credit hours (24 credit hours in Mathematics) with the exception of area majors of 50 credits in Social Sciences or Science.

Methods courses do not count toward specific hour requirements of majors and minors.

It is possible to major in Biological Science, Science Area, English, Mathematics, History, and Social Sciences Area. A minor must be obtained in Biological Science, English, History, or Mathematics.
Program for English Majors and Minors

**English Major, Secondary**

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng 100-101</td>
<td>English Composition</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOPHOMORE YEAR</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng 200-201</td>
<td>English Literature I and II</td>
</tr>
<tr>
<td>Eng 210</td>
<td>American Literature</td>
</tr>
<tr>
<td>Eng 250</td>
<td>Speech</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>JUNIOR AND SENIOR YEARS</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng 352</td>
<td>Shakespeare</td>
</tr>
<tr>
<td>Eng 440</td>
<td>History of the English Language</td>
</tr>
<tr>
<td>Eng 351</td>
<td>Advanced Composition</td>
</tr>
<tr>
<td>Eng 456</td>
<td>Creative Writing</td>
</tr>
</tbody>
</table>

The remainder of the 36 credit hours required to complete a major in English may be obtained from the following electives:

<table>
<thead>
<tr>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA 104</td>
</tr>
<tr>
<td>Eng 205</td>
</tr>
<tr>
<td>Eng 206</td>
</tr>
<tr>
<td>Eng 220</td>
</tr>
<tr>
<td>Eng 221</td>
</tr>
<tr>
<td>Eng 230</td>
</tr>
<tr>
<td>Eng 240</td>
</tr>
<tr>
<td>Eng 340</td>
</tr>
<tr>
<td>Eng 364</td>
</tr>
<tr>
<td>Eng 365</td>
</tr>
<tr>
<td>Eng 366</td>
</tr>
<tr>
<td>Eng 380</td>
</tr>
<tr>
<td>Eng 382</td>
</tr>
<tr>
<td>Eng 385</td>
</tr>
<tr>
<td>Eng 390</td>
</tr>
<tr>
<td>Eng 450</td>
</tr>
<tr>
<td>Eng 451</td>
</tr>
<tr>
<td>Eng 452</td>
</tr>
<tr>
<td>Eng 453</td>
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<tr>
<td>Eng 454</td>
</tr>
<tr>
<td>Eng 455</td>
</tr>
<tr>
<td>Eng 457</td>
</tr>
<tr>
<td>Eng 460</td>
</tr>
<tr>
<td>Eng 461</td>
</tr>
<tr>
<td>Eng 470</td>
</tr>
<tr>
<td>Eng 499</td>
</tr>
</tbody>
</table>

Also required, but not counting toward the 36 hours: Eng Ed 354: Teaching English in the Secondary School, 3 credit hours (must be taken in the junior year).

**Secondary English Minor**

Required: Eng 100-101, Eng 200-201, Eng 210, Eng 250, preferably two additional courses (Advanced Composition recommended).

**English Minor** (Kindergarten-Primary, Elementary, and Junior High).

Eng 100-101, Eng 200, or 205, or 210, and nine additional hours of English courses either required or elective, for a total of 18 credit hours.
### Program for History Majors and Minors

#### History Major, Secondary

**Required:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS 100-101</td>
<td>Ancient and Modern Civilizations</td>
<td>6</td>
</tr>
<tr>
<td>SS 200-201</td>
<td>U.S. History</td>
<td>6</td>
</tr>
<tr>
<td>SS 498</td>
<td>Historiography</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Courses outside the American History area</td>
<td>6</td>
</tr>
</tbody>
</table>

**Electives:** Choose from the list below at least 15 credit hours.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS 301</td>
<td>Maine History</td>
<td>2</td>
</tr>
<tr>
<td>SS 354</td>
<td>Diplomatic History of U.S. I</td>
<td>3</td>
</tr>
<tr>
<td>SS 355</td>
<td>Diplomatic History of U.S. II</td>
<td>3</td>
</tr>
<tr>
<td>SS 356</td>
<td>History of Russia</td>
<td>3</td>
</tr>
<tr>
<td>SS 357</td>
<td>History of the West</td>
<td>3</td>
</tr>
<tr>
<td>SS 358</td>
<td>The Bible</td>
<td>3</td>
</tr>
<tr>
<td>SS 363</td>
<td>20th Century U.S.</td>
<td>3</td>
</tr>
<tr>
<td>SS 364</td>
<td>Civil War and Reconstruction</td>
<td>3</td>
</tr>
<tr>
<td>SS 365</td>
<td>Soc. &amp; Cult. Hist. U.S. to 1865</td>
<td>3</td>
</tr>
<tr>
<td>SS 366</td>
<td>Soc. &amp; Cult. Hist. U.S. since 1865</td>
<td>3</td>
</tr>
<tr>
<td>SS 367</td>
<td>Colonial History of U.S.</td>
<td>3</td>
</tr>
<tr>
<td>SS 368</td>
<td>Seminar in American Character</td>
<td>3</td>
</tr>
<tr>
<td>SS 374</td>
<td>Introduction to African History</td>
<td>3</td>
</tr>
<tr>
<td>SS 375</td>
<td>Contemporary Africa</td>
<td>3</td>
</tr>
<tr>
<td>SS 385</td>
<td>Europe, 1500-1715</td>
<td>3</td>
</tr>
<tr>
<td>SS 387</td>
<td>French Revolution and Napoleon</td>
<td>3</td>
</tr>
<tr>
<td>SS 388</td>
<td>Europe and World in 19th Century</td>
<td>3</td>
</tr>
<tr>
<td>SS 392</td>
<td>Twentieth Century Europe</td>
<td>3</td>
</tr>
<tr>
<td>SS 394</td>
<td>History of the Far East to 1700</td>
<td>3</td>
</tr>
<tr>
<td>SS 395</td>
<td>History of the Far East since 1700</td>
<td>3</td>
</tr>
<tr>
<td>SS 400</td>
<td>History of England</td>
<td>3</td>
</tr>
<tr>
<td>SS 410</td>
<td>U.S. and the Far East</td>
<td>3</td>
</tr>
<tr>
<td>SS 460</td>
<td>History of Canada</td>
<td>3</td>
</tr>
<tr>
<td>SS 475</td>
<td>United States Foreign Policy</td>
<td>3</td>
</tr>
<tr>
<td>SS 499</td>
<td>Independent Study in the Social Sciences</td>
<td>1-6</td>
</tr>
</tbody>
</table>

Also required but not included in the total credits for the major:

- SS Ed 361 Teaching Social Studies in the Secondary School
  
  **Secondary History Minor:**
  A minimum of 18 credit hours to include SS 100-101 and SS 200-201 with the remaining hours to be chosen from the elective courses listed above.

- **History Minor (Kindergarten-Primary, Elementary and Junior High)**
  A minimum of 18 credit hours of required and elective history courses.
Program for Social Sciences Majors and Minors

Social Sciences Area Major

Required:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS 100-101</td>
<td>Ancient and Modern Civilizations</td>
<td>6</td>
</tr>
<tr>
<td>SS 200-201</td>
<td>U.S. History</td>
<td>6</td>
</tr>
<tr>
<td>SS 202</td>
<td>Principles of Geography</td>
<td>3</td>
</tr>
<tr>
<td>SS 203</td>
<td>Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SS 204</td>
<td>American Government</td>
<td>3</td>
</tr>
<tr>
<td>SS 300</td>
<td>Economics</td>
<td>3</td>
</tr>
<tr>
<td>SS 302</td>
<td>Current Economic Problems</td>
<td>3</td>
</tr>
<tr>
<td>SS 350</td>
<td>World Geography</td>
<td>3</td>
</tr>
</tbody>
</table>

Also required but not included in the total credits for the major:

- SS Ed 361 Teaching Social Studies in the Secondary School 3

Electives:

A minimum of 20 credit hours from all other departmental offerings.

Social Sciences Minor: Kindergarten-Primary, Elementary, and Junior High. A minimum of 18 credit hours of required and elective social sciences courses.

Geography Minor:

A total of 18 credit hours of geography and geology courses.
# Program for Mathematics Majors and Minors

## Mathematics Major, Secondary

### FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms 150</td>
<td>Analytic Geometry and Calculus I</td>
</tr>
<tr>
<td>Ms 151</td>
<td>Analytic Geometry and Calculus II</td>
</tr>
<tr>
<td>Ms 173</td>
<td>Logic and Sets</td>
</tr>
</tbody>
</table>

### SOPHOMORE YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms 250</td>
<td>Analytic Geometry and Calculus III</td>
</tr>
<tr>
<td>Ms 272</td>
<td>Real Numbers</td>
</tr>
<tr>
<td>Ms 260</td>
<td>Probability and Statistics I</td>
</tr>
</tbody>
</table>

### JUNIOR AND SENIOR YEARS

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms 350</td>
<td>Geometric Structures I</td>
</tr>
<tr>
<td>Ms 370</td>
<td>Abstract Algebra</td>
</tr>
<tr>
<td>Ms Ed 312</td>
<td>Teaching Mathematics in the Secondary School (7-12)</td>
</tr>
</tbody>
</table>

The remainder of the 36 hours required to complete a major in mathematics may be obtained from the following electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms 251</td>
<td>Calculus IV</td>
</tr>
<tr>
<td>Ms 261</td>
<td>Probability and Statistics II</td>
</tr>
<tr>
<td>Ms 351</td>
<td>Geometric Structures II</td>
</tr>
<tr>
<td>Ms 371</td>
<td>Linear Algebra</td>
</tr>
<tr>
<td>Ms 380</td>
<td>Theory of Numbers</td>
</tr>
<tr>
<td>Ms 390</td>
<td>Topology</td>
</tr>
<tr>
<td>Ms 460</td>
<td>Introduction to Computer Programming</td>
</tr>
<tr>
<td>Ms 471</td>
<td>Foundations of Mathematics</td>
</tr>
<tr>
<td>Ms 473</td>
<td>History of Mathematics</td>
</tr>
</tbody>
</table>

## Secondary Mathematics Minor (24 Credit Hours)

Required: Ms 150, Ms 151, Ms 173, Ms 350, plus mathematics electives numbered ending in 50's or above to make at least 24 hours. (Ms 120 and Ms 121 may be accepted if necessary for the individual.)

## Mathematics Minor (Kindergarten-Primary, Elementary and Junior High)

Any 18 hours of mathematics which may include:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms 100 and 101</td>
<td>Elements of Mathematics I and II</td>
</tr>
<tr>
<td>Ms 120</td>
<td>College Algebra</td>
</tr>
<tr>
<td>Ms 121</td>
<td>College Trigonometry</td>
</tr>
<tr>
<td>Ms 220</td>
<td>Introduction to Statistics</td>
</tr>
<tr>
<td>Ms 310</td>
<td>Basic Concepts of Algebra</td>
</tr>
<tr>
<td>Ms 311</td>
<td>Informal Geometry</td>
</tr>
</tbody>
</table>
Program for Biological Science Majors and Minors

Biological Science Major, Secondary and Liberal Arts

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sci 161-162</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FRESHMAN OR SOPHOMORE YEAR</th>
<th>Select one of each pair:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sci 250</td>
<td>Vascular Botany</td>
</tr>
<tr>
<td>Sci 251</td>
<td>Non-vascular Botany</td>
</tr>
<tr>
<td>Sci 252</td>
<td>Invertebrate Zoology</td>
</tr>
<tr>
<td>Sci 253</td>
<td>Vertebrate Zoology</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOPHOMORE YEAR</th>
<th>Select one from each of the following two groups:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sci 220-221</td>
<td>General Chemistry I and II</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>JUNIOR YEAR</th>
<th>Select one from each of the following two groups:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sci 369</td>
<td>Microbiology</td>
</tr>
<tr>
<td>Sci 370</td>
<td>Ornithology</td>
</tr>
<tr>
<td>Sci 372</td>
<td>Ichthyology</td>
</tr>
<tr>
<td>Sci 367</td>
<td>Anatomy and Physiology</td>
</tr>
<tr>
<td>Sci 420</td>
<td>Embryology</td>
</tr>
<tr>
<td>Sci 450</td>
<td>Genetics</td>
</tr>
<tr>
<td>Sci 460</td>
<td>Comparative Anatomy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SENIOR YEAR</th>
<th>Select one of each pair:</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Sci 400</td>
<td>Biological Techniques</td>
</tr>
<tr>
<td>**Sci Ed 360</td>
<td>Teaching Sciences in the Secondary School</td>
</tr>
<tr>
<td>Sci 258</td>
<td>Ecology</td>
</tr>
<tr>
<td>Sci 451</td>
<td>Evolution</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ELECTIVES:</th>
<th>Any of the above plus:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sci 157</td>
<td>Historical Geology</td>
</tr>
<tr>
<td>Sci 259</td>
<td>Conservation</td>
</tr>
<tr>
<td>Sci 366</td>
<td>History of Science</td>
</tr>
<tr>
<td>Sci 385</td>
<td>Cell Physiology</td>
</tr>
</tbody>
</table>

*Biological Science majors, liberal arts, are required to take Sci 400.

**Biological Science majors, secondary, are required to take Sci Ed 360.

Biological Science Minor, Secondary

A minimum of 18 credit hours in basic and advanced Biology.
Program for Science Area Majors and Minors

The Science Area Major requires completion of a minimum of 50 credit hours and provides for a broad preparation in several fields. This major is intended primarily for those students planning to teach grades seven through nine.

Science Area Major, Secondary

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sci 161-162</td>
<td>Physics I and II</td>
</tr>
<tr>
<td>Sci 220-221</td>
<td>Chemistry I and II</td>
</tr>
<tr>
<td>Sci 200</td>
<td>Biological Science</td>
</tr>
</tbody>
</table>

(if qualified by examination, the student may substitute an advanced course in Botany or Zoology)
SCIENCE AREA PROGRAM

FRESHMAN, SOPHOMORE, JUNIOR, AND SENIOR YEARS

Select at least 38 hours from the following:

Group A — 28 Credit Hours Required

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sci 156</td>
<td>Physical Geology</td>
<td>3</td>
</tr>
<tr>
<td>Sci 157</td>
<td>Historical Geology</td>
<td>3</td>
</tr>
<tr>
<td>Sci 161</td>
<td>General Physics</td>
<td>4</td>
</tr>
<tr>
<td>Sci 162</td>
<td>General Physics II</td>
<td>4</td>
</tr>
<tr>
<td>Sci 220</td>
<td>General Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>Sci 221</td>
<td>General Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>Sci 363</td>
<td>Astronomy</td>
<td>3</td>
</tr>
<tr>
<td>Sci 368</td>
<td>Meteorology</td>
<td>3</td>
</tr>
</tbody>
</table>

Group B — At least 8 credit hours (choose one course from each group).

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sci 250</td>
<td>Vascular Botany</td>
<td>4</td>
</tr>
<tr>
<td>Sci 251</td>
<td>Non-Vascular Botany</td>
<td>4</td>
</tr>
<tr>
<td>Sci 252</td>
<td>Invertebrate Zoology</td>
<td>4</td>
</tr>
<tr>
<td>Sci 253</td>
<td>Vertebrate Zoology</td>
<td>4</td>
</tr>
</tbody>
</table>

Group C — At least 3 credit hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sci 259</td>
<td>Conservation of Natural Resources</td>
<td>3</td>
</tr>
<tr>
<td>Sci 366</td>
<td>History of Science</td>
<td>3</td>
</tr>
<tr>
<td>Sci Ed 360</td>
<td>Teaching Sciences in the Secondary School (also required but not counting toward the 50-hour major)</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sci 150-151</td>
<td>Earth Science</td>
<td>6</td>
</tr>
<tr>
<td>Sci 258</td>
<td>Ecology</td>
<td>3</td>
</tr>
<tr>
<td>Sci 360</td>
<td>Structural Geology</td>
<td>3</td>
</tr>
<tr>
<td>Sci 361</td>
<td>Oceanography</td>
<td>3</td>
</tr>
<tr>
<td>Sci 367</td>
<td>Anatomy and Physiology</td>
<td>4</td>
</tr>
<tr>
<td>Sci 369</td>
<td>Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>Sci 370</td>
<td>Ornithology</td>
<td>3</td>
</tr>
<tr>
<td>Sci 372</td>
<td>Ichthyology</td>
<td>4</td>
</tr>
<tr>
<td>Sci 373</td>
<td>Mineralogy</td>
<td>3</td>
</tr>
<tr>
<td>Sci 380</td>
<td>Organic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>Sci 385</td>
<td>Cell Physiology</td>
<td>3</td>
</tr>
<tr>
<td>Sci 400</td>
<td>Biological Techniques</td>
<td>4</td>
</tr>
<tr>
<td>Sci 420</td>
<td>Embryology</td>
<td>3</td>
</tr>
<tr>
<td>Sci 450</td>
<td>Genetics</td>
<td>3</td>
</tr>
<tr>
<td>Sci 455</td>
<td>Modern Physics</td>
<td>3</td>
</tr>
</tbody>
</table>

Science Minor — (Kindergarten-Primary, Elementary and Junior High)

Required: Kindergarten-Primary, Elementary

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sci 100-101</td>
<td>Physical Science or its equivalents</td>
<td>6</td>
</tr>
<tr>
<td>Sci 200</td>
<td>Biological Science</td>
<td>4</td>
</tr>
</tbody>
</table>

Required: Junior High

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sci 100-101, 100a</td>
<td>Physical Science or its equivalents</td>
<td>3-6</td>
</tr>
<tr>
<td>Sci 200</td>
<td>Biological Science</td>
<td>4</td>
</tr>
</tbody>
</table>
Electives:

At least 8 credit hours from the following:

<table>
<thead>
<tr>
<th>Sci</th>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>150-151</td>
<td>Earth Science</td>
<td>6</td>
</tr>
<tr>
<td>156</td>
<td>Physical Geology</td>
<td>3</td>
</tr>
<tr>
<td>157</td>
<td>Historical Geology</td>
<td>3</td>
</tr>
<tr>
<td>161-162</td>
<td>General Physics I and II</td>
<td>8</td>
</tr>
<tr>
<td>220</td>
<td>General Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>250</td>
<td>Vascular Botany</td>
<td>4</td>
</tr>
<tr>
<td>251</td>
<td>Non-Vascular Botany</td>
<td>4</td>
</tr>
<tr>
<td>252</td>
<td>Invertebrate Zoology</td>
<td>4</td>
</tr>
<tr>
<td>253</td>
<td>Vertebrate Zoology</td>
<td>4</td>
</tr>
<tr>
<td>258</td>
<td>Ecology</td>
<td>3</td>
</tr>
<tr>
<td>259</td>
<td>Conservation of Natural Resources</td>
<td>3</td>
</tr>
<tr>
<td>355</td>
<td>Natural Science</td>
<td>3</td>
</tr>
<tr>
<td>361</td>
<td>Oceanography</td>
<td>3</td>
</tr>
<tr>
<td>363</td>
<td>Astronomy</td>
<td>3</td>
</tr>
<tr>
<td>366</td>
<td>History of Science</td>
<td>3</td>
</tr>
<tr>
<td>368</td>
<td>Meteorology</td>
<td>3</td>
</tr>
</tbody>
</table>

*Students who successfully pass qualifying examinations in chemistry and physics, may take elective courses in the physical sciences.
Curriculum for Art Education Majors

General Education
Art Education students are required to take the same basic general education courses outlined for all college students. In addition, 13 credit hours are elected from general education courses bringing the total to 56 credit hours.

