

James Madison University

JMU Scholarly Commons

[All Bulletins](#)

[Bulletins](#)

4-1-1966

Bulletin Madison College, April, 1966

Madison College (Harrisonburg, Va.)

Follow this and additional works at: <https://commons.lib.jmu.edu/allbulletins>

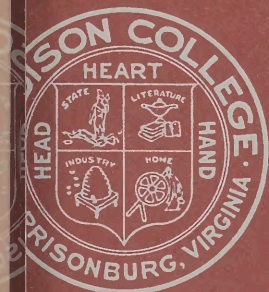
Recommended Citation

Bulletin Madison College, April, 1966 , XXIV, 4, Harrisonburg, (Va.): Madison College.

This Article is brought to you for free and open access by the Bulletins at JMU Scholarly Commons. It has been accepted for inclusion in All Bulletins by an authorized administrator of JMU Scholarly Commons. For more information, please contact dc_admin@jmu.edu.

GRADUATE
PROGRAM

Madison College Bulletin



VOL. XXIV, NO. 3

MARCH, 1966

Bulletin, Madison College, Volume XXIV, Number 3, March, 1966.
Published four times a year: January, February, March and April. Entered
as second class matter November 7, 1934, at the Post Office at Harrisonburg,
Virginia, under the Act of August 24, 1912.

BULLETIN

MADISON COLLEGE

ACCREDITED BY: Southern Association of Colleges and Schools, National Council for Accreditation of Teacher Education for Preparation of Elementary Teachers and Secondary Teachers with the Master's Degree as the Highest Degree Offered, Virginia State Board of Education.

MEMBER OF: Association of American Colleges, Association of Virginia Colleges, American Association of Colleges for Teacher Education, American Council on Education, National Commission on Accrediting, Association of State Colleges and Universities.

CORPORATE MEMBER OF: American Association of University Women.

Table of Contents

	PAGE
THE VISITORS OF MADISON COLLEGE	3
OFFICERS OF ADMINISTRATION	4
GRADUATE COUNCIL	4
GRADUATE FACULTY	5-7
HISTORY	8
PURPOSE	8-9
ADMINISTRATION	9
DEGREES OFFERED	9
GRADUATE COURSES IN THE SUMMER SESSIONS.....	9
GRADUATE COURSES IN THE REGULAR SESSION	10
PROGRAMS OF STUDY	10
ADMISSION TO GRADUATE STUDY	
Unconditional Admission	10-11
Unclassified Admission	11
Transient Admission	11-12
DEGREE REQUIREMENTS	
Major and Minor	12
Admission to Candidacy	13
Student Advisory Committees	13-14
Course Level	14
Teaching Certificate	14
Thesis	14-15
Examination	15
Scholarship	15
Residence	15
CREDITS BY TRANSFER	16
TIME LIMIT	16
POST-BACCALAUREATE SCHOLARSHIP ASSISTANCE.....	16-19
COURSE REQUIREMENTS FOR MAJORS AND MINORS, AND COURSE DESCRIPTIONS.....	19-68
Art	19-20
Biology	20-23
Business and Business Education	23-26
Chemistry	27-28
Education and Psychology	28-43
English	43-47
History	47-48
Home Economics	49-50
Mathematics	51-53
Music	53-58
Science	58-59
Social Science	59-68

The Visitors of Madison College

BURR P. HARRISON, *Rector*
WINCHESTER

RUSSELL M. WEAVER, *Vice-Rector*
HARRISONBURG

CHARLES C. BROUN
MARTINSVILLE

WALLACE L. CHANDLER
RICHMOND

MRS. D. KIRK HAMMOND
ROANOKE

DABNEY S. LANCASTER
MILLBORO SPRINGS

J. LEONARD MAUCK
MARION

THOMAS E. SEBRELL, III
ALEXANDRIA

MRS. EMILY N. SPONG
PORTSMOUTH

MRS. HELEN MUGLER STUART
RICHMOND

G. FRED SWITZER
HARRISONBURG

WOODROW W. WILKERSON
State Superintendent of Public Instruction
RICHMOND

EXECUTIVE COMMITTEE

G. FRED SWITZER, *Chairman*

MRS. HELEN MUGLER STUART

RUSSELL M. WEAVER

Rector, member ex officio

RICHARD C. MANDEVILLE, *Secretary*

Officers of Administration

G. TYLER MILLER, B.S., LL.D.....	President
J. EMMERT IKENBERRY, Ph.D.....	Acting Dean
E. L. TOLBERT, Ed.D.....	Dean of Students
HOWARD K. GIBBONS, LL.B.....	Business Manager
QUINCY D. GASQUE, M.S.....	Director of Field Services and Placement
DOROTHY S. GARBER, B.S.....	Dean of Women
PAULINE C. LONG, B.S.....	Registrar
MRS. ELIZABETH G. SHAFER, M.A...	Assistant Dean of Women
WILLIAM J. DeLONG, M.A.....	Director of Admissions and Student Aid
RICHARD C. MANDEVILLE, B.A.....	Assistant to the President

Graduate Council

Lester S. Bucher, B.S., M.S., Ed.D.
Charles G. Caldwell, A.B., M.A., Ph.D.
Louis G. Locke, A.B., M.A., A.M., Ph.D.
William L. Mengebier, B.S., M.S., Ph.D.
Raymond J. Poindexter, A.B., M.A., Ph.D.
Elmer L. Smith, B.S., M.A., D.S.Sc.
J. Emmert Ikenberry, A.B., M.A., Ph.D., Chairman

The Graduate Faculty

MARY CAMPBELL BRILL, *Professor of English*. A.B., Syracuse University; A.M., Ph.D., Cornell University.

LESTER S. BUCHER, *Professor of Music*. B.S., State College, West Chester, Pennsylvania; M.S., University of Pennsylvania; Ed.D., Columbia University.

CHARLES G. CALDWELL, *Professor of Psychology*. A.B., Roanoke College; M.A., Ph.D., University of Chicago.

WILBERT CHAPPELL, *Professor of Chemistry*. B.S., Ottawa University; A.M., Ph.D., University of Kansas.

RAYMOND D. COOL, *Professor of Chemistry*. B.S., Bridgewater College; M.S., Ph.D., University of Virginia.

JAY L. CURTIS, *Professor of English*. A.B., A.M., Ph.D., University of North Carolina.

GARNEY L. DARRIN, *Associate Professor of Education; Director of the Anthony-Seeger Campus School*. B.S., M.Ed., Wayne State University; Ed.D., University of Maryland.

Z. S. DICKERSON, JR., *Professor of Business Education*. B.S., Eastern Kentucky State College; M.S., Ed.D., University of Kentucky.

RAYMOND C. DINGLEDINE, *Professor of History*. B.A., M.A., Ph.D., University of Virginia.

JAMES F. FERRY, *Professor of Biology*. A.B., West Virginia Wesleyan College; M.S., West Virginia University; Ph.D., The Ohio State University.

JAMES K. GRIMM, *Associate Professor of Biology*. B.S. in Ed., Concord College; M.S., Ph.D., University of Tennessee.

CLARENCE R. HAMRICK, *Associate Professor of Education*. B.S., Hampden-Sydney College; M.S., Ph.D., University of Virginia.

JOHN R. HANSON, *Assistant Professor of Mathematics*. A.B., Washington and Lee University; Ph.D., Virginia Polytechnic Institute.

- J. EMMERT IKENBERRY, *Professor of Mathematics*. A.B., Bridgewater College; M.A., Ph.D., Cornell University.
- MARIE M. JENKINS, *Associate Professor of Biology*. B.A., Phillips University; M.S., Catholic University of America; Ph.D., University of Oklahoma.
- MURIEL MAE KELLY, *Associate Professor of Psychology*. B.S., Radford College; M.A., Columbia University; Ph.D., George Peabody College for Teachers.
- LOUIS GLENN LOCKE, *Professor of English*. A.B., Bridgewater College; M.A., George Washington University; A.M., Ph.D., Harvard University.
- DANIEL M. MCFARLAND, *Professor of History*. A.B., University of North Carolina; M.A., Ph.D., University of Pennsylvania.
- WILLIAM J. McMURRAY, *Associate Professor of English*. B.A., Middlebury College; M.A., University of Illinois; Ph.D., University of Mexico.
- ANDREW J. MAHLER, *Professor of English*. B.A., Wagner College; M.A., Columbia University; Ph.D., University of North Carolina.
- WILLIAM L. MENGEBIER, *Professor of Biology*. B.S., The Citadel; M.S., Oberlin College; Ph.D., University of Tennessee.
- RAYMOND J. POINDEXTER, *Professor of Education*. A.B., Randolph-Macon College; M.A., University of Virginia; Ph.D., The Ohio State University.
- L. OWENS REA, *Professor of Economics*. A.B., Ph.D., The Johns Hopkins University.
- DOROTHY ROWE, *Professor of Home Economics*. B.S., Madison College; M.S., Ph.D., The Ohio State University.
- ARMAND V. SMITH, JR., *Associate Professor of Mathematics*. B.S., M.S., Purdue University; Ph.D., Virginia Polytechnic Institute.
- ELMER L. SMITH, *Professor of Sociology*. B.S., Florida Southern College; M.A., Western Reserve University; D.S.Sc., Syracuse University.

