WHITewater

SCHOOL OF
GRADUATE STUDIES
WISCONSIN STATE UNIVERSITY
WHITEWATER

Catalog
SCHOOL OF GRADUATE STUDIES

1966-67 1967-68

Cover design by Joseph Hlavacek
Art Instructor
Wisconsin State University—Whitewater

The Graduate Program has been granted
Preliminary Accreditation by the North Central Association.
WISCONSIN STATE UNIVERSITY-WHITEWATER

CALENDAR

Summer Session, 1966
Opening Date ........................................... Monday, June 13, 1966
July 4 Recess .......................................... Monday, July 4, 1966
Session Ends ............................................ Friday, August 5, 1966

1966-67

First Semester
Opening Date ............................................ Tuesday, September 6, 1966
Mid-Semester Tests ................................. November 1-4
Thanksgiving Recess Begins .................... Wednesday, 12 Noon, November 23
Thanksgiving Recess Ends ......................... Monday, 8 a.m., November 28
Christmas Recess Begins ......................... Tuesday, 5 p.m., December 20
Christmas Recess Ends .................. Wednesday, 8 a.m., January 4, 1967
First Semester Examinations Begin .......... Friday, January 13
Commencement ........................................ Sunday, January 15
First Semester Ends ................................. Wednesday, January 25

Second Semester
Opening Date ........................................... Thursday, January 26
Mid-Semester Tests ................................. March 20-23
Spring Recess Begins ....................... Thursday, 5 p.m., March 23
Spring Recess Ends ............................... Monday, 8 a.m., April 3
Second Semester Examinations Begin ....... Friday, May 26
Commencement ........................................ Sunday, May 28
Memorial Day Recess ............................... Tuesday, May 30
Second Semester Ends .................. Saturday, June 3, 1967

Summer Session, 1967
Opening Date ........................................... Monday, June 12, 1967
July 4 Recess .......................................... Tuesday, July 4, 1967
Session Ends ............................................. Friday, August 4, 1967

1967-68

First Semester
Opening Date ........................................... Tuesday, September 5, 1967
Thanksgiving Recess Begins .................... Wednesday, 12 Noon, November 22
Thanksgiving Recess Ends ......................... Monday, 8 a.m., November 27
Christmas Recess Begins ......................... Wednesday, 5 p.m., December 20
Christmas Recess Ends .................. Wednesday, 8 a.m., January 3, 1968
Commencement ........................................ Sunday, January 14
First Semester Ends ................................. Wednesday, January 24

Second Semester
Opening Date ........................................... Thursday, January 25
Spring Recess Begins ............................... Friday, 5 p.m., April 5
Spring Recess Ends ................................ Tuesday, 8 a.m., April 16
Commencement ........................................ Sunday, May 26
Memorial Day Recess ................................ Thursday, May 30
Second Semester Ends ...................... Saturday, June 1

Summer Session, 1968
Opening Date ........................................... Monday, June 10, 1968
July 4 Recess .......................................... Thursday, July 4, 1968
Session Ends ............................................. Friday, August 2, 1968
General Information

All requests for information concerning the program of graduate studies at Whitewater should be directed to The Dean, School of Graduate Studies, Wisconsin State University, Whitewater, Wisconsin 53190.

SPECIAL ANNOUNCEMENTS

Graduate Assistantships and Scholarships

The School of Graduate Studies is authorized to provide a limited number of Graduate Assistantships and scholarships. Students holding Assistantships will receive a stipend of $2000.00 for two semesters and will assist in the activities of the department to which they are assigned. Graduate Scholarships are intended to cover the cost of fees.

Information concerning assistantships and the forms for making application may be secured from the office of the Dean of Graduate Studies.

Program of Full-time Graduate Studies

Your attention is called to the fact that in September, 1966, Wisconsin State University-Whitewater, is authorized to begin a program of full time graduate studies during the regular terms. Previously only a part-time program had been offered during the regular terms with a full time program being offered during the summer session. The summer session will continue to offer a program of full time graduate studies. It is planned that the practice of offering graduate classes during the evening for the benefit of persons who are employed will be continued during the first and second semesters.

Proposed New Degree Programs

A listing of proposed new degree programs is included in another section of this bulletin.

Housing

Information on housing may be obtained from the Dean, School of Graduate Studies or the Dean of Men or Dean of Women.

Information on Aids and Loans

For information on loans or other aids and employment possibilities consult the Dean, School of Graduate Studies or the Financial Aids Officer.
General Information on the Graduate Program at Wisconsin State University-Whitewater

The purpose of the Master of Science in Teaching program at Whitewater is to strengthen the preparation of experienced classroom teachers by providing graduate level experiences to meet their professional needs. The program is designed to serve the needs of those who have proved their competence through successful experience in the teaching profession and who desire further education. The interest, needs and abilities of each student provide the basis for programs which may be balanced to fit the needs of the individual student and yet conform to the general requirements of the University.

The Master's Degree Program at Whitewater

This program leads to a Master of Science in Teaching degree in the area of specialization selected by the student. It requires a total of thirty credits to complete, approximately half of which are to be taken in the field of specialization, as well as the fulfillment of other requirements. A minimum of four summers or the equivalent will be required to complete the program. A student may select a major from the fields of Business Education; Elementary Education; History and Social Studies (History emphasis with supporting courses in Geography, Political Science and Economics at the present time); Language, Literature, and Speech (English or Speech Emphasis); Music (Students in Music may have either an elementary or secondary emphasis); Science and Mathematics (Biology emphasis with some course work available in Chemistry and Mathematics).

The North Central Association has given preliminary accreditation to the graduate program. Credits and degrees earned at Whitewater are recognized as coming from an accredited institution.

The University of Wisconsin-State Universities Cooperative for Classroom Teachers

Admission of new students to the Cooperative Program has not been granted after the beginning of the 1965 summer session. Students already participating in the program may continue in it to complete their degrees. This program involved completion of two summers of work on the Whitewater campus and an equal time at the University of Wisconsin, Madison. With the growth of the graduate program at Whitewater such a division of time is no longer necessary.

THE WHITewater GRADUATE FACULTY

Members of the graduate faculty consist of persons drawn from the regular undergraduate faculty and of visiting staff members with outstanding reputations in their fields. They are selected on the basis of their experience, formal training, interest in the graduate program and professional reputation.
GRADUATE STUDIES BULLETIN

THE GRADUATE COUNCIL

The central policy making and administrative body for the School of Graduate Studies is the Graduate Council, made up of elected members of the Graduate Faculty. This group, along with other graduate faculty members, formulates policy for the School and has planned the programs outlined in the catalog.

LIBRARY AND FACILITIES

Rapid progress is being made in the expansion of the library collection to meet the needs of the growing graduate program at Whitewater. At present over 100,000 volumes are available for the use of students. During 1965, an addition to the Harold Andersen Library was completed to more than double the available library space. The library is air conditioned.

The members of the graduate faculty are making a special effort in ordering publications for the library to strengthen the collections in their respective areas in order to facilitate graduate level research and studies.

A new science building was opened in 1963 with greatly expanded facilities and equipment for instruction and research in the sciences. A new humanities building is under construction and several other classroom buildings are in the planning stage.

An area of the new library facilities is to be reserved for graduate students.

THE GRADUATE CLASS SCHEDULE

During the summer session graduate classes are scheduled both during the morning and afternoon. Since September, 1964, graduate classes have been held in the evening for the convenience of persons who are teaching and wish to continue graduate studies at the same time. These evening classes are conducted on the Whitewater campus. Off-campus extension graduate courses are not being offered. It is planned that the number of graduate classes being conducted in the evening, or on Saturday morning, will be increased significantly. During the 1965-66 term about twice as many courses are available as during 1964-65. The School of Graduate Studies anticipates that graduate courses will be offered as a part of the regular schedule in both the fall and spring semesters beginning in September, 1966.