Professional Education
Art Education majors are required to complete the same minimum number of professional education courses as all other students, except those in Secondary Education.

Area Specialization
The sequence of courses in Art is as follows:

<table>
<thead>
<tr>
<th>Art</th>
<th>Art Ed</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>100,101</td>
<td>300, 400</td>
<td>12</td>
</tr>
<tr>
<td>200-201</td>
<td>301</td>
<td>6</td>
</tr>
<tr>
<td>FA 102-103</td>
<td>304</td>
<td>6</td>
</tr>
<tr>
<td>Art 202, 302</td>
<td>305, Contemporary Art</td>
<td>3</td>
</tr>
<tr>
<td>Art 203, 303</td>
<td>Art Ed 300, Elementary Art Education</td>
<td>2</td>
</tr>
<tr>
<td>Art 300, 400</td>
<td>Art Ed 301, Secondary Art Education</td>
<td>2</td>
</tr>
<tr>
<td>Art 301</td>
<td>Art 401, Aesthetics</td>
<td>3</td>
</tr>
<tr>
<td>Art 303</td>
<td>Art 402, Advanced Problem in Art</td>
<td>3</td>
</tr>
<tr>
<td>Art 304</td>
<td>Art Ed 400, Problems of Teaching &amp; Supervision</td>
<td>4</td>
</tr>
</tbody>
</table>

The Art Education Curriculum requires a total of 131 credit hours.
# Art Education Curriculum

## Freshman Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng 100-101</td>
<td>6</td>
<td>English Composition</td>
</tr>
<tr>
<td>Sci 100a</td>
<td>3</td>
<td>Physical Science Concepts</td>
</tr>
<tr>
<td>Sci 200</td>
<td>4</td>
<td>Biological Science</td>
</tr>
<tr>
<td>SS 100</td>
<td>3</td>
<td>Social Sciences Elective</td>
</tr>
<tr>
<td>Ms 100</td>
<td>3</td>
<td>Elements of Mathematics I</td>
</tr>
<tr>
<td>PE 100-101</td>
<td>1</td>
<td>Physical Education</td>
</tr>
<tr>
<td>FA 102-103</td>
<td>6</td>
<td>Art Appreciation and History</td>
</tr>
<tr>
<td>Ed 100</td>
<td>2</td>
<td>The American School</td>
</tr>
<tr>
<td>Art 100-101</td>
<td>6</td>
<td>Foundations of Art</td>
</tr>
</tbody>
</table>

## Sophomore Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng</td>
<td>3</td>
<td>Literature</td>
</tr>
<tr>
<td>SS</td>
<td>6</td>
<td>Social Sciences Electives</td>
</tr>
<tr>
<td>Psy 200</td>
<td>3</td>
<td>General Psychology</td>
</tr>
<tr>
<td>Eng 250</td>
<td>2</td>
<td>Speech</td>
</tr>
<tr>
<td>PE 102</td>
<td>2</td>
<td>College Health</td>
</tr>
<tr>
<td>PE 200-201</td>
<td>1</td>
<td>Physical Education</td>
</tr>
<tr>
<td>Art 200-201</td>
<td>6</td>
<td>Foundations of Art</td>
</tr>
<tr>
<td>Art 202</td>
<td>3</td>
<td>Arts &amp; Crafts I</td>
</tr>
<tr>
<td>Art 203</td>
<td>3</td>
<td>Drawing Techniques I</td>
</tr>
</tbody>
</table>

## Junior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA 101</td>
<td>3</td>
<td>Music Appreciation &amp; History</td>
</tr>
<tr>
<td>Psy 300</td>
<td>3</td>
<td>Human Growth &amp; Development</td>
</tr>
<tr>
<td>Art Ed 300</td>
<td>2</td>
<td>Elementary Art Education</td>
</tr>
<tr>
<td>Art Ed 301</td>
<td>2</td>
<td>Secondary Art Education</td>
</tr>
<tr>
<td>Art 303</td>
<td>3</td>
<td>Drawing Techniques II</td>
</tr>
<tr>
<td>Art 300</td>
<td>3</td>
<td>Painting Techniques I</td>
</tr>
<tr>
<td>Art 301</td>
<td>3</td>
<td>Graphics</td>
</tr>
<tr>
<td>Art 302</td>
<td>3</td>
<td>Arts &amp; Crafts II</td>
</tr>
<tr>
<td>Art 304</td>
<td>2</td>
<td>Three Dimensional Art</td>
</tr>
<tr>
<td>Art 305</td>
<td>3</td>
<td>Contemporary Art</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

## Senior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ed 401</td>
<td>3</td>
<td>Philosophy of Education</td>
</tr>
<tr>
<td>Ed 402</td>
<td>12</td>
<td>Student Teaching</td>
</tr>
<tr>
<td>Art Ed 400</td>
<td>4</td>
<td>Problems of Teaching &amp; Supervision</td>
</tr>
<tr>
<td>Art 400</td>
<td>3</td>
<td>Painting Techniques II</td>
</tr>
<tr>
<td>Art 401</td>
<td>3</td>
<td>Aesthetics</td>
</tr>
<tr>
<td>Art 402</td>
<td>3</td>
<td>Advanced Problem in Art</td>
</tr>
<tr>
<td>Electives</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

Total Credits: 34

---

English Composition 6
Physical Science Concepts 3
Biological Science 4
Social Sciences Elective 3
Elements of Mathematics I 3
Physical Education 1
Art Appreciation and History 6
The American School 2
Foundations of Art 6

Total Credits: 32

---

Music Appreciation & History 3
Human Growth & Development 3
Elementary Art Education 2
Secondary Art Education 2
Drawing Techniques II 3
Painting Techniques I 3
Graphics 3
Arts & Crafts II 3
Three Dimensional Art 2
Contemporary Art 3

Total Credits: 33

---

Philosophy of Education 3
Student Teaching 12
Problems of Teaching & Supervision 4
Painting Techniques II 3
Aesthetics 3
Advanced Problem in Art 3

Total Credits: 32
Curriculum for Music Education Majors

General Education
Music Education students are required to complete the same basic general education requirements as all other students.

Professional Education
In addition to the basic 26 credit hours in professional education required of all students, except those in Secondary Education, Music majors must complete the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mus Ed 200</td>
<td></td>
</tr>
<tr>
<td>Mus Ed 201</td>
<td></td>
</tr>
<tr>
<td>Mus Ed 300-301</td>
<td></td>
</tr>
<tr>
<td>Mus Ed 302-303</td>
<td></td>
</tr>
<tr>
<td>Mus Ed 400</td>
<td></td>
</tr>
<tr>
<td>Brass Class</td>
<td>2</td>
</tr>
<tr>
<td>Woodwind Class</td>
<td>2</td>
</tr>
<tr>
<td>Music Education Methods</td>
<td>6</td>
</tr>
<tr>
<td>String Class</td>
<td>4</td>
</tr>
<tr>
<td>Administration &amp; Supervision</td>
<td>3</td>
</tr>
</tbody>
</table>

Area Specialization
The Music content program consists of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mus 102, 103, 202, 203</td>
<td>Theory 12</td>
</tr>
<tr>
<td>Mus 106, 107, 208, 209, 308, 309, 403</td>
<td>Vocal Ensemble 3 1/2</td>
</tr>
<tr>
<td>Mus 108, 109, 210, 211, 310, 311, 404</td>
<td>Recital Class 3 1/2</td>
</tr>
<tr>
<td>Mus 100, 101, 200, 201</td>
<td>History of Music 12</td>
</tr>
<tr>
<td>Mus 302, 303</td>
<td>Instrumental and Vocal Conducting 4</td>
</tr>
<tr>
<td>Mus 400</td>
<td>Orchestration 3</td>
</tr>
</tbody>
</table>

The Music Education Curriculum requires a total of 139 hours.
# Music Education Curriculum

## Freshman Year

<table>
<thead>
<tr>
<th>Subject</th>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng</td>
<td>100-101</td>
<td>English Composition</td>
<td>6</td>
</tr>
<tr>
<td>Ed</td>
<td>100</td>
<td>The American School</td>
<td>2</td>
</tr>
<tr>
<td>Ms</td>
<td>100</td>
<td>Elements of Math I</td>
<td>3</td>
</tr>
<tr>
<td>Mus</td>
<td>100-101</td>
<td>History of Music I and II</td>
<td>6</td>
</tr>
<tr>
<td>Mus</td>
<td>102-103</td>
<td>Theory I and II</td>
<td>6</td>
</tr>
<tr>
<td>Mus</td>
<td>104-105</td>
<td>Applied Music</td>
<td>8</td>
</tr>
<tr>
<td>Mus</td>
<td>106-107</td>
<td>Vocal Ensemble</td>
<td>1</td>
</tr>
<tr>
<td>Mus</td>
<td>108-109</td>
<td>Recital Class</td>
<td>1</td>
</tr>
<tr>
<td>PE</td>
<td>100-101</td>
<td>Physical Education</td>
<td>1</td>
</tr>
</tbody>
</table>

## Sophomore Year

<table>
<thead>
<tr>
<th>Subject</th>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA</td>
<td>100</td>
<td>Art Appreciation and History</td>
<td>3</td>
</tr>
<tr>
<td>Mus</td>
<td>200-201</td>
<td>History of Music III and IV</td>
<td>6</td>
</tr>
<tr>
<td>Mus</td>
<td>202-203</td>
<td>Music Theory III and IV</td>
<td>6</td>
</tr>
<tr>
<td>Mus Ed</td>
<td>200</td>
<td>Woodwind Class</td>
<td>2</td>
</tr>
<tr>
<td>Mus Ed</td>
<td>201</td>
<td>Brass Class</td>
<td>2</td>
</tr>
<tr>
<td>Mus</td>
<td>206-207</td>
<td>Applied Music</td>
<td>8</td>
</tr>
<tr>
<td>Mus</td>
<td>208-209</td>
<td>Vocal Ensemble</td>
<td>1</td>
</tr>
<tr>
<td>Mus</td>
<td>210-211</td>
<td>Recital Class</td>
<td>1</td>
</tr>
<tr>
<td>PE</td>
<td>200-201</td>
<td>Physical Education</td>
<td>1</td>
</tr>
<tr>
<td>Psy</td>
<td>200</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Psy</td>
<td>300</td>
<td>Human Growth and Development</td>
<td>3</td>
</tr>
</tbody>
</table>

## Junior Year

<table>
<thead>
<tr>
<th>Subject</th>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mus Ed</td>
<td>300-301</td>
<td>Music Education Methods</td>
<td>6</td>
</tr>
<tr>
<td>Mus Ed</td>
<td>302-303</td>
<td>String Class</td>
<td>4</td>
</tr>
<tr>
<td>Mus</td>
<td>306-307</td>
<td>Instrumental Conducting</td>
<td>2</td>
</tr>
<tr>
<td>Mus</td>
<td>308-309</td>
<td>Vocal Conducting</td>
<td>2</td>
</tr>
<tr>
<td>Mus</td>
<td>310-311</td>
<td>Applied Music</td>
<td>8</td>
</tr>
<tr>
<td>Sci</td>
<td>100a</td>
<td>Physical Science Concepts</td>
<td>3</td>
</tr>
<tr>
<td>Sci</td>
<td>200,</td>
<td>Biological Science</td>
<td>4</td>
</tr>
<tr>
<td>SS</td>
<td></td>
<td>Social Sciences Elective</td>
<td>3</td>
</tr>
<tr>
<td>PE</td>
<td>102</td>
<td>College Health</td>
<td>2</td>
</tr>
</tbody>
</table>

## Senior Year

<table>
<thead>
<tr>
<th>Subject</th>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ed</td>
<td>401</td>
<td>Philosophy of Education</td>
<td>3</td>
</tr>
<tr>
<td>Ed</td>
<td>402</td>
<td>Student Teaching</td>
<td>12</td>
</tr>
<tr>
<td>Eng</td>
<td></td>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Eng</td>
<td>250</td>
<td>Speech</td>
<td>2</td>
</tr>
<tr>
<td>Mus Ed</td>
<td>400</td>
<td>Music Administration and Supervision</td>
<td>3</td>
</tr>
<tr>
<td>Mus</td>
<td>400</td>
<td>Orchestration</td>
<td>3</td>
</tr>
<tr>
<td>Mus</td>
<td>403</td>
<td>Vocal Ensemble</td>
<td>1/2</td>
</tr>
<tr>
<td>Mus</td>
<td>404</td>
<td>Recital Class</td>
<td>1/2</td>
</tr>
<tr>
<td>SS</td>
<td></td>
<td>Social Sciences Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Credit Hours: 34

## College Bachelor of Arts Minimum Course Requirements

- 45 total credit hours
- 12 English Hours
- 6 History Hours
- 3 Literature Hours
- 12 Social Science Hours

## College Bachelor of Science Minimum Course Requirements

- 45 total credit hours
- 9 English Hours
- 6 History Hours
- 9 Literature Hours
- 3 Social Science Hours
Curriculum for Industrial Arts Education Majors

General Education

Industrial Arts students are required to take the same basic core of general education courses outlined for all college majors. In addition, they must complete the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms 101</td>
<td>3</td>
</tr>
<tr>
<td>IA 460</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>6-9</td>
</tr>
</tbody>
</table>

The total number of credit hours in the general education sequence is 55-58.

Professional Education

The minimum number of professional education courses required of industrial arts majors is the same as that for other majors, except those in Secondary Education. The Curriculum, Methods and Materials course, for 6 credits, consists of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA Ed 300</td>
<td>3</td>
</tr>
<tr>
<td>IA Ed 350</td>
<td>3</td>
</tr>
</tbody>
</table>

Other courses required in the professional sequence are:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA Ed 404</td>
<td>2</td>
</tr>
<tr>
<td>IA Ed 450</td>
<td>3</td>
</tr>
</tbody>
</table>

The total number of credit hours in professional education is 33.

Technical Education

To be qualified to teach in the comprehensive general laboratories of the State, all majors must complete the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA 103</td>
<td>3</td>
</tr>
<tr>
<td>IA 151, 205, 206, 208*, 305, 306</td>
<td>14</td>
</tr>
<tr>
<td>IA 207, 208, 308</td>
<td>6</td>
</tr>
<tr>
<td>IA 104, 150, 152, 204, 309</td>
<td>10</td>
</tr>
<tr>
<td>IA 207*, 306*, 307*, 308*</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>3-6</td>
</tr>
</tbody>
</table>

*Unit within courses indicated

The total number of credit hours both required and elective in the technical sequence is 46-48.
# Industrial Arts Curriculum

## FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Class</th>
<th>Credit</th>
<th>Hours</th>
<th>Class</th>
<th>Credit</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng 100</td>
<td>English I</td>
<td>3</td>
<td>Eng 101</td>
<td>English II</td>
<td>3</td>
</tr>
<tr>
<td>Ms 100</td>
<td>Mathematics</td>
<td>3</td>
<td>Ms 101</td>
<td>Mathematics II</td>
<td>3</td>
</tr>
<tr>
<td>PE 102</td>
<td>Health</td>
<td>2</td>
<td>Sci 100a</td>
<td>Phys. Sc. Concepts</td>
<td>4</td>
</tr>
<tr>
<td>PE 100</td>
<td>Physical Education</td>
<td>2</td>
<td>PE 101</td>
<td>Phys. Education</td>
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</tr>
<tr>
<td>FA 100</td>
<td>Art Appr. &amp; Hist.</td>
<td>3</td>
<td>Ed 100</td>
<td>American School</td>
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</tr>
<tr>
<td>IA 103</td>
<td>Intr. to Technology</td>
<td>6</td>
<td>IA 150</td>
<td>Graphic Arts I</td>
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</tr>
<tr>
<td>IA 104</td>
<td>Graphics I</td>
<td>4</td>
<td>IA 151</td>
<td>Crafts Ind. I</td>
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### Total Hours: 23

## SOPHOMORE YEAR

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<tr>
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<tr>
<td>Psy 200</td>
<td>General Psychology</td>
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<tr>
<td>SS 200</td>
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<tr>
<td>PE 200</td>
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<tr>
<td>IA 204</td>
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<tr>
<td>IA 205</td>
<td>Wood Tech. I</td>
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<tr>
<td>IA 206</td>
<td>Metal Tech. I</td>
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</tr>
<tr>
<td>(IA 207</td>
<td>Power &amp; Trans. I</td>
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</tr>
<tr>
<td>(IA 208</td>
<td>Electronics I</td>
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### Total Hours: 30

## TOTAL

- **Freshman Year Total Hours:** 26
- **Sophomore Year Total Hours:** 25

**Total Hours: 51**
INDUSTRIAL ARTS CURRICULUM

JUNIOR YEAR

<table>
<thead>
<tr>
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<th>Major Courses</th>
<th>Electives</th>
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<tr>
<td>Psy 300</td>
<td>3</td>
<td>Human Growth &amp; Dev.</td>
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<tr>
<td>IA Ed 300</td>
<td>3</td>
<td>Anal. &amp; Course Dev.</td>
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<tr>
<td>IA 305</td>
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<td>Wood Tech. II</td>
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<td>IA 306</td>
<td>3</td>
<td>Metal Tech. II</td>
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<tr>
<td>(IA 307)</td>
<td>3</td>
<td>Power &amp; Trans. II</td>
<td>3</td>
</tr>
<tr>
<td>(IA 308)</td>
<td>3</td>
<td>Electronics II</td>
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<td>IA 309</td>
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<td>Graphic Arts II</td>
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<tr>
<td>Free Elective</td>
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<td>(Tech. or G.E.)</td>
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Total: 26(25) 16(17)

SENIOR YEAR

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<th>Major Courses</th>
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<td>12</td>
<td>Student Teaching</td>
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<tr>
<td>Ed 411</td>
<td>2</td>
<td>Measurement and Eval.</td>
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<tr>
<td>IA Ed 404</td>
<td>2</td>
<td>Seminar in Teaching</td>
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<tr>
<td>IA Ed 450</td>
<td>6</td>
<td>Mod. Industry</td>
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<td>IA 401</td>
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<td>Phil. of Educ.</td>
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<td>Lab. Org. &amp; Mgt.</td>
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<tr>
<td>IA 451</td>
<td>3</td>
<td>Tech. Elective</td>
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<td>IA 452</td>
<td>3</td>
<td>Tech. Elective</td>
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<td>IA 453</td>
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<td>Tech. Elective</td>
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<td>IA 454</td>
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<td>Tech. Elective</td>
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<td>IA 455</td>
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<td>IA 456</td>
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<td>IA 457</td>
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<td>G.E. Elective</td>
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<td>IA 458</td>
<td>2</td>
<td>G.E. Elective</td>
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Total: 22 17

Technical Electives

Major: IA 410 Wood Tech. III
IA 411 Metal Tech. III
IA 412 Power & Trans. III
IA 413 Electronics III
(6 class hours and 3 semester hours)

Minor: IA 450 Graphics IV
IA 451 Materials Testing
IA 452 Instrumentation
IA 453 Fluid Power
IA 454 Graphic Arts III
IA 455 Graphic Arts IV
IA 456 Crafts Industries II
IA 457 Plastics Technology
IA 458 Metal Tech. IV
(4 class hours and 2 semester hours)

Social Sciences Electives

SS 100 Ancient Civilization
SS 101 Modern Civilization
SS 200 U. S. History
SS 202 Principles of Geography
SS 203 Sociology
SS 204 American Government
SS 300 Economics

Vocational Industrial Education

The Vocational-Industrial curriculum prepares instructors for the teaching of vocational-industrial and/or technical subjects in the high schools and post-secondary schools of Maine. Candidates for the degree in this curriculum must be eligible for vocational teaching certification. Consult the Dean of Academic Affairs for further information.