CRYSTAL THEODORE, *Professor of Art.* A.B., Winthrop College;
A.M., Ed.D., Columbia University.

E. L. TOLBERT, *Professor of Guidance; Dean of Students.* B.S.,
University of Virginia; M.A., The Ohio State University;
Ed.D., Columbia University.

JOHN C. WELLS, *Professor of Physics.* A.B., Colgate University;
M.A., Ed.D., Columbia University.

JOHN E. WOOD, *Assistant Professor of History.* B.A., University
of Virginia; M.A., Ph.D., Tulane University.

THE GRADUATE PROGRAM OF MADISON COLLEGE

HISTORY

In the summer of 1951 Madison College began offering graduate courses through a cooperative arrangement with the School of Education of the University of Virginia.

The Graduate School at Madison College was formally established in 1954 when the College was authorized by the State Board of Education to offer curricula leading to the degree of Master of Arts in Education and Master of Science in Education. The graduate program at Madison was approved by the Southern Association of Schools and Colleges in the same year. On October 31, 1960, the State Board of Education authorized the College to offer curricula leading to the Master of Science degree, which was also approved by the Southern Association of Schools and Colleges.

The first Master's degrees were conferred in June, 1956.

PURPOSE

The graduate program was inaugurated at Madison to offer to the teachers of the Commonwealth of Virginia the opportunity to improve their competency as teachers in three ways:

1. Acquiring further knowledge and understanding in the subjects which they are teaching.
2. Increasing their professional growth through further study in professional education.

3. Developing their powers of independent thought and becoming familiar with the discipline of research.

Fulfilling this purpose of the graduate program continues to be the major function of the graduate school. At the same time the courses offered afford students who are not teachers an opportunity to pursue advanced study and research in their chosen fields of study.

ADMINISTRATION

The Graduate Council of the College has the responsibility of formulating all policies and legislation affecting graduate curricula and work leading to graduate degrees. The Council has full power to make all necessary rules and regulations and to approve candidates for degrees, subject to conformity with policies of the Board of Visitors.

The Dean of the College is chairman and the executive officer of the Graduate Council.

DEGREES OFFERED

The College offers programs of studies leading to the Master of Arts in Education, the Master of Science in Education, and the Master of Science degrees.

GRADUATE COURSES IN SUMMER SESSIONS

Two graduate sessions are offered at Madison College during the summer session. The Intersession is a three-week term in which a student may earn three semester hours credit. The regular graduate session is the Six-Week Session in which a student may earn six semester hours of graduate credit. For information concerning the courses offered in the summer session, see the summer session bulletin.

Courses offered during the Intersession have fifteen class meetings of two hours and forty minutes each. Graduate courses taught during the Six-Week Session meet for one hour and twenty minutes, five days a week. By attending both the Intersession and the Six-Week Session a student may earn a total of nine semester hours credit.

GRADUATE COURSES IN THE REGULAR SESSION

During the regular session graduate courses are offered only in the evening. The classes meet sixteen sessions per semester for two hours and forty minutes each and carry three semester hours of credit. For information concerning the evening courses offered in the regular session, see the evening school brochure.

A student who is working full time may not take more than three semester hours of work during any semester.

PROGRAMS OF STUDY

Madison College offers three programs of study leading to the Master of Arts in Education and Master of Science in Education degrees. These programs are:

1. For Teachers in the Elementary School.
2. For Teachers in the Secondary School.
3. For College Graduates who have not completed the necessary courses in professional education to meet certification requirements.

It is strongly recommended that students who enroll in the program for secondary school teachers major in a subject-matter field. Those who enroll in the program for elementary school teachers may also major in a subject-matter field if the backgrounds and needs of the students concerned indicate that such should be done.

ADMISSION TO GRADUATE STUDY

A student may be admitted to graduate study under three classifications, unconditional admission, unclassified admission, and transient admission. *Admission to graduate study does not imply admission to candidacy.*

Unconditional Admission to Graduate Study.

1. The applicant must possess a bachelor's degree from a college accredited by a recognized regional or national accrediting agency.

2. The applicant must file an application for admission to graduate study with the Dean of the College. A form for this purpose may be obtained from the office of the Dean. It should be completed and returned at least thirty days before the opening of the term in which the applicant wishes to enroll.
3. Each applicant must also submit an official transcript of his undergraduate record and of any graduate work completed.
4. The applicant's record must be approved by the Graduate Council.
5. The applicant must be accepted by the department in which he wishes to major and minor. If the undergraduate record shows a deficiency in the proposed major or minor fields of study, the applicant must make up the deficiency by taking such additional courses as may be recommended by the department head and approved by the Graduate Council. Such courses, if required, do not count for graduate credit.

Unclassified Admission to Graduate Study. A student may be admitted to unclassified status as a graduate student if he satisfies conditions one through four under *Unconditional Admission*. This may include those students who wish to pursue graduate work with no intention of qualifying for a degree at Madison College and those students who have some deficiency in their chosen major or minor field.

If a student at a later time wishes to change his admission status from *Unclassified* to *Unconditional* he must satisfy step 5 under *Unconditional Admission* and send his request to the Dean of the College. Any graduate credit allowed on a degree program for courses taken while on unclassified status will be decided at that time by the Dean and the departments concerned.

Transient Admission. A student may be admitted to graduate study on a transient status if he has been admitted to a graduate school of an accredited college or university and desires only to earn credit for transfer to that institution. Admission is granted upon receiving a request from the student supported by

a letter from the Dean of his graduate school stating that the applicant is a graduate student in good standing and has permission to take the course or courses for transfer to his institution.

DEGREE REQUIREMENTS

Major and Minor Requirements. All curricula leading to the degrees *Master of Arts in Education* and *Master of Science in Education* require work in a subject-matter field and in professional education. If the major is chosen in a subject-matter field, then the minor must be in education. If the major is education, then the minor must be taken in a subject-matter area. This means that the student must complete (a) a major consisting of twenty-one semester hours of graduate credit in a subject-matter field and a minor consisting of nine semester hours in education or (b) a major consisting of eighteen semester hours credit in education and a minor consisting of twelve semester hours in a subject-matter field. Students who are majoring in professional education and whose special interest is in elementary education may complete for a minor six semester hours in each of two related subject-matter fields with the approval of the Graduate Council.

A major is offered in biology, business education, chemistry, education, English, history, mathematics, music, and social science. A minor may be taken in each of the departments offering majors and also in art, home economics, and science. The program of study leading to the *Master of Arts in Education* must include a major or minor in one of the departments: art, English, history, music, social science. For the *Master of Science in Education* the program of study must include a major or minor in one of the departments: biology, chemistry, mathematics, science.

The *Master of Science* degree is available to students majoring in one of the sciences or in mathematics. At the present time biology and mathematics are the only areas in which a student may major in working for this degree. No minor is required. The candidate for the *Master of Science* degree must complete thirty semester hours of graduate credit, twenty-four of which must be in his major field, biology or mathematics. Six semester hours of electives are permitted upon approval of the candidate's Advisory Committee.

Admission to Candidacy. In order to become eligible for admission to candidacy for a Master's degree the graduate student must:

1. Complete nine semester hours of credit in graduate courses taken at Madison College. Of these credit hours at least three must be in the major field and three in the minor field.
2. Submit a score on the Aptitude section of the Graduate Record Examination.
3. File an application for admission to candidacy with the Graduate Council.

When the student has completed the foregoing requirements the Graduate Council will act upon the applicant's request for admission to candidacy.

Only nine semester hours of graduate credit earned at Madison prior to Admission to Candidacy may be credited towards the Master's degree. The remainder of the course requirements must be completed after Admission to Candidacy except for possible transfer courses.

Student Advisory Committees. The Graduate Council in cooperation with the student and departments concerned shall name a special Advisory Committee of two faculty members for each student working toward a degree. For the *Master of Arts in Education* and the *Master of Science in Education* degrees, one member of this Committee will be selected from the faculty of the student's major department, and the other one from the department in which the student is minoring. The faculty member from the major department shall serve as chairman of the Advisory Committee.

For the *Master of Science* degree, the head of the department in which the student is majoring shall serve as chairman of the Advisory Committee. A second member of the major department will complete the committee. The major professor under whom the thesis is being completed must be a member of the committee. The Dean of the College is an ex officio member of all Advisory Committees.

A Graduate Advisory Committee will not be appointed until the student has been admitted to candidacy for a degree.

Course Level Requirements. One-half of the credit submitted for the Master's degree shall be in courses designated as exclusively for graduate students, i.e., courses numbered 600 or above. No graduate credit will be granted for work done in any course to which undergraduates are admitted unless the student is enrolled in that course as a graduate student.

Teaching Certificate. If the applicant does not hold the Collegiate Professional Certificate or its equivalent, he must obtain such a certificate before the degree is conferred unless excused by the Graduate Council.

Thesis. A thesis in the major field of interest and completed to the satisfaction of the student's Advisory Committee and the Graduate Council may be submitted in partial fulfillment of the requirements for the Master's degree. Six semester hours credit in the major field is allowed for a thesis. The thesis shall consist of a written interpretation of a body of facts and opinions gained through critical reading and independent research. There must be an adequate analysis of the assembled data.

For the Master of Science Degree with a major in biology the thesis is a requirement. In all other cases writing a thesis is an option which may be elected by the candidate.