A detailed schedule of classes for the summer session will be made available about February 1 of each year. Copies may be obtained from the office of the Dean of Graduate Studies.

Graduate students who are interested in attending classes in the evening or on a full time basis beginning in September, 1966, are invited to consult with the Dean of Graduate Studies on their plans.
Academic Information

Admission to the School of Graduate Studies

APPLICATION FOR ADMISSION

Persons who wish to enter the graduate program at Whitewater may apply for admission through the completion of a form which will be provided by the Dean of Graduate Studies. In addition to the application form, the applicant must provide the School of Graduate Studies with transcripts showing all undergraduate or graduate work completed or undertaken. It is important that transcripts be provided from all institutions of higher learning which have been attended. The applicant should request that these transcripts be sent by the registrars of the institutions attended since only transcripts received directly from the institutions issuing them and bearing the seal of such institutions can be accepted.

Since it is not possible to evaluate an application for admission until all transcripts are available in the office of the School of Graduate Studies, the applicant should request that copies of his transcripts be sent from each institution which he has attended at the time he makes application for admission. It is not necessary to have a copy of Whitewater transcripts sent since one can be obtained without delay.

The application for admission and transcripts should be received by the School of Graduate Studies at least a month before the beginning of the term in which the applicant wishes to enter. After the application and all transcripts have arrived at the office of the School of Graduate Studies, the material will be evaluated and the applicant will be notified of his admission status.

ADMISSION REQUIREMENTS

Students may be admitted to the graduate program at Whitewater either in Good Standing or on Probation. In addition, certain special admission categories are established for persons not interested in completing a degree.

Admission in Good Standing

Admission in Good Standing is based upon the following requirements.

1. Possession of a baccalaureate degree from an accredited institution.
2. Certification as a teacher in the state of Wisconsin or equivalent certification.
3. Satisfactory mental and physical health.
4. An undergraduate grade point average of at least 2.75 for all undergraduate work (computed on the four point scale) or an average of 2.90 for the last half of the undergraduate work.
Probation Admission

Admission on Probation. The requirements for admission on Probation are the same as those for admission in Good Standing except as noted below. A student may be admitted on Probation with an undergraduate grade point average of from 2.25 to 2.74 for all undergraduate work (computed on the four point scale). Admission below the 2.25 grade point average is not currently authorized. Students having an undergraduate average below 2.25 may qualify for admission by taking additional undergraduate work to raise their average to the required point. An applicant who has earned not less than six credits in an accredited graduate school outside of the Wisconsin State University system and whose grades for such work average 3.0 grade points or better (on the four point scale) may enter on probationary status if he meets all requirements other than the undergraduate grade point requirement.

A student on probation who receives less than a 3.0 grade point average in the next six credits completed shall not be permitted to continue in the graduate program. Students on probation may not enroll for more than six credits during a summer session.

Other Admission Categories

Persons who are attending another graduate school and who wish to take graduate courses at Whitewater to transfer to that other institution may do so. The School of Graduate Studies at Whitewater requires that they have their adviser or an official at the other institution write a statement to the Dean of Graduate Studies at Whitewater stating that the student is admitted as a graduate student at the other school, and that the course being taken can be applied to the student's program at the other institution.

Persons who possess a baccalaureate or graduate degree and who wish to enroll in graduate classes without meeting the requirements for a master's degree may be admitted on a "Non-Candidate for Degree" basis.

It is emphasized that persons who have entered under these special categories (those taking courses for the expressed purpose of transferring them to another institution or those indicating that they do not wish to work toward the Master's degree at Whitewater) are not assured that credits so taken can be fitted into a degree program at Whitewater and that persons who have been so admitted and later change their plans and wish to complete a degree at Whitewater will be subject to all the requirements for admission into the graduate program.

Program Prerequisites

Students entering the various majors offered in the program should have completed work in the major field as follows:

Business Education: Undergraduate major in Business Education from an accredited institution.
Elementary Education: Undergraduate major in Elementary Education with full certification to teach.

History and Social Studies: Thirty-five undergraduate credits from the History and Social Studies Area, with a minimum of thirty credits from History or any Social Studies discipline, or fifteen credits from any two History and Social Studies disciplines or the completion of the undergraduate Social Studies area major.

Language, Literature and Speech: Certification in the chosen field (English or Speech), to the extent of at least twenty semester hours credit.

Music: Twenty-two credits in music including nine in theory, two in music history, eight credits in applied music including conducting and four semesters of participation in music organization.

Science and Mathematics: At least fifteen credits in one subject area of specialization.

Deficiencies

If the department in which a student wishes to major finds that there is a deficiency in the undergraduate background in some area within the major field, it may specify what work must be taken to qualify the student for graduate studies. This work may have to be for undergraduate credit in some cases.

NOTIFICATION OF ADMISSION AND ASSIGNMENT OF ADVISER

After receiving the application for admission and the necessary transcripts, the School of Graduate Studies at Whitewater will evaluate the documents submitted and notify the applicant as to his admission status. The notification of admission to the graduate program will contain an indication of the status under which the student is being admitted, it will inform him of any deficiencies which his major department has discovered in his undergraduate program which must be made up and will assign him an adviser who will normally be a faculty member in his own department. Students should make all plans for their graduate program of studies in conference with their adviser.

Preregistration and Registration

All graduate students must preregister with their adviser prior to the beginning of the session. The period for preregistration for summer begins on March 1 and should be completed by May 15 of each year. Preregistration must be completed on forms which are made available to all advisers. A newly admitted student should preregister in a personal conference with his adviser if this is possible. Subsequent preregistrations can be completed by mail with consent of the adviser. The student is responsible for making arrangements with his adviser to preregister. After the student has preregis-
tered he will receive other forms and notice of fees by mail. By completing these and returning them to the University with payment, he will have been registered for the summer session and need not report until the first day of classes.

Students who desire to take a graduate evening or Saturday course during the regular semester should preregister with their adviser. Instructions for registration are included with the schedule of classes which is issued for each semester.

The fees charged do not include the cost of any textbooks assigned in the course. These are purchased by the student.

The maximum enrollment permitted a graduate student is one semester credit for each week of full time attendance. For example, in the eight week summer session, the student in Good Standing is limited to an enrollment of eight credits. Students on probation are limited to a class load of six credits during a summer session.

The University reserves the right to cancel a course in which the number of persons preregistered is too small to warrant its being offered or to limit the number of persons enrolled in a particular course. A maximum load in a semester is fifteen credits.

During the summer session, three credit classes will meet for a minimum of one hour per day five days a week. Two credit classes will meet three days a week a minimum of one hour per day. Workshops, institutes or courses offering more than three credits will have specific schedules arranged. Saturday and evening classes meet for two and a half hours once each week in the case of three credit courses and one and one half hours in the case of a two credit course. With the beginning of a full time schedule of graduate classes in September, 1966, three credit courses will meet three times each week with additional laboratory, practice or conference sessions being scheduled where applicable.

Transfer of Credit

Students who have completed residence graduate work at other institutions may transfer it to apply toward the completion of a graduate program at Whitewater subject to the following provisions:

1. The work to be transferred must be from an accredited institution and must be of graduate quality and have a grade of "B" or better.

2. The courses must have been taken within the five years prior to the time of the admission of the student to the Whitewater program.

3. The courses must be of such a nature as to fit into the program of the student at Whitewater and be approved by this institution.

4. Not more than fifteen credits may be transferred from other Universities operated by the State of Wisconsin, nor more than six credits from the University of Wisconsin Extension Division, nor more than eight credits from other institutions, provided that the number of credits transferred to Whitewater shall not total more than fifteen.