Clinical Training in Manual Arts Therapy

An opportunity is provided junior and senior Industrial Arts majors to participate in a clinical training program provided by Veterans Administration Hospital, Brockton, Massachusetts. Two hundred and forty hours, or six weeks, to be spent at hospital, at convenience of student. Transportation not furnished, but room and board provided at no expense. Consult department chairman for further details.
The Liberal Arts Program

Upon graduation the student receives the Bachelor of Arts degree. The College offers majors in Biological Science, English, History and Mathematics. The Liberal Arts candidate is required to complete 47 to 63 credit hours in general education as follows:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>English</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>English Composition</td>
<td>(6)</td>
<td></td>
</tr>
<tr>
<td>Literature</td>
<td>(6)</td>
<td></td>
</tr>
<tr>
<td><strong>Fine Arts</strong></td>
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<td>6</td>
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<tr>
<td>(Choose two of three)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Art Appreciation and History</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>Music Appreciation and History</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>Theater Appreciation and History</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td><strong>Foreign Language¹</strong></td>
<td>0-14</td>
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</tr>
<tr>
<td>Mathematics or Logic</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Philosophy</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Physical Education</strong></td>
<td>(Two Years)</td>
<td>2</td>
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<tr>
<td><strong>Psychology</strong></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Science (one year of laboratory science)</strong></td>
<td>6-8</td>
<td></td>
</tr>
<tr>
<td><strong>Social Sciences</strong></td>
<td></td>
<td>12</td>
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<tr>
<td>Ancient and Modern Civilization</td>
<td>(6)</td>
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</tr>
<tr>
<td>Two courses²</td>
<td>(6)</td>
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</tr>
</tbody>
</table>

Major requirements — at least thirty credits and a maximum of forty-eight credits beyond the courses used to satisfy the core requirements.

¹ Foreign Language — proficiency in one foreign language through the intermediate level. Competency and placement examinations will be given.

² Social Sciences — six credits to be chosen from basic freshmen and sophomore courses in Political Science, Sociology, Anthropology, Economics, Geography, and History.
Freshman Course Requirements

Freshman course requirements in Kindergarten-Primary, General Elementary, Junior High School, Secondary (7-12) and Liberal Arts

KINDERGARTEN-PRIMARY – GENERAL ELEMENTARY MAJOR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Eng 100-101</td>
<td>English Composition</td>
</tr>
<tr>
<td>Ms 100-101</td>
<td>Elements of Mathematics I, II</td>
</tr>
<tr>
<td>Sci 100-101</td>
<td>Physical Science</td>
</tr>
<tr>
<td>FA 100</td>
<td>Art Appreciation and History</td>
</tr>
<tr>
<td>FA 101</td>
<td>Music Appreciation and History</td>
</tr>
<tr>
<td>SS 101</td>
<td>Modern Civilization</td>
</tr>
<tr>
<td>Ed 100</td>
<td>The American School</td>
</tr>
<tr>
<td>PE 102</td>
<td>College Health</td>
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<td>PE 100-101</td>
<td>Physical Education</td>
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JUNIOR HIGH – SECONDARY (7-12)

English Major

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<td>English Composition</td>
</tr>
<tr>
<td>Ms 100</td>
<td>Elements of Mathematics I</td>
</tr>
<tr>
<td>Sci 100a</td>
<td>Physical Science Concepts</td>
</tr>
<tr>
<td>FA 100</td>
<td>Art Appreciation and History</td>
</tr>
<tr>
<td>FA 101</td>
<td>Music Appreciation and History</td>
</tr>
<tr>
<td>SS 101</td>
<td>Modern Civilization</td>
</tr>
<tr>
<td>PE 102</td>
<td>College Health</td>
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<td>PE 100-101</td>
<td>Physical Education</td>
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Mathematics Major

<table>
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<tr>
<td>Eng 100-101</td>
<td>English Composition</td>
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<tr>
<td>Ms 100</td>
<td>Elements of Mathematics I</td>
</tr>
<tr>
<td>Ms 150-151</td>
<td>Analytic Geometry and Calculus I, II</td>
</tr>
<tr>
<td>Ms 173</td>
<td>Logic and Sets</td>
</tr>
<tr>
<td>Sci 100a</td>
<td>Physical Science Concepts</td>
</tr>
<tr>
<td>FA 100</td>
<td>Art Appreciation and History</td>
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<tr>
<td>FA 101</td>
<td>Music Appreciation and History</td>
</tr>
<tr>
<td>SS 101</td>
<td>Modern Civilization</td>
</tr>
<tr>
<td>PE 102</td>
<td>College Health</td>
</tr>
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<td>Physical Education</td>
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HISTORY – SOCIAL SCIENCES MAJOR

<table>
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<tbody>
<tr>
<td>Eng 100-101</td>
<td>English Composition</td>
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<tr>
<td>FA 100</td>
<td>Art Appreciation and History</td>
</tr>
<tr>
<td>FA 101</td>
<td>Music Appreciation and History</td>
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<tr>
<td>Ms 100</td>
<td>Elements of Mathematics I</td>
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<tr>
<td>Sci 100a</td>
<td>Physical Science Concepts</td>
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<tr>
<td>SS 100-101</td>
<td>Ancient and Modern Civilization</td>
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Electives

<table>
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<tbody>
<tr>
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Total: 32 or 33

Note: The table is incomplete and requires further information to be filled in.
### FRESHMAN COURSE REQUIREMENTS

**PE 102**  
College Health  
2

**PE 100-101**  
Physical Education  
1

**Electives**

<table>
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**BIOLOGICAL SCIENCE MAJOR**

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<tr>
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<td>Ms 100</td>
<td>Elements of Mathematics I</td>
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<tr>
<td>FA 100</td>
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<td>3</td>
</tr>
<tr>
<td>FA 101</td>
<td>Music Appreciation and History</td>
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</tr>
<tr>
<td>SS 101</td>
<td>Modern Civilization</td>
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<td>PE 102</td>
<td>College Health</td>
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</tr>
<tr>
<td>PE 100-101</td>
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**Required Freshman or Sophomore Year (choose one of each pair)**

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<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Sci 161-162</td>
<td>Physics I and II</td>
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<tr>
<td>Sci 250</td>
<td>Vascular Botany</td>
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<tr>
<td>Sci 251</td>
<td>Non-vascular Botany</td>
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</tr>
<tr>
<td>Sci 252</td>
<td>Invertebrate Zoology</td>
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<td>Sci 253</td>
<td>Vertebrate Zoology</td>
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**Elective**

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**SCIENCE AREA MAJOR**

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<tr>
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<td>English Composition</td>
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<tr>
<td>Ms 100</td>
<td>Elements of Mathematics I</td>
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<tr>
<td>FA 100</td>
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</tr>
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<td>FA 101</td>
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<tr>
<td>SS 101</td>
<td>Modern Civilization</td>
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<td>PE 102</td>
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**Register for**

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<tbody>
<tr>
<td>Sci 161-162</td>
<td>Physics I and II</td>
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<td>Sci 220-221</td>
<td>General Chemistry I and II</td>
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**Elective**

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**LIBERAL ARTS MAJOR**  
Biological Science

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### FRESHMAN COURSE REQUIREMENTS

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</tr>
<tr>
<td>•Fr 100-101</td>
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</tr>
<tr>
<td>Fr 200-201</td>
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<td>**Fr 300-301</td>
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#### English

<table>
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<tbody>
<tr>
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<tr>
<td>FA 100</td>
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</tr>
<tr>
<td>FA 101</td>
<td>3</td>
</tr>
<tr>
<td>FA 104</td>
<td>3</td>
</tr>
<tr>
<td>PE 100-101</td>
<td>1</td>
</tr>
<tr>
<td>Sci 100-101</td>
<td>6-8</td>
</tr>
<tr>
<td>•Fr 100-101</td>
<td>8</td>
</tr>
<tr>
<td>Fr 200-201</td>
<td>6</td>
</tr>
<tr>
<td>**Fr 300-301</td>
<td>6</td>
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#### History

<table>
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<tbody>
<tr>
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<td>SS 100-101</td>
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<tr>
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<td>6-8</td>
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<tr>
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<td>8</td>
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<td>Fr 200-201</td>
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#### Mathematics

<table>
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<tbody>
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<td>FA 101</td>
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<tr>
<td>FA 104</td>
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<tr>
<td>Ms 150-151</td>
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</tr>
<tr>
<td>Ms 173</td>
<td>3</td>
</tr>
<tr>
<td>PE 100-101</td>
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</tr>
<tr>
<td>Sci 100-101</td>
<td>6-8</td>
</tr>
<tr>
<td>•Fr 100-101</td>
<td>8</td>
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<tr>
<td>Fr 200-201</td>
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<td>**Fr 300-301</td>
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<tr>
<td>•Fr 100-101</td>
<td>33-37</td>
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<td>**Fr 300-301</td>
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</tbody>
</table>

*By examination or permission of the instructor students may be waived from Fr 100-101 Elementary French Course registration with the approval of the instructor for students who have completed Fr 200-201 or three or more years of high school French.*
Courses of Study
Art

Assistant Professors Miner, Ubans; Mr. Moore, Mrs. Sawtelle.

FA 100 Art Appreciation and History  Mr. Miner, Mr. Ubans, Mr. Moore
Key periods of artistic creativity illustrated by slides and reproductions. Lectures, text, and readings point up the richness and diversity of aesthetics as a basis for mature understanding. Special attention to the visual arts of the Egyptian, Greek, Medieval, Renaissance, and Baroque periods. The relationship between visual images and such cultural factors as politics, religion, literature, and psychology. Materials for study include architecture, sculpture, painting, and selected examples of ceramics, graphic and decorative arts.
Three credit hours

FA 102-103 Art Appreciation and History  Mr. Miner
A survey of art history for students in the Art Education program. Each epoch is considered in greater depth than in FA 100, special attention being directed to the teaching of art. Divergent viewpoints of the art historian, art critic, and art teacher; experiments, by means of writing assignments, with each of these approaches. An overview of the visual arts, showing the interrelationship of cultural values, art techniques, and major art works.
Six credit hours
(Three credits each semester)

FA 200 Art Fundamentals  Mrs. Sawtelle
An introduction to the elements and principles of design and color, and their application to projects suitable for art work in the elementary grades.
Two credit hours

Art 100-101, 200-201 Foundations of Art  Mr. Miner, Mr. Moore
The grammar and vocabulary of visual expression, communicated through a series of problems which encourages the development of personal expression and technical competence.
Art 100-101: The control of pictorial space and form; expression in dark and light, its materials and techniques; color theory and experimentation.
Art 200-201: The areas of design; artistic mastery; expression in three dimensions.
Twelve credit hours
(Three credits each semester)
Art 202  Arts and Crafts I
An introduction to the handcrafts: the use of simple tools and materials found in the typical elementary classroom.
Three credit hours

Art 203  Drawing Techniques I
An introduction to the language of drawing as it has been, and is, used in problems of communication, design, and expression. Introduction to the principles of graphic expression in all black-and-white media.
Mr. Moore
Three credit hours

Art 260  Handcrafts for the Elementary Teacher
An elective course using materials found in the average elementary school and scrap materials which children can bring from home for making three dimensional projects to be used as gifts, decorations, sand-table projects, dioramas, puppet shows, etc.
Mrs. Sawtelle
Two credit hours

Art 270  Watercolor and Wash Media
Watercolor painting, watercolor, wash, dry-brush, materials of wash painting, dry and tube colors, mixing colors; still-life subjects, landscape subjects, figure subjects; pen and ink drawing, pen and ink painting, ink and wash drawing and painting; gouache painting (cassine painting); techniques of the water media and their use in art; development of compositions, sketching from life in sketchbooks; references to the works in watercolor, ink, and wash media of the master artists. Prerequisite: Drawing I. Open to nonmajors.
Three credit hours

Art 300  Painting Techniques I
An introduction to painting, specifically the technical and formal problems of controlling a medium. The traditional functions of painting are explored both as an imaginative and technical stimulus for the student. Expressionistic, didactic, primitive, and experimental modes of past masters are contrasted with the subjective and objective categories of contemporary artists.
Mr. Ubans
Three credit hours

Art 301  Graphics
Problems in the print media: woodcut, serigraph, lithography, and etching; layout, illustration, and letter design. The usefulness of these communication media for poster, yearbook, and other school needs is emphasized.
Mr. Moore
Three credit hours

Art 302  Arts and Crafts II
Advanced projects in the handcrafts, involving art metalwork, ceramics, leathercraft, the textile arts, etc.
Three credit hours

Art 303  Drawing Techniques II
Advanced study of the language of drawing; special emphasis on technical experimentation and the use of a variety of media. Application of concepts of visual form to figure, object, and landscape problems. Prerequisite: Art 203.
Mr. Ubans
Three credit hours

Art 304  Three-Dimensional Art
An examination of the problems of motion, balance, rhythm, and expression in the art of sculpture and architecture. A series of problems designed to clarify the relationships between three-dimensional and two-dimensional organization. The principles of the additive and subtractive approaches to sculpture. Three-dimensional techniques for use in the schools: imagination and craftsmanship as means of stimulating creative expression in mass and space.
Mr. Miner
Two credit hours

Art 305  Contemporary Art
European and American painting, sculpture, and architecture from 1850 to the present. A study of the changes in artistic form which characterize the modern movement. The course also surveys the emergence of American art from its European background.
Three credit hours
ART

Art 307 Printmaking
Relief printing (woodcut) and intaglio printing (etching and engraving) will be taught in depth as pure fine art processes.
Mr. Moore
Three credit hours

Art 310 Drawing Techniques III
Drawing from the life model; the human form in quick sketch, sustained, and active pose; technique of line, form in space, value, tonality, gesture, movement, concentration, weight, anatomy, portraiture, composition, multiple forms, references to ancient and modern master drawings, chiaroscuro in both black and white and color dry media, reinvestigation of life through vision. Prerequisite: Drawing I. Open to junior and senior art majors. Six class hours.

Art 325 Renaissance and Baroque Art
A study of what has been called the "greatest age of art." Europe during the seventeenth and eighteenth centuries; art during the counter reformation; classicism and intellectualism; the golden age of Dutch art; art as decoration and revolt. The arts are viewed in relation to the dominant political, religious, and philosophic movements leading up to the modern era. Slides, museum trips, lecture, and discussion. Open to nonmajors.
Three credit hours

Art 400 Painting Techniques II
Advanced problems and instruction: a course centered on original student work and aimed at deepening the student's understanding of the artistic production of others as well as developing his own expressive competence to a professional degree. Prerequisite: Art 300.
Three credit hours

Art 401 Aesthetics
An investigation into theories of art and beauty in the writings of philosophers, painters, writers, and critics that form the basis of our understanding of the fine arts. Readings and discussion of writers from ancient to modern times.
Three credit hours

Art 402 Advanced Problem in Art
An opportunity for the student to do advanced independent study in the field of his particular interest. Completion of a unit or series of related projects in art education is required.
Three credit hours

Art 499 Independent Study in Art
To provide juniors and seniors who have demonstrated critical and analytical capability an opportunity to pursue a project independently, charting a course and exploring an area of interest within their major field, bearing upon it previous course experiences and emerging with an intellectually sound, coherent syntheses, or an artistic or technical creation reflecting a high caliber of performance.
One to three credit hours

Art Ed 300 Elementary Art Education
A study of growth and development in the creative abilities of children; how to utilize art projects to foster initiative, imagination, cooperation, and appreciation in the elementary classroom.
Mrs. Sawtelle
Two credit hours

Art Ed 301 Secondary Art Education
A study of classroom experiences in art on the secondary level; introduction to units of teaching designed to enrich the general secondary curriculum.
Mrs. Sawtelle
Two credit hours

Art Ed 400 Problems of Teaching and Supervision
Intended primarily for student-teachers of art, this course takes the form of discussion and problem-solving. Students endeavor to arrive at a basic philosophy of art education and a tentative instructional technique.
Mrs. Sawtelle
Four credit hours
Education and Psychology

Professors Cobb, Southworth; Associate Professors Bowman, Hackett, Hempel, Littlefield, Paradise, Mildred Peabody; Assistant Professor M. Costello; Mr. Davis. Mr. Fickett.

Ed 100 The American School

An introduction to public education – its history, organization, functions and issues. Elementary and secondary curricula, including special areas are considered, as well as the social, economic, and professional aspects of teaching. School visitations provide opportunities for self-evaluation and direction.