If the candidate submits a thesis in partial fulfillment of the requirement for the Master's degree, he must complete the steps as outlined below.

1. Choose a subject and prepare an outline under the guidance of his Advisory Committee.
2. The student's Advisory Committee must recommend the thesis subject and outline to the Graduate Council for approval at least three months prior to the time the degree is expected to be awarded.
3. The thesis should be prepared according to the format as given by W. G. Campbell's *Form and Style in Thesis Writing* and must be completed sixty days before the time of graduation.

4. Three unbound copies of the thesis must be filed with the Chairman of the Graduate Council not later than thirty days before the date of graduation.
5. An abstract of the thesis of not more than six hundred words is required.

Examination. A comprehensive examination is required of all students. For those students who submit a thesis the examination will be oral; otherwise, it will be written. In the comprehensive examination the student will be examined only on those courses taken prior to the term in which the comprehensive examination is administered.

A candidate who fails on the comprehensive examination may be permitted a re-examination at the discretion of the student's major department and the Graduate Council. A re-examination cannot be given sooner than the semester following the unsuccessful examination.

Scholarship Requirements. The grades given in graduate courses are A, B, C, and F. Graduate students must receive a mark of "B" or better in a course if it is to count in meeting requirements for a Master's degree.

A student who has been admitted to candidacy for a Master's degree is automatically placed on probation if he receives a grade of "C" in any two courses. Probation is a warning that achievement is not satisfactory. A student will be dropped from candidacy for the Master's degree if he receives an "F" on any graduate course or if he receives the grade of "C" on three graduate courses.

A student who has been dropped from candidacy may, if she wishes, continue to take graduate courses, but for post-baccalaureate credit only.

Residence Requirements. A student must be in residence at Madison at least two summer terms of six weeks each in which a full load is carried in order to meet the minimum residence requirements for the Master's degree. Evening courses held on the campus will be counted in meeting residence requirements but residence requirements cannot be met by taking only evening classes.

CREDITS BY TRANSFER

A maximum of six hours of graduate credit from an accredited college or university may be applied to the requirements for the degree upon recommendation of the head of the major department and approval of the Dean of the College. At least six semester hours of the minor must be in graduate courses taken at Madison College. Approval to take graduate courses at other institutions for transfer to Madison College must be obtained from the Dean of the College prior to enrolling in the course.

No transfer credit will be allowed for courses taken on the graduate level if previously used as credit towards another degree.

TIME LIMIT

A graduate student must complete all requirements for the degree within six years from the time he begins his graduate study. The Graduate Council may, however, permit an extension of time because of extenuating circumstances.

POST-BACCALAUREATE SCHOLARSHIP ASSISTANCE

In the summer of 1964 a Post-baccalaureate Scholarship Assistance Program was made available for Virginia teachers holding certificates.

A request to the 1966 Session of the General Assembly of Virginia for funds for the renewal and expansion of this program is being made by the State Board of Education. If approved, it is anticipated that the enlarged program will be similar to the one in operation for the past two years. After action by the General Assembly, the list of courses offered at Madison College for which post-baccalaureate scholarship assistance will be available will be sent to the Division Superintendent and appropriate members of his instructional staff. For further information on this program the teacher should consult his division superintendent of schools.

As a guide, the Post-baccalaureate Scholarship Assistance Program in effect for the past two years is set forth on the following pages.

I. GENERAL ELIGIBILITY

A. The candidate must:

1. Be a resident of Virginia.
2. Be under contract with a Virginia school board for the ensuing session and expected to teach the subject, subject area, or grade to be studied.

II. SPECIFIC REQUIREMENTS

A. The candidate must:

1. Hold a Virginia teacher's certificate in force and be endorsed in the subject, subject area, or grade to be taught.
2. Be enrolled in an accredited State-supported or private non-sectarian Virginia institution of higher learning in a summer session for not less than three graduate or undergraduate semester hours in one of the following areas: History, Economics, Government, English, Foreign Language, Guidance, Mathematics, Science, Reading, or other subjects usually taught in the elementary schools.

III. APPLICATION PROCEDURES

- A. Each division superintendent of schools is invited to nominate *five* participants from his school division(s) to enroll in graduate summer school courses designed to assist teachers to deepen and broaden their knowledge of subject-matter content, particularly with reference to current subject-matter developments in their respective teaching fields. *A total of approximately 500 scholarships will be awarded.* Any unused part of the quotas allocated for divisions will be re-allocated from time to time to divisions where they can be used advantageously.
- B. Nominations are made in triplicate on official forms and the first two copies are sent to the Office of Teacher Education not later than April 1.

The need for applications being submitted by this date is two-fold: First, the College must be advised as early as possible of those who will enroll in summer programs in order to review the credentials of the applicants and to arrange the appropriate courses. Also, the State Department Office must have sufficient time to process the applications, make re-allocations, prepare the Approval Notices and the like. The entire month of April will be needed for this purpose.

IV. PAYMENT TO TEACHERS

When the candidate has been approved and has submitted a properly completed promissory note and has been reported by the institution as enrolled in courses in the summer session, a check will be sent to the candidate in care of the College. Reimbursement will be at the rate of \$20.00 per semester hour of credit. Minimum—3 semester hours, \$60.00; maximum—9 semester hours, \$180.00. In no instance will the amount reimbursed exceed the actual college resident cost of tuition, required fees, room and board.

V. PROMISSORY NOTES AND CANCELLATION

The candidate must agree to execute a note to the Commonwealth of Virginia for the amount of scholarship aid received, which obligation shall bear interest at the rate of 3% per year. This note must be endorsed by a responsible adult, who is a resident of Virginia. The obligation including interest can be cancelled by teaching the following year in the public schools of Virginia. The State Board of Education may, in its discretion, postpone the period of teaching to cancel the scholarship.

The candidate must agree that in case he or she fails to complete at the expected time the study for which aid is given, or fails to complete at the expected time the years of teaching necessary to cancel the obligation, the loan, together with accrued interest, will become due and

payable; provided, however, that for extenuating circumstances the State Board of Education may, in its discretion, extend the time for teaching to cancel the loan repayment. If it becomes necessary for this note to be collected by an attorney, the maker and endorser must agree to pay fifteen per centum collection charges as an attorney's fee in addition to the amount due on same at the time of collection.

When and if the candidate performs required military service, the time for teaching to cancel the promissory note will be postponed for the period of required service. If the note is not cancelled by teaching, there will be no suspension of interest because of the military service. If the maker voluntarily re-enlists, the note will become due and payable, both principal and interest.

In the event of the death, or illness of prolonged and serious nature, of the recipient of scholarship aid prior to cancellation by teaching service, the State Board of Education may, in its discretion, cancel both principal and interest, in whole or in part.

COURSES OF INSTRUCTION

The courses offered in each department participating in the graduate program are listed on the pages that follow.

Courses with numbers 500 to 599 are open for undergraduate credit to approved undergraduates of junior and senior level. Courses numbered 600 and above are for graduate students only.

ART

MISS THEODORE, *Head of the Department*

The graduate program of the Department of Art has these aims: (1) to expand the candidate's subject-matter background; (2) to give the professional teacher an opportunity to learn contemporary techniques, psychology and philosophy of this area for direct application to his job; (3) to introduce the candidate to

research; (4) and to give the candidate practice in creative work in the space arts on a higher level than is possible in undergraduate work.

In order to meet the requirements for a minor, the candidate must take Art 515, Art 685 and any three of the divisions of Art 595.

ART 515. PROBLEMS IN TEACHING ART.

Three credits.

An intensive study of the current philosophies and psychology of art education for all levels. Analysis of administrative and evaluative procedures.

ART 595. PRACTICE OF ART.

595a.	Painting.	Three credits.
595b.	Crafts.	Three credits.
595c.	Ceramics.	Three credits.
595d.	Sculpture.	Three credits.
595e.	Graphics.	Three credits.

Creative work on an advanced level, with study of both historic and contemporary procedures.

ART 685. THE CRITICISM OF ART.

Three credits.

Study of basic questions existing in art philosophy and esthetics.

BIOLOGY

MR. MENGEBIER, *Head of the Department*

The graduate program of the Department of Biology has three aims: (1) to supplement the candidate's subject-matter background and to emphasize the impact of biological principles on economic and social problems of our times; (2) to give to the professional teacher an opportunity to learn techniques of value for actual classroom experiences as well as to introduce modern concepts of Biology; (3) to introduce all students to research, the one fundamental method by which our knowledge progresses.

All majors and minors will be required to select one course from each of the following subject-matter areas:

Ecology and Taxonomy — Biology 501, Biology 510.

Morphology and Anatomy — Biology 540, Biology 512.

Functional Biology — Biology 502, Biology 625,
Biology 630.

The remainder of each major student's program should be selected according to the student's aims and interests. Each program must have the approval of the departmental chairman.

A prerequisite for the Master of Science degree is Mathematics 325, Elementary Statistics, or its equivalent.

All candidates for the Master of Science degree will be required to take Biology 700, Thesis, for six credits. Selection of the thesis topic must have the approval of the chairman of the department.

BIOLOGY 501. PLANT ECOLOGY.

Three credits.

