1960

Gorham State Teachers College Catalogue 1960-1962

Gorham State Teachers College

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Dear Student:

As America enters the decade of the 60's, challenges of an unprecedented nature face us. Our national security, our educational development, our spiritual life, in fact our very survival could all be threatened. The people of America have learned that a challenge to the nation is, in truth, a challenge to public education, and have turned to their schools for new hope, new dimensions, and new achievements. Teaching in the 60's, then, will be one of the most dynamic and challenging experiences one can have.

This catalog will introduce you to Gorham State Teachers College as we face the challenges of the 60's, and will give you some insight into how we propose to meet them. I invite you to explore carefully its pages, remembering that the years ahead demand the best of our schools and colleges. Perhaps you will find here, in the challenge of teaching, the personal fulfillment others before you have discovered at Gorham.

Sincerely yours,

Kenneth T. H. Brooks
President

September 1, 1960
Mrs. Leah C. Emerson, Chairman

Bernal B. Allen

Herbert R. Brown

Fred R. Dingley

Frank S. Hoy

Mrs. Mary H. Manduca

Ernest C. Marriner

Carrol L. McKusick

Mrs. Jean Sampson

Earle N. Vickery

Commissioner of Education

Dr. Warren G. Hill

Executive Director of Professional Services

Hayden L. V. Anderson
Gorham State Teachers College had its official beginning in 1878 when the legislature approved the establishment of a normal school on the site of the Gorham Female Seminary. Opening on January 29, 1879 with six faculty members and eighty-five students, the college has developed over the years to its present size of 700 students and 65 members of the faculty and staff.

The rapid physical growth of the college from only one building to its present campus of approximately 70 beautifully landscaped acres and twelve buildings is paralleled by the rapidly expanding curriculum. Highlights of the college's development are as follows:

1806 - Gorham Academy Incorporated
1836 - Gorham Seminary completed
1873 - Gorham Seminary presented to the State of Maine for use as a dormitory
William Corthell appointed as first principal
Recitation Hall built (later renamed Corthell Hall)
1880 - First class graduated (nicknamed the Strawberry Class)
1894 - Seminary building destroyed by fire
1895 - Academy building given to the State of Maine (oldest building on campus)
1897 - Robie Hall (women's dormitory) constructed
1905 - Dr. Walter E. Russell appointed as second principal
Corthell Hall enlarged
1906 - President's home built
1911 - Industrial Arts program started at Gorham
1913 - Brick shop opened
1916 - East Hall built (renamed Andrews Hall, May, 1956)
1926 - Campus school constructed

History of Gorham State Teachers College
1927 — First class graduated from kindergarten-primary program
1931 — Russell Hall completed
1938 — First graduates of four year program awarded degrees
1940 — Dr. Francis L. Bailey appointed president
1945 — Name changed from Normal School to Gorham Teachers College
1955 — Program for preparation of music teachers and supervisors added to the curriculum
1955 — Woodward Hall completed (dormitory for men)
1958 — Program for preparation of art teachers and supervisors added
1958 — Bailey Hall completed
1960 — New dormitory for women completed
Dr. Kenneth T. H. Brooks appointed president

Location
The town of Gorham is pleasantly located in the heart of a rich cultural and recreational area of Maine. The city of Portland is only ten miles from Gorham providing students of the college with many supplementary educational facilities. In addition, because of the proximity of Boston which is only 100 miles distance, instructors at the college enrich their teaching through trips to this city. The Sebago Lake Region, nationally known for its recreational facilities, is only 12 miles from the college. Thus all winter and summer sports are parts of the extra-curricular experiences of students.

Campus
Situated on a pleasantly landscaped hill overlooking the town of Gorham, the college has come to be known as "The College on the Hill," and the athletic teams as the "Hilltoppers." The quiet serenity of this residential town makes the community an ideal setting for the college. The students and faculty of the college become an integral part of the town through church, educational and civic activities, and many residents of the town are loyal supporters of college events and activities.

Buildings
The buildings of the campus blend a traditional style of architecture with the modern. Representing the former are Academy Hall; Corthell Hall; two women's residence halls, Robie and Andrews, and the President's home. Russell Hall, named after the second president of Gorham provides an auditorium and gymnasium.

The modern style buildings include Woodward Hall which is a men's dormitory; Bailey Hall, named after President Bailey who retired in 1960; and a women's residence hall opened in September of 1960.

Ground was broken in September of 1960 for the library building which will contain sufficient space to accommodate 70,000 volumes.
The major purpose of Gorham State Teachers College is to provide a continuing supply of graduates to serve public education in the areas of Kindergarten-Primary, General Elementary, Junior High School education, and the special fields of Industrial Arts, Music, and Art education.

The college seeks to produce graduates of professional competence and personal character whose careers will reflect concern with an effective program of teacher education based on the following principles:

1. *Teachers should be cultured people.* They should have a liberal education. They should experience a program of academic excellence providing both breadth and depth.

2. *Teachers should be able people.* They should be products of a responsible institutional process of selection and retention.

3. *Teachers should be professionally prepared to begin to teach.* They should have basic understandings of (a) human growth and development, (b) the teacher-learner process, (c) the cultural foundations of education, and in addition (d) adequate student teaching experience.

4. *Teachers should be professional people.* They should act from a philosophy of life that includes insights into the role of teaching as a profession and the role of the school as a civilizing institution.
Admission Requirements

I. Academic Standards

Policy 1. Admissions Without Restrictions
Applicants graduating in the upper half of their high school classes may, in general, be admitted without restriction upon the satisfactory fulfillment of all other admission requirements. This policy shall not necessarily be applicable to applicants from a secondary school whose graduates have not consistently demonstrated ability to succeed in college.

Policy 2. Admissions With Restrictions
The college reserves the right to admit conditionally any high school graduate whose application is supported by (1) the establishment of suitable academic ability through an appropriate testing program and (2) satisfactory fulfillment of all other admission requirements.

Policy 3. College Entrance Board Examinations
Students attaining acceptable standing in the College Entrance Board Examinations will be admitted without restriction upon satisfactory fulfillment of all other admission requirements.

Policy 4. Inter-College Referrals
The college agrees to accept referral applications from sister institutions with eligibility established under Policies 1 and 3.

II. Other Standards for admission are
1. Good health—as evidenced by a physician’s certificate;
2. Aptitude and character—as evidenced by a certificate of recommendation by the high school principal.

III. Interview
Each applicant may be interviewed by a college official. In the areas of Art, Industrial Arts, and Music the interview is required.

Additional Requirements for Admission to Areas of Specialization

Art:

Each applicant for admission to the art program will be required to present a portfolio of his work at the time of interview.
Industrial Arts:

Students wishing to major in industrial arts should present the following minimum requirements in their high school programs.

- **English**: 4 units
  (Shop English and similarly designated courses are not acceptable.)
- **Algebra**: 1 unit
- **Geometry**: 1 unit
- **Social Science**: 1 unit
- **Science**: 1 unit
  (Physics or Chemistry preferred.)
- **Industrial Arts or Mechanical Drawing**: 1 unit

Music:

All candidates for the music program will be required to appear before the Music Department for an instrumental or vocal audition. Written music aptitude and achievement tests are administered by the Department at the time of the interview.

Admission to Advanced Standing:

Students who have had a full year or more of study in any of the teachers colleges in Maine may be admitted to advanced standing at Gorham State Teachers College with full credit for work satisfactorily completed. Credit for work in accredited junior colleges, liberal arts colleges, technical schools, universities, and summer sessions is granted when the work is of C grade or better and in courses corresponding to those offered at Gor-
ham State Teachers College. Applicants for admission to advanced standing must request that an official transcript be sent to the Registrar from the college(s) attended. Student copies are not acceptable.

**Admission Procedure**

The student interested in applying for admission to the college should:

1. Obtain an application and medical form from the Director of Admissions of the college or from the principal or guidance counselor of his high school.
2. Have the medical examination form completed by the family physician.
3. Submit the application and medical forms to the Admissions Office with a $5 registration fee. Checks should be made payable to Gorham State Teachers College. This fee is not returned to any applicant.

The college will request a transcript of the student's high school record for evaluation.

After the Admissions Officer has examined and processed the student's records and recommendations, he will notify the applicant of his status. If an interview is required, the candidate will be so notified. If accepted, the student will be required to indicate a housing choice. A deposit of $30, which will be credited to the student's account, is required of all residence-hall applicants.