Mr. Hackett, Miss Littlefield
Two credit hours

Ed 300 Primary Curriculum: Methods and Materials

A core course which analyzes curriculum, methods, and materials from kindergarten through third grade, with special attention to language arts and social studies. Topics include programming, types of curricula, evaluation, development of units, lesson planning, grouping, sociometric procedures, reporting to parents, analysis of textbooks, and audio-visual techniques. Observation, participation, and supplementary guest speakers.

Miss Mildred Peabody
Three credit hours

Ed 302 Elementary Curriculum: Methods and Materials

A basic course which emphasizes language arts and social studies in the intermediate grades. Includes programming, types of curricula, evaluation, development of units, lesson planning, grouping, sociometric procedures, reporting to parents, analysis of textbooks, and audio-visual techniques. Observations and resource speakers are included.

Mrs. Costello
Three credit hours
EDUCATION

Ed 303 Primary Reading  Miss Mildred Peabody
Approved methods in the teaching of reading at all levels, with special emphasis on the beginning reading program. Comparisons of the various reading procedures used currently, including the developmental program, independent reading, grouping, phonetic approach, reading readiness, study skills, ungraded reading, and remedial problems. Introduction to the tachistoscope, accelerator, and reading laboratory. Analysis of recent textbooks in the Curriculum Laboratory. Observation and participation.

Three credit hours

Ed 304 Elementary Reading  Mr. Fickett
Approved methods in the teaching of reading, with particular stress on word-analysis and the development of reading study skills. Comparison of current reading procedures, including the development program, independent reading, grouping, phonetics, and remedial reading. Use of the tachistoscope, accelerator, and reading laboratories; analysis of recent intermediate-grade textbooks in the Curriculum Laboratory. Observation and participation.

Three credit hours

Ed 305 Primary Arithmetic  Miss Mary Peabody
The new approach in teaching arithmetic in primary grades, overview of all levels, and applied work in primary grade area. Preparation of materials; study of current textbooks and experimental programs; analysis of content needed to provide orientation in structure, properties, sets, number systems, and other basic themes of modern mathematics.

Three credit hours

Ed 306 Elementary Arithmetic  Miss Mary Peabody
This course closely parallels Ed 305 except that it is concerned with teaching arithmetic in the elementary grades.

Three credit hours

Ed 307 Junior and Senior High Reading  Mr. Fickett
Currently approved methods in the teaching of reading. A comparison, with emphasis on continuity, of various reading procedures. Word analysis and reading study skills as they apply to each subject-matter area of the junior high school.

Two credit hours

Ed 308 Science and Health for the Primary Teacher  Mrs. Kerr, Miss Vlahakos
An inductive, scientific approach to science and health, from kindergarten through third grade; materials, experiments, and themes appropriate to this level; use of a teaching team to interrelate health and physical education.

Two credit hours

Ed 309 Secondary Curriculum (7-12)  Mr. Hackett, Mr. Fickett
Involves the historical and philosophical perspective of secondary education in the United States; school law, services, and professional organizations; classroom procedures, including lesson planning, discipline, grouping, and evaluation; curriculum development, objectives, and organizational patterns. Visitations in secondary schools are a part of the course.

Three credit hours

Ed 310 Science and Health for the Elementary Teacher  Mrs. Kerr, Miss Vlahakos
Problems and methods of teaching science and health. Current practices and teaching materials are emphasized and evaluated.

Two credit hours

Ed 350 Maine School Law  Mr. Cobb
A review and interpretation of those statutes which directly affect the teacher. The case-study method is employed to cover such topics as certification, employment, tenure, dismissal, professional rights and responsibilities of the teacher, liability, curriculum requirements, attendance and classification of pupils, church-state relationship, and pupil control.

Two credit hours

Ed 401 Philosophy of Education  Mr. James Whitten
A course designed to examine the major historic and current viewpoints about the nature, aims, and practices of education. The relationship of philosophy to personal and professional maturity is the theme of the course.

Three credit hours

Ed 402 Student Teaching  The Staff
For one semester of the senior year all students are assigned to full-time student teaching under careful supervision. The semester is divided into two terms to provide opportunities to teach in two different situations; for this purpose the Millett Laboratory School, the Village Elementary School, and other cooperating schools are utilized. Student teaching embraces the following categories: Kindergarten-Primary, General Elementary, Junior-Senior High School, Music, Art and Industrial Arts.

Twelve credit hours
Ed 403 Seminar in Primary Education  
Consideration of such critical problems in primary education as school law in relation to the primary teacher; grouping and individual differences; basic organization of student teaching; the primary teacher in relation to community, school, and state. Faculty members from special areas as well as visiting lecturers participate.  
Miss Mildred Peabody  
Two credit hours

Ed 404 Seminar in Elementary Education  
Mr. Hempel, Mrs. Costello  
A study of basic issues in elementary education: school law; professional and ethical procedures; organization of student teaching; and teacher relationships with schools, community, and state.  
Two credit hours

Ed 411 Measurement and Evaluation  
Mr. Bowman, Mr. Cobb  
Construction, selection, and use of educational achievement tests, including diagnostic and survey instruments. Skill in writing essay and objective types is developed. An inquiry into the validity and reliability of typical standardized tests. Elements and uses of statistics, tabulation of data, measures of central tendency, variability, and correlation.  
Two credit hours

Ed 420 Kindergarten Development  
The organization of activities built about the needs of the four-and-a-half and five year old, fostering conceptual growth relating to social living experiences, language expression, enjoyment of art, music and literature; the study of techniques, classroom equipment, and manipulative materials for this level.  
Two credit hours

Ed 430 Analysis of Teaching  
Investigation of various approaches to analysis of teacher and student classroom roles. Consideration given to verbal, nonverbal, time, and space factors. Particular systems discussed: OSCAR, Flanders, VICS, Simulation, Micro-Teaching, Galloway Nonverbal, Critical Incidents. Workshop sessions devoted to detailed instruction and skill development of Flanders system. Emphasis placed on students' self analysis.  
Two credit hours

Ed 452 Remedial Reading  
Miss Mildred Peabody  
An empirical approach, relating class discussions to clinical observation. Methods by which the teacher copes with individual difficulties are explored. Testing and diagnostic work are studied and applied to subject-groups. Prerequisite: a grade of A or B in Ed 303, 304, or 307.  
Three credit hours
EDUCATION/PSYCHOLOGY

Ed 453 Preparation of Classroom Instructional Materials  Mr. Davis
A lecture-laboratory series which involves students in the creation of instructional materials. Techniques include the dry mounting of flat pictorial materials, cloth backing of pictorial materials, professional-quality lettering, rudimentary photography and processing (including use of the darkroom), and the production, by several techniques, of transparent projectals. Classes limited to 18. No prerequisite.

Ed 454 Advanced Production of Audio-Visual Materials  Mr. Davis
Further sophistication of insight and refinement of skills in the local production of instructional materials. Prerequisite: Successful completion of Ed. 453. Limited to twelve students.

Ed 499 Independent Study in Education  The Staff
To provide juniors and seniors who have demonstrated critical and analytical capability an opportunity to pursue a project independently, charting a course and exploring an area of interest within their major field, bearing upon it previous course experiences and emerging with an intellectually sound, coherent synthesis, or an artistic or technical creation reflecting a high caliber of performance.

Psy 200 General Psychology  Mr. Southworth, Mr. Paradise
An introductory course emphasizing the development of a psychological vocabulary, a way of thinking, and the application of basic principles to everyday living. Major topics include motivation, emotions, intelligence, effective learning and thinking.

Psy 300 Human Growth and Development  Mr. Bowman
A study of significant elements in the physical, mental, emotional, and social make-up of children as they develop from infancy to adolescence. Selected case studies and projects in the application of basic principles of growth and development to problems of adjustment to school, home, and community. Special attention is given to the developmental tasks of school-age children. Prerequisite: Psy 200.

Psy 401 Psychology of the Self  Mr. Southworth
An exploration of the development of the self as it is influenced by learning, perception, teaching and growth. Learning techniques include extensive reading, participation in group discussions and introspection.

Psy 402 Group Dynamics  Mr. Southworth
Analysis of the meaning of small group dynamics, including an understanding of the roles individuals play within various groups. Problems of leadership are considered and techniques and materials useful under many circumstances are examined.

Psy 405 Psychology of Learning  Mr. Paradise
Basic principles underlying the acquisition and retention of knowledge such as conditioning, memory, forgetting, transfer of training, problem solving, insight, concept formation and individual differences in learning. Brief consideration of learning theories. Emphasis on the application of current principles to human learning. Open to juniors and seniors. Prerequisite: Psy 300.

Psy 406 Psychology of Motivation  Mr. Paradise
Nature and determinants of motivation with emphasis given to research focusing on concepts such as drive, activation, arousal, motivational systems, and affect. Brief consideration of motivation theories. Application of current principles of motivation to human behavior. Open to juniors and seniors. Prerequisite: Psy 300.

Psy 407 Psychology of Perception  Mr. Paradise
A consideration of current research in the field of perception in such areas as attention, perceptual development, perceptual change, adaptation, perceptual learning, perceptual organization, and the influence of social and motivational aspects. Discussion of concept formation and thinking. Open to juniors and seniors. Prerequisite: Psy 300.

Psy 410 Abnormal Psychology  Mr. Paradise
A study of abnormal behavior – its history, causes, prevention and treatment. Description of neuroses and psychoses and methods of identifying them. Case studies are included to illustrate each type of illness.
# English

Professor Hanna; Associate Professors Lyford, Rootes, Rutherford, Stump, Weeks; Assistant Professors Rosen, Sawyer; Mr. Bowden, Mr. O'Reilly, Mr. Vincent.

## FA 104 Theater Appreciation and History
Mr. Stump
A basic course in theater. Designed to familiarize the student with plays of various genre, periods, and styles and the elements of production. Includes the study of the influences of playwrights, production, and dramatic criticism on dramatic art as observed in current theater, cinema, and television.

Three credit hours

## Eng 100-101 English Composition
The Staff
The basic freshman course, uniting the principles of written composition, the growth and structure of language, and the critical evaluation of literary genres. Practice in writing, with special attention to mechanics and style followed in the second semester by the study of poetry, drama, and the short story. Preparation for advanced courses in English through the refinement of reading habits and tastes.

Six credit hours (Three credits each semester)

## Eng 120, 121, 122, 123 Theater Workshop
Mr. Rootes
A course designed to give students practical application of theater practices in the field of acting, design, scene construction, costuming, properties, lighting, and makeup. A laboratory course.

One credit hour each

## Eng 200 English Literature I
Mr. Hanna, Mr. Weeks, Mr. O'Reilly
A survey course in English literature from its beginning through the eighteenth century. Intensive readings in Chaucer, Spenser, Shakespeare, Bacon, Donne, Milton, Dryden, Swift, Pope, Johnson, and Boswell. Required of English majors and minors.

Three credit hours

## Eng 201 English Literature II
Mr. Hanna, Mr. Weeks

Three credit hours
Eng 205 World Literature I
Mr. Hanna, Mr. Rutherford
A close analysis of literary works of the classical, medieval, and Renaissance periods. Readings in the Old and New Testaments, the Iliad and the Odyssey, Greek tragedy, the Aeneid, the Divine Comedy, the Song of Roland, the Nibelungenlied, the Decameron, Gargantua and Pantagruel, Don Quixote, and such works of English literature as time will allow. Collateral readings in background and criticism; class reports and a term paper.

Three credit hours

Eng 206 World Literature II
Mr. Hanna
Readings in fiction, drama, and poetry representative of neoclassicism, romanticism, realism, naturalism, symbolism, and the modern school. Chief continental writers: Moliere, Voltaire, Rousseau, Goethe, Balzac, Dostoevski, Flaubert, Tolstoy, Chekhov, and Ibsen. Selected contemporary poets and short story writers. Collateral readings in background and criticism; class reports and a term paper. Prerequisite: Eng 360, or consent of instructor.

Three credit hours

Eng 210 American Literature
Mr. Lyford, Mr. O'Reilly, Mr. Rosen
A course in American literature and its development from the late eighteenth century through the early twentieth century. Emphasis is on major writers and their contribution to the literary heritage. Intensive reading of paperbacks supplements text. Required of all students.

Three credit hours

Eng 220-221 Journalism I and II
Mr. Bowden
A two-semester course providing a general survey of the mass communications media. A study is made of the history of journalism, press freedom, development of the printed media, legal aspects of journalism and the influence of mass communications on society. The course deals with press associations, syndicates, advertising, radio, television and the film.

The student newspaper, The Observer, is utilized as a laboratory with practical experience in the technology of journalism and the techniques of reporting, writing, and editing. Current issues involving the student press are studied. A field trip to a daily newspaper is included.

Four class hours: one of lecture and three of laboratory.

Three credit hours each semester

Eng 230 Fundamentals of Acting
Mr. Rootes
A course designed to educate and train the student to convey thought and emotion through the use of the body and voice. Mime, vocal exercises and improvisation. A study of the major styles of acting and of the various approaches to acting with emphasis on the Stanislavsky method.

Three credit hours

Eng 240 History of the Theater
Mr. Stump
Intended to give the student a knowledge of the specific conditions under which the great plays of the western world have been produced. The course is a study of the audience, actors, poetrone, physical conditions, architecture, and the relation of the theater to the various arts from the Greek period to modern times.

Three credit hours

Eng 250 Speech
Mr. Rootes, Mr. Stump
The basic principles of organization and the techniques of delivery employed in expository speaking. Students prepare and deliver four speeches, receiving detailed analysis and criticism of both the written plan and the delivered speech.

Two credit hours

Eng 340 Persuasion
Mr. Stump
This course involves the development of necessary skills in planning extemporaneous persuasive speeches. Particular emphasis is placed on problems involved in effective reasoning and criticism. Permission of the instructor required.

Three credit hours

Eng 350 Children's Literature
Miss Sawyer
Designed to acquaint students with varied types of literature for children in the lower and middle grades. Emphasizes extensive reading, but also includes the selection, critical evaluation, and use of materials. Does not count toward English major or minor.

Two credit hours

Eng 351 Advanced Composition
Mr. Vincent
For students desiring to gain increased proficiency in writing. Study of all forms of discourse, but with concentration on exposition. Analysis of selected readings. Criticism of writing.

Two credit hours
Eng 352 Shakespeare
A study of representative plays: three histories of the Lancastrian epic, four comedies, including a farce, a problem play, a romantic tragicomedy, and a romantic comedy, (alternate semesters, a Roman play substituted for one comedy); two major tragedies. Background reading; discussion of the Elizabethan stage, textual problems, the development of Shakespeare's style; a critical paper.
Three credit hours

Eng 364 Dramatic Production
A basic course in dramatic production and in direction techniques and procedures. Covers such areas as setting, lighting, costuming, makeup, direction, and theater management. Each class will do production work on a play.
Three credit hours

Eng 365 Oral Interpretation
A course in the assimilation and analysis of literary material (poetry, prose, drama), with emphasis on the techniques used in reading written material aloud to an audience. Designed primarily to aid the teacher in motivating student interest and developing skill in reading literature.
Three credit hours

Eng 366 The Augustans
A detailed survey of the major and minor poets and prose writers of the late seventeenth and eighteenth centuries. The writings of Dryden, Pope, Swift, Johnson, and the Graveyard School as well as others are examined as to content, style, diction, and historical and literary commentary. Special emphasis is placed on the slow rise of Romanticism throughout the period.
Three credit hours

Eng 380 Introduction to Linguistics
A general introduction to modern linguistic science, including studies in the development of the language, phonology, morphology, the dictionary, and varieties of English and usage. Also examined are the various grammatical philosophies and their methods — traditional, structural, and transformational.
Three credit hours

Eng 382 Chaucer, Spenser, Milton
A study of the three major poets of the fourteenth, sixteenth, and seventeenth centuries respectively, and their place in English letters. Readings in The Canterbury Tales, and Troilus and Cressida; selections from Edmund Spenser's Faerie Queene and other poetry; Milton's Paradise Lost and Samson Agonistes.
Three credit hours

Eng 385 Eighteenth and Nineteenth Century English Novel
A study of representative English novels from the beginnings through the nineteenth century, with particular attention to the characteristic qualities distinguishing the fiction of the eighteenth and nineteenth centuries. Readings are taken from the works of such writers as Defoe, Richardson, Fielding, Sterne, Smollett, Austin, Thackeray, Dickens, the Brontes, George Eliot, Meredith and Hardy.
Three credit hours

Eng 390 Main Currents in American Literature
An advanced course in American Literature emphasizing the intellectual currents, literary trends, and recurrent themes which found expression in the work of American writers from the Colonial Period to the beginning of the twentieth century. Representative topics considered are the Puritan Tradition, the Enlightenment, the Frontier Spirit, Romantic Idealism and the Rise of Realism. Focus is on writers of the nineteenth century. Designed primarily for English or history majors or minors. Prerequisite: Eng 210.
Three credit hours

Eng 440 History of the English Language
This course includes a survey of the pre-history of the language as well as a detailed study of the old, middle and modern English and the forces which shaped these stages. Some methods of modern linguistic science are utilized in examining current usage. Change and development of the language are emphasized.
Three credit hours
ENGLISH

Eng 450  The Nature of Poetry  Miss Sawyer
An intensive study of the elements of poetry, involving close reading of poems of varied types. Designed to give insight into the poetic process and to develop appreciation and discrimination in reading poetry.

Two credit hours

Eng 451  The Short Story  Miss Sawyer
A study of the modern short story as a literary form. The techniques and artistic effects of the outstanding works of many American, British, and Continental writers are evaluated through critical reading and discussion. Prerequisites: Eng 200 and 201.

Two credit hours

Eng 452  Fundamentals of Directing  Mr. Rootes
Designed to train directors in theatrical organization and rehearsal techniques. Encompasses composition, picturization, movement, rhythm, and pantomimic dramatization. Course involves both contemporary theory and practical application. Prerequisite: Eng 120 or Eng 365.

Three credit hours

Eng 453  English Drama, 1580-1642  Miss Sawyer
Covers the major plays by the major predecessors, contemporaries, and successors of Shakespeare. The plays are considered as individual works, for their structure and content, as representative of the work of their authors, and as illustrative of the dramatic conventions and theatrical practices of their period.

Three credit hours

Eng 454  Contemporary Literature  Miss Sawyer
Presents significant modern writers, largely English and American, as seen against the background of intellectual and social change in the twentieth century. Emphasizes wide and discriminating reading. Text is supplemented by the reading of four modern novels.