A study of the distribution and association of plants in relation to their physical and biological environments. Concepts include migration, invasion, competition, successions and climax as these influence environmental change, conservation and wildlife. Open only by permission of the instructor.

BIOLOGY 502. VERTEBRATE PHYSIOLOGY.

Three credits.

A study of vertebrate systemic function. Particular emphasis will be given to the quantitative interpretation of muscle contraction and the nerve impulse. Laboratory exercises will involve the use of vertebrate forms to demonstrate specific functional phenomena.

BIOLOGY 510. VERTEBRATE ECOLOGY.

Three credits.

A course designed to acquaint students with the fundamental relationships existing between animals and their environment. Emphasis will be placed on the dynamic aspect of ecology and its importance to mankind. The laboratory will consist of group discussion sessions and selected field trips throughout the Shenandoah regions.

BIOLOGY 512. PARASITOLOGY.

Three credits.

A general survey of the most important parasites of man with special emphasis on those parasites commonly found in Virginia. The course deals mainly with the fields of protozoology, helminthology and medical entomology. The laboratory is devoted to the collection, identification and the preparation of permanent mounts of the parasites.

BIOLOGY 525. MEDICAL ENTOMOLOGY.

Three credits.

A study of the arthropods that parasitize man or serve as vectors of human pathogens. Morphological features, distribution, life histories, and control methods will be emphasized. Prerequisite: Biology 420 or its equivalent.

BIOLOGY 530. PRINCIPLES OF GENETICS.

Three credits.

A study of the facts and principles of biological inheritance.

BIOLOGY 540. DEVELOPMENTAL ANATOMY OF HIGHER PLANTS.

Three credits.

A study of the origin, growth, differentiation, and maturation of cells, tissues, and organs and their interrelationships. Emphasis is placed on economically important structures of crop, ornamental, and forest plants.

BIOLOGY 600. PHYSIOLOGY OF RESPIRATION.

Three credits.

A comparative study of breathing and respiration in selected invertebrates and vertebrates including man. Consideration will be given to the Emden-Meyerhoff and Krebs cycles.

BIOLOGY 625. INVERTEBRATE PHYSIOLOGY.

Three credits.

A comparative study of physiological processes in various invertebrate phyla, interpreted in terms of structural variation, evolutionary history, and ecology.

BIOLOGY 630. THE SEED PLANTS.

Three credits.

The morphology and physiology of the Spermatophyta. Prerequisite: Biology 200 or its equivalent.

BIOLOGY 640. MODERN THEORIES IN BIOLOGY.

Three credits.

A study of the meaning, value, and necessity of theories as they are related to man, the animal and plant worlds, and to nature in general. Illustrations showing how theories and progress are related.

BIOLOGY 650. SURVEY OF RADIATION BIOLOGY.

Three credits.

A study of the effect of ionizing radiation on the organism. The nature and source of these radiations will be discussed as well as their effect and methods of protection against them.

BIOLOGY 700. THESIS.

Six credits.

A thesis in the major field of interest and completed to the satisfaction of the Student's Advisory Committee and the Graduate Council may be submitted in partial fulfillment of the requirements for the Master's degree. Students who elect to write a thesis are required to complete twenty-four semester hours in course work. The Student's Advisory Committee must recommend the thesis subject and outline to the Graduate Council for approval at least three months prior to the time the degree is expected to be awarded. The thesis must be completed one month before the time of graduation to assure the Advisory Committee of its acceptability.

BUSINESS AND BUSINESS EDUCATION

MR. DICKERSON, Head of the Department

The graduate program of the Department of Business and Business Education is so planned that the student may achieve the objectives of (1) the improvement of teaching, (2) personal and professional development, and (3) ability to do research.

A major in business education consists of twenty-one semester hours of approved courses in business and business education, and nine semester hours in education. The Master of Science degree in Education is awarded upon the successful completion of the graduate program in business education.

Required courses for a *major* in business education are:

		<i>Semester Hours</i>
Business Education 520.	Advanced Studies in the Basic Business Subjects	3
Business Education 530.	Advanced Studies in the Skill Business Subjects	3
Business Education 550.	Curriculum Construction in Business Education	3
Business Education 610.	Problems in Business Education	3
Business Education 630.	Seminar in American Business	3
Business Education 640.	Seminar in Automated Data Processing Systems	3
Business Education 680.	Reading and Research	3

A minor in business education consists of twelve semester hours of approved courses in business and business education.

Required courses for a *minor* in business education are:

		<i>Semester Hours</i>
Business Education 520.	Advanced Studies in the Basic Business Subjects	3
or		
Business Education 530.	Advanced Studies in the Skill Business Subjects	3
Business Education 550.	Curriculum Construction in Business Education	3
Business Education 610.	Problems in Business Education	3
Business Education 630.	Seminar in American Business	3
or		
Business Education 640.	Seminar in Automated Data Processing Systems	3

BUSINESS EDUCATION 520. ADVANCED STUDIES IN THE BASIC
BUSINESS SUBJECTS.

Three credits.

Advanced studies for the improvement of the teaching of General Business, Business Law, Economics, Consumer Business Education, and related areas.

BUSINESS EDUCATION 530. ADVANCED STUDIES IN THE SKILL
BUSINESS SUBJECTS.

Three credits.

Advanced studies for the improvement of the teaching of Typewriting, Shorthand, and Bookkeeping.

BUSINESS EDUCATION 550. CURRICULUM CONSTRUCTION IN
BUSINESS EDUCATION.

Three credits.

Principles, practices and problems in the evaluation and construction of business education curricula to meet the needs of youth and adults in an advancing free enterprise system.

BUSINESS EDUCATION 610. PROBLEMS IN BUSINESS
EDUCATION.

Three credits.

Consideration of individual problems in business. Topics covered will include programmed instruction, data processing, community surveys, tests and measurements, and related areas.

BUSINESS EDUCATION 630. SEMINAR IN AMERICAN BUSINESS.

Three credits.

Comprehensive review of current books, magazines, and materials in the areas of Marketing, Banking, Taxation, Selling, Exchanges, Economic Conditions, and other areas essential to improved business understandings.

BUSINESS EDUCATION 640. SEMINAR IN AUTOMATED DATA
PROCESSING SYSTEMS.

Three credits.

Seminar in Automated Data Processing Systems, designed to provide the student with the latest methods, techniques, and knowledges essential to the teaching of data processing. Course consists of classroom work and practical machine experience.

SOCIAL SCIENCE 660. ECONOMIC SYSTEMS OF THE WORLD.

Three credits.

The major types of economic systems, Socialism, Communism, Fascism and Capitalism, will be analyzed and compared with special attention given to national and world affairs and international relations. The distribution of wealth and income, public debt, and business cycles will be explained and compared. (Business Education credit will be allowed for this course.)

BUSINESS EDUCATION 680. READING AND RESEARCH.

Three credits.

Examination of approved research procedures for business education. Preparation of reports from assigned field problems applied to various research techniques. *Reading and Research* may be done only in the major field of study.

BUSINESS EDUCATION 700. THESIS.

Six credits.

A thesis in the major field of interest and completed to the satisfaction of the Student's Advisory Committee and the Graduate Council may be submitted in partial fulfillment of the requirements for the Master's degree. Students who elect to write a thesis are required to complete twenty-four semester hours in course work. The Student's Advisory Committee must recommend the thesis subject and outline to the Graduate Council for approval at least three months prior to the time the degree is expected to be awarded. The thesis must be completed one month before the time of graduation to assure the Advisory Committee of its acceptability. If a thesis is elected, Business Education 680 will not be taken.

DEPARTMENT OF CHEMISTRY*

MR. CHAPPELL, *Head of the Department*

A graduate major or minor in chemistry should be built around the needs and interests of the student. A major in chemistry will consist of twenty-one semester hours of graduate work in chemistry (or in a related field) subject to the approval of the head of the department; and a minor in chemistry will consist of twelve semester hours of graduate work in chemistry. The student plans his program with the help of the head of the department.

CHEMISTRY 501. ADVANCED INORGANIC CHEMISTRY.

Three credits.

A course in fundamental concepts which deals with the relation of structure to properties, the periodic system, typical reactions and applications of physical chemical principles to inorganic systems.

CHEMISTRY 505. THEORETICAL CHEMISTRY.

Three credits.

This course deals with some of the fundamental concepts, laws, theories, and philosophies of chemistry. Considerable emphasis is placed on the practical applications of various chemical laws and concepts. To meet the interests and needs of the student, work will be chosen from the areas of Physical Chemistry, Electrochemistry, and Thermodynamics.

CHEMISTRY 506. THEORETICAL CHEMISTRY.

Three credits.

A continuation of Chemistry 505.

CHEMISTRY 510. PHYSIOLOGICAL CHEMISTRY.

Three credits.

This course includes a study of foodstuffs, their digestion and metabolism, respiration, body secretions and excretions, the blood, urine, calorimetry, nutrition, endocrine organs and vitamins.

*Neither a major nor minor is currently offered in Chemistry.

CHEMISTRY 520. RECENT DEVELOPMENTS IN CHEMISTRY.

Three credits.

A study of recent developments in such areas of chemistry as solvents, metals and alloys, plastics, petrochemicals, silicones, nuclear chemistry, medicinals, rubber and synthetic polymers, paints, detergents, textiles, etc. The material will be selected and taught in such manner that it will be of especial interest and use to teachers of biology, chemistry, and general science.