5. No credit will be transferred for correspondence courses.
Graduate students who wish to transfer credit from another institution may petition to do so on a form which may be obtained from the office of the School of Graduate Studies. Transfer of credit may not be made until the student has completed one term of residence or the equivalent at Whitewater, and has a grade point average of 3.0 or better.

Graduate Courses and Numbers

Only courses bearing numbers in the 500, 600 or 700 series will be counted toward a graduate degree. Courses numbered in the 500 series are senior graduate courses and may not constitute more than one half of a student's graduate studies or more than one half of the credits in his major field. Courses taken as an undergraduate or prior to admission as a graduate student are not considered as applicable toward the master's degree except that a student may be permitted to receive graduate credit in certain courses taken during the term in which the undergraduate degree is being completed, with the consent of the Dean of Graduate Studies.

Restrictions Upon Workshops, Individual Study and Special Studies

Several departments offer "Individual Study" courses for credit. These courses are designed to permit the graduate student to engage in a more intensive study within his field through individual research or readings in the field and the preparation of such reports, papers or other material as may have been stipulated by the instructor. "Individual Study" programs are subject to the regulations that not more than two credits may be carried in a single term, and that any work assigned in such a course during a summer session must be completed by the next May 1 in order to be acceptable.

Not more than four credits may be earned in "Individual Studies" nor more than eight credits from the combined total of credits in workshops, special studies or individual studies.

The Grading System

Wisconsin State University-Whitewater, uses the four point grade system, with an "A" counting as four grade points per credit.

An average of 3.0 grade points (B) is required for all credits to be applied toward the requirements for a graduate degree. Graduate credits earned elsewhere will not be accepted if earned with a grade of less than "B" and if an average of "B" for all graduate work has not been maintained. The average of "B" must be maintained both for all work completed and for work in the major field.

Not more than three credits of "C" may be counted in work done in the major field. In addition, not more than six credits of "C" may be counted in work done outside the major field.

If a grade below "C" is received in a required course, the course must be repeated with a satisfactory grade to meet the requirements for the degree.
The grade of "P" (Progress) may be assigned in individual study courses pending completion of the project undertaken. With completion of the work, a permanent grade is given. If an instructor believes that good cause exists, he may assign a grade of "Incomplete" at the end of a term. The student has one year in which to complete the requirements in the course after the assignment of an "Incomplete." An "Incomplete" not made up at the end of the year becomes a failing grade.

The School of Graduate Studies follows the same rules as other areas of the University concerning the cancellation of courses. Students who wish to cancel a course should consult the general catalog or the graduate office.

**Residence Requirements**

At least fifteen credits must be completed in residence work at Whitewater for the completion of the degree. For purposes of definition, work done at the Pigeon Lake center shall be considered as residence work; however, at least one summer session or the equivalent must actually be spent on the Whitewater campus as a full-time student.

**Continuation Standards**

A student on probation who receives less than a 3.0 grade point average (B) for the next six credits shall not be permitted to continue in the program. A student admitted in Good Standing shall be placed on probation if his grade point average for all work completed shall drop below 3.0. A student placed on probation who has not raised his grade point average to 3.0 or better by the end of the next summer or semester in residence shall be dropped from the program.

**Required Distribution of Course Work**

A minimum of thirty credits is required for completion of the degree. Courses offered in the program are classified in three groupings according to the following definitions.

**Group I. Liberal Arts Foundations.** These courses are designed to broaden the student's education in areas other than his undergraduate specialization, and must be taken outside the area of his specialization unless special permission is given by the adviser and the faculty member teaching the course.

**Group II. Courses in Professional Education.** These courses are designed to enhance the student's understanding of Education and to strengthen his preparation for successful teaching. The seminar in teaching (3 credits) is required for all students completing the Master of Science in Teaching degree.
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Group III. Courses in the area of specialization. These courses are designed to provide additional depth in the student's teaching field and to increase his familiarity with new knowledge, problems and trends. Credit given for a thesis will count in this area and may not exceed six credits. Workshops, special studies and individual studies counted in this area are limited to a combined total of eight credits.

Distribution of Courses in the Elementary Program

The students in the Elementary Education specialization earn fifteen credits in Educational Foundations and elementary education courses (Group II Courses). The remaining credits must be selected from the areas of Liberal Arts Foundation courses and specialized courses outside the field of elementary education (Group I and II Courses).

Distribution of Courses in the Secondary Program

The Secondary Education program requires the completion of 6 to 9 credits in the Liberal Arts Foundation courses (Group I), 6 to 9 credits in Professional Education Courses (Group II) including a required seminar in Teaching, and 12-18 credits in Specialized Courses (Group III).

Candidacy for the Degree

An application for candidacy for the master's degree is required. The forms for making such application are obtainable from the Dean of Graduate Studies. Application is to be filed when the student has completed twelve to eighteen credits of graduate work at least eight of which have been taken in residence at Whitewater. The following requirements are specified for admission to candidacy.

1. All deficiencies must have been removed and all subject matter prerequisites in the area of specialization must have been met.
2. The applicant must have a grade point average of 3.0 ("B") or higher for all graduate work.
3. The applicant must have a definite plan of studies to complete his remaining work.
4. A student who does not fulfill all requirements for the master's degree within a period of five years following his admission to candidacy for the degree will be required to reapply for permission to continue in the graduate program.

Seminar Paper or Thesis Option

Students are permitted to select either of two plans in respect to the thesis or seminar paper.

Plan A. Thirty semester credits of graduate work meeting the requirements of the Graduate School and including:
1. A seminar in which emphasis is given to the problems of teaching in the student's area of specialization.

2. A master's thesis for which the student may receive not more than six graduate credits in his area of specialization.

Plan B. Thirty semester credits of graduate work meeting the requirements of the Graduate School and including:

1. A seminar in which emphasis is given to the problems of teaching in the student's area of specialization.

2. A seminar paper growing out of the seminar experience. The paper must be approved and filed as a part of the graduate program. The student receives credit for the seminar but no additional credit is given for the seminar paper.

Comprehensive Examinations

The passing of a comprehensive examination is a requirement for the completion of a program leading to the master's degree. This is a written, three-hour examination covering the student's field of specialization. It is administered and graded by a committee within the faculty of the area of specialization. Comprehensive examinations are graded as "Passed" or "Failed." If the examination is failed it may be repeated only once and at least one semester must elapse between the first and second attempt.

Students who elect to write a thesis are also required to pass an oral examination over the thesis and related material.

The examinations must be held at least three weeks prior to the end of the term in which the student expects to graduate and the results reported to the Dean of Graduate Studies at least one week prior to the date of graduation. The Graduate Student who wishes to take a comprehensive examination must apply to the Dean of Graduate Studies during the first week of the summer session or the first month of the semester in which the examination is to be taken.

Application for Degree

Students planning to graduate must file an "Application for Degree" in the Office of the Registrar. The regulations of the Registrar's office require that this be filed no later than the first week of the term in which one expects to graduate. A $12.00 graduation fee is charged.

Expansion of the Graduate Program

Beginning in September, 1966, a full time program of graduate studies during the regular semester is authorized. A schedule of classes permitting registration in graduate level courses on a full time basis will be provided.

Students wishing information on the expanded program or class schedules for the first semester 1966-67 should request them from the Dean, School of Graduate Studies.
Graduate Course Offerings

Course Numbers

500 Series—Senior-Graduate Courses. Not more than half of the credits earned, either in the student's entire program or in the major field may be in courses in the 500 series.

600 and 700 Series—Courses open only to graduate students. Credit in courses numbered under 500 can not be applied toward the completion of an advanced degree.