Three credit hours

Eng 455  The Novel  Miss Sawyer
A course in the reading and critical evaluation of the work of representative novelists from Jane Austen to William Faulkner. Focus in the first half is on English and continental novels of the nineteenth century, and in the second half on modern novels.

Two credit hours

Eng 456  Creative Writing  Mr. Vincent
An advanced course. Readings in narration, the short story, and the informal essay; study of tone, style, and point of view; writing with stress on narration. Consent of instructor required.

Two credit hours

Eng 457  Modern Drama from Ibsen to Ionesco  Mr. Stump
Plays by representative authors from the nineteenth century to the "theater of the absurd." Centers about the concepts of realism, surrealism, tragedy, and tragi-comedy in the contemporary theater.

Three credit hours

Eng 458  Twentieth Century American Poetry  Mr. O'Reilly
A study of the major American poets of the twentieth century. Emphasis on Eliot, Frost, Stevens, Crane, Cummings, Lowell. Also readings in other poets including some contemporaries. Prerequisite: Eng 100-101.

Three credit hours

Eng 460  Fitzgerald, Hemingway and Faulkner  Mr. Rosen
Through discussion of novels and short stories of the writers and consideration of their careers, an effort is made to assess their work and their contribution to America's cultural and intellectual tradition. The student is expected to refer to biographies, memoirs, critical studies and histories. Fifteen works by the writers are considered in class. Prerequisites: Junior Class standing or permission of the instructor.

Three credit hours

Eng 461  Contemporary American Short Story  Mr. Rosen
Analysis and discussion of short stories written by such recent or practicing writers as Wallace Stegner, Philip Roth, John Cheever, John Updike, James Hall, Irvin Faust, J. D. Salinger, and Isaac Bashevis Singer, Flannery O'Connor, Endora Welty, Katherine Ann Porter, James Baldwin, John Steinbeck, Paul Bowles, and others. Texts consist of paperback collections of the writers considered.

Three credit hours
Eng 470  Literary Criticism

Readings in the first half stress the forces of tradition and change in the evolution of modern critical theory. The root doctrines of Plato and Aristotle, Horace and Longinus. Modifications during the Middle Ages and the Renaissance. The manifestoes of Dryden and Pope, Wordsworth and Coleridge. The impact of naturalism, symbolism, and aestheticism on the nineteenth century. The culminating doctrines of such twentieth century critics as Benedetto Croce, I. A. Richards, and T. S. Eliot. The effects of Freudianism and the behavioral sciences on literary values. One month is spent on the aftermath of the New Criticism reflected in contemporary criticism of the novel, the play, and the poem.

Three credit hours

Eng 499  Independent Study in English

To provide juniors and seniors who have demonstrated critical and analytical capability an opportunity to pursue a project independently, charting a course and exploring an area of interest within their major field, bearing upon it previous course experiences and emerging with an intellectually sound, coherent syntheses, or an artistic or technical creation reflecting a high caliber of performance.

One to three credit hours

Eng Ed 354  Teaching English in the Secondary School

A methods course for English majors and minors. Review of the basic fundamentals of English grammar and writing skills. Creative approach to the teaching of both grammar and literature at the secondary level.

Three credit hours

French

Assistant Professor Rolfe

Fr 100-101  Elementary French

A course for the beginning student with emphasis on the four basic language skills — speaking, understanding, reading and writing.

Eight credit hours
( Four each semester)

Fr 200-201  Intermediate French

For those who have completed Fr 100-101 or two years of high school French. A review and continuation of Fr 100-101 stressing the active use of French.

Six credit hours
( Three each semester)

Fr 280-281  Survey of French Literature

Selected readings in the principal genres from the Middle Ages to the present time.

Six credit hours
( Three each semester)

Fr 300-301  French Composition and Conversation

For those who have completed Fr 200-201 or three or more years of high school French. Intensive training in oral practice and self-expression, the detailed discussion of contemporary French texts, presentation of the more complex points of French grammar.

Six credit hours
( Three each semester)
Health and Physical Education

Professor R. Costello; Associate Professors Goodwin, Hodgdon; Assistant Professor Bouchard; Mr. Thomas, Miss Vlahakos.

PE 100-101, 200-201 W

The Staff

A service program required of all freshmen and sophomore women offering elective courses in archery, badminton, fencing, golf, swimming, skiing, tennis, track and field, basketball, field hockey, lacrosse, softball, volleyball, modern dance, folk dance, officiating, slimnastics and gymnastics.

PE 100-101 M

The Staff

A service program emphasizing the fundamentals and basic strategies of soccer, flag football, volleyball, gymnastics, bowling, and other recreational activities.

PE 102 College Health

Miss Vlahakos

Health instruction is a basic and required part of general education. The aim of this course is to help students grow in scientific health knowledge, develop desirable health attitudes, improve health practices, and solve individual and group health problems.

PE 200-201 M

Mr. Costello

The course aims to continue physical fitness skills through soccer, wrestling, and tumbling. Special emphasis is placed on golf, tennis, and recreational games in order to provide students with an understanding of, and degree of proficiency in, activities with a high carry-over value.

One-half credit hour
PE 350  Teaching Physical Education in the Elementary School  Miss Goodwin

Course is designed to help the prospective teacher in planning balanced units of instruction to meet the needs of boys and girls — keeping in mind the importance of engaging in activities which present challenges, having opportunities to be creative and participating in the planning. Children from grades one through six are part of the experience. Activities based on movement skills are stressed. Also traditional and contemporary dance movements, movement exploration, creative activities.

Three credit hours

PE 353 M  Coaching, Philosophy and Fundamentals  Mr. Bouchard

Emphasis on the methods of teaching and coaching soccer, basketball, and baseball; specific offenses and defenses in soccer and basketball will be analyzed; offensive and defensive organization and strategy will be covered in baseball.

Three credit hours

PE 354  Program Planning in Elementary School Physical Education  Mrs. Hodgdon

Discussion of the principles of planning well-balanced programs of physical education for grades one to six. Opportunity for organizing and teaching activities to elementary age students. Special emphasis upon fundamental skills, sports, games and gymnastics and how to teach them in the elementary school program.

Three credit hours

PE 355  Physical Education for the Mentally Retarded  Mr. Costello

This course is planned to help the student understand corrective physical education with emphasis on the mentally retarded. The student has an opportunity to work with mentally retarded children in a variety of activities, including games, relays, tumbling, apparatus, swimming, and bowling. Investigation of the causes and incidence of mental retardation is also undertaken.

Three credit hours

PE 451  Organization and Administration of Physical Education  Mr. Costello

Professional preparation for students interested in physical education. Covers the organization and administration of the required physical education program, intramural offerings, and interscholastic program.

Three credit hours
Industrial Arts

Professors Berry, Greer, Mitchell; Associate Professors Mertens, Slocum; Mr. Carter, Mr. Mack, *Mr. Warren.


IA 103 Introduction to Technology
An introductory study of industry and technology and their impact on our culture. Emphasis on the role of industrial arts in developing an understanding of the basic concepts and functions of the manufacturing, construction, power and transportation, electrical-electronics, graphic communications, and service industries. Research, individual and team problems, and activities. Required of all entering department majors.

Three credit hours

IA 104 Graphics I
An introduction to the language of industry, its techniques and interpretations. Involves sketching, lettering, use of instruments, theory of shape and size description, geometric constructions, revolution, primary and secondary auxiliaries, orthographic and pictorial projections.

Two credit hours

IA 150 Graphic Arts I
Introduction to the graphic arts industries and technology. Designing, composing, reproducing and assembling printed materials, utilizing commercial printing, duplication and art techniques. Emphasis on letterpress, rubber stamp making, and direct-image offset reproduction.

Classroom and lab. Two credit hours

IA 151 Crafts Industries I
An introductory study of those industries concerned with the manufacture of products from ceramic material, including clay, cement, glass, enamels, plastics, leather, caning and weaving materials; also artistic treatment of wood and metal, as in carving and tooling. Individual activities and problem solving.

Classroom and lab. Two credit hours
IA 152  Graphics II
Mr. Greer
Two credit hours

IA 204  Graphics III
Mr. Greer
Graphics for the construction industries. Includes architectural designing, activity analysis, planning and execution of residential plans. Standard details of construction, printreading, codes, plans, specifications, schedules and cost analysis. Prerequisite: IA 104.
Two credit hours

IA 205  Wood Technology I
Mr. Mack
A study of the wood manufacturing industries and technology. Introduction to the concepts of designing, planning, fabricating, finishing, and distribution as they pertain to these industries. Selection, use, and care of equipment. Safety practices.
Classroom and lab. Three credit hours

IA 206  Metal Technology I
Mr. Berry
A study of metal manufacturing industries and technology. Introduction to the concepts of designing, planning, fabricating, finishing, and distribution as they pertain to these industries. Selection, use, and care of equipment. Safety practices.
Classroom and lab. Three credit hours

IA 207  Power and Transportation I
Mr. Carter
A study of those industries concerned with power, its sources, generation, transmission and utilization. Analysis of the design and construction of devices involving natural, thermal, and electrical power. Basic principles of internal combustion and their application in power plants. Emphasis on small engines, their construction, maintenance and repair.
Classroom and lab. Three credit hours

IA 208  Electronics I
Mr. Slocum
A study of the electrical industries with emphasis upon electrical theory, AC and DC generation and distribution. Applications in lighting, signal devices, heating, power and control devices. Testing and service equipment and procedures.
Classroom and lab. Three credit hours
INDUSTRIAL ARTS

IA 305 Wood Technology II
A study of the construction industries including construction principles, layout, foundations, framing, sheathing, and finish. Surveying, plot planning, and earth-moving principles considered. Learning activities centered around scaled structures. Group and individual problems. Prerequisite: IA 205.
Classroom and lab. Three credit hours

IA 306 Metal Technology II
Metal industries concerned with sheet metal fabrication, electric and gas welding, and machining techniques. Consideration is given to plumbing as it pertains to the construction industries. Individual and group problems. Laboratory and maintenance practices. Prerequisite: IA 206.
Classroom and lab. Three credit hours

IA 307 Power and Transportation II
A study of power and transportation industries and their devices, equipment, and materials. Emphasis is placed upon methods and means of land, sea, and air travel and transport. Operation, maintenance and repair included. Prerequisite: IA 207.
Classroom and lab. Three credit hours

IA 308 Electronics II
A study of the electronics industry with emphasis upon vacuum tubes and semi-conductors and their application to radio and audio frequency circuits. Wave propagation, transmission lines and antennas also considered. Prerequisite: IA 208.
Classroom and lab. Three credit hours

IA 309 Graphic Arts II
A study of those industries utilizing photo-offset lithography with emphasis upon camera work, stripping, plate-making, and presswork. Line and display composition and reproduction, screen process printing and binding techniques are also included. Prerequisite: IA 150.
Classroom and lab. Two credit hours

IA 350 Arts and Crafts
The utilization of information and experience in crafts activities to enrich classroom teaching. Crafts for summer counseling, club or community programs, or for recreational interests or needs. Non majors only.
Two credit hours

IA 351 Industrial Arts for the Elementary School
The role of industrial arts in the elementary school. Activities and projects correlating with unit teaching as they enrich the general curriculum. Study of correct material and tool usage, with special emphasis upon safe practices. Non majors only.
Three credit hours

IA 410 Wood Technology III
Production and wood manufacturing problems including jigs, fixtures, special machine operations, and newer finishing methods. Patternmaking and laminating are also included. Group and individual research assignments and related technical problems. Prerequisite: IA 305.
Classroom and lab. Three credit hours

IA 411 Metal Technology III
The technology of metal machining, casting, metallurgy and metrology. Emphasis on process engineering and quality control. Individual and group activity. Prerequisite: IA 306.
Classroom and lab. Three credit hours

IA 412 Power and Transportation III
A study of power and transportation industries with emphasis on automotive servicing, including diagnosis, maintenance, repair and testing. Opportunities for individual research and problem solving. Prerequisite: IA 307.
Classroom and lab. Three credit hours

IA 413 Electronics III
Semi-conductors with emphasis on their application in amplifiers, oscillators, power supplies, computers, indicating devices, and other electronic equipment. Prerequisite: IA 308.
Classroom and lab. Three credit hours

IA 450 Graphics IV
Problems in graphic communication centered around the individual needs of students. Opportunities for experiences in descriptive geometry, industrial product design, topographical drawing, nomography and rendering, including architectural. Prerequisite: IA 152.
Two credit hours
IA 451 Materials Testing
Mr. Mertens
Industrial techniques involved in the analysis of the physical properties of materials and their utilization in the manufacturing and construction industries. Emphasis on research and experimentation. Individual and team activities. Prerequisites: IA 205, 206.
Classroom and lab. Two credit hours

IA 452 Instrumentation
Mr. Slocum
Introduction to the study of sensing devices and instruments necessary to observe and control both manufacturing processes and the performance of mechanical and electrical machinery. Emphasis on pressure in liquids, atmospheric pressure, temperature, indicating instruments, mechanical and electrical transducers, potentiometric devices and other monitoring instruments. Prerequisite: IA 308.
Classroom and lab. Two credit hours

IA 453 Fluid Power
Mr. Carter
A study of fluids at work. Investigation of the theory and application of hydraulics and pneumatics in mechanics and industry. Design, construction and maintenance of fluid power devices and installations. Prerequisite: IA 207.
Classroom and lab. Two credit hours

IA 454 Graphic Arts III
Experiences in photography, lithography, etching, hand bookbinding, die cutting, embossing and printing on materials with ink and other media. Individual and group activities and technical reports. Prerequisite: IA 309.
Classroom and lab. Two credit hours

IA 455 Graphic Arts IV
The study of production problems in the graphic arts industries. Emphasis on graphic design, photographic screen stencils, and other graphic processes. Opportunities for individual experience and development. Prerequisite: IA 454.
Classroom and lab. Two credit hours
INDUSTRIAL ARTS

IA 456 Crafts Industries II  Mr. Mertens
Advanced study of the crafts industries with emphasis on the newer technologies. Examination of artistic crafts for leisure-time activities and for adult programs. Individual and group research and problem solving. Prerequisite: IA 151.
Classroom and lab. Two credit hours

IA 457 Plastics Technology  Mr. Greer
Pattern and mold design and construction; thermo-forming injection-molding, reinforced plastics, blow molding, foam and plastisol forming. Theory and application of thermoplastic and thermo-set principles. Prerequisite: IA 205.
Classroom and lab. Two credit hours

IA 458 Metal Technology IV  Mr. Berry
Investigation of special machining, fabrication, and metal-finishing techniques. Numerical control, tungsten inert gas welding, tumbling, and electroplating are included. Individual and group research problems and activities. Prerequisite: IA 306.
Classroom and lab. Two credit hours

IA 460 Modern Industry  Mr. Mertens
Evolution and structure of modern American industry and its impact upon the social, economic, and cultural pattern. Personnel and management organization and control, industrial relations, production practices, and product distribution.
Three credit hours

IA 499 Independent Study in Industrial Arts  The Staff
To provide juniors and seniors who have demonstrated critical and analytical capability an opportunity to pursue a project independently, charting a course and exploring an area of interest within their major field, bearing upon it previous course experiences and emerging with an intellectually sound, coherent syntheses, or an artistic or technical creation reflecting a high caliber of performance.
One to three credit hours

IA Ed 300 Analysis and Course Development  Mr. Berry
Curriculum construction in industrial arts based on an analysis of student interests and needs, curricular objectives, and instructional content. Techniques of course development, utilizing resource units, experience units, instructional units, and trade and job analysis are discussed and evaluated. Development of teaching units discussed. Specimen course of study required.
Three credit hours

IA Ed 350 Methods and Materials of Instruction  Mr. Mitchell
Classroom and laboratory experiences involving the nature and direction of learning. Planning for effective teaching, preparation and use of audio-visual materials, devices and equipment. Planning and preparation of teaching units and lessons. Demonstration teaching and critiques. Orientation to student teaching. Prerequisites: Psy 200, IA Ed 300.
Four class hours, Three credit hours

IA Ed 404 Seminar in Teaching  Mr. Mitchell
Investigation, discussion, and possible solutions to problems arising from student teaching experiences. Teacher certification; graduate education; professional and ethical procedures; and standards involved in securing and holding a teaching position. Prerequisite: Ed 402.
Two credit hours

IA Ed 450 Laboratory Organization and Management  Mr. Greer
Basic principles of organizing and managing an industrial arts laboratory and program. Planning the school laboratory, selection and arrangement of equipment and organization for implementing a modern program of Industrial arts Safety principles are stressed. Prerequisite: Ed 402.
Three credit hours
Mathematics

Professor Fish; Associate Professor Estes; Assistant Professors Moulton, Mary Peabody; Mr. Soychak.

Ms 100 Elements of Mathematics I
A basic course emphasizing the structure of the number systems of whole numbers and positive rational numbers; fundamental notions of set theory; basic concepts of various numeration systems, nature of proof.

Ms 101 Elements of Mathematics II
Continuance of the two-course sequence on the structure of the real number system and its subsystems; integers, negative rationals; rationals. Use of simple equations and inequalities, topics from elementary number theory to emphasize discovery and proof.

Ms 120 College Algebra
A deeper study of the basic concepts of algebra necessary for more advanced work in mathematics.

Ms 121 College Trigonometry
Study of the trigonometric functions with practical applications and the solving of triangles.

Ms 150 Analytic Geometry and Calculus
Equations and graphs, differentiation and integration of polynomial functions, applications. Prerequisite: equivalent of Ms 120 and Ms 121.

Ms 151 Analytic Geometry and Calculus II
Conic sections, differentiation and integration of algebraic, trigonometric, logarithmic, and exponential functions, applications. Prerequisite: Ms 150 or consent of instructor.

Ms 173 Logic and Sets
A modern approach to selected topics in mathematics containing more depth in the areas of symbolic logic and theory of sets. A foundation course for many mathematical areas.
Ms 220 Introduction to Statistics
Elementary statistics to provide sufficient terminology and technique for interpreting critically the statistical content in various fields and for performing fundamental statistical procedures.

Three credit hours

Ms 250 Analytic Geometry and Calculus III
Polar coordinates, geometry of three dimensions, infinite series, partial differentiation, applications. Prerequisite: Ms 151 or consent of instructor.

Mr. Moulton

Four credit hours

Ms 251 Calculus IV
Multiple integrals in two and three dimensions and an introduction to ordinary differential equations, applications. Prerequisite: Ms 250.