CHEMISTRY 530. ADVANCED ORGANIC PREPARATIONS.

Three credits.

Emphasis on advanced laboratory preparations and techniques. Considerable time is devoted to theories and mechanisms of reactions in organic chemistry.

CHEMISTRY 540. ADVANCED TOPICS.

Three credits.

Mostly laboratory work at an advanced level together with conferences and independent reading, adapted to the needs of the individual student.

CHEMISTRY 700. THESIS.

Six credits.

A thesis in the major field of interest and completed to the satisfaction of the Student's Advisory Committee and the Graduate Council may be submitted in partial fulfillment of the requirements for the Master's degree. Students who elect to write a thesis are required to complete twenty-four semester hours in course work. The Student's Advisory Committee must recommend the thesis subject and outline to the Graduate Council for approval at least three months prior to the time the degree is expected to be awarded. The thesis must be completed one month before the time of graduation to assure the Advisory Committee of its acceptability.

DEPARTMENT OF EDUCATION AND PSYCHOLOGY

MR. CALDWELL, *Head of the Department*

MAJOR

The candidate for the degree of Master of Arts in Education or the Master of Science in Education must either major or minor in Education.

The graduate program of the Department of Education and Psychology is designed to improve the competency in professional education of teachers holding positions in the elementary school and for teachers in academic and special subject fields in the secondary school.

The Department of Education and Psychology offers three major programs of study. These programs are: (1) for teachers in the elementary school; (2) for teachers in the secondary school; and (3) for college graduates who have not completed sufficient work in professional education to meet certification requirements.

The Department offers the necessary courses to meet requirements of the State Board of Education for approval as guidance counselors.

It is recommended that the teacher in senior high school, who has the Collegiate Professional Certificate, major in a subject field.

The candidate for the Master's degree who elects to major in Education must successfully complete (a) twenty-four semester hours of work and submit a thesis, or (b) thirty semester hours of work without a thesis. Education 630 is required of all students majoring in Education.

PROGRAM TO PREPARE TEACHERS FOR POSITIONS IN ELEMENTARY SCHOOLS

This graduate program of the Department of Education and Psychology is designed to improve the competency in professional education of teachers holding positions in the elementary school.

Semester Hours

Minimum Requirements	30
1. Required courses	9
Education 584. Human Growth and Development	
Education 591. The Elementary School Curriculum	
Education 630. Research Methods in Education	

Semester Hours

2. Background courses essential for effective teaching in the elementary school are required and should be selected with the approval of the adviser from Education. 9

Education 501A. Seminar in Education and Psychology: The Elementary School

Education 501B. Seminar in Education and Psychology: Educational Television

Education 501D. Survey of Exceptional Children

Education 501E. Education of Mentally Retarded Children

Education 502. The Elementary School Reading Program

Education 507. Diagnostic and Remedial Techniques in Reading

Education 530. Practicum in Diagnostic and Remedial Techniques in Reading

Education 567. Instruction

Education 620. Comparative Education

Education 680. Reading and Research

Education 700. Thesis

3. In a field of interest outside Education to be determined by the Department concerned, courses appropriate to the background of an elementary teacher 12

(12 hours in one field, or 6 hours in each of two related fields.)

PROGRAM TO PREPARE TEACHERS, MAJORING IN
EDUCATION, FOR POSITIONS IN
SECONDARY SCHOOLS

This program provides a sequence of courses which will improve the competency in professional education of teachers holding positions in the secondary school.

	<i>Semester Hours</i>
Minimum Requirements	30
1. Required Courses	9
Education 512. Secondary School Curriculum and Co-Curriculum	
Education 528. The Psychology of Adolescence	
Education 630. Research Methods in Education	
2. Background courses essential for effective teaching in the secondary school are required and should be selected with the approval of the adviser from Education	9
Education 501B. Seminar in Education and Psychology: Educational Television	
Education 503. Philosophy of Education	
Education 505. The Role of the School in Society	
Education 506. Teaching Reading Skills Beyond the Elementary Grades	
Education 507. Diagnostic and Remedial Techniques in Reading	
Education 516. Theory and Practice of Guidance	

Semester Hours

Education 530. Practicum in Diagnostic and Remedial Techniques in Reading

Education 567. Instruction

Education 620. Comparative Education

Education 680. Reading and Research

Education 700. Thesis

3. In a minor field of interest outside Education to be determined by the Department concerned, courses appropriate to the teaching field of the secondary school teacher.

12

Students who wish to major in a subject field should see pages 19-28, 43-68.

PROGRAM FOR COLLEGE GRADUATES WHO HAVE
NOT COMPLETED THE NECESSARY COURSES IN
PROFESSIONAL EDUCATION AND WHO WISH TO MEET
CERTIFICATION REQUIREMENTS

This program provides a sequence of professional courses for college graduates who have not completed the necessary courses in professional education and who wish to qualify for the Collegiate Professional Certificate and for teaching positions in the public schools.

Sufficient undergraduate prerequisites for a strong background in professional education are required of all candidates before entering the graduate program.

Minimum Requirements

30

1. Required courses

12

Education 540. Basis of Curriculum Development

Education 567. Instruction

Semester Hours

- Education 584. Human Growth and Development
- Education 630. Research Methods in Education
2. Education electives selected with the approval of the adviser in Education 6
- Education 501A. Seminar in Education and Psychology: The Elementary School
- Education 501B. Seminar in Education and Psychology: Educational Television
- Education 501D. Survey of Exceptional Children
- Education 502. The Elementary School Reading Program
- Education 503. Philosophy of Education
- Education 504. Occupational and Educational Information
- Education 505. The Role of the School in Society
- Education 506. Teaching Reading Skills Beyond the Elementary Grades
- Education 507. Diagnostic and Remedial Techniques in Reading
- Education 512. Secondary School Curriculum and Co-Curriculum
- Education 518. Growth and Development During Childhood and Pre-adolescence
- Education 525A. Teaching of a Subject Field: Language Arts

Semester Hours

- | | | |
|----------------|--|----|
| Education 528. | The Psychology of Adolescence | |
| Education 530. | Practicum in Diagnostic and Remedial Techniques in Reading | |
| Education 591. | The Elementary School Curriculum | |
| Education 620. | Comparative Education | |
| 3. | In a minor field of interest outside Education to be determined by the Department concerned, courses appropriate to the teaching field of the candidate | 12 |
| 4. | A student who holds the Collegiate Certificate must earn six additional hours of graduate credit in an approved teaching internship in the public schools under supervision. | 6 |

PROGRAM FOR APPROVAL AS
GUIDANCE COUNSELORS

Qualifications for the Guidance Counselor as defined in the certification regulations for teachers of the State Board of Education (Vol. 46, No. 2, August, 1963) include the following:

- I. The Collegiate Professional Certificate.
- II. One or more years of successful teaching experience.
- III. A minimum of fifteen semester hours (preferably at the graduate level) in at least four of the following five areas, one of which must be in Counseling and one in Tests and Measurements:

Principles and Practices of Guidance Counseling

Counseling

Tests and Measurements

Occupational and Educational Information
(including Curricula Offering)

Understanding the Individual (in Relation
to His Educational Needs)

IV. Personal qualities which merit the confidence and respect of pupils, parents, teachers, and school administrators.

The courses outlined below are designed to prepare students to meet the requirements of the State Board of Education for approval as Guidance Counselors for public schools in Virginia.

Semester Hours

Minimum Requirements

30

1. Required courses

18

a. Education 504. Occupational and Educational Information

Education 516. Theory and Practice of Guidance

Education 537. Individual and Group Tests

Education 550. Techniques in Counseling

Education 630. Research Methods in Education

b. Three hours to be selected from the following with the approval of the adviser in Education.

Education 518. Growth and Development During Childhood and Preadolescence

Education 528. The Psychology of Adolescence

Semester Hours

Education 584. Human Growth and Development

2. In a minor field of interest outside Education, to be determined by the Department concerned. 12

MINOR

The candidate for the Master's degree who elects to major in a subject field and to minor in Education must successfully complete a minimum of nine semester hours of work. One course should be selected, with the approval of the adviser in Education, from three of the following four groups of courses.

Minimum Requirements 9

1. One of the following: 3

Education 518. Growth and Development During Childhood and Preadolescence

Education 528. The Psychology of Adolescence

Education 584. Human Growth and Development

2. One of the following: 3

Education 512. Secondary School Curriculum and Co-Curriculum

Education 540. Basis of Curriculum Development

Education 567. Instruction

Education 591. The Elementary School Curriculum

Education 610. Organization and Administration of Guidance Programs

Semester Hours

3. One of the following: 3

Education 501A. Seminar in Education and Psychology: The Elementary School

Education 501B. Seminar in Education and Psychology: Educational Television

Education 502. The Elementary School Reading Program

Education 505. The Role of the School in Society

Education 506. Teaching Reading Skills Beyond the Elementary Grades

Education 507. Diagnostic and Remedial Techniques in Reading

4. One of the following: 3

Education 530. Practicum in Diagnostic and Remedial Techniques in Reading

Education 620. Comparative Education

Education 640. The Fundamentals of Educational Administration

Education 650. Supervision of Instruction

Education 680. Reading and Research

Students who wish to major in a subject field should refer to pages 19-28, 43-68.