Admission is not final until the student has satisfactorily completed high school requirements and has made an initial payment of $25 toward tuition.
All figures listed below are for one full college year unless specified otherwise.

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

ROOM:
- Dormitory Resident .......................................... $120.00
- Off-Campus Resident (Estimated) ......................... $130-$185

BOARD:
- For all meals served in dormitories ...................... $324.00

STUDENT ACTIVITY FEE ..................................... 25.00

REGISTRATION FEE (Must accompany application) ...... 5.00

INSURANCE ......................................................... 14.00

INFIRMARY FEE .................................................... 5.00

BOOKS (Estimated) ............................................... 75.00

COURSE FEES
- Industrial Arts Majors (Average of four years) ...... $ 30.00
- Art Majors (Average of four years) ...................... 15.00
- Music Majors (Includes cost of private lessons) .... 150.00
- All other students .............................................. 5.00

(Fees for Industrial Arts and Art Majors vary annually from a low of $5 to a high of $47).

Applications for dormitory rooms must be accompanied by a $30.00 deposit in order to hold a room. This amount is applied to the first half-year room payment.

A deposit of $25.00 which will be applied to the first half-year payment of tuition must be made on or before July 1.

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 September 1.

No refunds will be made unless requested prior to August 1.

Exceptions to the above schedule can be made only upon written request to the Bursar and upon approval by the President.
Maine State Scholarship

The State of Maine provides funds annually to be used as scholarship aid to Maine residents who are prospective teachers for the state. Applications for these are made directly to the college during the summer and at the time of registration in September and are then submitted to the Committee on Student Aid which determines distribution of the funds on the basis of evidence of need, acceptable standards of scholarship, good citizenship, expressed intention of teaching in Maine, and willingness to help one's self. The scholarships are credited only to tuition, board, and room and are finally determined in May.

Federal Loan Program

The college participates in the program of federal loans provided by the National Defense Education Act of 1958. This act makes it possible for needy students to secure loans under very favorable terms: i.e. repayment and interest begin after graduation; a ten year period is allowed for repayment; special reductions of the principal based on periods of actual service are made for teachers. Applications for loans under this program are made directly to the college. Good standards of academic scholarship must be maintained in order to qualify for this aid.
New England Loan Program

Loans up to $500 a year at low interest rates are available through the New England Higher Education Assistance Foundation to students who have satisfactorily completed their first year in college. The entire amount due is repaid in regular monthly payments within 42 months after graduation. Applications for these funds are made directly to the bank of the student’s choice in the State of Maine.

Other Scholarships

There are also honorary scholarship awards made annually. These are provided by alumni groups and friends and are in recognition of academic achievement, leadership qualities, and exemplary citizenship. They are determined by the judgment of the faculty committee.

Work Opportunities

The college operates an extensive program of student work which includes janitorial and cleaning services, waiting on table, dishroom and kitchen services, library work, and other special services. The amount a student earns depends upon the amount of time spent and the nature of the work. Applications for work are made directly to the college.

A letter system of reporting final grades is used. A, B, C, D, E, 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. A grade of 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 satisfactory but average quality. D implies a less than satisfactory quality but is allowable for credit except in transfer. F is a failing grade and indicates work of such an unsatisfactory quality that no credit is given. The grade of E gives the student the privilege of making up deficiency in a course by taking a written examination. If he fails this examination, his grade in the course
becomes an $F$; and, if he passes, the highest grade obtainable for the course is a $D$. *Inc.* indicates that a student has failed to complete specific course requirements because of excused absences or illness. $W$ indicates withdrawal from a course without penalty.

**Grade Point Average**

For the purpose of computing grade point averages, the grade of $A$ is assigned four quality points for each semester hour of credit so marked; a grade of $B$ is assigned three quality points; a grade of $C$, two quality points; a grade of $D$, one quality point. Other marks receive no point credit. In order to be eligible for the Degree of Bachelor of Science in Education a student must have earned a cumulative quality point average of 2.00. The quality point system aids the college in recognizing outstanding scholastic achievement, in judging merit for financial aid, and in maintaining desirable standards.

**Attendance**

Attendance is normally expected at all class sessions. It is assumed that a student's first responsibility in college is to do his work in a satisfactory manner and that class attendance is necessary to achieve this end.

**Housing**

The college provides living accommodations for both men and women students. Woodward Hall houses ninety-six men; Robie and Andrews Halls, about two hundred women; and the new unit, one hundred and fifty women. There are two dining rooms for resident students. Women students and freshman men must live in the residence halls unless they live at home or in the homes of close adult relatives. Because some men cannot be accommodated in the dormitory, the college maintains a list of approved homes in Gorham in which rooms are available. These men may either contract for all their meals at the college dining room or make their own arrangements off campus. For those choosing to eat at the college the standard college rate will apply.
Student Health Service

To provide for adequate student health services, the college maintains an infirmary with a full-time registered nurse who is available for consultation, first aid, and temporary emergency care. Two local physicians are available for calls and immunization clinics conducted to safeguard against communicable diseases.

Health and accident insurance, which is required of 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 also a part of the health program.

Counseling Service

Every student has an assigned faculty adviser who conducts regular interviews with him and who is readily available for academic or personal consultation at the request of the student. The informality of the college, however, is such that all students are free to discuss their problems with any faculty member. The Deans of Men and Women are also available for additional counseling.

Orientation

The orientation program for freshmen at the beginning of the year is designed to make the adjustment to college life a pleasant
experience. A series of social activities, discussion groups, and tours is conducted by a group of faculty and upper-class student advisers. At this time new friends are made, and the student learns more about the college; its campus, its personnel, and its facilities. This four-day program gives the new student a chance to meet the entire faculty, learn about the program, register for classes, and take tests that will enable the college to assist him in his future plans.

The responsibility of Gorham State Teachers College for assisting its graduates in securing positions is recognized and accepted through its placement office. The aim of the placement office is 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 the placement office keeps complete files of candidates, showing their scholastic record, qualifications for teaching, and personal characteristics; informs students concerning location of positions, grade levels, and salaries; arranges personal interviews between school officials and candidates for positions; plans visitations to the schools for interested applicants; and gives guidance to prospective teachers in relation to preparing credentials, to participating in placement interviews, and to evaluating the desirability of various teaching situations.

The Alumni of Gorham State Teachers College, numbering over 7,000, have always been a vital factor in the development of the college. An active Alumni Association convenes for its annual meeting and banquet on campus during commencement week. Among its many activities are the publication of a directory and a newsletter. Various branches of the Alumni encourage promising young men and women to become teachers by awarding annual scholarships. The Alumni performs outstanding service through encouraging young people of character and ability to enter the teaching profession and by giving the college loyal support in its efforts to improve continually its service and facilities.
Gorham has many varied student organizations and activities which make it possible for every student to find a group that is of interest to him. Participation in these extra-class activities is of special importance in the development of the prospective teacher.

**Art Club**

This club provides for its members an outlet and an opportunity for creating art objects in various media. Open to all students.

**Intercollegiate Athletics**

Gorham State Teachers College is a member of the New England Conference of Teachers Colleges and competes in intercollegiate baseball, basketball, soccer, and tennis. Scholastic proficiency is a requisite for squad membership.

**Intramural Athletics**

The intramural program is conducted by the Physical Education Department with assistance from the fraternities and the Varsity "G" Club. Competitive intramural sports include touch football, basketball, volleyball, softball, tennis, and soccer.

**Modern Dance Club**

A club, open to a select number of students, whose purpose is to provide training in the techniques of modern dance, opportunity for creative self-expression, and the experience of public appearances both on campus and before civic and social groups.

**Outing Club**

All men and women interested in recreational activities are eligible for membership. It provides a well-rounded program including square dances, splash and bowling parties, clam bakes, and trips. The Outing Club sponsors the annual Winter Carnival.

**Varsity "G" Club**

An organization made up of men earning letters in varsity sports competition.
Women's Athletic Association

An organization to encourage all women students to participate in sports and allied activities. The WAA promotes all women's athletic activities which include archery, field hockey, softball, badminton, and tennis.

Amicitia Club

A group of forty girls selected from all four classes whose major purpose is to promote friendship among the women students on campus.