Mr. Moulton

Four credit hours

Ms 260-261 Probability and Statistics
A two-semester sequence in probability and statistics. The first course is restricted to discrete sample spaces; the second to continuous sample spaces. Follows recommendations of CUPM, Mathematical Association of America. Prerequisite: Ms 151, Ms 173.

Mr. Estes

Six credit hours

(Three each semester)

Ms 272 Real Numbers
Systematic and detailed construction of real number system and its subsystems. Prerequisite: Ms 173.

Mr. Peabody

Three credit hours

Ms 310 Basic Concepts of Algebra
A course as recommended by the Committee on the Undergraduate Program, Mathematical Association of America, to follow the two-course sequence on number systems; emphasis on generalization and abstraction, algebraic properties, linear equations and inequalities in two variables, quadratics, systems of equations and inequalities, modular arithmetic, group, field, complex numbers, functions. Prerequisite: Math 100 and 101.

Miss Peabody

Three credit hours

Ms 311 Informal Geometry
To provide the prospective elementary teacher with the common core of geometric knowledge; congruence, measurement, parallelism, and similarity; presented at first intuitively, then as part of a deductive system; applications. Follows recommendations of CUPM, Mathematical Association of America. Prerequisite: Math 100 and 101.

Miss Peabody

Three credit hours

Ms 350-351 Geometric Structures I and II
An introduction to the geometries that result from various postulate systems, such as the Euclidean, affine, non-Euclidean, and projective. Math 350 is a prerequisite for Math 351.

Mr. Fish

Six credit hours

(Three each semester)

Ms 370 Abstract Algebra
A course developed around the following topics: notions of set theory, theorems on groups, rings, fields, structure of homomorphisms, linear equations, and the integral domain of polynomials over a particular field.

Mr. Estes

Three credit hours

Ms 371 Linear Algebra
An introduction to matrices and their applications in solving systems of linear equations.

Mr. Soyshak

Three credit hours

Ms 380 Theory of Numbers
Basic course in number theory, including such topics as divisibility properties of integers, prime numbers, congruences, and multiplicative number theoretic functions. Prerequisite: Ms 250.

Three credit hours

Ms 390 Topology
Elementary general topology, including topological spaces, mappings, compactness, nets, and product, metric, function, and Peano spaces. Prerequisite: Ms 250.
Ms 460  Introduction to Computer Programming
Mr. Estes
An elective course in the basic knowledge of computers — mechanical and electronic; binary-octal arithmetic; programming; flow diagrams; computer programs. Prerequisites: Ms 150 and Ms 260 or permission of instructor.

Three credit hours

Ms 471  Foundations of Mathematics
A strongly historical treatment of fundamental concepts in geometric and algebraic systems. Use of deductive principles and axiomatic treatments in relation to such items as Peano postulates and algebraic structures, development of modern mathematics.

Three credit hours

Ms 473  History of Mathematics
A foundational development of the growth of mathematical ideas, including those of more recent times. Prerequisite: Ms 151 or consent of instructor.

Three credit hours

Ms 499  Independent Study in Mathematics
The Staff
To provide juniors and seniors who have demonstrated critical and analytical capability an opportunity to pursue a project independently, charting a course and exploring an area of interest within their major field, bearing upon it previous course experiences and emerging with an intellectually sound, coherent syntheses, or an artistic or technical creation reflecting a high caliber of performance.

One to three credit hours

Ms Ed 312  Teaching Mathematics in the Secondary High School (7-12) Miss Mary Peabody
Teaching mathematics with the new approach at the secondary school level. Programs for teaching both the slow and advanced pupil. Study of current textbooks and experimental material in modern mathematics. Content as needed to provide orientation to topics commonly taught in grades 7 through 12.

Three credit hours
Music

Professor Bowder; Associate Professor Chamberland; Assistant Professors Cole, Heel; Mr. D. Miller.

FA 101 Music Appreciation and History
Mr. Chamberland, Mr. Douglas Miller
A survey of music from the Gregorian Chant to modern times, covering musical practices of the Renaissance, Baroque, Classical, Romantic, and Contemporary periods. Representative works by the outstanding composers of each period.
Three credit hours

FA 201 Fundamentals of Music
Mr. Douglas Miller
A background study of concepts and skills essential to an intelligent reading of music. The development of natural musical abilities through participation in singing, rhythmic activities, and instrumental work. An appreciation of music through awareness of basic structures.
Two credit hours

Mus 100 History of Music I
Mr. Chamberland
Medieval and Renaissance Periods: historical development and musical practices from the Gregorian chant and early polyphony through the culmination of the madrigal in England. Musical examples of outstanding composers are played, analyzed, and discussed.
Three credit hours

Mus 101 History of Music II
Mr. Chamberland
Baroque Period: continuation of Mus 100, from the establishment of opera in Italy and the rise of instrumental music, to the culmination of polyphony in the works of J. S. Bach.
Three credit hours
Mus 102 Theory I
Major and minor scales; intervals, triads and chord connection; cadences; harmonization of soprano and bass lines utilizing primary triads; related dictation and keyboard application.
Mr. Bowder
Three credit hours

Mus 103 Theory II
Triads in first and second inversion; specific uses of the six-four chord; secondary triads in fundamental position and inversion; modulation; non-harmonic tones (passing, auxiliary, appoggiatura, suspension and anticipation); dominant seventh chord (root position inversion, regular and irregular resolutions); related dictation and keyboard application. Prerequisite: Mus 102.
Mr. Bowder
Three credit hours

May be taken in piano, voice, or any orchestra or band instrument. One lesson per week in the major performance area (3 credits). Also one half-hour lesson in the minor performance area (1 credit) in fulfillment of applied music requirements. Special fee.
The Staff
Four credit hours

Mus 106, 107, 208, 209, 308, 309, 403 Vocal Ensemble
Emphasizing singing technique and interpretation and an exploration of choral literature of various periods and styles. Principles of choral training are exemplified. The repertoire is varied from year to year so that the course covers a considerable range during a given student's attendance.
Mr. Chamberland
One-half credit hour

Mus 108, 109, 210, 211, 310, 311, 404 Recital Class
Performance in major field, stage procedure, and evaluation of performances.
Mr. Chamberland
One-half credit hour

Mus 200 History of Music III
Classical and Romantic periods: historical development and musical practices from the establishment of the sonata, string quartet, and symphony, through program music, music-drama, and the rise of nationalism in music. Representative works of outstanding composers are played, analyzed, and discussed.
Mr. Douglas Miller
Three credit hours

Mus 201 History of Music IV
Contemporary Period: continuation of Mus 200, from Impressionism to recent tendencies. Melodic, harmonic, rhythmic and structural features of the twentieth century American and European music and their relationship to tradition.
Mr. Douglas Miller
Three credit hours

Mus 202 Theory III
Diatonic seventh chords; modulation; expansion of non-harmonic tones; altered chords; Neapolitan sixth; augmented sixth chords; chromatic alterations; chorales and their harmonizations; related dictation and keyboard application. Prerequisite: Mus 103.
Mr. Bowder
Three credit hours

Mus 203 Theory IV
Contemporary techniques of composition; modern harmony, theory and related studies. Two, three and four part counterpoint and related forms of the eighteenth century. Prerequisite: Mus 202.
Mr. Bowder
Three credit hours

Mus 220 Class Piano
Practical class piano for the elementary teacher with little or no piano background. Course covers note reading, scales, accompaniment of simple songs, transposition, and sightreading.
Mr. Bowder
Two credit hours

Mus 302 Instrumental Conducting
Organization, training, and directing of bands and orchestras. Practical conducting experiences, score reading, basic beat patterns, and interpretation.
Mr. Bowder
Two credit hours

Mus 303 Vocal Conducting
Organization, training, and directing of choruses and glee clubs in high schools and junior high schools. Study and practice in rehearsal technique, problems of diction, and emphasis on textual delivery.
Mr. Chamberland
Two credit hours
MUSIC

Mus 400 Orchestration
A study of the nature of the various instruments. Practice in scoring for instrumental combinations, orchestra, and band. Mr. Bowder
Three credit hours

Mus 499 Independent Study in Music
To provide juniors and seniors who have demonstrated critical and analytical capability an opportunity to pursue a project independently, charting a course and exploring an area of interest within their major field, bearing upon it previous course experiences and emerging with an intellectually sound, coherent synthesizes, or an artistic or technical creation reflecting a high caliber of performance. The Staff
One to three credit hours

Mus 501 Concert Band
Mr. Bowder

Mus 505 Mens Glee Club
Mr. Chamberland
no credit

Mus 507 Womens Glee Club
Mr. Chamberland
no credit

Mus 509 A Cappella Choir
Mr. Douglas Miller
no credit

Mus 510 Chamber Orchestra
Mr. Bowder
no credit

Mus 513 Brass Ensemble
no credit

Mus Ed 200 Woodwind Class
Methods of teaching woodwind instruments; practical experience on various woodwinds; and elements of transposition. Mr. Bowder
Two credit hours

Mus Ed 201 Brass Class
Methods of teaching brass instruments; practical experience on various brasses; and elements of transposition. Mr. Bowder
Two credit hours

Mus Ed 300 Elementary Music Methods and Materials
Study of approved methods and materials of music education in the elementary school. Discussion and actual teaching in the classroom. Miss Heel
Three credit hours

Mus Ed 301 Secondary Music Methods and Materials
Study of approved methods and materials of music education in junior and senior high schools. Continuation of Mus Ed 300. Miss Heel
Three credit hours

Mus Ed 302 String Class
Class methods and materials in teaching violin. Fundamentals of violin, including bowing, tone production, intonation, and fingering techniques extended into third position. Miss Heel
Two credit hours

Mus Ed 303 String Class
String ensemble methods and materials for beginning strings. Fundamentals of viola, cello, and string bass. Rudiments of fingering, bowing, and tone production. Miss Heel
Two credit hours

Mus Ed 320 Rhythmic Activities in the Elementary School
This course follows the sequence of rhythmic activities from the basic fundamental movements of the primary grades to the more intricate patterns of instruments and folk dancing used in upper elementary. Stresses active participation in games, dances and creative phases. Previous music experience not necessary. Miss Heel
Two credit hours

Mus Ed 400 Music Administration and Supervision
Designed to present an integrated picture of philosophies of administration, and to resolve problems encountered in student teaching. Also to present new viewpoints based on discussion of text and individual problems. Miss Heel
Three credit hours
Science

Professors Kerr, Neuberger; Associate Professors Grass, Hare, Riciputi, M. Whitten; Assistant Professors Ayers, G. Barker, Dorsey, R. Miller, Pendleton; Mr. Cook

Sci 100-101 Physical Science

A two-semester course designed to educate non-scientists in the principles and methods of physical science. Selected topics in physics, chemistry, geology, meteorology, and astronomy. Basic principles and concepts covering conservation of charge, energy, mass and momentum, fields (electrical, gravitational and magnetic), waves, the molecular structure of matter, and atomic structure. Related fundamentals of chemistry are considered; introduction to organic chemistry, with particular emphasis on the electronic nature of chemical phenomena. Geology, meteorology, and astronomy are also studied as interrelated disciplines. Laboratory experimentation stresses importance of first-hand experience in substantiating physical principles. Four class-hours weekly; two hours of lecture and two of laboratory.

Sci 100a Concepts of Physical Science

A one-semester course for art, music, and industrial arts majors. Aims at developing the basic content of the major scientific disciplines together with their underlying physical principles: astronomy (concepts of space); geology (concepts of time and change); chemistry (concepts of matter); physics (concepts of energy and its transformations). Consideration also given to the methods of science and to the impact of science on society.

Six credit hours (Three credits each semester)
Sci 150-151 Earth Science

A survey course including material selected from the areas of astronomy, geology, meteorology, and oceanography. In addition to field trips, the laboratory sessions involve a study of minerals, rocks, soils, topographic maps and weather maps.

Two one-hour lectures and one two-hour lab.
Six credit hours
(three credits each semester)

Sci 156 Physical Geology

The study and observation of the earth through the interpretation of the work of streams, glaciers, volcanoes, and other geological agents. The identification of rocks and minerals is included.

Three credit hours

Sci 157 Historical Geology

Study of the earth’s history in terms of physical, chemical, and biological change, from its origin to the present time. Focus upon the methods of determining chronology and conditions through fossils and structural characteristics.

Three credit hours

Sci 161-162 Physics I and II

A laboratory course in which selected experiments in physics are used to demonstrate physical principles and make possible a deeper study of physical phenomena. Lectures, demonstrations, problem solving, films and filmstrips are employed to develop an understanding of mechanics, sound, optics, heat, electricity, and modern physics.

Eight credit hours (four each semester)

Sci 200 Biological Science

An introductory, one-semester, biology course in which the major concepts discussed include: evolution, heredity, energy transformation, development, ecology, and the dynamics of animal and plant function. Three hours of lecture and one three-hour lab weekly. Prerequisite: Sci 100-101, or 100a.

Four credit hours

Sci 220-221 General Chemistry I and II

A survey of the fundamental concepts and theories of chemistry. Atomic structure, periodic classification, chemical bonding, molecular structure, ionic reactions, and the chemical equilibria are discussed. Three lectures, one three-hour lab per week.

Eight credit hours (four per semester)

Sci 250 Vascular Botany

Study of form and structure as related to function, life cycles, economic uses, and ecology of vascular plants. Some work in collecting, identifying, and preserving of specimens. Open to qualified freshmen and sophomores or with instructor’s permission.

Four credit hours

Sci 251 Non-vascular Botany

Study of form and structure as related to function, life cycles, economic uses, and ecology of non-vascular plants. Some work in the collecting, identifying and preserving of specimens. Open to qualified freshmen and sophomores or with instructor’s permission.

Four credit hours

Sci 252 Invertebrate Zoology

A survey of the invertebrates with emphasis on morphology and relationships of representative types. Open to qualified freshmen and sophomores or with instructor’s permission.

Four credit hours

Sci 253 Vertebrate Zoology

The form, structure, and life processes of the major groups of vertebrates. The areas are considered in respect to the animal’s adaptation to his environment. Field trips are taken to various habitats which afford first-hand ecological observations and also supply living material for laboratory investigation. Open to qualified freshmen and sophomores or with instructor’s permission.

Four credit hours
Sci 258 Ecology
Mr. Robert Miller
Basic relationships of plants and animals to their physical and biotic environments. The study of biomes, habitats, and communities are interpreted in varying stages of succession and stratification. An emphasis is placed on species dynamics and population changes.
Three credit hours

Sci 259 Conservation of Natural Resources
Mr. Robert Miller
The study of the better-known practices for the utilization of our natural resources. Topics covered in the course include mineral resources, soils, forests, water, wild life, man himself, and recreation.
Three credit hours

Sci 355 Natural Science
Mr. George Barker
A course primarily for teachers in the elementary school. Includes a variety of topics in the area of biology: insect metamorphosis, bird migration, fossil records, animal communities, plant communities, animal behavior, reproduction, survival foods, fungi and man, and related subjects. Emphasis is on obtaining an understanding and appreciation of the flora and fauna of New England.
Three credit hours
Sci 360 Structural Geology
Mr. Robert Miller
This course is a study of rock structure and deformation. Much time is spent in field research, geologic mapping and bedrock interpretation. Some study of mineral resource locations included. It is recommended that a student have had physical or historical geology as a prerequisite.  

Two one-hour lectures and one two-hour lab.  
Three credit hours

Sci 361 Introduction to Oceanography
Mr. Hare
Origin and extent of the oceans; nature of the sea bottom, causes and effects of current and tide; animal and plant life in the sea.  
Three credit hours

Sci 363 Astronomy
Mr. Ayers
A descriptive course in astronomy, surveying the solar system and beyond. Students utilize the 4-inch refracting telescope to observe the nearer planets, the solar disk, features of the moon, and multiple stars. Films, slides, filmstrips, and models illustrate and demonstrate celestial phenomena.  
Three credit hours

Sci 366 History of Science
Mr. Maurice Whitten
A comprehensive survey of the historical development of science from earliest records to the present. Attention is given to the nature of science, methods of scientific discovery, the relation of science to technology and the implications of both for society. Prerequisite: Sci 100-101, Sci 200 and six additional hours of science completed. Grades of C or better in all science courses completed.  
Three credit hours

Sci 367 Anatomy and Physiology
Mr. Neuberger
A study of the relationships of the structure and function of the human organism; focus on the mechanisms included in the following systems: muscular, nervous, circulatory, respiratory, excretory, endocrine, and reproductive.  
Two hours of lecture, four hours of laboratory.  
Four credit hours

Sci 368 Meteorology
Mr. Hare
A basic introduction to meteorological phenomena: the atmosphere; its characteristics, composition and structure; cloud types, circulation of air; currents and winds; air masses. Analysis of weather reports, weather forecasting, and weather maps.  
Three credit hours

Sci 369 Microbiology
Mr. Dorsey
A study of the anatomy and physiology of microorganisms. The use and experience of microtechniques are important parts of the course.  
Four credit hours

Sci 370 Ornithology
Mr. Riciputi
The basic biology of birds, their life history, migration and economic importance with special reference to those of eastern North America. (Students must supply own binoculars, spotting scopes, etc.)  
Three credit hours

Sci 372 Ichthyology
Mr. Riciputi
The structure, origin, evolution, natural history, classification, and zoogeography of fishes, with particular emphasis on species found in the northeastern United States. Prerequisite: Sci 253.  
Four credit hours

Sci 373 Mineralogy
Mr. Robert Miller
An introduction to descriptive crystallography and study of the physical properties and chemical structures of common rock-forming minerals. Field trips and laboratory analysis are an important part of the course.  
Three credit hours
Sci 380 Organic Chemistry
Mr. Maurice Whitten
A study of the nomenclature, classification, preparation, structure, properties and uses of aliphatic and aromatic compounds. Three lectures, one four-hour lab per week. Prerequisite: Sci 220-221 with grade of C as minimum.
Four credit hours

Sci 385 Cell Biology
Mr. Cook
A course dealing with the role of energy in cellular metabolism. The concepts of energy transformation and coupling are dealt with in detail, and their application to the biological processes, respiration, photosynthesis, active transport, and bio-synthesis are examined. Three lectures per week. Prerequisite: Sci 367.
Three credit hours

Sci 400 Biological Techniques
Mr. Dorsey
A course designed primarily for students preparing to teach biology in the secondary school. Emphasis is placed on advances in the secondary biology curricula, notably the Biological Sciences Curriculum Study approaches. A major portion of the course work is devoted to the laboratory exercises and techniques which typify the investigative approach of these curricula. Open to qualified juniors and seniors or with instructor's permission.
Four credit hours

Sci 420 Embryology
Mr. Neuberger
A study of animal development emerging from an analysis of cell division, gametogenesis, organogenesis, growth, and differentiation. Two hours of lecture and four of laboratory.
Four credit hours

Sci 450 Genetics
Mr. Neuberger
A study of the principles of heredity in plants and animals with emphasis upon recent gene and chromosome research.