COURSE OFFERINGS

EDUCATION 501A. SEMINAR IN EDUCATION AND PSYCHOLOGY:
THE ELEMENTARY SCHOOL.

Three credits.

This course offers the professional worker in the elementary school the opportunity to explore his role in terms of recent experimentation in elementary education.

EDUCATION 501B. SEMINAR IN EDUCATION AND PSYCHOLOGY:
EDUCATIONAL TELEVISION.

Three credits.

This workshop-type experience will explore the role of television and the implications of this medium for education.

EDUCATION 501D. SURVEY OF EXCEPTIONAL CHILDREN.

Three credits.

This is a general survey course of the entire field of special education. Open to approved undergraduates.

EDUCATION 501E. EDUCATION OF MENTALLY RETARDED
CHILDREN.

Three credits.

This course deals with the organization of instruction for the trainable and educable mentally retarded and slow learner. Major emphasis will be on curriculum adjustment, specialized methods, and evaluation. Open to approved undergraduates. (This course was offered formerly as Education 501D.)

EDUCATION 502. THE ELEMENTARY SCHOOL READING
PROGRAM.

Three credits.

The total elementary school reading program will be examined including basal reading, remedial reading, recreational reading and reading in the subject-matter fields. Various approaches to these four areas such as the basal reader approach, the individualized approach, and the linguistic approach will be studied.

EDUCATION 503. PHILOSOPHY OF EDUCATION.

Three credits.

This course includes a critical survey of widely recognized theory regarding the nature and purpose of education in the Western World, with special emphasis upon such theory as it bears on and gives direction to educational policy and practice within the American democracy.

EDUCATION 504. OCCUPATIONAL AND EDUCATIONAL INFORMATION.

Three credits.

A survey of the sources of occupational information and their use in counseling individuals and groups; the philosophy and principles underlying the integration of occupational and educational guidance; the study of community job resources; and plant and industrial visits.

EDUCATION 505. THE ROLE OF THE SCHOOL IN SOCIETY.

Three credits.

Interpretation of the school as society's agency for human betterment, with emphasis on cultural living. Some issues that arise in the organization and operation of the schools.

EDUCATION 506. TEACHING READING SKILLS BEYOND THE ELEMENTARY GRADES.

Three credits.

Basic reading skills, special reading skills, testing, program organization, reading rate, and reading in the content areas will be among the problems considered in this course.

EDUCATION 507. DIAGNOSTIC AND REMEDIAL TECHNIQUES IN READING.

Three credits.

In this course various types of reading difficulty will be studied. The major emphasis will be upon diagnosis and remediation. Everyone will be expected to diagnose several subjects who are having difficulty in reading and write reports of their findings with recommendations for therapy.

EDUCATION 512. SECONDARY SCHOOL CURRICULUM AND CO-CURRICULUM.

Three credits.

The principles and forms of curriculum organization, with appraisal of such curricula patterns as the subject-matter curriculum, the correlated,

fused, core and experience curriculum are included in this course. Also considered are the techniques for reorganizing the curriculum; leadership in curriculum development, and participation of teachers in curriculum improvement.

EDUCATION 516. THEORY AND PRACTICE OF GUIDANCE.

Three credits.

An overview of the philosophy and function of guidance in public schools, the role of the classroom teacher in the guidance program, and organization for adequate guidance services will constitute the framework of the course. Consideration will be given to topics such as case studies, record keeping, testing, use of occupational information, and techniques of counseling.

EDUCATION 518. GROWTH AND DEVELOPMENT DURING
CHILDHOOD AND PREADOLESCENCE.

Three credits.

The principles underlying the growth and development of boys and girls in the elementary school are explored in this course. Extensive reading and analysis of current research is required.

EDUCATION 525A. TEACHING OF A SUBJECT FIELD:
LANGUAGE ARTS.

Three credits.

This course considers teaching principles and techniques in particular subject fields for both elementary and secondary schools. The level of treatment is determined by the group enrolled and by the preferences of the instructor.

EDUCATION 528. THE PSYCHOLOGY OF ADOLESCENCE.

Three credits.

A study of the dynamics shaping the growth, development, and behavior of the adolescent and youth forms the basis of this course. Extensive analysis and appraisal of current research is required.

EDUCATION 530. PRACTICUM IN DIAGNOSTIC AND REMEDIAL
TECHNIQUES IN READING.

Three credits.

This course will be a logical continuation of the foregoing course. Each student will be assigned several subjects to diagnose, and for whom he is to plan and carry out a corrective program of reading therapy.

EDUCATION 537. INDIVIDUAL AND GROUP TESTS.

Three credits.

The development, administration, and interpretation of standardized tests are considered in this course, as well as the use of such tests in survey programs, in the evaluation of instructional efficiency, and in the planning and improvement of teaching procedures. *A course in Tests and Measurements is strongly recommended before enrolling in Education 537.*

EDUCATION 540. BASIS OF CURRICULUM DEVELOPMENT.

Three credits.

This course is designed to help teachers determine what public schools in a democratic society should teach. Also included is the preparation of curriculum guides in all subject fields at both the elementary and secondary school levels.

EDUCATION 550. TECHNIQUES IN COUNSELING.

Three credits.

This course deals with the various techniques employed in the counseling process. Old and new viewpoints are considered and each student is encouraged to develop his own frame of reference.

EDUCATION 567. INSTRUCTION.

Three credits.

This course includes the following: The theory and practice of teaching in democratic school systems, techniques for studying children and youth; the group process in teaching; motivation of learning; teacher-student planning; the broad unit as a teaching instrument; the role of guidance in teaching; the cooperative appraisal of growth.

EDUCATION 584. HUMAN GROWTH AND DEVELOPMENT.

Three credits.

This course deals with the principles basic to an understanding of the growth and development of human beings. The dynamics influencing behavior are explored. Techniques for studying behavior are considered and case materials analyzed.

EDUCATION 591. THE ELEMENTARY SCHOOL CURRICULUM.

Three credits.

This course includes a study of the current practices in curriculum development for the elementary school. The activity program, the fusion of

various subject-matter areas, the core concept, the development of group activities, and the promotion of creative learning are also considered. Special emphasis is given the role of the teacher in curriculum development.

EDUCATION 610. ORGANIZATION AND ADMINISTRATION OF GUIDANCE PROGRAMS.

Three credits.

A consideration of the theory, organization, and personnel practices involved in organizing and administering guidance programs; the role of the guidance counselor; in-service education and program evaluation. Prerequisite: Education 516, or its equivalent.

EDUCATION 620. COMPARATIVE EDUCATION.

Three credits.

A comparison of the educational system and philosophy of the United States with those of specific foreign countries is included in this course. Although the emphasis is on recent trends and practices, attention is given to the social, economic, and political problems and developments which brought about progress.

EDUCATION 630. RESEARCH METHODS IN EDUCATION.

Three credits.

This course is designed to develop those skills, insights, and understandings which will enable the student to become both an intelligent consumer and an intelligent producer of educational research.

EDUCATION 640. THE FUNDAMENTALS OF EDUCATIONAL ADMINISTRATION.

Three credits.

This course deals with such topics as federal, state and local authority and control of education; financial support for public education; problems related to the administration and supervision of pupil personnel, teaching personnel, and of the instructional program.

EDUCATION 650. SUPERVISION OF INSTRUCTION.

Three credits.

In this course supervision is viewed as educational leadership in the improvement of instruction. The implications of research on the nature and scope of supervision are reviewed; current views on cooperative planning of supervisory programs are analyzed; and the improvement of supervisory techniques studied.

EDUCATION 680. READING AND RESEARCH.

Three credits.

The student registered for this course is given an opportunity for directed reading and research in areas of his special interest. *Reading and Research* may be done only in the major field of study. Prerequisite: Education 630, or its equivalent.

EDUCATION 700. THESIS.

Six credits.

A thesis in the major field of interest and completed to the satisfaction of the Student's Advisory Committee and the Graduate Council may be submitted in partial fulfillment of the requirements for the Master's degree. Students who elect to write a thesis are required to complete twenty-four semester hours in course work. The Student's Advisory Committee must recommend the thesis subject and outline to the Graduate Council for approval at least three months prior to the time the degree is expected to be awarded. The thesis must be completed one month before the time of graduation to assure the Advisory Committee of its acceptability.

DEPARTMENT OF ENGLISH

MR. LOCKE, *Head of the Department*

A student may elect to major in English in the graduate program at Madison. The requirements are as follows:

Major: A total of at least twenty-one semester hours in English is needed, provided that the undergraduate background of the student is sufficient to warrant his beginning graduate study in this field. (If undergraduate preparation in English is insufficient, it will be necessary for the student to take certain undergraduate English courses.) These twenty-one hours must include the following required courses:

English 501. Growth and Structure of the English Language

English 520. The Practice of Literary Criticism

English 601. Shakespeare

Twelve additional hours in English may be elected from the courses offered by the department. The student may elect

English 700 (Thesis) with a credit of six semester hours and one other English course, or if he does not wish to write a thesis he may elect three additional courses in English.

The major in English is also required to take nine hours in Education distributed as recommended by the Department of Education.