Commuters Club

This club brings commuters together in order to give them the opportunity to participate in college projects and to enter into the college social life.

Men's Fraternities

ALPHA LAMBDA BETA, KAPPA DELTA PHI, PHI SIGMA PI.

Each male student maintaining a C average or better is eligible for selection to membership in one of three fraternities representing social, professional, and academic interests.
A Cappella Choir

The first aim of the chorus is to cultivate in its members a deep appreciation of good music and a love of singing for its own sake, as well as skill in its execution. Several public concerts are given annually.

Band

All students who play musical instruments are eligible for membership. The band usually provides music at certain athletic and other college events.

Choristers

A group of twenty-five women students especially chosen from the A Cappella Chorus for their musical ability and interest.

Men's Glee Club

A select group chosen from all interested male students on voice qualification and interest in music. Television programs and several public appearances are made.

Music Educator's National Conference

The primary purpose of this organization is to promote interest in music education at the college and in the community. The presentation of operas and operettas highlight its many contributions.
Industrial Arts Professional Organization

Open to all industrial arts students and faculty, it brings to the college community professional programs, offers an opportunity for discussion of problems, and promotes professional development.

North American Travel Association

Students interested in personal and professional improvement through travel join together in fund-raising activities to finance an annual trip to points of interest in the eastern states.

Student Education Association of Maine

An association concerned with the upholding of the moral and ethical codes of the teaching profession. Members of S.E.A.M. are also members of the Maine Teachers Association and the National Education Association. All students are eligible for membership.

Hillcrest

The annual yearbook of the college prepared by elected representatives of the junior class and presented to the senior class prior to graduation.

The Observer

The college newspaper is published by students interested in all aspects of journalism. It keeps students informed of campus events and happenings and serves as an outlet for journalistic talents.
Canterbury Club

Episcopalian students have an opportunity to develop spiritually, intellectually, and socially through this club. Meetings are held at Trinity Church in Portland.

Newman Club

A national organization for all Catholic students in non-sectarian colleges. The over-all program includes discussions, workshops, sponsoring of outside speakers, visits to children’s homes, and communion breakfasts.

Student Christian Association

A religious organization open to all students. Its purpose is to give spiritual strength and guidance to each of its members and to participate in and sponsor many college activities.

Industrial Arts Council

Consists of two members from each class and two faculty members. In addition to clearing up departmental problems in the industrial arts program, it seeks to develop closer understanding and relationship on campus between industrial arts and academic departments.

Men's Residence Hall Government

The governing body of the men’s residence hall composed of eight members of the House Committee, the president of the residence hall, a secretary, and two representatives from each floor.

Student Council

The student governing body of the college composed of representatives elected from each class. The Student Council apportions the income from the student activity fees and provides leadership in all student activities contributing to the general welfare of the college.

Women’s House Committee

The governing body of the women’s residence halls. It strives to serve and promote good citizenship.
All programs at Gorham State Teachers College are founded on the philosophy that all teachers must have a strong liberal education, some scholarly depth in an area of academic interest, and a rich background of professional knowledge, skill, and experience. In keeping with this philosophy, a minimum of one full year’s work in general education is required. Most curricula, however, require that approximately two thirds of a student’s study be in liberal arts.

The professional phase of the various curricula requires study in child and adolescent development, philosophy, and general methods of teaching, culminating in eighteen weeks of actual teaching experiences under the guidance of master teachers in a campus laboratory school or in cooperating schools throughout the state.

**Kindergarten-Primary**

The Kindergarten-Primary program qualifies graduates to teach in the kindergarten through grade six. Considerable emphasis is placed on child development and the teaching of reading. Actual experience in working with younger children in many types of activities is an integral part of the program.

**General Elementary**

The General Elementary curriculum is similar to the program for majors in Kindergarten-Primary education. It varies primarily in emphasis, concentrating on preparing students to teach in the middle and upper grades. Graduates are certified to teach grades one through eight.
Junior High

The Junior High curriculum prepares students to teach either English, mathematics, science, or social studies in grades 7, 8, and 9. One major and one minor subject are required of each graduate. Minor subjects also include physical education. Graduates are qualified to teach in the elementary grades or their major and minor in junior high school.

Art

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

Industrial Arts

The Industrial Arts curriculum prepares teachers for the teaching of industrial arts in elementary and secondary schools. This is the only college program in the state of Maine in this area. The Industrial Arts Department cooperates with the University of Maine in offering, during summer sessions, courses leading to the Master of Education Degree.

Music

The Music curriculum qualifies graduates to teach or supervise vocal and instrumental music in all grades. It is the only such program in Maine state teachers 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 or 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.
# Program of Study

## FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng 100-101 English Composition</td>
<td>6</td>
</tr>
<tr>
<td>*Math 100-101 College Math or Mathematical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>Sci 100-101 Biological Science</td>
<td>6</td>
</tr>
<tr>
<td>SS 100-101 History of Civilization</td>
<td>6</td>
</tr>
<tr>
<td>FA 100-101 Art and Music History and Appreciation</td>
<td>6</td>
</tr>
<tr>
<td>Ed 100 Introduction to Teaching</td>
<td>2</td>
</tr>
<tr>
<td>PE 100-101 Physical Education</td>
<td>1</td>
</tr>
<tr>
<td>PE 102 Health and Hygiene</td>
<td>2</td>
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## SOPHOMORE YEAR

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
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<tbody>
<tr>
<td>Eng 200-201 English and American Literature</td>
<td>6</td>
</tr>
<tr>
<td>*Sci 200-201 Physical Science</td>
<td>6</td>
</tr>
<tr>
<td>SS 200-201 United States History</td>
<td>6</td>
</tr>
<tr>
<td>SS 202 Principles of Geography</td>
<td>3</td>
</tr>
<tr>
<td>SS 203 Sociology</td>
<td>3</td>
</tr>
<tr>
<td>FA 200-201 Fundamentals of Art and Music</td>
<td>4</td>
</tr>
<tr>
<td>PE 200-201 Physical Education</td>
<td>1</td>
</tr>
<tr>
<td>Psy 200 General Psychology</td>
<td>3</td>
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## JUNIOR YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Ed 300-301 The Child and His Curriculum</td>
<td>15½</td>
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<tr>
<td>Psy 300 Child Psychology</td>
<td>2</td>
</tr>
<tr>
<td>SS 300 Economics</td>
<td>3</td>
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<tr>
<td>SS 301 Maine History</td>
<td>2</td>
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<tr>
<td>Ed 302 Measurement and Evaluation</td>
<td>2</td>
</tr>
<tr>
<td>Electives</td>
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## SENIOR YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS 400 American Government</td>
<td>3</td>
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<tr>
<td>Ed 400 Orientation to Student Teaching</td>
<td>1</td>
</tr>
<tr>
<td>Ed 401 Philosophy of Education</td>
<td>3</td>
</tr>
<tr>
<td>Ed 402 Student Teaching</td>
<td>16</td>
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<tr>
<td>Eng 400 Speech</td>
<td>1</td>
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<tr>
<td>Electives</td>
<td>6</td>
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</tbody>
</table>

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*Placement in course determined by program in high school and mathematical aptitude test.

**Science elective may be substituted by students who have pursued an adequate high school program and pass a science qualifying test.