Group I. Liberal Arts Foundations

Art 601  Art and the Artist in Contemporary Culture  3 credits
A slide lecture and discussion course to acquaint students with theories concerning art today as it is affected by the society in which we live . . . its thought patterns, as well as the social, political, economic and religious setting.

Art 701  Historical and Philosophical Concepts of Arts  3 credits
A general education course designed for those students with little or no background in art. The course will attempt to develop understanding of the philosophical and aesthetic aspects of art in both its historical and contemporary phases. It will deal with the arts in the life of the individual and with the functions of the arts in society.

Biol. 701  Integrated Biological Principles  3 credits
A liberal arts foundation course designed to integrate the subject of biology and relate it to other natural sciences, social sciences and humanities, by the exploration of major biological concepts. Open to experienced elementary and secondary school teachers who have had an introductory course in a biological science and who are not specializing in a biological science. Includes laboratory and field work.

Bus. 601  The Consumer in Contemporary Society  3 credits
A study of our own decision making to acquire goods and services. A reading and discussion course for all teachers in elementary and secondary schools. A case study approach to understanding larger economic problems that arise because of the way we behave as consumers.

Econ. 703  The American Economy  3 credits
The role of economic systems. Structure and operational concepts in the American economy. The role of Government in the American economy.

Eng. 701  Language in Society  3 credits
Historical growth and continuing development of the English language and its uses in society, including a study of current usage
and principles for evaluating language in use. For experienced elementary and secondary school teachers who have completed the lower division course requirements in English and who have not had similar work.

Eng. 702 Literature and the Human Experience 3 credits
An introduction to the study of literature as an instrument for man's understanding and taking possession of his own experience. A few central works in poetry and prose will be studied. Prerequisite: Completion of six credits of Sophomore Literature.

Geog. 601 Basic Concepts in Geology 3 credits
A graduate level course covering the important aspects of both physical and historical geology. Laboratory studies will stress the recognition of the common rocks, minerals and fossils with emphasis on those found in Wisconsin. Two or three field trips will be conducted for field studies. Open to all students that have not had Geology 311 or 312 or their equivalents in other institutions.

Geog. 701 World Populations and Resources 3 credits
A study of the elements of populations, its numbers distribution, and characteristics with an analysis of selected population, their resource bases, and related problems. Open to experienced elementary and secondary school teachers who have met the introductory lower division course requirements in history and the social studies for their particular bachelor's degree program and who have not had similar work.

Hist. 702 Great Issues in Western History 3 credits
Discussion of selected issues in European and American history based upon a study of the courses. Open to experienced elementary and secondary school teachers who have met the introductory lower division course requirements in history and social studies for their bachelor's degree program and who have not had similar work.

Math. 703 Fundamental Concepts of Mathematics 3 credits
A course designed to acquaint the student with some of the basic concepts and structures of mathematics. Ideas of modern mathematics, elementary logic, comparison of classic and modern geometry, and development of the basic number systems are considered. Open to experienced elementary and secondary school teachers who have had high school mathematics and who are not specializing in mathematics.

Music 701 Music in Contemporary Culture 3 credits
The study of selected masterpieces representing the various cultures which are part of our musical heritage. The work will include studies toward the aesthetics and criticism of the music, the history and background of its composer and his music to contemporary thought.

Phys. Sc. 702 Physical Science 3 credits
An examination in depth of certain developments in physical science from the standpoint of the principles involved and the impact on man's thought and way of life. Open to experienced elementary and secondary school teachers who have had an introductory course in a physical science.
Pol. Sc. 600 Foundations of Politics 3 credits
A general introduction to the science of politics in all its aspects. The course is concerned both with American and European politics as well as international problems.

Speech 703 Foundations of Oral Communications 3 credits
The aim of this course is to develop an understanding of the foundations of and some skills in oral communication.

Speech 704 Foundations of Dramatic Art 3 credits
This course is an intensive study of the theatre as an art and as a cultural force. The approach is an aesthetic and historical consideration of dramatic literature and the interpretative arts of the stage, motion pictures, radio and television.

Group II. Professional Education

EDUCATIONAL FOUNDATIONS AND SEMINARS

Students in elementary education may combine work in educational foundations and specialized education courses. Students in secondary education normally take their professional education work in the educational foundation areas. All students in the Master of Science in Teaching Program are required to take the appropriate section of Seminar 701.

604 Sociological Foundations of Education 3 credits
Designed to relate the discipline of Sociology to the field of Education; to provide a meaningful background to social experiences; and to acquaint the student with relevant research in the field of Educational Sociology. Open to elementary and secondary teachers.

702 Philosophical Foundations of Education 3 credits
An examination of critical issues in education; their ideological and social bases. Open to elementary and secondary teachers.

703 Psychological Foundations of Education 3 credits
Designed to provide psychological background related to human abilities and behavior; individual differences, learning and evaluation; with implications for teaching. Open to elementary and secondary teachers.

701 Seminar, Problems in Teaching—Elementary 3 credits
Definition of problems and issues, critical examination of the research literature and planning of experimental investigations. Open to elementary teachers. See note under Problems in Teaching—Secondary.

701 Seminar, Problems in Teaching—Secondary 3 credits
Definition of problems and issues, critical examination of the research literature and planning of experimental investigations. Open to secondary teachers. Students normally take the seminar after they have completed 6 to 8 credits of graduate work. It is recommended that the seminar be taken during the second summer in residence if the student is completing the degree
in summer sessions. For those persons electing to present a seminar paper instead of a thesis, the paper begun in the seminar and the student has two semesters following the seminar in which to complete it. Under unusual circumstances this time may be extended with the permission of the Dean of Graduate Studies.

Seminar, Problems in Teaching—Business Education 3 credits
The seminar is a specified offering for Business Education teachers. It is required of all majors in that field. A general description is contained in Seminar, Problems in Teaching—Secondary.

SPECIALIZED EDUCATION COURSES

Teaching Emotionally Disturbed Children 3 credits
A review of the behavior disorders in children, specific techniques in handling these problems in a classroom, dealing with the psychological role of the teacher, aspects of working with parents of disturbed children.

Mental Retardation 3 credits
The course will review the early identification and care of the mentally deficient child, the retarded child in a family setting, diagnosis of retardation, patterns of development, special approaches to therapy and rehabilitation.

Education of the Mentally Retarded 3 credits
A course which covers methods specific to teaching and training retarded children. Included are a review of early educational programs, special class programs, teaching procedures in specific subject areas and the procedures affecting social adjustment.

Introduction to Guidance 3 credits
The purpose of this course is to help students prepare to understand the guidance programs of elementary and secondary schools. The work will help them to gather and organize materials to be used by guidance directors and to open for the student the possibilities of further work in education and vocational guidance. Elective. Prerequisites: Psychology 211 and Education 212 or Education 222.

Principles of Vocational and Adult Education 2 credits
The purpose is to acquaint the student with the historical development of vocational education, the philosophy on which it is based and the principles and practices to implement this philosophy, and the organization of vocational education in public secondary and vocational schools. Special study will be made of the implications of the Vocational Education Act of 1963.

Individual Studies 1 to 2 credits
Projects may be completed under the conditions explained in Business Education 600.

Early Childhood Education 2 credits
A study of historical and philosophical foundations, the goals and objectives, current practices, and significant research relative to early childhood education.
Teaching Data Processing 3 credits
Content, materials and techniques in teaching data processing in secondary and technical schools. Includes development, present status and trends in data processing. Special emphasis on physical facilities and equipment.

Construction and Use of Classroom Tests 3 credits
A course especially for experienced teachers. The role of testing, test planning, item-writing, essay testing, test administration, scoring, interpretation of scores, analysis and grade assignment.
Prerequisite: A basic course in educational measurements and evaluations and graduate standing.