Minor: Twelve hours of English are required for a minor. Two courses are prescribed, as follows:

English 501. Growth and Structure of the English Language

English 520. The Practice of Literary Criticism

An additional course for the minor is to be chosen from the graduate offerings in English.

ENGLISH 501. THE GROWTH AND STRUCTURE OF THE ENGLISH LANGUAGE.

Three credits.

An introduction to the history of the English language with attention to the changing forms of speech as reflected in morphology, phonology, syntax, and semantics. Reading and research in special phases of historical and descriptive grammar.

ENGLISH 520. THE PRACTICE OF LITERARY CRITICISM.

Three credits.

The history and theories of literary criticism are given brief attention. The major emphasis of the course, however, is upon critical examination and analysis, both oral and written, of representative poems, short stories, and dramas. Students are given ample opportunity to practice literary criticism.

ENGLISH 530. STUDIES IN AMERICAN LITERATURE.

Three credits.

A study of literary movements and significant authors of several of the periods of American literature will be made in different years.

ENGLISH 540. POETRY AND PROSE OF THE ENGLISH
RENAISSANCE.

Three credits.

The major literary expressions of the English Renaissance from the rise of humanism to Milton, excluding Shakespeare.

ENGLISH 550. MODERN DRAMA.

Three credits.

A study of the representative plays of modern and contemporary dramatists, beginning with Ibsen, Shaw and O'Neill. Wide reading in the works of the chief contemporary dramatists will be required.

ENGLISH 570. STUDIES IN SEVENTEENTH-CENTURY
LITERATURE.

Three credits.

A study of selected authors and movements in the poetry and prose of the Seventeenth Century. Especial attention to Metaphysical poetry and to the development of modern English prose style.

ENGLISH 580. STUDIES IN THE POETRY OF THE ROMANTIC
MOVEMENT.

Three credits.

A study of romanticism in the work of the precursors, Wordsworth, Coleridge, Byron, Shelley, Keats, and others. The choice of authors to be studied may vary in different years.

ENGLISH 590. STUDIES IN OLD ENGLISH.

Three credits.

The Old English language with readings in selected poetry and prose of the period.

ENGLISH 601. SHAKESPEARE.

Three credits.

A study of selected plays by Shakespeare. The choice of plays will vary in different years.

ENGLISH 610. STUDIES IN MIDDLE ENGLISH LITERATURE.

Three credits.

Selected examples of Middle English literature from the Norman Conquest to the introduction of printing.

ENGLISH 620. STUDIES IN RESTORATION AND EIGHTEENTH-CENTURY LITERATURE.

Three credits.

A study of several major authors of the neo-classical period will be made in the context of the cultural and intellectual currents of the time. In some years Dryden, Swift, and Pope will receive chief attention; in others, Dr. Johnson and his contemporaries.

ENGLISH 630. STUDIES IN ENGLISH LITERATURE OF THE NINETEENTH CENTURY.

Three credits.

The course considers the works of several major authors of the century. The choice of authors for study will vary in different years.

ENGLISH 640. STUDIES IN CONTEMPORARY LITERATURE.

Three credits.

Poetry and fiction of the most significant contemporary authors will be examined. Choice of authors studied will vary in different years.

ENGLISH 680. READING AND RESEARCH.

Three credits.

Opportunity is given the individual student for supervised reading and research in the literature of his special interest. *Reading and Research* may be done only in the major field of study.

ENGLISH 700. THESIS.

Six credits.

A thesis in the major field of interest and completed to the satisfaction of the Student's Advisory Committee and the Graduate Council may be submitted in partial fulfillment of the requirements for the Master's degree. Students who elect to write a thesis are required to complete twenty-four

semester hours in course work. The Student's Advisory Committee must recommend the thesis subject and outline to the Graduate Council for approval at least three months prior to the time the degree is expected to be awarded. The thesis must be completed one month before the time of graduation to assure the Advisory Committee of its acceptability.

HISTORY

MR. DINGLEDINE, *Head of the Department*

A student may elect to major or minor in History in the Graduate Program.

MAJOR—21 credit hours required

12 credit hours in History

9 credit hours in at least two Social Science subjects
(selected from Economics, Geography, Political
Science, and Sociology)

or

12 credit hours in History

3 credit hours in a Social Science subject (selected
from Economics, Geography, Political Science, and
Sociology)

6 credit hours in a thesis

MINOR—12 credit hours required

12 credit hours in History

HISTORY 525. THE UNITED STATES, 1800-1850.

Three credits.

This course offers an opportunity for a thorough study of selected topics from this period of United States History. Research papers, lectures and class discussions will deal with the subjects chosen. (This course was offered formerly as Social Science 525.)

HISTORY 535. THE TWENTIETH CENTURY WORLD.

Three credits.

This course deals with major political, economic, and social developments from the beginning of the present century to the contemporary period. The material will provide students with a background for understanding contemporary world affairs. (This course was offered formerly as Social Science 535.)

HISTORY 624. COLONIAL AMERICA.

Three credits.

This course deals with the period through the Revolution. Research papers, lectures, and class discussions will offer an opportunity for a thorough study of selected topics. (This course was offered formerly as Social Science 624.)

HISTORY 635. TOPICS IN HISTORY OF CIVILIZATION.

Three credits.

This course offers an opportunity for the study of selected subjects and periods in the history of civilization. Topics include the Age of Exploration, the Rise and Fall of Western Colonialism, and the Growth of the Idea of the Modern Welfare State. (This course was offered formerly as Social Science 635.)

HISTORY 680. READING AND RESEARCH.

Three credits.

Opportunity is offered the individual student for reading and research in an area of history of special interest to him. This course is open only to students majoring in History. Approval must be obtained from the head of the department. (This course was offered formerly as Social Science 680.)

HISTORY 700. THESIS.

Six credits.

A thesis may be submitted in partial fulfillment of the requirements for the Master's degree. The student's Advisory Committee must recommend the thesis subject and outline to the Graduate Council for approval. The thesis must be completed sixty days before the time of graduation. (This course was offered formerly as Social Science 700.)

HOME ECONOMICS

MISS ROWE, *Head of the Department*

To satisfy the increasing demand for graduate education in all fields of home economics, the department at Madison College offers a limited number of advanced courses.

The graduate courses may be applied toward a minor for the Master's degree.

The graduate courses may be used for renewal of teaching certificates.

Twelve hours of graduate work in home economics constitute a minor.

HOME ECONOMICS 510. FAMILY FINANCIAL PROBLEMS.

Three credits.

Analysis of money expenditures of the family in the United States and the use of the family income. Consumer's markets, standards, labels, will be studied with the latest research information on houses, equipment, food, clothing and savings. Prerequisite: Undergraduate course in economics.

HOME ECONOMICS 520. WORLD NUTRITION NEEDS AND FOOD RESOURCES.

Three credits.

The major world nutrition problems of today are analyzed. Identifying causative factors and investigating corrective measures are an integral part of the course.

HOME ECONOMICS 540. CLOTHING CONSTRUCTION TECHNIQUES.

Three credits.

The newer techniques in both custom and fast methods of clothing construction are studied. Emphasis is placed on fittings, underlinings, and finishing details. Garments are constructed incorporating the techniques studied. Prerequisite: Home Economics 210 or equivalent.

HOME ECONOMICS 610. NEW DEVELOPMENTS IN FOODS.

Three credits.

Review and interpretation of the literature in the field of food and food research. A critical analysis is made of recent developments in new food products. Prerequisite: Home Economics 140 or equivalent.

HOME ECONOMICS 639. SEMINAR IN TEXTILES.

Three credits.

Recent trends in textile developments affecting characteristic behavior of old and new fibers as reported in current literature. Study in selection and care for specific consumer needs. Problems in construction involving principles of new fabric use. Study of production and distribution. Field trips. Prerequisite: Home Economics 290 or equivalent.

SOCIAL SCIENCE 676. THE SOCIOLOGY OF THE FAMILY.

Three credits.

The American family is studied in its structural aspects. Primary emphasis is upon the middle class family by reference to the husband-wife, parent-child, and in-law relationships. Family behavior is related to occupational structure, religious orientation, educational patterns and social stratification. (Home Economics credit will be allowed for this course.)

HOME ECONOMICS 679. SEMINAR IN VOCATIONAL HOME ECONOMICS EDUCATION.

Three credits.

A study is made of the contribution of home economics to American education. A critical examination is made of trends and issues in curriculum development, instruction, guidance, evaluation, supervision, and research. Prerequisite: Home Economics Education 400 or equivalent.

HOME ECONOMICS 680. SEMINAR IN SUPERVISION OF STUDENT TEACHERS IN VOCATIONAL HOME ECONOMICS.

Three credits.

A study of the field of supervision including such topics as the nature and function of supervision, in-service improvement of teachers, techniques of classroom visitation, teaching ratings, teachers' meetings, human relations, and the selection of training centers. Prerequisites: Bachelor's degree, teaching experience in vocational home economics.

MATHEMATICS

MR. IKENBERRY, *Head of the Department*

Major: For a major in mathematics a minimum of twenty-one semester hours in graduate mathematics courses is required. This must include:

Mathematics 630. Introduction to Analysis
and at least one course from each of the following two groups of courses:

A. Mathematics 520. Foundations of Euclidean
Geometry

Mathematics 620. Modern Geometry

B. Mathematics 512. Introduction to Abstract Algebra

Mathematics 570. Matrix Theory

Mathematics 610. Topics in Algebra

The remainder of the major program will consist of electives from the graduate offerings in mathematics, chosen in consultation with the head of the department.