†Junior High Majors have only 12 credit hours.
### Art Majors

#### FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Program</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS 100</td>
<td>History of Civilization</td>
</tr>
<tr>
<td>Eng 100-101</td>
<td>English Composition</td>
</tr>
<tr>
<td>Sci 100</td>
<td>Biological 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>Art 100</td>
<td>Fundamentals of Art</td>
</tr>
<tr>
<td>PE 100-101</td>
<td>Physical Education</td>
</tr>
<tr>
<td>PE 102</td>
<td>Health and Hygiene</td>
</tr>
<tr>
<td>Ed 100</td>
<td>Introduction to Teaching</td>
</tr>
<tr>
<td>Art 101</td>
<td>Arts and Crafts I</td>
</tr>
</tbody>
</table>

#### SOPHOMORE YEAR

<table>
<thead>
<tr>
<th>Program</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng 200-201</td>
<td>English and American Literature</td>
</tr>
<tr>
<td>SS 203</td>
<td>Sociology</td>
</tr>
<tr>
<td>SS 202</td>
<td>Principles of Geography</td>
</tr>
<tr>
<td>SS 200</td>
<td>United States History</td>
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<tr>
<td>Psy 200</td>
<td>General Psychology</td>
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<tr>
<td>Art 200</td>
<td>Design I</td>
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<tr>
<td>Art 201</td>
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<td>Art 202</td>
<td>Arts and Crafts II</td>
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<td>Art 203</td>
<td>Design II</td>
</tr>
<tr>
<td>Art 204</td>
<td>Drawing Techniques I</td>
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<td>Art 205</td>
<td>Contemporary Art</td>
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#### JUNIOR YEAR

<table>
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<th>Program</th>
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<tbody>
<tr>
<td>Psy 300 or 300A</td>
<td>Child or Adolescent Psychology</td>
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<tr>
<td>Ed 400</td>
<td>Orientation to Student Teaching</td>
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<td>Art 300</td>
<td>Integrated Arts</td>
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<td>Art 301</td>
<td>Drawing Techniques II</td>
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<td>Art 302</td>
<td>Three Dimensional Art</td>
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<td>Art 303</td>
<td>Metalwork and Jewelry</td>
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<td>Art 304</td>
<td>Aesthetics</td>
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<td>Art 305</td>
<td>Lettering and Display</td>
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<td>Art 306</td>
<td>Painting Techniques I</td>
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<td>Art Ed 300</td>
<td>Teaching of Art</td>
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<tr>
<td>Art 307</td>
<td>Ceramics</td>
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#### SENIOR YEAR

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<tr>
<td>Ed 402</td>
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<tr>
<td>Art Ed 400</td>
<td>Problems in Art Education</td>
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<td>Ed 401</td>
<td>Philosophy of Education</td>
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<td>Art 400</td>
<td>Painting Techniques II</td>
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<td>Art 401</td>
<td>Advanced Problem in Art</td>
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<tr>
<td>Art 402</td>
<td>Weaving</td>
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# Industrial Arts Major

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<tr>
<td><strong>FRESHMAN YEAR</strong></td>
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</tr>
<tr>
<td>Eng 100-101 English Composition</td>
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<td>Math 100-101A College Mathematics I and II</td>
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<tr>
<td>PE 100-101 Physical Education</td>
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<tr>
<td>PE 102 Health and Hygiene</td>
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<tr>
<td>Ed 100 Introduction to Teaching</td>
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<tr>
<td>IA 100 Sketching Techniques</td>
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<tr>
<td>IA 101 Metals Technology</td>
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<tr>
<td>IA 102 Electricity</td>
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<td>FA 102 Essentials of Art and Design</td>
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<td>SS 203 Sociology</td>
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<td>Psy 200 General Psychology</td>
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<td>Sci 200-201 Physical Science</td>
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<td>IA 200 Technical Drawing</td>
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<tr>
<td>IA 201 Wood Technology</td>
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<td>PE 200-201 Physical Education</td>
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<tr>
<td>SS 300 Economics</td>
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<td>Eng 400 Speech</td>
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<td>IA 202 Machine and Architectural Drawing</td>
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<td>IA 203 Power and Transportation I</td>
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<tr>
<td>Ed 302 Measurement and Evaluation</td>
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<td>SS 360 Modern Industry</td>
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<tr>
<td>IA 300 General Shop Organization</td>
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<tr>
<td>IA 301 Electronics</td>
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<td>IA 302 Graphic Arts I</td>
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<tr>
<td>IA 303 Metals Fabrication</td>
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<td>IA 304 Power and Transportation II</td>
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<tr>
<td>IA Ed 305 Methods and Materials of Instruction</td>
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<tr>
<td>Ed 402 Student Teaching</td>
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<td>Ed 401 Philosophy of Education</td>
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<td>IA Ed 403 Analysis and Course Development</td>
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<td>IA 405 Wood Industries</td>
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<td>IA 406 Graphic Arts II</td>
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<td>IA 407 Arts and Crafts</td>
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### Music Majors

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<td>Eng 100-101</td>
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<td>Mus 102-103</td>
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<td>Mus 108-109</td>
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<td>FA 100</td>
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<td>Mus 302</td>
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<td>Math 101 Mathematical Analysis</td>
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<td>Math 350 College Algebra and Trig.</td>
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<td>Math 351 Analytic Geometry and Calculus I</td>
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<td>Math 352 Mathematical Statistics</td>
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<td>Math 450 Calculus II</td>
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<td>Math 451 College Geometry</td>
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<td>Math 452 Modern Mathematics</td>
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<tr>
<td>PE 350 Teaching PE in Elem. and J.H.S.</td>
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<tr>
<td>PE 351 Safety and First Aid</td>
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<td>PE 352 Personal and Community Health</td>
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<td>PE 353 Coaching</td>
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<td>PE 354 Program Planning in PE</td>
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<tr>
<td>PE 450 History and Philosophy of PE</td>
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<td>PE 451 Organ. and Administration of PE</td>
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<td>PE 452 Outdoor Education</td>
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<td>IA 350 Arts and Crafts</td>
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<td>IA 351 Industrial Arts for Elem. School</td>
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<td>SS 350 World Geography</td>
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<td>SS 351 Geography of Asia</td>
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<td>SS 351A Geography of Europe</td>
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<td>SS 352 Geography of Latin America</td>
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<td>SS 353 Geography of North America</td>
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<td>SS 354 Diplomatic History of U.S.</td>
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<td>SS 355 Canadian-American Relations</td>
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<td>SS 356 History of Russia</td>
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<td>SS 357 History of the West</td>
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<td>SS 358 Bible</td>
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<td>SS 359 Europe Since 1919</td>
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<td>SS 360 Modern Industry</td>
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<tr>
<td>SS 361 Teaching Social Studies in the J.H.S.</td>
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<tr>
<td>SS 450 Archaeology</td>
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<td>SS 451 Marriage</td>
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<td>SS 452 Criminology</td>
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<td>SS 453 Political Thought</td>
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<td>SS 454 International Relations</td>
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<tr>
<td>SS 455</td>
<td>Political Geography</td>
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<td>Economic Geography</td>
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<td>Dynamics of Adjustment</td>
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<td>Remedial Reading</td>
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<td>Sci 350</td>
<td>Botany (Vascular)</td>
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<td>Botany (Non-Vascular)</td>
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<td>Zoology, Vertebrate</td>
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<td>Sci 354</td>
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<td>Sci 355</td>
<td>Natural Science</td>
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<td>Sci 356</td>
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<td>Sci 357</td>
<td>Historical Geology</td>
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<td>Conservation of Natural Resources</td>
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<td>Methods and Prob. of Teaching Sci.</td>
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<td>Physics I and II</td>
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<td>Sci 363</td>
<td>Astronomy</td>
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<td>Sci 364-65</td>
<td>Chemistry</td>
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<td>History of Science and Tech.</td>
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<td>Sci 450</td>
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<td>Sci 451</td>
<td>Evolution</td>
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<td>Eng 350</td>
<td>Children's Literature</td>
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<td>Eng 351</td>
<td>Improvement of Composition</td>
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<td>Eng 352</td>
<td>Shakespeare</td>
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<td>Eng 353</td>
<td>Survey of English Literature</td>
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<td>Eng 354</td>
<td>Teaching English in J.H.S.</td>
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<td>Eng 450</td>
<td>Enjoyment of Poetry</td>
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<td>Eng 451</td>
<td>The Short Story</td>
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<td>Eng 452</td>
<td>Educational Dramatics</td>
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<td>Eng 453</td>
<td>American Drama</td>
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<td>Eng 454</td>
<td>Contemporary Literature</td>
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<td>Eng 455</td>
<td>Novel</td>
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<td>Eng 456</td>
<td>Creative Writing</td>
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</table>
Course Descriptions

Art

FA 100 Art Appreciation and History
A study of the spatial arts of architecture, sculpture, painting, and the handcrafts from prehistoric times to the present.

Three credit hours

FA 102 Essentials of Art and Design
Color theory, principles of design, and art appreciation. Applications of various art media. Selection and appraisal of traditional and contemporary art forms and theories.

Two credit hours

FA 200 Fundamentals of Art
An introduction to the materials and tools of art with practical application based on the fundamental principles of design and arrangement, color and perspective.

Two credit hours

Art 100 Basic Art
An introduction to the principles and basic materials of art. A general exposure to all art media to provide a foundation for future art concentration.