Modern Math in the Elementary School 2 credits
A consideration of current trends in method and curriculum in elementary school arithmetic; the scope, sequence and content of the modern arithmetic program with special emphasis on modern innovations in arithmetical content and method; and the relationship of methods, curriculum and evaluation to child development.

Social Studies in the Elementary School 2 credits
A comprehensive consideration of the objectives; content; methods including unit procedures; materials, including objectives, models and exhibits as well as textbooks, collateral reading, maps and globes; and means of evaluating in the social studies.

Remedial Reading 3 credits
A comprehensive consideration of types of reading and study difficulties, the principles and techniques of diagnosing such difficulties and the methods and materials useful to the classroom teacher in the remediation of reading problems. Students who have previously taken the graduate course in Reading in the Elementary School would not normally take this course without consent of the instructor.

School Plant Planning and Construction 2-3 credits
A study of school plant needs of the local district: School building survey, site selection, estimating enrollments, economy, modernization of old school buildings and functional planning of various areas of the school building.

Supervision of Student Teachers 2 credits
The role of the cooperating teacher in guiding student teachers in applying the general and professional training which they have acquired in their preparation for becoming a teacher. NOTE. The credits earned in this course may not be counted toward the completion of the master's degree. Open to teachers with two years or more experience.

Junior High Curriculum 3 credits
Historical foundations and development; underlying philosophies and unique functions; nature and needs of the junior high school students; recommended and promising curriculum innovations; organization and administration of the program with special attention to the problems of both the teachers and administrators.

Teaching Foreign Language Speaking and Listening Skills in the Elementary School 3 credits
The course, along with Education 681 and 682, is designed as an intensive
study of the teaching of foreign language in the elementary schools. The three courses are designed to be taken at the same time as a full time summer program for qualification of teachers as language instructors through fourth grade level.

81 Teaching Foreign Language Reading in the Elementary School 3 credits
   See Education 680 above.

82 Teaching Foreign Language Writing in the Elementary School 2 credits
   See Education 680 above.

83 Workshop and Special Studies. Variable credit, see individual announcements. Special workshop projects in areas to be determined by the department. Workshops and Special Study projects are frequently established to meet the needs of students during an individual term. The schedule for each term indicates the courses being offered in this category.

89 Thesis. Credit by arrangement. A total of from three to six credits is authorized.

21 The Exceptional Child 3 credits
   A survey of the needs and nature of children who are mentally retarded, gifted, emotionally disturbed, or who have visual, hearing, speech, or motor handicaps. Intended both as an introductory course for those preparing to teach exceptional children and as a course designed to assist the regular classroom teacher in recognizing and interpreting the significance of developmental deviations.

22 Issues in Elementary Education 3 credits
   Current critical issues in education on the state, national, and international levels, with particular reference to the elementary schools.

23 Foundations of Educational Measurement 3 credits
   Introduction to a theory of mental measurement with particular reference to measuring or assessing intelligence, achievement, validity, types of scales, types of norms, etc., will be considered.

24 Individual Intelligence Testing 3 credits
   An intensive study of the Stanford-Binet and Wechsler Scales. Test standardization, reliability, and validity will be thoroughly reviewed. Practice will be given in administration, scoring, and interpretation.

25 Field Work with Exceptional Children 3 credits
   Practical experience in state and community agencies and in public school programs for exceptional children.

26 Principles of Appraisal and Evaluation in Education 3 credits
   Introduction to methods of appraising abilities by means of the I.Q., E.Q., Centile score, and standard scores. Consideration of such devices and techniques as interest inventories, personality inventories, achievement batteries, aptitude tests, intelligence tests, sociometry, and projective techniques. Students will take, score, and interpret commonly used tests in class.

27 Curriculum in the Elementary School 3 credits
   A consideration of basic concepts of curriculum development; the relations of foundation areas to the problems of curriculum. Assistance to the individual teacher in understanding procedures and plans for bringing about cur-
riculum changes at the local level. Opportunity to put theory into practice with guidance from the instructor.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td><strong>764 Reading in the Elementary School</strong></td>
<td>2</td>
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<tr>
<td>Problems arising in a well-rounded reading program; development of basic reading abilities and skills; improvement of attitudes and tastes; adjusting materials and methods to individual needs.</td>
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</tr>
<tr>
<td><strong>765 Science in the Elementary School</strong></td>
<td>2</td>
</tr>
<tr>
<td>Study of the present courses of study in elementary science, basic principles of science appropriate to elementary grades, techniques of teaching the science principles, materials used in the teaching of science, and the techniques of evaluation in science.</td>
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<tr>
<td><strong>771 Introduction to Mental Retardation</strong></td>
<td>3</td>
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<tr>
<td>An introduction to the etiology and the social, educational, and vocational aspects of mental retardation.</td>
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</tr>
<tr>
<td><strong>772 Education of the Educable Mentally Retarded</strong></td>
<td>3</td>
</tr>
<tr>
<td>Instructional practices in the education and vocational preparation of educable mentally retarded youth within the adolescent age range.</td>
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</tbody>
</table>

Group III. Courses in the Specialized Areas of Major and Associated Fields

**BUSINESS EDUCATION**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td><strong>543 Administrative Office Services</strong></td>
<td>3</td>
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<tr>
<td>The solution of office problems from the point of view of the supervisor, including principles of management and office organization with consideration to physical facilities, the general nature of office work, personnel relations, and managerial control of office output.</td>
<td></td>
</tr>
<tr>
<td><strong>547 Data Processing</strong></td>
<td>2</td>
</tr>
<tr>
<td>An introduction to computer systems designed to provide a foundation for detailed study of specific systems.</td>
<td></td>
</tr>
<tr>
<td><strong>548 Programming Business Data</strong></td>
<td>3</td>
</tr>
<tr>
<td>Analysis of the functions and capabilities of a specific data processing machine in order to become familiar with the tools and raw material necessary to be a programmer. Includes exercises and case studies.</td>
<td></td>
</tr>
<tr>
<td><strong>600 Individual Studies</strong></td>
<td>1-2</td>
</tr>
<tr>
<td>An opportunity for a student to explore more deeply a specific field of study. The student and adviser will decide upon a specific field and with the consent of the professor the student may take 1-2 credits of work. Not more than 4 credits can count within the 30 credits for the Master's degree. If the study is not completed by the end of the given summer session, the professor may give a &quot;grade&quot; of IP (In Progress), but the study must be completed and an actual grade recorded before the start of the next summer session.</td>
<td></td>
</tr>
</tbody>
</table>
621 Trends in Business Teaching—Secretarial  
A course designed to improve instruction through an evaluation of pertinent research and current literature; analysis of course materials, objectives, planning, evaluative devices, and management of the classroom.  
2 credits

622 Trends in Business Teaching—Basic Business and Accounting  
A course designed to improve instruction through analysis of current objectives, new materials, revised methods, and accepted evaluation techniques. Includes a review of research and current literature. Prerequisite: One year of teaching experience.  
2 credits

3  
Internship  
A course designed to be undertaken by qualified business teachers and prospective teachers through participation in a work-study program in certain business offices. This course is designed to correlate classroom training and experience with office experience and standards.  
3-6 credits

24 Current Problems in Business Education  
A study of the problems currently confronting the supervisor, teacher and student of business education.  
1-3 credits

25 Occupational Information and Vocational Guidance in Business Education  
Guidance procedures particularly appropriate for use with secondary and vocational school business education students. Specific study of problems encountered by high school and vocational school business teachers such as occupational information, job analysis, interviewing techniques, employment and training opportunities, placement, follow-up, and psychological testing. For experienced business teachers only.  
3 credits