Sci 455 Modern Physics
Mr. Grass
Selected topics in modern physics, atomic structure, spectra, relativity, the de Proglie model, the quantum-mechanical model, radioactivity, particle accelerators. Prerequisites: Physics 1 and II and Math 251, or permission of instructor.
Three one-hour lectures and two two-hour labs.
Four credit hours

Sci 499 Independent Study in the Sciences
The Staff
To provide juniors and seniors who have demonstrated critical and analytical capability an opportunity to pursue a project independently, charting a course and exploring an area of interest within their major field, bearing upon it previous course experiences and emerging with an intellectually sound, coherent syntheses, or an artistic or technical creation reflecting a high caliber of performance.
One to three credit hours

Sci Ed 360 Teaching Sciences in the Secondary School
Mrs. Kerr
Reading, discussions, experimentation, field trips, and audio-visual techniques are presented and evaluated as an integral part of this course. Emphasis is placed on concept formation in science consistent with programs now being taught nationwide.
Three credit hours

Conservation Workshop

Through the joint sponsorship of Gorham State College, Farmington State College, the Orono Campus of the University of Maine, the State Natural Resources Agencies, and the State Department of Education, a Conservation Workshop is conducted each summer at Bryant Pond, Maine.

Courses in conservation education, the natural history of inland Maine, and other special courses are given by the College faculty over a period of approximately eight weeks, in three sessions of three weeks each.

Graduate and undergraduate credit for Workshop courses is offered to all matriculated students. A free descriptive brochure giving detailed information is available from the College on request.

83
Social Sciences

Professors Emerson, Lacognata, York, Young; Associate Professors P. Barker, Dickey, Schleh, J. Whitten, Wood; Assistant Professors Bibber, Hodges, Ventresco, Witherill; Mr. Moberg.

SS 100 Ancient Civilization
Mr. Ventresco
An introduction to the heritage of mankind, from prehistoric times through the discovery and settlement of the New World. Political, intellectual, scientific, and aesthetic modes of life historically viewed. Divergent concepts of the theory and writing of history as a systematic explanation of past events.
Three credit hours

SS 101 Modern Civilization
Mrs. Young, Miss Dickey, Mr. Ventresco
A continuation of SS 100. Historical development of the characteristic features of the modern period; analysis of world issues; focus on the roles of the great European powers, from the seventeenth to the twentieth century.
Three credit hours

SS 200 United States History to 1877
Mr. Emerson, Miss Wood, Miss Bibber
A basic survey and introduction to the field of American history. The political, social, and economic development of the United States from 1789 to 1877.
Three credit hours

SS 201 United States History Since 1877
Mr. Emerson, Miss Wood, Miss Bibber
This course is a continuation of SS 200. A survey of American political, social and economic development since 1877.
Three credit hours
SOCIAL SCIENCES

SS 202 Principles of Geography
Mr. Hodges, Mr. Moberg
A basic course surveying man's world habitat. A study of the tools of geography; earth relationships; the atmosphere and the climatic regions of the world; landforms and their formation; the earth's waters and soils... their formation and distribution; natural vegetation; animal life. An inquiry into world population and the world pattern of trade routes.
Three credit hours

SS 203 Sociology
Mr. Lacognata, Mr. Paul Barker
To familiarize students with scientific orientation to human social behavior. To develop greater social awareness of human social systems. Foci of course materials on basic concepts, methodology, and empirical findings.
Three credit hours

SS 204 American Government
Mr. Schlehr
The theory, organization, and practice of American government, especially the relationships between the federal system and the state, the individual citizen, and foreign nations. Unifying concepts include the nature of political power, federalism, ideologies, the formation of democratic character, and the role of American government in the world community of nations. In all phases the approach is directed to government as a policy-related social science.
Three credit hours

SS 220 Personal and Social Economics
Mr. Witherill
A course designed to help students make decisions and judgments pertaining to personal finances. Material is studied showing how personal economic decisions relate to society and how government social programs affect the economic life of the individual. Topics studied include: Incomes and Occupations, Budgeting; Insurance; Social Security Programs, Investments and Estate Planning. Junior or senior status or permission of instructor.
Three credit hours

SS 300 Economics
Mr. Witherill
A one-semester course designed to give a basic understanding of the economic system. Deals with the economy as a whole rather than with problems of the individual firm, and gives the student a basis for knowing how economic events affect the national economy. Topics covered include a study of the Economic System, Money and Banking, Production, Income, Employment, Economic Cycles, and International Trade.
Three credit hours

SS 301 Maine History
Mr. York
A survey of the state's political, social, and economic history from colonial days to the present. Among topics covered are exploration and settlement, Indians and the wars, transportation, religion, Maine in America's wars, outstanding state personalities, and industrial development in the nineteenth and twentieth centuries.
Three credit hours

SS 302 Current Economic Problems
Mr. Witherill
An in-depth study and application of economic principles to some of the outstanding economic issues of society. These include poverty; the economics of pollution control; problems of the city - including transportation, metropolitan organization and finance; and problems of labor - such as automation and unemployment. Prerequisite: SS 300.
Two credit hours

SS 350 World Geography
Mr. Moberg
A contemporary survey of world geography. Geophysical and geographical concepts of continents and nations as a basis for understanding world affairs and developing an awareness of geography. Prerequisite: SS 202.
Three credit hours

SS 351 Geography of Asia
Mr. Hodges
An intensive geographic study of each of the countries of the world's largest continent. Special attention given to nations created since World War II. The so-called trouble zones: Middle East, Russian Far East, Korea, Southeast Asia, and the two Chinas. Prerequisite: SS 202.
Three credit hours

SS 352 Geography of Latin America
Mr. Moberg
An intensive study of the countries and major islands south of the Rio Grande. Sustained attention is given to the economic and political relations of Latin America with the United States. Focus also on Latin American culture. Prerequisite: SS 202.
Three credit hours
SOCIAL SCIENCES

SS 353 Geography of Anglo-America
An intensive regional study of North America: climate, topography, soils, vegetation, resources, agriculture, industry, transportation, and population. Regional interdependence and industrial-agrarian relations. Prerequisite: SS 202.

Mr. Moberg
Three credit hours

SS 354 Diplomatic History of the United States I
The course covers the development of key United States foreign policies from the Revolution to the Spanish American War. Prerequisite: SS 200.

Miss Wood
Three credit hours

SS 355 Diplomatic History of the United States II
The chief emphasis is placed on the causes and results of World Wars I and II, the nature of the Cold War, and the character of our present commitment in Asia. Prerequisite: SS 201.

Miss Wood
Three credit hours

SS 356 History of Russia
Political, social, cultural and economic history of the Russian people, with emphasis on the period since 1825. The first half of the course surveys geographic backgrounds, the influence of Byzantine civilization, the impact of invasions, and the development of Russia's unique social, cultural and political institutions. Remainder of course is devoted to the pressures for reform and weaknesses in imperial Russia, the Communist Revolution, and the history of the Communist state since 1917. Prerequisite: SS 101 or equivalent.

Mrs. Young
Three credit hours

SS 357 History of the West
The advance of the American frontier from the Atlantic seaboard to the last frontier on the Great Plains. Challenges faced by the pioneers and their adjustment to them. Problems of the miner, the cowboy, the shepherd, and the farmer. Changes in transportation and shifts in government policy affecting the West. Prerequisite: SS 200 or SS 201.

Miss Wood
Three credit hours

SS 358 The Bible
A study of portions of both the Old and the New Testaments. Exploration of historical background, literary qualities, authorship, and materials available for scholarly research.

Miss Dickey
Three credit hours

SS 362 Geography of Europe
A detailed analysis of (1) the continent as a whole — its history, climate, topography, population, natural vegetation, and soils; (2) a study of individual countries on the continent, with special attention to the three great powers — Russia, Great Britain, and France. Prerequisite: SS 202.

Mr. Moberg
Three credit hours

SS 363 Twentieth Century United States
A selective examination of four periods — the Progressive Era, the 1920's, the New Deal period, and the post-war years — built around the theme of American adjustment to an urban-industrial society. Although primarily historical in approach, the course attempts to integrate the findings of the social sciences with national literary and artistic expression. Prerequisite: SS 201.

Mr. Emerson
Three credit hours

SS 364 Civil War and Reconstruction
An examination in depth of the political, economic, diplomatic, and military history of the period 1850-1877. Particular stress is laid upon the nature of the Old South and upon causation and interpretation with reference to the Civil War and its aftermath. Prerequisite: SS 200.

Mr. Emerson
Three credit hours

SS 365 Social and Cultural History of the United States to 1865
The development of American social life and culture. A selective examination of the nation's major social institutions; of the family, the economy, and the church; of American literature and the arts. Special emphasis on religious developments in both the Colonial and National periods. Prerequisite: SS 200 or SS 201.

Miss Wood
Three credit hours

SS 366 Social and Cultural History of the United States Since 1865
An intensive inquiry into the ways in which urbanization and industrialization have affected our institutions, manners, and morals. Main currents of American thought since 1865. SS 366 is related to, but is not a continuation of, SS 365. Prerequisite: SS 200, SS 201.

Mr. Emerson
Three credit hours
SS 367 Colonial History of the United States  
Miss Wood  
The political, social, and economic development of the American colonies, from the days of exploration and settlement to the American Revolution. Changing British imperial policy and the causes of the American Revolution. Prerequisite: SS 200.  
Three credit hours

SS 368 Seminar in American Character  
Mr. Emerson  
A course focusing attention on a particular problem of historical analysis: the interpretation and determination of American national character from the beginnings to the present. The writings of Tocqueville, Bryce, Adams, Turner, Siegfried, Potter, Riesman and others are considered. Prerequisite: SS 200, SS 201.  
Three credit hours

SS 374 Introduction to African History  
Mr. Schleb  
Introductory survey of African history from early migrations to mid-twentieth century. Approach is both regional, stressing selected countries representative of their regions, and topical, cutting across political boundaries (e.g. pre-European African civilizations, role of Islam, conduct and impact of the slave trade, exploration, the era of colonization and independence movements).  
Three credit hours

SS 375 Contemporary Africa  
Mr. Schleb  
Seminar to examine major elements in today's Africa including: development and adaptation in African politics, economic development and social change, racial conflict and cooperation, regional groupings and Africa in the world affairs.  
Three credit hours

SS 380 Social Problems  
Mr. Lacognata  
Analyses of contemporary American social movements, forces, and changes. In-depth research findings on patterns of social interaction in family systems, educational systems, and value systems.  
Three credit hours

SS 381 Minority Peoples  
Mr. Lacognata  
Sociology of majority-minority relations in contemporary, particularly American, society. Attention is given to specific ethnic, religious, and racial minorities in terms of prejudice and discrimination. Prerequisite: SS 203 or permission of the instructor.  
Three credit hours
SS 383 Dynamics of Population
Mr. Lacognata
The course contains general demographic theories, especially those concerning population growth. Population distribution and density, age and sex, and ethnic composition. Emphasis on fertility, mortality, and migration and their influences on population change. Prerequisite: SS 203 or permission of the instructor.

Three credit hours

SS 384 Seminar in Social Thought
Mr. Lacognata
Analyses of contemporary social issues, ideas, and attitudes characterizing American society. Independent library research projects to be emphasized in concert with seminar dialogues. Prerequisite: Juniors and seniors only and by permission of instructor.

Three credit hours

SS 385 Europe, 1500-1715
Mr. Ventresco
A political, social and intellectual study of Europe from the era of Martin Luther to the age of Sir Isaac Newton. One of the major themes of this course is the development of the state, and the rise of the great powers within the broader context of international struggles. Prerequisite: SS 100 or permission of the instructor.

Three credit hours

SS 387 French Revolution and Napoleon
Mrs. Young
The course takes the French Revolution as a climax of major intellectual, political, and social trends in eighteenth-century Europe. Thorough coverage is given to the Enlightenment, the influence of the American Revolution, the French Revolution itself and its impact outside France. The Napoleonic era is handled as the culminating phase of the Revolution and as a major influence on nineteenth-century Europe. Prerequisite: SS 101 or equivalent.

Three credit hours

SS 388 Europe and the World in the 19th Century
Mrs. Young
An intensive survey of Europe's political changes, the impact of nationalism, and the economic, social, and intellectual results of the Industrial Revolution. The spread of European culture and technology to the non-European world and the causes and effects of imperialism are studied. Prerequisite: SS 101 or equivalent.

Three credit hours

SS 392 Twentieth Century Europe
Mrs. Young
An intensive survey of European developments in the twentieth century stressing intellectual, economic, psychological, social and political factors. Europe's changing role; the impact of World Wars I and II; the meaning of Fascism, Nazism, and Soviet Communism; and problems facing Europe in today's world are considered. Prerequisite: SS 101 or equivalent.

Three credit hours

SS 394 History of Far East to 1700
Miss Bibber
A survey of the history and culture of China and Japan from earliest times to 1700, with emphasis on the composition of "traditional" Japanese and Chinese society. Prerequisite: Six hours of history courses.

Three credit hours

SS 395 History of the Far East Since 1700
Miss Bibber
A study of China and Japan since 1700 emphasizing contrasting moves toward modernization in two traditional societies. Prerequisite: Six hours of history courses.

Three credit hours

SS 396 Urban Geography
Mr. Hodges
Deals with the American city as a type. Urban centers are dealt with at two levels—as entities in which location, characteristics, growth and relations with the countryside are considered, and as entities in which the internal parts of the city are explored.

Three credit hours

SS 400 History of England
Mr. Ventresco
A survey of England from Anglo-Saxon times to the beginning of the twentieth century, with emphasis on the nature of English monarchy, the development of political institutions, and evolving constitutionalism. Particular attention is given to broad movements such as the Reformation, the Industrial Revolution, and Imperialism.

Three credit hours

SS 410 The United States and Asia
Miss Bibber
A history of United States' interests in the Far East from 1789 to 1960, considering economic and social contacts as well as diplomatic. Prerequisite: SS 200-201.

Three credit hours
SS 425 Canadian-American Relations
Mr. James Whitten
Selected topics germane to the historical, cultural, economic, geographic, and political interactions of Canada with the United States. Prerequisite: SS 200, SS 201.
Three credit hours

SS 450 Archaeology
Mr. Paul Barker
The study, preparation and display of specimens; cataloging of archaeological materials. Emphasis on the history and techniques of excavation, the nature and description of sites, especially those excavated by the students during actual field work. The study of the classical ruins and cultures of antiquity. Research conducted on exhibited specimens in the museum and files of artifacts, slides, and published field reports of Gorham State College expeditions are utilized.
Three credit hours

SS 451 Marriage
Mr. Paul Barker
The physical, social, psychological and religious factors pertaining to marital adjustment are analyzed. Slides, lectures, medical school film, symposia and discussions are utilized. Students are expected to become familiar with a wide variety of marriage literature through library reading.
Three credit hours

SS 452 Criminology
Mr. Paul Barker
The study of penology, crime and its causes, and the interrelationship of crime and contemporary American culture. The personality and behavior of pre-delinquent types most frequently encountered by teachers are studied in depth. Visits conducted to various corrective and preventive institutions. Prerequisite: SS 203.
Three credit hours

SS 453 Political Thought
Mr. James Whitten
Introduction to classical political philosophy. Emphasis on the 19th- and 20th-century development of liberalism, democracy, social Darwinism, nationalism, socialism, and the total-state claims of fascism and communism. Prerequisite: SS 204.
Three credit hours

SS 454 International Relations
Mr. Schleh
Principles and practices involved in the transactions of governments, international organizations, groups and peoples. The course stresses the agencies and policies that shape the destinies of commerce, diplomacy, power, sovereignty, war and peace. Permission of instructor required.
Three credit hours
SS 455 Political Geography
Mr. Hodges
A study of the geography of the major political units of the world, with special reference to such factors as location, size, shape, natural resources, population, boundaries, ethnographic structure, language, religion, type of government, colonies and colonial problems. Special emphasis is given to the so-called strategic areas of the world. Prerequisite: SS 202.
Three credit hours

SS 456 Economic Geography
Mr. Hodges
Economic Geography examines the economic activities of people in different parts of the world. The approach to the subject is topical, and focuses upon agricultural systems, forestry, mining, industry, transportation and commerce. Special emphasis is given to a comparison of the economic attributes of the underdeveloped countries and the more advanced countries.
Three credit hours

SS 457 Anthropology
Mr. Paul Barker
A study of both the physical and cultural backgrounds of man, including comparative studies of characteristics of contemporary peoples. Students utilize extensively the collections in the museum. Laboratory work conducted. Aspects of culture are emphasized: art, music, religion, economics, and the mores.
Three credit hours

SS 458 Modern European Governments
Emphasis on the current forms of government of the Soviet Union, West Germany, France and the United Kingdom including consideration of twentieth century developments of these forms. Use of this knowledge in examining current domestic and foreign policies of these countries. Prerequisite: SS 101.
Three credit hours

SS 459 Geography of Africa
Mr. Moberg
An intensive geographic study of the emergence of the nations of the once "Dark Continent" as well as the older, established powers such as South Africa, Egypt, and Ethiopia. Attention is given to areas still under colonialism. Prerequisite: SS 202.
Three credit hours

SS 460 History of Canada
Mr. James Whitten
The course is concerned with the development of Canada as a settlement, a colony and a nation. The significance of Canada as a nation and as a neighbor, its problems and prospects as a growing power are examined. Canada's cultural heritage sets the tone of the study. Prerequisite: SS 200.
Three credit hours

SS 475 United States Foreign Policy
Mr. Schleh
A detailed evaluation of U.S. Foreign Policy focusing on such topics as: identification of U.S. Foreign Policy; governmental agencies and personalities in the formation and implementation of policy; the role of nongovernmental influences. All aspects of course designed to evaluate current policy goals and practices in terms of long-range goals. Prerequisite: SS 204.
Three credit hours

SS 498 Historiography
The Staff
A survey of the principal schools of historical writing and of their products, with a detailed analysis of the philosophical principles, specific purposes and research and writing techniques of selected major historians. Required of and open to senior history majors only.
Three credit hours