Three credit hours

Art 101 Arts and Crafts I
An introduction of three-dimensional arts for elementary grades using simple tools and materials for the crafts which may be found in the average classroom. Prerequisite: Art 100.

Two credit hours

Art 200 Design I
The principles of harmony, balance, proportion and rhythm applied to the art elements in pattern, designs, and arrangements using various media.

Two credit hours

Art 201 Elements of Vision
A study of light and dark, color, perspective, etc. as each affects the way we see lines, areas, forms, and textures in space.

Three credit hours

Art 202 Arts and Crafts II
Three-dimensional arts for advanced elementary, junior, and senior high schools, including projects in art metalwork, weaving, ceramics, block printing, bookbinding, textile painting, leatherwork, etc. Prerequisite: Art 101.

Two credit hours

Art 203 Design II
Advanced work in the study of design as it is applied to both two and three-dimensional art. Prerequisite: Art 200.

Two credit hours

Art 204 Drawing Techniques I
An introduction to the possibilities and limitations of the various media used in drawing and sketching such as pencil, crayons, pastels, charcoal, pen and ink, etc.

Three credit hours

Art 205 Contemporary Art
A course designed to help the student to understand so-called "modern" art today.

Three credit hours

Art 300 Integrated Arts
A study of ways in which the art program in the school may help to motivate, clarify, and enrich other subjects of the curriculum.

Three credit hours

Art Ed 300 Teaching of Art
A study of growth and development in the creative abilities of children and how to utilize art projects to foster initiative, imagination, cooperation, and appreciation in the classroom.

Three credit hours

Art 301 Drawing Techniques II
Advanced study in drawing and sketching with special emphasis on the use of various media in pictorial art involving landscape, still life, and figure drawing. Prerequisite: Art 204.

Three credit hours

Art 302 Three-Dimensional Art
Experimentations of form in space involving sculpture, stabiles, mobiles, etc.

Two credit hours

Art 303 Metalwork and Jewelry
Introducing basic tools, materials, and methods used for jewelry and art metalwork projects.

Two credit hours

Art 304 Aesthetics
A study of the theory of beauty as revealed to us by great historical philosophers and as applied to our understanding of the fine arts of architecture, sculpture, painting, music, and literature.

Three credit hours
Art 305 Lettering and Display
Basic principles of lettering and poster design, matting, framing, and display.
_Two credit hours_

Art 306 Painting Techniques I
Beginning instruction in water color, tempera, gouache, and oil painting techniques.
_Three credit hours_

Art 307 Ceramics
Involves the manipulation of various clays and glazes used in making pottery by hand, on the wheel, and in molds.
_Two credit hours_

Art 400 Painting Techniques II
Advanced instruction in the medias experienced in Painting Techniques I plus an introduction to some of the newer experiments in pictorial art. Prerequisite: Art 306.
_Three credit hours_

Art Ed 400 Problems in Art Education
A course designed primarily for the student who has already had student teaching in art with the idea of discussing and thereby solving problems which might have arisen at the time of teaching. An attempt is also made to form in each student’s mind some sort of basic philosophy of art education. Prerequisite: Ed 402.
_Three credit hours_

Art 401 Advanced Problem in Art
An opportunity for the student to do advanced independent study in some field of art in which he has particular interest. The completion of a definite project in art or art education is required. Senior AE only.
_Three credit hours_

Art 402 Weaving
The fundamentals of weaving on various types of looms from simple card weaving to four-heddle pattern weaving.
_Two credit hours_

Education and Psychology

Ed 100 Introduction to Teaching
Basic freshman course in general education including history of education, organization of American school system, competencies for teaching, professional organizations, code of ethics for teachers, various types of economic security for teachers, certification, and newer concepts of education. _Two credit hours_

Psy 200 General Psychology
Introductory course emphasizing psychology as a science, development of psychological vocabulary, and application of basic principles to everyday living. Major topics include: motivation, emotions, intelligence, effective learning and thinking. _Three credit hours_

Ed 300-301 The Child and His Curriculum
This is a series of coordinated courses designed to prepare teachers who understand the philosophy, the functions, and the organization of modern elementary and junior high schools. It is intended that these teachers shall also be capable of selecting and guiding learning experiences at the level for which they specialize. Students are divided into three groups according to specialization:

Kindergarten-Primary Credit Hours (15)
- Primary Curriculum and Materials (Science, Social Studies, Language, Arts) (3)
- Nursery School and Kindergarten (2)
- Audio-Visual Aids (1)
- Elementary Reading (2)
- Elementary Arithmetic (3)
- Art in Elementary Education (2)
- Music in Elementary Education Credit (2)

General Elementary Credit Hours (15)
- Elementary Curriculum and Materials (Science, Social Studies, Language Arts) (3)
- Audio-Visual Aids (1)
- Elementary Reading (2)
- Elementary Arithmetic (3)
- Art in Elementary Education (2)
- Music in Elementary Education (2)
- One elective methods course (2)
Junior High School Credit Hours (12)
Junior High Organization and Materials (2)
Advanced Reading (2)
Junior High Mathematics (3)
Audio-Visual Aids (1)
Elective methods
  Major (2)
  Minor (2)

Psy 300 Child Psychology
Considers all aspects of child growth and their relationship to the program of the elementary school. Consideration given to the role of parents and society in proper child development. Prerequisite: Psy 200. 
Two credit hours

Psy 300A Adolescent Psychology
Study of the physical, mental, social and emotional development of the adolescent—the changes of this period and influence on behavior. Selected case studies and projects help make application of basic principles to problems of adjustment to school, home, and community. Prerequisite: Psy 200. 
Two credit hours

Ed 302 Measurement and Evaluation
Construction, selection, and use of educational achievement tests including diagnostic and survey instruments. Skill in writing improved essay and objective types is developed. Validity and reliability of typical standardized tests is investigated. Elements of statistics, tabulation of data, measures of central tendency, variability, correlation, and uses of each. 
Two credit hours

Ed 400 Orientation to Student Teaching
Review of elements which make teaching a profession, application of the NEA code of ethics to student teaching, introduction to school law, instruction in ways of working with school personnel and with people in the community, a study of procedures in self-evaluation, and suggestions for professional growth of beginning teachers. 
One credit hour

Ed 401 Philosophy of Education
A course designed to examine the major historic and current viewpoints that concern the nature, aims, and practices of education. The relationship of philosophy to personal and professional growth is a focal theme of the course. 
Three credit hours

Ed 402 Student Teaching
Full-time student teaching is done under careful supervision during one semester of the senior year. The semester is divided into two terms so that each student has the opportunity of teaching in two situations. For this purpose the Campus School and cooperating schools are utilized. Industrial Arts ma-

Ed 450 Dynamics of Adjustment
Designed to provide greater understanding of own behavior and sensitivity to that of others. Theories of personality discussed and evaluated. Emphasis on normal individual and adjustment to change in terms of ego processes. Prerequisite: Two courses in psychology. 
Two credit hours

Ed 451 Educational T.V. and Advanced Audio-Visual Aids
A seminar-type course dealing with a most modern audio-visual teaching tool today. The types of and uses of educational television are developed, including open-circuit, closed-circuit, and college use of educational television. Up-to-date current topics related to television and education are discussed; also advanced related audio-visual techniques, materials, and equipment are explored. Direct current research problems and techniques on the part of the student enable one to be involved in the educational television field. 
Three credit hours

Ed 452 Remedial Reading
This course provides both class discussion and clinic situations. Individual problems and methods by which the teacher copes with individual difficulties are explored; testing and diagnostic work are studied and carried out with a group of children. Prerequisite: Reading with a grade of A or B. 
Three credit hours
English

Eng 100-101  English Composition
Basic freshman course combining principles of written composition and critical study of types of literature. Practice in writing with emphasis on mechanics and style is emphasized the first semester and is followed in the second semester by study of literature to refine reading habits and tastes.

Three credit hours

Eng 200  English Literature
Survey course in English literature from its beginnings to 18th Century. Representative selections from the English literary heritage are viewed in relation to the times which produced them.

Three credit hours

Eng 201  American Literature
Survey course in American literature from Colonial Period to end of 19th Century. Includes development of American literature, historical background and intellectual trends, contribution of major writers.