26 Principles of Stenographic Concepts  
A course designed to develop an understanding of the Stenograph machine as a medium for direct computer input. Theory and use of "touch shorthand." It is presumed that all participating in this course will have a knowledge of skill building as presented in undergraduate courses.  
2-3 credits

27 Administration and Supervision of Business Education  
Administrative and supervisory problems of business education programs in secondary and post-secondary schools. Topics include local, state and federal programs; financial support; physical layout, equipment and furniture; training, selection, assignment and evaluation of teachers; curriculum development; public relations and publicity.  
3 credits

31 Machine Analysis and Management  
A panoramic view of machines likely to be used by secondary school graduates in business offices. An opportunity for business teachers in secondary schools to use effectively the machinery found in up-to-date offices. A study of the administrative procedures, curriculum problems, machine operation, standards of performance, and principles for setting up a machine's laboratory.  
2 credits

70 Introduction to School Business Management  
A course designed to acquaint the student with the responsibilities of the School Business Administrator in the school system.  
2-3 credits
School Fund Accounting 2-3 credits
Designed for school business administrators or students aspiring to such positions. Organized with emphasis on the Uniform Financial Accounting System for Wisconsin School Districts. Local options in accounting systems.

Shorthand Workshop 1 credit
To provide teachers of shorthand with an understanding of recent developments, experimental approaches, and the application of research to their teaching.

Typewriting Workshop 1 credit
To provide business teachers with an understanding of recent developments, experimental approaches, and the application of research to their teaching of typewriting.

Workshop in Office Practice 2 credits
This workshop will be concerned with the planning and scheduling of classes in duplicating, voice transcription, latest office machines and business filing practices. Procedures will include demonstrations, applications, lectures, and study and specification of new teaching techniques in Business Education.

Workshop for School Business Officials 1 credit
This workshop is planned to benefit all who are responsible for school business affairs whatever their official title. The workshop is designed primarily to discuss problems, find solutions, and apply them to the local level.

Thesis 1-6 credits
If a student elects a thesis instead of a seminar paper, a total of not more than 6 credits may be given for work on a thesis throughout the sessions in which the thesis is being written. Credit during a given session to be arranged with major professor and paper adviser.

Accounting Systems and Procedures 3 credits
A study of the significant developments in accounting procedures on organizational patterns and business practices and their effect on the clerical labor force; techniques and procedures by which information is gathered and made available for processing in accounting; and data processing in accounting procedures. This course is designed primarily for the high school teacher of bookkeeping.

Office Communications, Systems, and Procedures 3 credits
The modern office as the center of communications for the business enterprise. Exploration of worker competencies necessary for employment in the office of today. Designed for business teachers in secondary and vocational schools who are concerned with preparing students for office occupations.

Basic Business Concepts 3 credits
A course designed to better interpret economics of our economy and consumption through an understanding of economic and consumer principles. An opportunity to understand the most pertinent information relating to the history, importance, measurement and process of the growth of our economy.
as they relate to national goals and future welfare. A second objective is to understand the principles of producing and selling goods and services. A third objective will be to utilize economic and consumer principles for teaching in the secondary schools.

HISTORY AND SOCIAL STUDIES AREA

Geography

51 Political Geography 3 credits
A study of the variation of political phenomena from place to place in relation to variations in physical and cultural environments.

53 Meteorology and Climate 3 credits
A study of the atmosphere with considerable emphasis on elements of weather, weather maps, and forecasting, as well as the distribution of climate in the world.

54 Cartography 3 credits
This course is basically a laboratory course concerned with the drafting of maps, utilizing several basic techniques with modern equipment. Other considerations will include the history of mapmaking, public and private mapping agencies and map interpretation.

60 Urban Geography 3 credits
A study of the locations, size, spacing, types, and functions of urban settlements followed by consideration of the elements of a city, their inter-relations and changes.

81 Geography of the Far East 3 credits
A study of the physical and economic geography of the Far East.

Economics

04 History of Economic Thought 2 credits
Exposition of the development of economic ideas from the Ancient World to Lord Keynes, their historical backgrounds, and biographies of prominent economists. Prerequisite: Economics 211, 212.

11 Intermediate Economic Analysis I 3 credits
Price and modern microeconomic theory; pricing of products and factors of production under different market structures; modern approaches to theories of consumption and production; general equilibrium theory. Prerequisites: Economics 211, 212.

12 Intermediate Economic Analysis II 3 credits
Income and modern macroeconomic theory; general aggregative systems; national income determination theory; composition and measurement of the national income; analysis of income generation; government policy. Prerequisite: Economics 211, 212.
559 Comparative Economic Systems  3 credits
A study of different types of economic organizations: capitalist, socialist, communist; some of their numerous varieties: Fascist Italy, Nazi Germany, Welfare States, Communist China, Titoist Yugoslavia. Special emphasis on the economy of the Soviet Union. Prerequisites: Economics 211.

763 Current Economic Problems  3 credits
An examination of the basic economic issues and goals, including economic growth, international economic policy problems, monetary and fiscal policy, wage and inflation issues, problems of competition and monopoly, and relations of government and free enterprise. Prerequisites: Economics 211 and graduate standing.

History

556, 557 Problems in American History  2-3 credits
New and conflicting viewpoints on selected topics including the causes of the American Revolution, American Imperialism, Versailles, World War II, Yalta, etc. Prerequisite: Undergraduate major or minor in history or social studies or consent of the instructor.

558, 559 Problems in European History  3 credits
A study in social, cultural and intellectual history with emphasis on major trends and problems, research and interpretation in European studies. The rise of science and the enlightenment, revolutionary movements of the seventeenth to the twentieth centuries, the emergence of new ideologies, Totalitarianism, and Internationalism, and variant patterns of national development.

560 Recent American History  3 credits
The economic, political and social development of the twentieth century.

600 Individual Studies  1-2 credits
Projects may be completed under the conditions explained in Business Education 600.

620 American Intellectual and Cultural History  3 credits
A study of American intellectual life from the colonial period to the present in relation to politics, economic and social development.

651 Greek Civilization  2-3 credits
A brief historical account of the growth of Greek Civilization, with more intensive coverage of the Greek contribution to political thought and experience, economic activity, religious thought and practice, drama, philosophy and art. Prerequisite: An undergraduate history or social studies major or minor, or consent of instructor.

655 The Renaissance  2-3 credits
Renaissance historiography, economic, political and cultural developments of the Italian and Northern Renaissance. Religion in the Renaissance.

652 Roman Civilization  2-3 credits
A brief survey of the course of Roman history with special attention given to the particular Roman contribution to government, administration, law, engineering, literature, philosophy, religion, and art. Prerequisites: An undergraduate history or social studies major or minor, or consent of the instructor.
Pro-Seminar in Far Eastern History 2-3 credits
Study of the natures of traditional East Asian governments and economics at the beginning of the nineteenth century, and analysis of changes in the past hundred and fifty years with special emphasis on the resistance of native "autocratic traditions," and the conditions under which Western technology, institutions, and ideas are fitted into the native economic, political and social configurations.

Russia and the Near East in Modern Times 3 credits
A study, using prosemninar methods, of the importance of Russia and the Near East in modern times with special reference to such problems as political, social and economic development; influence upon western civilization and culture; periods of expansion and conquest; religious, aesthetic, and philosophic contributions and history, governmental and constitutional development.

Thesis
Credit by arrangement.

American Historians 3 credits
A study of theory and methods in the writing of American History. Special attention is given to the purpose, interpretations, leading ideas and works of selected leading American historians.

The Reformation 3 credits
A study of (1) the sixteenth century origins of the Protestant churches and of (2) the reforms in the Catholic Church at that time. The course takes into account the political, economic, social and intellectual factors affecting religious developments. Prerequisite: Undergraduate major or minor in history, or group social studies major, or consent of the instructor.