SS 499 Independent Study in the Social Sciences
The Staff
To provide juniors and seniors who have demonstrated critical and analytical capability an opportunity to pursue a project independently, charting a course and exploring an area of interest within their major field, bearing upon it previous course experiences and emerging with an intellectually sound, coherent syntheses, or an artistic or technical creation reflecting a high caliber of performance.
One to three credit hours

SS Ed 361 Teaching Social Studies in the Secondary School
Mr. James Whitten
The course examines the historical and philosophic foundations of the social studies with emphasis on innovation. The course presents new concepts, methods and materials that are changing the aims, content, and methods in the professional dimensions of social studies instruction. Required of history social sciences area majors.
Three credit hours
Administration of the College

The Board of Trustees of the University of Maine

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DIRECTOR OF PLACEMENT ............................................. Evelyn M. Littlefield
DIRECTOR OF ATHLETICS ............................................... Richard A. Costello

Department Chairmen

EDUCATION ................................................................. Melissa H. Costello
ENGLISH ................................................................. John G. Hanna
FINE ARTS ............................................................... Gerard G. Chamberland
HEALTH AND PHYSICAL EDUCATION ............................ Richard A. Costello
INDUSTRIAL ARTS ....................................................... John Mitchell
SCIENCE AND MATHEMATICS ....................................... Robert N. Miller
SOCIAL SCIENCES ...................................................... Angelo A. Lacognata

Emeriti Personnel

ANDREWS, MIRIAM E., (1922-1960), B.S., M.A., Professor Emerita of Music
BAILEY, FRANCIS L., (1940-1960), B.A., M.A., Ph.D., President Emeritus

91
Personnel of the College

(*) Indicates leave of absence, 1968-69

AYERS, GEORGE H. (1959) Assistant Professor of Science; University of Maine, B.A., 1951; Ohio State University, M.A., 1959

BARKER, GEORGE J. (1955) Assistant Professor of Science; Gorham State College, B.S., 1951; Boston University, Ed.M., 1958

BARKER, PAUL M. (1949) Associate Professor of Social Science; Wittenberg University, A.B., 1933; Kansas State College, M.S., 1942; Colgate Rochester Divinity School, B.D., 1945

BERRY, ARTHUR O. (1955) Professor of Industrial Arts; Gorham State College, B.S., 1950; Pennsylvania State University, Ed.M., 1954; University of Connecticut, Ph.D., 1967


BOUCHARD, JOEY A. (1968) Assistant Professor of Physical Education; Springfield College, B.S., 1960, M.Ed., 1961

BOWDEN, REGINALD B. (1965) Director of Public Relations, Instructor of Journalism; University of Maine, B.A., 1955


BOWMAN, JAMES A. (1949) Associate Professor of Psychology; Gorham State College, B.S., 1947; Boston University, Ed.M., 1951


CARTER, RICHARD H. (1964) Instructor of Industrial Arts; Gorham State College, B.S., 1954; University of Maine, Ed.M., 1964

CHAMBERLAND, GERARD G. (1957) Associate Professor of Music; Boston University, B. of Mus., 1950, M.M., 1956


COLE, RONALD F. (1963) Assistant Professor of Music; Bowdoin College, B.A., 1961; Eastman School of Music, M.A., 1963


COSTELLO, RICHARD A. (1953) Director of Athletics, Professor of Health and Physical Education; University of Alabama, B.S., 1952; University of Illinois, M.S., 1953; Springfield College, D.P.E., 1965

DICKEY, EDNA F. (1946) Dean of Women, Associate Professor of Social Science; University of New Hampshire, B.A., 1933, M.A., 1936

DORSEY, F. DONALD, JR. (1967) Assistant Professor of Biology; Bowdoin College, A.B., 1950; Syracuse University, M.S., 1960; Simmons College, M.S., 1964

DUSO, RALPH E. (1948) Administrative Assistant; Keene Teachers College, B. Ed., 1935; New York University, M.A., 1944

EMERSON, HORTON W., JR. (1962) Professor of History; Colby College, A.B., 1949; Yale University, Ph.D., 1957

ESTES, ROBERT A. (1966) Associate Professor of Mathematics; Bowdoin College, A.B., 1958; University of Kansas, M.A., 1961


FISH, LINCOLN T., JR. (1959) Professor of Mathematics; University of Maine, B.S., 1948, M.A., 1949; Boston University, Ed.D., 1951

GOODWIN, JEANETTE L. (1955) Associate Professor of Physical Education; Sargent College, B.S., 1944; Springfield College, Ed.M., 1955

GRASS, CALVIN F. (1966) Associate Professor of Physics; Boston University, A.B., 1949; University of Maine, Ed.M., 1954

GREER, JOHN S. (1952) Professor of Industrial Arts; Gorham State College, B.S., 1950; Pennsylvania State University, Ed.M., 1954; University of Connecticut, Ph.D., 1967

HACKETT, GEORGE F. (1968) Associate Professor of Education; Central Michigan University, B.A., 1952; University of Michigan, M.A., 1957.

HANNA, JOHN G. (1963) Professor of English; Trinity College, B.S., 1936; Harvard University, M.A., 1946; Boston University, Ph.D., 1958

HARE, PARNELL S. (1963) Associate Professor of Science; University of Maine, B.S., 1956; University of New Hampshire, M.S., 1960

HEEL, HELEN E. (1953) Assistant Professor of Music; Gorham State College, B.S., 1942; University of Michigan, M.M., 1948

HEMPFEL, CARL H. (1967) Director of Student Teaching, Associate Professor of Education; Hyannis State Teachers College, B.S. in Ed., 1941; University of Connecticut, M.S. in Ed., 1950; Ph.D., 1960

HODGDON, PAULA D. (1967) Associate Professor of Physical Education; Lasell Junior College, A.A., 1948; Beaver College, B.A., 1950; Teachers College, Columbia University, M.A., 1952

HODGES, FRANKLIN D. (1966) Assistant Professor of Geography; Farmington State College, B.S., 1961; Clark University, M.A., 1966

KERR, ELIZABETH F. (1957) Professor of Science; Marygrove College, B.S., 1939; Columbia University, A.M., 1946, Ed.D., 1956

LACOGNATA, ANGELO A. (1965) Professor of Sociology; University of Buffalo, B.A., 1957; University of Rochester, M.A., 1959; Michigan State University, Ph.D., 1962

LAPOINTE, NORMAN J. (1967) Director of Upward Bound; University of Maine, B.S., 1956; University of Massachusetts, M.A., 1960
PERSONNEL

LITTLEFIELD, EVELYN M. (1930) Director of Placement, Associate Professor of Education; Defiance College, B.S., 1930; Columbia University, M.S., 1942


MACK, VINCENT G. (1968) Instructor of Industrial Arts; Fitchburg State College, B.S., 1966; University of Massachusetts, M.S., 1968

MERTENS, ROBERT P. (1967) Associate Professor of Industrial Arts; State University College of New York at Buffalo, B.S., 1958, M.S., 1963

MILLER, D. DOUGLAS (1968) Instructor of Music; Drake University, B.M.E., 1963; M.M., 1965

MILLER, ROBERT N. (1946) Assistant Professor of Science; Colby College, A.B., 1936

MINER, CALE P. (1960) Assistant Professor of Art; Columbia University, B.S., 1947; Teachers College Columbia, M.A., 1951; Columbia University, M.F.A., 1958

MITCHELL, JOHN (1947) Professor of Industrial Arts; Fitchburg State College, B.S., 1939; University of Minnesota, M.A., 1947; Pennsylvania State University, Ed.D., 1954

MOBERG, WENSEL W. (1954) Instructor of Social Science; Clark University, A.B., 1939, M.A., 1942


MOULTON, JOHN K. (1968) Assistant Professor of Mathematics; Harvard University, A.B., 1936, Ed.M., 1940; Bowdoin College, M.A., 1962

MUNSEY, WILLIAM J. (1965) Director of Admissions; University of Maine, B.S., 1960; Boston University, M.Ed., 1964

NEUBERGER, HAROLD T. (1957) Professor of Science; Iowa-Wesleyan College, B.S., 1952; University of New Mexico, M.S., 1953; Boston University, Ed.D., 1964

O'REILLY, CHARLES A. (1966) Instructor of English; Colby College, B.A., 1949; Putney Graduate School of Teacher Education, M.A., 1952

PARADISE, NOEL E. (1967) Associate Professor of Psychology; University of Maryland, A.B., 1948; University of Michigan, Ph. D., 1960

PEABODY, MARY (1935) Assistant Professor of Mathematics; Boston University, B.S., 1933, M.S., 1947

PEABODY, MILDRED (1952) Associate Professor of Education; Gorham State College, B.S., 1939; Boston University, Ed.M., 1952

PENDLETON, JAMES W. (1967) Assistant Professor of Science; Keene State College, B.S., 1959; Oregon State University, M.S., 1963

RICIPUTI, REMO H. (1965) Associate Professor of Biology; University of New Hampshire, B. A., 1954, M.S., 1958
<table>
<thead>
<tr>
<th>Name</th>
<th>Year</th>
<th>Position</th>
<th>Education Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rolfe, Frederick B.</td>
<td>1966</td>
<td>Assistant Professor of French; Bowdoin College</td>
<td>B.A., 1946; Middlebury College, A.M., 1948</td>
</tr>
<tr>
<td>Rootes, Minor R.</td>
<td>1966</td>
<td>Associate Professor of Speech and Theater;</td>
<td>University of California at Santa Barbara, A.B., 1954; San Francisco State College, M.A., 1961</td>
</tr>
<tr>
<td>Rosen, Kenneth F.</td>
<td>1965</td>
<td>Assistant Professor of English; Pennsylvania State University, B.A., 1962; University of Iowa, M.F.A., 1964</td>
<td></td>
</tr>
<tr>
<td>Rutherford, Philip R.</td>
<td>1966</td>
<td>Associate Professor of English; East Texas State University, B.A., 1962, M.A., 1964, Ph.D., 1966</td>
<td></td>
</tr>
<tr>
<td>Sawtelle, Gwen D.</td>
<td>1938-43, 1953</td>
<td>Instructor of Art; University of Minnesota, B.S., 1935; George Peabody College for Teachers, M.A., 1939</td>
<td></td>
</tr>
<tr>
<td>Sawyer, C. Elizabeth</td>
<td>1943</td>
<td>Assistant Professor of English; University of Maine, B.A., 1928; Boston University, M.A., 1943; Middlebury College, M.A., 1964</td>
<td></td>
</tr>
<tr>
<td>Schleh, Eugene P. A.</td>
<td>1965</td>
<td>Associate Professor of Political Science; Union College, B.A., 1961; Yale University, M.A., 1962, Ph.D., 1968</td>
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<tr>
<td>Slocum, Lloyd V.</td>
<td>1968</td>
<td>Associate Professor of Industrial Arts; Pennsylvanian State University, B.S., 1955, M.S., 1957</td>
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<td>Smith, Patrick B.</td>
<td>1968</td>
<td>Dean of Students; Michigan State University, B.A., 1961; M.A., 1964; Ed.D., 1968</td>
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<tr>
<td>Soychak, Anthony G.</td>
<td>1965</td>
<td>Instructor of Mathematics; University of Maine, B.S., 1959; Bowdoin College, M.A., 1963</td>
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<tr>
<td>Stanton, Eva M.</td>
<td>1967</td>
<td>Assistant Librarian; Southern Connecticut State College, B.S., 1967</td>
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<tr>
<td>Stump, Walter R.</td>
<td>1968</td>
<td>Associate Professor of Speech and Theater; San Diego State College, B.A., 1959, M.A., 1960</td>
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<td>Sullivan, Jerome H.</td>
<td>1966</td>
<td>Dean of Men; Arizona State University, B.S., 1963</td>
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<td>Ubans, Juris K.</td>
<td>1968</td>
<td>Assistant Professor of Art; Syracuse University, B.F.A., 1966; The Pennsylvanian State University, M.F.A., 1968</td>
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<td>Ventresco, Fiorello B.</td>
<td>1966</td>
<td>Assistant Professor of History; Boston University, A.B., 1959; University of Michigan, M.A., 1961</td>
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<tr>
<td>Vincent, Stanley J.</td>
<td>1959</td>
<td>Instructor of English; Boston University, B.A., 1949; Columbia University Teachers College, M.A., 1950</td>
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<td>Vlahakos, Dorothea J.</td>
<td>1968</td>
<td>Instructor of Women’s Physical Education; University of New Hampshire, B.S., 1956, M.A., 1959</td>
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<tr>
<td>Weeks, Ernest E.</td>
<td>1967</td>
<td>Associate Professor of English; Bowdoin College, A.B., 1939; Tufts University, M.A., 1949; Columbia University, Ph.D., 1965</td>
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</tr>
</tbody>
</table>

95
PERSONNEL

WHITTEN, JAMES M. (1951) Associate Professor of Social Science; Colby College, A.B., 1944; University of Maine, A.M., 1955

WHITTEN, MAURICE M. (1955) Associate Professor of Science; Colby College, A.B., 1945; Columbia University, M.A., 1949

WISE, WILLIAM B. (1966) Assistant to the Dean of Academic Affairs, Director of Evening College; University of Maine, B.S., 1961


WOOD, ESTHER E. (1930) Associate Professor of Social Science; Colby College, A.B., 1926; Radcliffe College, M.A., 1929

YORK, ROBERT M. (1962) Dean of Academic Affairs, Professor of History; Bates College, A.B., 1937; Clark University, M.A., 1938, Ph.D., 1941

YOUNG, ANNE P. (1965) Professor of History; Boston University, B.S., 1943, M.A., 1944; University of Chicago, Ph.D., 1951
Index

<table>
<thead>
<tr>
<th>Academic Calendar</th>
<th>Inside front cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Policies</td>
<td>23</td>
</tr>
<tr>
<td>Academic Programs</td>
<td>29-52</td>
</tr>
<tr>
<td>Accreditation and Membership</td>
<td>4</td>
</tr>
<tr>
<td>Administrative Offices</td>
<td>91</td>
</tr>
<tr>
<td>Admission to the College</td>
<td>7-9</td>
</tr>
<tr>
<td>Advisory Program</td>
<td>23</td>
</tr>
<tr>
<td>Alumni Association</td>
<td>22</td>
</tr>
<tr>
<td>Art Courses</td>
<td>54-56</td>
</tr>
<tr>
<td>Art Curriculum</td>
<td>42-43</td>
</tr>
<tr>
<td>Athletics</td>
<td>21</td>
</tr>
<tr>
<td>Attendance</td>
<td>23</td>
</tr>
<tr>
<td>Biological Science Program</td>
<td>38</td>
</tr>
<tr>
<td>Campus Description</td>
<td>5-6</td>
</tr>
<tr>
<td>Campus Organizations</td>
<td>17-20</td>
</tr>
<tr>
<td>Core Requirements for Teacher Education</td>
<td>30</td>
</tr>
<tr>
<td>Course Credits</td>
<td>24</td>
</tr>
<tr>
<td>Course of Study</td>
<td>53</td>
</tr>
<tr>
<td>Department Chairmen</td>
<td>91</td>
</tr>
<tr>
<td>Education Courses</td>
<td>57-60</td>
</tr>
<tr>
<td>Elementary Education Curriculum</td>
<td>32</td>
</tr>
<tr>
<td>Emerit Personnel</td>
<td>91</td>
</tr>
<tr>
<td>English Courses</td>
<td>61-65</td>
</tr>
<tr>
<td>English Program</td>
<td>34</td>
</tr>
<tr>
<td>Expenses and Payments</td>
<td>10</td>
</tr>
<tr>
<td>Evening College</td>
<td>28</td>
</tr>
<tr>
<td>Faculty</td>
<td>92-96</td>
</tr>
<tr>
<td>Financial Assistance</td>
<td>12-14</td>
</tr>
<tr>
<td>French Courses</td>
<td>65</td>
</tr>
<tr>
<td>Freshman Course Requirements</td>
<td>50-52</td>
</tr>
<tr>
<td>Grading System</td>
<td>23</td>
</tr>
<tr>
<td>Graduate School</td>
<td>26-27</td>
</tr>
<tr>
<td>Health Services</td>
<td>15</td>
</tr>
<tr>
<td>History of the College</td>
<td>3</td>
</tr>
<tr>
<td>History Program</td>
<td>35</td>
</tr>
<tr>
<td>Housing</td>
<td>15</td>
</tr>
<tr>
<td>Independent Study</td>
<td>24</td>
</tr>
<tr>
<td>Industrial Arts Courses</td>
<td>68-72</td>
</tr>
<tr>
<td>Industrial Arts Curriculum</td>
<td>47-48</td>
</tr>
<tr>
<td>Junior High Education Curriculum</td>
<td>33</td>
</tr>
<tr>
<td>Kindergarten-Primary Education Curriculum</td>
<td>31</td>
</tr>
<tr>
<td>Liberal Arts Program</td>
<td>49</td>
</tr>
<tr>
<td>Location of College</td>
<td>5</td>
</tr>
<tr>
<td>Mathematics Courses</td>
<td>73-75</td>
</tr>
<tr>
<td>Mathematics Program</td>
<td>37</td>
</tr>
<tr>
<td>Music Courses</td>
<td>76-78</td>
</tr>
<tr>
<td>Music Curriculum</td>
<td>44-45</td>
</tr>
<tr>
<td>Objectives of the College</td>
<td>4</td>
</tr>
<tr>
<td>Pass-Fail Option</td>
<td>23</td>
</tr>
<tr>
<td>Personnel of the College</td>
<td>92-96</td>
</tr>
<tr>
<td>Placement of Graduates</td>
<td>22</td>
</tr>
<tr>
<td>Physical Education Courses</td>
<td>66-67</td>
</tr>
<tr>
<td>Psychology Courses</td>
<td>60</td>
</tr>
<tr>
<td>Secondary Education Curriculum</td>
<td>33</td>
</tr>
<tr>
<td>Scholarships</td>
<td>13-14</td>
</tr>
<tr>
<td>Science Area Program</td>
<td>39-41</td>
</tr>
<tr>
<td>Science Courses</td>
<td>79-83</td>
</tr>
<tr>
<td>Social Sciences Courses</td>
<td>84-90</td>
</tr>
<tr>
<td>Social Sciences Program</td>
<td>36</td>
</tr>
<tr>
<td>Student Life and Services</td>
<td>12</td>
</tr>
<tr>
<td>Student Regulations</td>
<td>16</td>
</tr>
<tr>
<td>Summer Session</td>
<td>28</td>
</tr>
</tbody>
</table>