Three credit hours

Eng 300  Children's Literature
Designed to acquaint students with varied types of literature for children in lower and middle grades. Emphasizes extensive reading, but also includes selection, critical evaluation, and use of materials.

Two credit hours

Eng 351  Improvement of Composition
Designed to aid students desiring to gain improvement in mechanics of expression. Relates grammar to modern techniques of writing. Reading of selected writings provides models for related exercises.

Two credit hours

Eng 352  Shakespeare
A study of the history plays of Shakespeare such as Richard II, Henry IV, Henry V, Henry VI, and Richard III. In addition at least one comedy will be considered. Some study of the Elizabethan Theater and of the age in which Shakespeare wrote included.

Three credit hours

Eng 353  Survey of English Literature
An extension of the basic course in English literature, covering the representative writers of the Romantic and Victorian periods in England. Prerequisite: Eng 200.

Three credit hours

Eng 354  Teaching English in the Senior High School
A methods course for upperclassmen. Review of basic fundamentals of English grammar and writing skills. Creative approach to the teaching of both grammar and literature at the junior high level.

Two credit hours

Eng 400  Speech
Introductory course. Training and practice in delivering a speech. Study of voice production, analysis of the speech situation, evaluation of speech materials. Study of phonetics, including a survey of phonetic symbols. Learning to vary rate, pitch, intonation pattern, volume, and expression for more effective speech. Interpretative reading, presentation of speeches, and recordings.

One credit hour

Eng 450  Enjoyment of Poetry
A course for upperclassmen designed to teach comparisons of good and bad poetry. Includes the emotions of poetry, and the techniques. Extensive reading of all poetic types.

Two credit hours

Eng 451  The Short Story
A study of the short story as a literary form. The techniques and artistic effects of the outstanding works of many American, British, and continental storytellers are evaluated through critical reading and discussion.

Two credit hours

Eng 452  Educational Dramatics
Practical guidance for future teachers in directing plays in schools. Considers the problems involved in choosing a script, in casting, and in conducting rehearsals. Students not only learn the methods of educational dramatics but study plays for an understanding of plot structure and technique.

Three credit hours

Eng 453  American Drama
A beginning survey of the history of American drama from the Colonial era to the present. The reading of a selected list of plays, followed by analysis and criticism. Some biographical study of dramatists in this country to supplement a knowledge of their works. Certain techniques of the theater in its development are considered.

Two credit hours

Eng 454  Contemporary Literature
Presents significant writers, largely English and American, of modern times. Emphasizes wide and discriminating reading.

Three credit hours
Eng 455 Novel
A course in the reading and critical evaluation of the work of representative novelists from Jane Austen to William Faulkner. Focus in first quarter is on English and continental novels of 19th Century; in second quarter, on modern novels. Two credit hours

Eng 456 Creative Writing
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. Prerequisite: Consent of instructor. Two credit hours

PE 100-101 Physical Education (Women)
A service program emphasizing fundamental skills in sports, body mechanics and rhythm. Includes instruction in tennis, archery, trampoline, tumbling, volleyball, folk and ballroom dance, and fundamentals of rhythm. One-half credit hour

PE 100-101 Physical Education (Men)
The development of physical fitness, skills, and leadership through conditioning exercises, touch football, soccer, volleyball, basketball, tumbling, softball, and a variety of games. One-half credit hour

PE 102 Health and Hygiene
The course aims to help students gain understandings, insights, and values which will help them make choices concerning their own health in face of conflicting mores. Two credit hours

PE 200-201 Physical Education (Women)
Major objective is the building of organic fitness. Fundamental skills, poise, relaxation, and leisure-time activities. One-half credit hour

PE 200-201 Physical Education (Men)
Aims to continue to develop physical fitness, skills, and leadership through conditioning, exercise, speedball, wrestling, square dancing, apparatus, track, tennis, golf, and various games, contests, and relays. One-half credit hour

PE 300 Teaching Physical Education in the Elementary and Junior High School
A professional preparation course for students seeking certification to teach physical education. Covers growth patterns of junior high school children, program planning, and problems in physical education at the junior high level. Also presents an opportunity to teach games, contests, and relays to students from the Gorham Junior High School. Three credit hours

PE 351 Safety and First Aid
Basic principles of first aid and procedures to follow in case of accidents. Safety education to gain knowledge, skills, and attitudes that make for safety. Three credit hours

PE 352 Personal and Community Health
Includes the concern with health of people as a group, governmental and social activities responsible for controlling the environment and promoting health. The nature of communicable diseases, health needs of mothers and children, control of food, water, waste, ventilation, heating and lighting—development of special programs for health maintenance in the schools are emphasized. Three credit hours

PE 353 Coaching
The purpose of this course is to prepare the coach for his opportunity as an educator, and to analyze and understand the fundamentals of individual and team play in four major team sports: football, basketball, baseball, and soccer. Three credit hours

PE 354 Program Planning in Physical Education
Trends in the planning of programs. Criteria for selecting the activities. Programs for special occasions. Activity preferences of various age levels. Opportunity given to work out programs with Campus School students. Three credit hours

PE 400 History and Philosophy of Physical Education
This course describes the position physical education has occupied throughout the years in civilized society. The present status of physical education, the theories and methods

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of the leaders, the heritages from early movements, as well as the relationship which physical education has borne to general education, receive attention. *Three credit hours*

**PE 451 Organization and Administration of Physical Education**

A professional preparation course for students seeking certification to teach physical education. Course covers the organization and administration of the required physical education program, intramurals, and interscholastic program. *Three credit hours*

**PE 452 Outdoor Education**

Emphasizes the subject of school camping throughout the country. Includes major types of activity such as campcraft, nature study, woods safety, sports, knowledge of community organizations, and school camping. *Three credit hours*

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**Industrial Arts**

**IA 100 Sketching Techniques**

Lines, shapes, lettering, and their application. Pictorial and other orthographic representations, blackboard sketching, cartooning, and techniques of illustrating. *Two credit hours*

**IA 101 Metal Technology**

Overview of metal technology included in designing, planning, constructing, and evaluating of projects in the areas of sheet metals, art and bench work, forge, foundry, and lathe work. Safety practices, a study of metals and related information. Use and care of handtools, machines and equipment. *Six credit hours*

**IA 102 Electricity**

Fundamentals of electrical theory, AC and DC generation and distribution. Applications in lighting, signal devices, heating, power and control devices. Test equipment and procedures. *Six credit hours*

**IA 200 Technical Drawing**

Techniques of instrumental drawing, including lettering, theory of shape and size description, orthographic and pictorial representation, geometric development, and production illustration. Experiences in inking, tracing and printmaking. *Two credit hours*

**IA 201 Wood Technology**

General woodworking based on the selection, use, and care of handtools and machines; wood identification and selection; construction principles; safety practices; and techniques of wood finishing. Designing, planning, and construction of small projects. *Six credit hours*

**IA 202 Machine and Architectural Drafting**

Application of the elements of drawing machine parts, threads, fasteners, gears, and cams to detail and assembly drawings. Architectural designing, planning, and execution of residential plans. Standard details of construction, print reading, and specifications. Prerequisite: IA 200. *Two credit hours*

**IA 203 Power and Transportation I**

Basic principles of internal combustion engines as related to the transportation field. Manufacturing procedures and materials used in the automotive industry. Laboratory experiments and practices developed around maintenance and minor repair of automobiles, small engines, and outboard motors. *Six credit hours*

**IA 300 General Shop Organization**

Basic principles of organization and management of an industrial arts program. Planning the school shop, selection and arrangement of equipment, and organization of content. Application of these principles included. Prerequisites: Industrial Arts courses through IA 202. *Five credit hours*

**IA 301 Electronics**

Fundamentals of electronics. Inductance, capacitance, and resistance applications in electronic equipment. Trouble shooting procedures. Prerequisite: IA 102. *Four credit hours*

**IA 302 Graphic Arts I**

Introduction to graphic arts procedures in relief and offset printing. Design and production of graphic materials which involve elementary hand composition, imposition, and lock-up, platen presswork, paper cutting and padding, block carving, rubber stamp
making and direct image offset reproduction. Elements of design, papermaking, inks, and related technical information. 

**Two credit hours**

**IA 303 Metal Fabrication**

**Four credit hours**

**IA 304 Power and Transportation II**
Power—its sources, generation, transmission and utilization. Design and construction of different models to illustrate principles involved. Intensive experience in the maintenance and repair of engines, fuel and electrical systems, chassis, power trains and brakes. Prerequisite: IA 203.