Political Science

Contemporary Political Ideas 3 credits
The major political idea systems of today's world will be described and analyzed. The following movements and ideas will be treated: Democracy, capitalism, socialism, anarchism, communism, elitism and nationalism.

The "Isms": Democracy, Fascism, Socialism, Communism 3 credits
To acquaint students with those systems of political thought and their diverse applications that have been dominant in our century.

Government and Politics of the Communist World 3 credits
A study of the political structures, institutions and processes of the nations of the Communist world. This course emphasizes the comparative study of Soviet, Chinese, Yugoslav and Polish types of communism.

International Organization 3 credits
To acquaint the student with the objectives of international organizations for maintaining international peace and security. Three aspects are considered: peaceful settlement of disputes, regulation of armament, and enforcement measures.
Sociology

554 History of Social Thought  3 credits
The main currents of social thought from early civilization to the present.

555 Sociology of the Family  3 credits
A sociological analysis of the family, its historical development of structure and function. The contemporary aspects of the family in a changing cultural milieu.

771 Advanced Studies in Inter-Group Relations  3 credits
Advanced studies in aspects of social interaction as it relates to social groups. Attention to contemporary situations with emphases on relationships, status, leadership, social power bureaucracy and both formal and informal organization. Prerequisite: Nine credits in Sociology or consent of instructor.

772 Theories of Society  3 credits
A critical analysis of elements of systematic theories looking toward the functional application of theory to contemporary research and social systems. Prerequisite: Nine credits in Sociology or consent of instructor.

600 Individual Studies  1-2 credits
Projects may be completed under the conditions explained in Business Education 600.

699 Thesis
Credit by arrangement.

LANGUAGE, LITERATURE AND SPEECH AREA SPECIALIZED COURSES

English

551 Chaucer  3 credits
The language and art of the greatest Middle English poet as he reflects the culture of his time.

566 History of Literary Criticism  3 credits
An examination and comparison of the major works of criticism from Aristotle to Eliot. Prerequisite: Eighteen credits in literature or consent of the instructor.

725 Rhetoric of Written Communication  3 credits
Observation of and practice in composition. Some time is devoted to standards and judgment of high school themes, but most to the student's own writing.

746 Studies in American Romanticism  3 credits
Intensive reading of representative works by Poe, Hawthorne, Melville, Emerson, Thoreau and Whitman.
47 American Novelists, I 3 credits
   A study of selected novels of Cooper, Hawthorne, Melville, Twain, Howells, James and Crane.

48 American Novelists, II 3 credits
   An extensive reading in the novels of Norris, Dreiser, Wharton, and others including Faulkner.

49 Modern Literature 3 credits
   A study of selected poems, novels, plays and short stories of significant twentieth century writers from Yeats, Joyce, and Shaw through Frost, O'Neill and Hemingway.

50 The English Novel 3 credits
   An extensive study of the development of the genre from Defoe through the eighteenth and nineteenth centuries to Hardy.

51 Studies in American Realism 3 credits
   A close examination of American realism through intensive reading of Clemens, Howells and James.

52 Milton 3 credits
   An intensive study of Milton, the emphasis determined by the experience of the class: e.g., Christian humanism, genre, biography, intellectual traditions of the Renaissance.

53 Shakespeare 3 credits
   Careful reading of about six plays; some observation of the most useful textual, historical and structural criticism.

59 Seminar in Victorian Literature 3 credits
   Individual studies in the dominant ideas and methods of representative Victorian poetry, novels, essays and dramas, seen within their cultural contexts.

60 Individual Studies 1-2 credits
   Projects may be completed under the conditions explained in Business 600.

69 Thesis
   Credit by arrangement.

Speech and Theater

1 Directing Debate Activities 3 credits
   Specific information for prospective teachers who may direct high school debate. The course is open both to speech majors and other interested in debate. Prerequisite: Experience in debate or direction of debate or consent of instructor.

1 Communication Theories 3 credits
   Theoretical models of communication emphasizing oral communication. Designed for the Speech major. Familiarity with the various theoretical approaches to the study of oral language by speech and other disciplines.
American Public Address  3 credits
A review of the principles of speech criticism. Studies in American public address since 1850, including Lincoln, Bryan, T. Roosevelt, Wilson, F. D. Roosevelt, John F. Kennedy and their contemporaries. Prerequisite: Speech 141 and 153 or 457 or graduate standing and consent of instructor.

Advanced Public Speaking  3 credits
To supplement the theoretical study of speech by presenting an opportunity for advanced students to prepare and deliver speeches.

Speech in the Elementary School  3 credits
Consideration of techniques useful in speech improvement program in the elementary school: oral reading, story telling, group reading, choral speaking, creative dramatics, puppetry, speech making, discussion, listening, assembly programs.

Presentational Problems of Oral Interpretation  2 credits
Designed to assist the elementary or secondary teacher in improving his own skills in reading aloud. A study of the techniques useful in presenting various forms of literature.

Contemporary Drama  3 credits
The function of the theater as an art and as a social force in the twentieth century. Emphasis on form and content of the drama in the modern theater with consideration of motion pictures and television.

Individual Studies  1-2 credits
Projects may be completed under the conditions explained in Business 600.

Thesis
Credit by arrangement.

MATHEMATICS AND SCIENCE AREA
SPECIALIZED COURSES

Biology

Invertebrate Zoology  4 credits
A comprehensive study of the structure, life cycles and importance of the major groups of vertebrates.

Entomology  4 credits
This course includes a study of the classification, identification and life cycles of insects. Insects of economic importance will be considered. A collection of insects will be required. Prerequisites: Biology 142 or equivalent.

Animal Histology  4 credits
Animal tissues, the minute structure of normal animal tissue, and identification of tissues. Human slide preparations used. Includes two lectures and two two-hour laboratories per week. Prerequisite: Biology 142 or equivalent. Biology 253 and 254 strongly recommended.
**GRADUATE STUDIES BULLETIN**

**554 Vertebrate Field Biology**  
4 credits  
A study of the classification, distribution, ecology, life history, field techniques and literature survey of the vertebrates. Special emphasis is given the vertebrates of Wisconsin. Prerequisite: Biology 141-142 or equivalent required; Biology 253-254 recommended.

**55 Parastology**  
3 credits  
The classification, identification, life cycles and habits of protozoan, helminthic and arthropod parasites of men and domestic animals. Prerequisite Biology 141-142, 451-551 or equivalents.

**60 Introductory Mycology**  
3 credits  
A comprehensive study of all fungal phyle emphasizing taxonomy, morphology, phylogeny and physiology. Economic uses of fungi in food production, fungal deterioration and industrial application. Prerequisite, Biology 357 or equivalent.

**60 Individual Studies**  
1-2 credits  
Projects may be completed under the conditions explained in Business Education 600.

**89 Thesis**  
Credit by arrangement. A total of from three to six credits is authorized.

**21 Ecological Biology**  
4 credits  
Interrelationship between plants and animals in respect to their environments, including community organization, behavior, and field recognition of flora and fauna. Two hours of lecture and two two-hour laboratories plus several extended field trips. Prerequisites: Biology 141-142 or equivalent. Biology 353-454 recommended.

**22 Plant Physiology**  
3 credits  
The general physiology of plants, methods of demonstrating and determining rates of plant processes: nutrition; adjustment to environment; factors influencing growth and development. Pre-requisites: one year of biology, a year of college chemistry, and an elementary knowledge of physics. The course will consist of lectures, demonstrations, laboratory work, and one field trip to the University of Minnesota Agriculture Campus Plant Physiology Laboratories to observe apparatus and techniques used in research.