**Four credit hours**

**IA Ed 305 Methods and Materials of Instruction**
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.

**Four credit hours**

**IA 350 Arts and Crafts**
Information and experiences 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 and enriching the general curriculum of the school. Study of correct material and tool usage with special emphasis upon safe practices. Non-majors only.

**Two credit hours**

**IA Ed 403 Analysis and Course Development**
Curriculum construction in industrial arts based on an analysis of student interests and needs, curricular objectives and instructional content. Techniques of course development involving resource units, experience units, instructional units, and trade and job analysis are discussed and evaluated. Development of teaching units discussed and specimen courses of study required. Prerequisite: Ed 402.

**Three credit hours**

**IA Ed 404 Problems of Teaching**
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.

**One credit hour**

**IA 405 Wood Industries**
Intensive work in one or more phases of woodworking including recent developments. Patternmaking, special machine operations, functional project design, building construction, and techniques of modern finishing methods. Group production problems, individual research assignments, shop maintenance, and related technical problems. Prerequisite: IA 201.

**Three credit hours**

**IA 406 Graphic Arts II**
Line and display composition and reproduction, printing, engraving, bookbinding, offset plate making, and reproduction. Individual and production type projects or jobs. Typographic design and layout emphasized. Prerequisite: IA 302.

**Three credit hours**

**IA 407 Arts and Crafts**
Activities and materials used in recreational and adult craft programs. Experiences in designing and construction of projects in several media, planning, organizing, and operating a crafts program.

**Two credit hours**

**Mathematics**

**Math 100 College Mathematics I**
A required course for all freshmen except those who enroll in Math 101. Topics stressed include a modern interpretation of the number system and its operations, algebraic symbols and operations, linear equations, special products and factoring, algebraic fractions, exponents and radicals, quadratic equations, proportion, variation and formulas. Emphasis placed on the conceptual part of these topics rather than on the operations themselves.

**Three credit hours**
Math 100A College Mathematics II
(for I.A. students only) Because of the specialized nature of the course an eclectic approach to the usual areas of college mathematics governs the content of the course. Topics included are: logarithms, theory and operation of the slide rule, graphical methods, and trigonometric functions.

Three credit hours

Math 101 Mathematical Analysis
A substitute course for Math 100. Study of the recent developments in mathematics as well as the content of the usual course in College Algebra. Initial part is devoted to such topics as: logic, number system, groups, fields, and sets. Additional emphasis on algebraic symbols and operations, fractions, exponents and radicals, functions and their graphs, quadratic equations, systems of linear equations, and systems of quadratic equations. Prerequisites: Two entrance units of mathematics and satisfactory achievement on standardized tests.

Three credit hours

Math 350 College Algebra and Trigonometry
Additional work with exponential equations, logarithms, binomial theorem, progressions, complex numbers, theory of equations, determinants, permutations and combinations, probability, treatment of analytic trigonometry together with essential elements of numerical trigonometry in relation to right and to oblique triangles. Integrated treatment of algebra and trigonometry in many instances.

Four credit hours

Math 351 Analytic Geometry and Calculus I
Essentially a course in the differentiation and integration of algebraic functions with analytic geometry as needed. Includes basic applications of maximum and minimum values, curve tracing, rate of change, and integration as a process of summation. Prerequisite: Math 350.

Four credit hours

Math 352 Mathematical Statistics
A first course in mathematical statistics including such topics as: frequency distributions and their statistics, moments, special averages, the normal curve, statistical inference, curve fitting, regression and correlation, and the binomial distribution.

Three credit hours

Math 450 Calculus II
Differentiation and integration of transcendental functions, applications to parametric equations, polar equations, and roots, radius and circle of curvature, theorem of mean value, integration of standard elementary forms. Prerequisite: Math 351.

Four credit hours

Math 451 College Geometry
Encourages constructive reasoning by stress-
Music

FA 101 Music Appreciation and History
Guiding the uninitiated listener into the complex land of music. "Listening" to music rather than "hearing" it. Listening intelligently to great music such as important works of Beethoven, Chopin, Bach, Schubert, Liszt, Brahms, and others.

Three credit hours

FA 201 Fundamentals of Music
Provides students with a background of essentials necessary for intelligent reading of music. Helps develop natural musical abilities through participation in singing, rhythmic activities, and instrumental work. Creates an appreciation of music through an awareness of its basic structure.

Two credit hours

Mus 100 History of Music I
Renaissance and Baroque music. Historical data for each important epoch or composer. Examples are played, analyzed, and discussed.

Three credit hours

Mus 101 History of Music II
Application of the method of History of Mus 101 to the classic era.

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.

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 and inversion, regular and irregular resolutions); related dictation and keyboard application.

Three credit hours

Applied Music
May be taken in piano, voice, or any orchestral or band instrument. One private lesson a week required with special fee.

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.

One credit hour

Mus 108, 109, 210, 211, 310, 311, 404
Recital Class
Performance in major field, stage procedure, and evaluation of performances.

One-half credit hour

Mus 200 History of Music III
Romantic music. Music of the romantic period is played, analyzed, and discussed.

Three credit hours

Mus Ed 200 Woodwind Class
Methods of teaching woodwind instruments; practical experience on various woodwinds; elements of transposition; and scoring for woodwinds. General students may take class with instructor's approval.

Two credit hours

Mus 201 History of Music IV
Contemporary music. Recent tendencies in music and their relationship to music of the past. Dealing not only with harmonic but also with some of the melodic, rhythmic and structural features of 20th Century European and American music.

Three credit hours

Mus Ed 201 Brass Class
Methods of teaching brass instruments; practical experience on various brasses; elements of transposition; and scoring for brasses. General students may take class with instructor's approval.

Two credit hours

Mus 202 Theory III
Chords of the leading-tone seventh and diminished seventh-root position and inversions (regular and irregular resolutions); modulation; unfigured bass; secondary seventh chords of related keys; expansion of non-harmonic tones; chorales and their harmonization; related dictation and keyboard application. Prerequisite: Mus 103.

Three credit hours
**Mus 203 Theory IV**  
Chords of the ninth, eleventh, and thirteenth; altered chords; Neapolitan sixth; augmented sixth chord and inversions; general chromatic alterations; modern harmony; related dictation and keyboard application. Prerequisite: Mus 202.  
*Three 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.  
*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.  
*Three credit hours*

**Mus 302 Instrumental Conducting**  
Organization, training, and directing of bands and orchestras. Practical conducting experiences, score reading, basic beat patterns, and interpretation. Study of the style of various periods.  
*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 technique of the baton, rehearsal technique, and problems of diction and rhythm.  
*Two 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.  
*Two credit hours*

**Mus Ed 303 String Class**  
*Two credit hours*

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

**Science**

**Sci 100 General Biology I**  
Freshman course emphasizing principles of plant life. Concepts of fundamental life processes, as well as adaptations, interrelationships, and evolutionary development are stressed.  
*Three credit hours*

**Sci 101 General Biology II**  
Freshman course emphasizing principles of animal life. Concepts, method, and activities as stated in Biology I.  
*Three credit hours*

**Sci 200 Physical Science I**  
General principles in the field of the physical sciences including physics, geology, and astronomy.  
*Three credit hours*

**Sci 201 Physical Science II**  
A continuation of Physical Science I with emphasis on chemistry. Prerequisite: Sci 200.  
*Three credit hours*

**Sci 350 Botany, Vascular Plants**  
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. Prerequisite: Sci 100-101.  
*Four credit hours*

**Sci 351 Botany, Non-vascular Plants**  
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. Prerequisite: Sci 100-101.  
*Four credit hours*

**Sci 352 Zoology, Invertebrate**  
A study of the form, structure, and life processes of the major groups of invertebrates. The areas are considered in respect to the animal's adaptation to his environ-
ment. First-hand ecological observations and collection of specimens for material for laboratory experiences. Prerequisite: Sci 100-101.

**Four credit hours**

**Sci 353 Zoology, Vertebrate**
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 experiences. Prerequisite: Sci 100-101.

**Four credit hours**

**Sci 354 Photography**
A study of the historical development of the camera, types of cameras and lenses, types of films, lighting, composition, and processing. Photography will be considered as a dynamic tool of the teacher. Class limit 10.

**Two credit hours**

**Sci 355 Natural Science**
A course primarily for teachers in the elementary school. Includes a variety of topics in the area of biology such as insect metamorphosis, bird migration, fossil records, animal communities, plant communities, animal behavior, animal 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 356 Physical Geology**
The course interprets the earth's surface as a result of the work of streams, glaciers, vulcanism, erosion, and other geological agents. The identification of rocks and minerals is included. Prerequisite: Sci 200-201.

**Three credit hours**

**Sci 357 Historical Geology**
Study of the earth's history in terms of the physical, chemical, and biological changes which have taken place from its origin to the present time. Emphasis is placed upon the methods of interpreting this history through fossils and structural characteristics.

**Three credit hours**

**Sci 358 Ecology**
The interrelationships of plants and animals and their physical and biotic environments. An emphasis is placed on population dynamics and successions.

**Three credit hours**

**Sci 359 Conservation of Natural Resources**
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 360 Methods and Problems of Teaching Science**
Reading, discussions, experimentation, field trips, and other audio-visual techniques are presented and evaluated as an integral part of this course. Emphasis is placed on concept formation in science believed to be consistent with patterns of child growth and development.

**Three credit hours**

**Sci 361 Physics I**
A general course in beginning college physics. Topics include mechanics, heat and wave phenomena. Prerequisites: Sci 200-201 or permission of instructor.

**Four credit hours**

**Sci 362 Physics II**
A continuation of the first semester including magnetism, electricity, light, and selected topics in modern physics. Prerequisite: Sci 361.

**Four credit hours**

**Sci 363 Astronomy**
Fundamentals of astronomy with emphasis on the planets, moon, comets, meteors, the solar system, star evolution, and telescopes.

**Three credit hours**

**Sci 364-365 General Chemistry**
A course covering the basic concepts and theories of inorganic chemistry, including some concepts of qualitative, quantitative, and organic chemistry. Prerequisites: Sci 200-201 or equivalent.

**Four credit hours**

**Sci 366 History of Science and Technology**
A comprehensive survey of the historical development of science and, to a minor extent, technology. The major emphasis will be devoted to science and scientists since 1600. Prerequisites: Sci 100-101 and Sci 200-201 (grade of C or better).

**Three credit hours**

**Sci 367 Anatomy and Physiology**
General introduction to the study of structure and function of the human organism, with emphasis on the mechanisms involved in the following systems: muscular, nervous, circulatory, respiratory, digestive, excretory, endocrine, and reproductive.

**Three credit hours**

**Sci 450 Genetics**
The principles and laws of heredity with emphasis on statistical analysis and experimental literature.

**Three credit hours**

**Sci 451 Evolution**
A study of the evidence for organic evolution based essentially upon comparative anatomy, ecology, and genetics.

**Three credit hours**
Social Science

SS 100  History of Civilization I
A survey of history from prehistoric times through the period of discovery and conquest of the New World. The course presents concepts of history and introduces methods and uses of history.  

Three credit hours

SS 101  History of Civilization II
A continuation of SS 101. Traces the development of characteristic features of the modern period, world issues, and the roles of the great European powers from seventeenth to the twentieth century.

Three credit hours

SS 200  United States History, 1789-1865
The constitutional period of United States History emphasizing growth of political forms and territorial expansion, and featuring the conflicts between slavery and humanitarianism, states rights and nationalism which led to the war between the states.

Three credit hours

SS 201  United States History Since 1865
Political, social and economic history of the United States since the Civil War with emphasis on political history. Reconstruction, imperialism, world politics, progressive movement, depression, cold war.

Three credit hours

SS 202  Principles of Geography
A basic course surveying man's habitat over the entire world. Includes a study of the tools of geography; earth relationships; the atmosphere; climatic regions of the world; landforms and their formation; the earth's waters, soils, and their formation and distribution; natural vegetation; and animal life. Also a study of world population and the world pattern of trade routes.

Three credit hours

SS 203  Sociology
Emphasizes the factors which influence society. Includes a study of social institutions, ethnology, social and physical anthropology, and introductory archaeology. Symposia and field trips are employed.

Three credit hours

SS 300  Economics
Classical economic theories, consumer education, and international economics. Emphasizing research, individual and group presentations, discussions, and lectures. Prerequisite: SS 203.

Three credit hours

SS 301  Maine History
An attempt is made to familiarize the pupils with books about Maine. Stress is placed upon encouraging interest in state and local history and developing appreciation of Maine's past and her present potentialities. Wide reading in a variety of books dealing with the State is required. Each student does some research about the past of his home town.

Two credit hours

SS 350  World Geography
An up-to-the-minute survey of the world, giving information about continents and nations to develop an understanding of world affairs and an appreciation of geography in general. Required of all junior high social studies majors. Prerequisite: SS 202.

Three credit hours

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

Three credit hours

SS 351A  Geography of Europe
A detailed analysis of (1) the continent as a whole—it's history, climate, topography, population, natural vegetation, and soils; (2) a study of individual countries on the continent with special consideration being given to the three great powers—Russia, Great Britain, and France. Prerequisite: SS 202.

Three credit hours

SS 352  Geography of Latin America
An intensive study of the countries and major islands south of the Rio Grande. Special emphasis is given to the economic importance of Latin America to the United States and vice versa. Emphasis is also placed on Latin American culture and the political relations between United States and the Latin American countries. Prerequisite: SS 202.

Three credit hours

SS 353  Geography of North America
An intensive regional study of North America emphasizing climate, topography, soils, natural vegetation, natural resources, agriculture, industry, transportation, and population. Also emphasizes the dependence of one region upon another, as well as the de-
dependence of cities on rural areas and vice versa. Prerequisite: SS 202.

**Three credit hours**

**SS 354 Diplomatic History of the United States**
Outlines the chief diplomatic problems of the nation with emphasis on the diplomacy of the Revolution, the Civil War, World War I, and World War II.

**Three credit hours**

**SS 355 Canadian-American Relations**
This course deals with selected topics germane to the historical, cultural, economic, geographic, and political interactions of Canada and the United States.

**Three credit hours**

**SS 356 History of Russia**
Political, social and economic history of the Russian people. Equal stress on Ancient Russia, Czarist Russia, and Soviet Russia. Topics include geographic backgrounds, invasions and migrations, Byzantine influence, imperialism, westernization, revolution, and the Communist state.

**Three credit hours**

**SS 357 History of the West**
Traces the advance of the frontier from the salt water coast line to the last frontier in the Great Plains. Emphasis is placed upon the new challenges offered the pioneers and their adjustment to them. The problems of the minors, the cowboys, the shepherds, and the farmers are considered. Changes in transportation and shifts in governmental policy as they pertained to the West are studied.

**Three credit hours**

**SS 358 Bible**
Study of portions of both the Old and the New Testaments. Emphasis is given to historical background, literary qualities, authorship, and materials available for more scholarly study.

**Three credit hours**

**SS 359 Modern Industry**
Evaluation 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**

**SS 400 American Government**
The theory, organization, and practice of American government with emphasis on the national level. Required of seniors.

**Three credit hours**

**SS 450 Archaeology**
The study, preparation, display of specimens; cataloging; and planning of further excavations. Emphasizes the history, techniques of excavation, nature and description of sites recently excavated or being excavated by the department. The processes of discovery, excavation, and scientific evaluation are stressed. Class limited to ten approved applicants. Prerequisite: SS 203.

**Three credit hours**

**SS 451 Marriage**
The factors pertaining to marital adjustment: Physical, social, psychological, and religions are emphasized. Medical school film is utilized considerably. The course is directed towards a personal counseling approach. Slides, lectures, symposia, and discussions are employed.

**Three credit hours**

**SS 452 Criminology**
Study of historical penology, crime, punishment, causes of crime, and the interrelationship of crime and contemporary American culture. Visits to penal institutions are included. Prerequisite: SS 203.

**Three credit hours**

**SS 453 Political Thought**
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.

**Three credit hours**

**SS 454 International Relations**
A study of the principles and practices involved in 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.

**Three credit hours**

**SS 455 Political Geography**
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**
A study of the economic activities of man and their physical background. Includes agriculture, mining, forests, and industry, as well as the economic significance of the sea and the geographic aspects of transportation and commerce. Prerequisite: SS 202.

**Three credit hours**
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