**23 Field Zoology**  
3 credits  
Field trips; observing habitats and collecting local animals; identification and study of collected species. Prerequisite: One year of biology.

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**Chemistry**

**1 Physical Chemistry, an Introduction**  
3-4 credits  
An elementary introduction requiring no calculus. For secondary teachers, majors and minors from other departments, pre-medical and other pre-professional students other than chemical pre-professional. Three one-hour lectures per week for three credits. Another credit can be earned for laboratory work when this is offered by the department. Prerequisite: A year of general chemistry, one semester of organic chemistry and one of analytical chemistry.
554 History of Chemistry 2 credits
Lectures and reports tracing the development of the science of chemistry and its relationship to some contemporary history in other areas. Two one-hour lectures per week.

555 Advanced Organic Chemistry 3 credits
An extension of the basic course covering selected topics from the theories and chemistry of organic structures. Prerequisite: A year's course in general organic chemistry.

751 Intermediate Chemistry I 3 credits
Concerned with atomic structure; oxidation-reduction theory; chemical bonding; and stoichiometry. Prerequisite: One year college chemistry.

Mathematics

552 Modern Algebra 3 credits
An introduction to such topics as sets, groups, rings, ideals, integral domains and fields, together with an algebraic development of the rational, real and complex number fields. Prerequisite: Mathematics 255.

553 Linear Algebra 3 credits
Polynomials, groups, vectors and vector spaces, systems of linear equations, determinants, linear transformations and matrices. Prerequisite, Mathematics 255.

767 Modern Geometry 3 credits
A study of the foundations of geometry from the axiomatic point of view. Synthetic and Analytic projective geometry, Affine geometry, Euclidean plane geometry and the various non-Euclidean geometries and their relations to each other are considered. Prerequisite: Mathematics 253.

Physics

552 Atomic Physics 4 credits
A study of the atomic structure of matter giving special consideration to its electrical properties periodic system, radiations, X-rays atomic spectra, Pauli Principle, molecular structure, theory of relativity etc. Prerequisite Physics 350, Calculus 254 or concurrent registration.

553 Nuclear Physics 4 credits
A study of the known properties of the nucleus giving special emphasis to isotopes, nuclear structure, natural and artificial radioactivity, X-rays, gamma rays, alpha decay, beta decay, gamma decay induced nuclear transformation, nuclear fission, reactors etc. Prerequisite: Physics 452-552 and Calculus 254 or concurrent enrollment.
Music

APPLIED MUSIC

656 Advanced Conducting  2 credits
Advanced study and analysis of conducting techniques. Score reading and interpretation of masterpieces from standard instrumental and choral repertoire.

667 Advanced Instrumental Techniques, (Strings)  2 credits
An advanced course in string techniques. Prerequisite: Music 367 or equivalent.

668 Advanced Instrumental Techniques (Woodwind, Bass, Percussion)  1 credit
An advanced course in the theory and practice of playing the woodwind, brass and percussion. Prerequisite: Music 367 or the equivalent. May be repeated one semester for credit.

677 Advanced Voice Class  1 credit
Group instruction in singing techniques with emphasis on posture, breathing, diction and tone production for students whose major performance is not voice. May be repeated on semester for credit.

580, 681, 682 Artists Course in Applied Music  1-2 credits

587 Advanced Piano Class  1 credit
Group instruction in piano technique, sight-reading and accompaniment for students whose major performance is not piano. May be repeated once for credit. Prerequisite: Music 280 or equivalent.

MUSIC LITERATURE AND HISTORY

541 Music of the Baroque and Classical Periods  2 credits
A study of the vocal and instrumental literature of the periods extending from 1600 to 1825. Emphasis is placed upon characteristics of style as found in the works of representative composers of the periods.

542 Music of the 19th and 20th Centuries  2 credits
A study of the vocal and instrumental literature of the periods extending from 1825 to the present. Emphasis is placed upon characteristics of style as found in the works of representative composers of the periods.

MUSIC THEORY

51 Sixteenth Century Counterpoint  2 credits
A study of the sixteenth century style of contrapuntal writing, especially the works of Lassus and Palestrina. Emphasis on developing a technique for writing polyphonic music in the style of these composers. Prerequisite: Music 252

52 Eighteenth Century Counterpoint  2 credits
A study of the eighteenth century style of contrapuntal writing, especially the works of J. S. Bach. Emphasis on developing a technique for writing polyphonic music in the style of Bach. Prerequisite: Music 252
555 Form and Analysis
A study of the structure of music beginning with the motive and continuing through the larger forms such as sonata-allegro, variation, and rondo. Accomplished through analysis of standard music literature. Prerequisite: Music 252

2 credits

651 Training in Advanced Musicianship
A unified approach in the fundamentals of musicianship integrating sight-singing, ear-training, written harmonization, keyboard harmony, and analysis. Dictation of melodic, harmonic, rhythmic, and contrapuntal materials. Prerequisite: Music 252 and 352 or equivalent.

3 credits

653 Advanced Arranging
Techniques in scoring both small and large vocal and instrumental ensembles. Students enrolling for 3 credits are required to complete an additional special project in arranging, or to present a written report of research in the area of instrumentation approved in advance by the instructor. Prerequisite: Music 443 or equivalent.

2-3 credits

655 Composition
Original work in various forms and idioms. Students enrolling for three credits are required to submit a composition in one of the more extended forms. Prerequisite: Music 252, 452 and the consent of the instructor.

2-3 credits

Music Education

636 Problems in Teaching and Supervising General Music
A detailed study of the problems involved in teaching and supervising the general music program in the elementary, junior high and senior high school. Special attention is given to problems of objective, organization, operation, materials and procedures.

2-3 credits

637 Problems in Teaching Instrumental Music
A detailed study of the problems involved in teaching instrumental music in the elementary, junior high and senior high schools. Special attention is given to problems of organization, operation, materials and procedures encountered in the program.

2-3 credits

638 Problems in Teaching Choral Music
A detailed study of the problems involved in teaching choral music in the elementary, junior high and senior high schools. Special attention is given to problems of organization, operation, procedure, and materials.

2-3 credits

PSYCHOLOGY

501 Psychological Testing
Principles of psychological testing. Evaluation and interpretation of psychological tests. Appropriate for teachers, counselors, school psychologists, personnel psychologists in industry and government and clinical psychologists. The credit may be applied in meeting the requirements for specialized education courses. Prerequisite: a basic course in statistical methods which could be taken concurrently.

3 credits
641 Introduction to Statistical Methods 3 credits
Basis concepts and techniques in the analysis and interpretation of research data. Descriptive statistics such as frequency distribution, central tendency, variability. Introduction to statistical inference, normal-curve sampling theory, simple t-tests. Introduction to correlation. Prerequisite: a basic psychology course. Laboratory work is required.

654 Abnormal Psychology 3 credits
An introduction to the study of behavior pathology with particular emphasis on the inception, development and maintenance of various possible modes of adjustment, both normal and deviant.

607 Seminar in Child Psychology 3 credits
A review of historical trends and recent developments in theory and research and their relation to applied child psychology.

608 Theory and Problems of Adolescent Development 3 credits
Approaches to the study of adolescence, research methods, maturation, identity, problems of adjustment, evaluation and treatment.

SUPPORTING COURSES IN WHICH A MAJOR IS NOT CURRENTLY BEING OFFERED

Library Science

620 Library Orientation for Graduate Students Non-credit
A series of lectures and demonstrations to acquaint the graduate student with library, the card catalog, journal indexes, abstracts, bibliographic forms and other reference tools.

Art

621 Trends in Art Activities 3 credits
A course designed to acquaint the teacher with recent trends and practices in the teaching of art.
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