Minor: For a minor, a minimum of twelve semester hours of graduate courses in mathematics is required. At least one course must be chosen from Group A and at least one from Group B.

MATHEMATICS 512. INTRODUCTION TO ABSTRACT ALGEBRA.

Three credits.

A study of algebraic structures including groups, rings, integral domain, and fields.

MATHEMATICS 515. HISTORY OF MATHEMATICS.

Three credits.

History of mathematics from ancient times through the seventeenth century and selected topics from more recent mathematical history.

MATHEMATICS 520. FOUNDATIONS OF EUCLIDEAN GEOMETRY.

Three credits.

A study of the structure of Euclidean geometry.

MATHEMATICS 540. INTRODUCTION TO THE THEORY OF STATISTICS.

Three credits.

An introductory course in the theory of probability and statistical inference. Probability; discrete and continuous frequency distributions; sampling theory; tests of hypotheses; correlation and regression.

MATHEMATICS 550. THEORY OF NUMBERS.

Three credits.

Topics in elementary number theory including properties of integers and prime numbers, divisibility of numbers, simple Diophantine equations, congruence and residues.

MATHEMATICS 570. MATRIX THEORY.

Three credits.

An introduction to matrix algebra and determinant theory.

MATHEMATICS 600. FOUNDATIONS OF MATHEMATICS.

Three credits.

This is an introductory study of the logical structure of mathematics. The axiomatic method will be illustrated by developing the Peano theory of numbers.

MATHEMATICS 610. TOPICS IN ALGEBRA.

Three credits.

This course will consist of selected topics from algebra such as finite groups, semigroups, rings and ideals, fields, extension fields, and Galois theory. Prerequisite: Mathematics 512 or equivalent.

MATHEMATICS 620. MODERN GEOMETRY.

Three credits.

A study of the relationships among the different geometries using both synthetic and algebraic methods. The axiomatic structure of synthetic projective geometry; analytic projective geometry.

MATHEMATICS 630. INTRODUCTION TO ANALYSIS.

Three credits.

A survey of the fundamental concepts of the Calculus, including sequences, limits, continuity, and differentiability.

MATHEMATICS 635. INTRODUCTION TO POINT SET TOPOLOGY.

Three credits.

An introduction to point set topology including topological spaces, basis, continuity, connectedness, compactness and the Tychonoff theorem, topological groups, separation axioms, continua, the Tietze extension theorem, separability, arcs, and mappings of the interval.

MATHEMATICS 660. COMPLEX VARIABLES.

Three credits.

Analytic functions; differentiation and integration; power series; conformal mapping.

MATHEMATICS 680. READING AND RESEARCH.

Three credits.

Opportunity is given the individual student for supervised reading and research in areas of his special interest. *Reading and Research* may be done only in the major field of study.

MUSIC

MR. BUCHER, *Head of the Department*

Music and music education is offered as either a major or a minor field of specialization for the degree of Master of Arts in Education. The candidate who elects to major in music must

complete fifteen semester hours in music courses and submit a thesis or complete twenty-one semester hours in music courses. Candidates who elect to minor in music must complete twelve semester hours in music courses. Music majors will be expected to have completed an undergraduate major, and music minors an undergraduate minor, in music.

Minimum requirements for a music *major*

	<i>Semester Hours</i>
Required courses	9
1. Music Education 610	3
2. One of the following: Music 561, 562 or 563	3
3. One of the following with the approval of the music department adviser: Music 501, 502, 526, 527, 545, Music Education 611, Music Education 613	3
Electives	9
Selected, according to student's interests, from other music courses listed.	

Minimum requirements for a music *minor*

Required courses	6
1. Music Education 610	3
2. One of the following with the approval of the music department adviser: Music 561, 562 or 563 or Music 501, 502, 526, 527, 545, or Music Education 613	3
Electives	6
Selected from other music courses listed.	

MUSIC 501. CHORAL MATERIALS AND TECHNIQUES.

Three credits.

A study of the problems, materials, and techniques of teaching choral music in the high school. Laboratory experiences will be provided at the Virginia Music Camp at Massanetta Springs.

MUSIC 502. INSTRUMENTAL MATERIALS AND TECHNIQUES.

Three credits.

A study of the problems, materials, and techniques of teaching instrumental music in the high school, with emphasis on orchestra. The orchestra of the Music Camp at Massanetta Springs will provide laboratory experience and opportunities for observation.

MUSIC 511, 512, 513, 514. APPLIED MUSIC.

One credit.

Four semester hours of credit in applied music—piano, voice, organ, and an orchestral instrument—may be offered toward the Master's degree. Graduate students will be encouraged to study applied music, and work will be suited to their individual needs.

MUSIC 521. MUSIC OF THE CHURCH.

Three credits.

A study of some of the most common problems of the church musician. Special emphasis will be placed on organ registration, repertory, and service playing; on choirs and choral literature; and on appropriate music for the church year. Students may work along one or more of these lines, according to their interests.

MUSIC 522. MASTER CLASS IN PIANO.

Three credits.

Emphasis will be placed on a broadened knowledge and use of teaching materials and techniques, on repertory and on improving students' own performance. Students who are more interested in teaching may concentrate on phases of pedagogy in lieu of performance.

MUSIC 526. ADVANCED CONDUCTING (CHORAL AND INSTRUMENTAL).

Three credits.

Prerequisite: Music 327-328 or equivalent.

Refinement of baton technique.

Score reading. Specific problems selected from standard works. Practical experience with choral and instrumental groups.

MUSIC 527. INSTRUMENTAL TECHNIQUES.

Two credits.

This course is designed for instrumental music teachers who need further help with one specific instrument or group of instruments. Members of the group will work together and separately, each on his special concentration.

MUSIC 541. MODERN HARMONY AND COMPOSITION.

Three credits.

A study of the harmonic, contrapuntal and other stylistic devices of the twentieth-century composer and their application in creative writing by the student who wishes to acquire a technique in the contemporary idiom.

Composition in both small and larger forms depending upon the talent and background of the student. This course is not only for the talented composition student but also for the teacher and performer who desires an increased understanding of our contemporary music.

MUSIC 542. MODERN HARMONY AND COMPOSITION.

Three credits.

A sequel to Music 541. One course may be taken without the other and either may be elected first.

MUSIC 545. INSTRUMENTATION.

Three credits.

The arranging of music for orchestra, band, and various ensemble groups. Styles in arranging, range and characteristics of the different instruments, and instrumentation for various types of musical composition.

MUSIC 561. MUSIC OF THE BAROQUE AND CLASSICAL PERIODS.

Three credits.

A study of vocal, instrumental and organ music of the Baroque Period beginning with the late Renaissance composers Monteverdi, G. Gabrielli and Sweelinck and culminating in Bach and Handel; the Mannheim School; the preclassical Viennese composers; Gluck, Haydn, Mozart, Beethoven.

MUSIC 562. MUSIC OF THE ROMANTIC PERIOD.

Three credits.

A study of the Romantic movement in music with reference to its historical background and parallel movement in literature and art. The music of Schubert, Weber, Berlioz, Mendelssohn, Liszt, Chopin, Wagner, Brahms and their contemporaries. Post-romanticism: Elgar, MacDowell, R. Strauss, Sibelius, and others.

MUSIC 563. TWENTIETH-CENTURY MUSIC.

Three credits.

A survey of the trends found in twentieth-century music. Impressionism; "New Music" from Satie to Schoenberg, Bartok, and Hindemith. The music of contemporary American composers.

MUSIC EDUCATION 610. RESEARCH AND TRENDS IN MUSIC EDUCATION.

Three credits.

This course deals with psychological factors involved in the teaching of music, with individual measurements in music, and with more recent developments in music education. It is designed to include work which is significant to all branches of music teaching.

MUSIC EDUCATION 611. THE SUPERVISION AND ADMINISTRATION OF MUSIC.

Three credits.

The supervision of teachers of music; administrative responsibilities of music teachers and supervisors. The role of the supervisor of music in the schools.

MUSIC EDUCATION 612. PROJECTS IN MUSIC EDUCATION.

Three credits.

Students who elect this course will select, formulate, carry through and evaluate a specific project in the teaching of music in their own schools. Registration may be for Fall or Spring Term; periodic conferences and reports will be arranged.

MUSIC EDUCATION 613. SEMINAR: PRINCIPLES AND PRACTICES
IN MUSIC EDUCATION.

Three credits.

This course deals with broader concepts in music education in developing a coordinated and continuous program, and in examining methods of instruction. One week of the course will be devoted to participation in and exploration of these aspects of the Virginia Music Camp and Workshop at Massanetta Springs.

MUSIC 620. ANALYTICAL STUDIES IN MUSIC LITERATURE.

Three credits.

The study of representative works from all periods in terms of their formal and stylistic characteristics. Stylistically the analysis will include a consideration of the following: melodic and rhythmic elements, harmonic and contrapuntal techniques, texture (in its many ramifications), orchestration (vocastration) and the interrelation of these elements in the forms as a whole. Finally the study will view each work as a product of a definite aesthetic concept.

MUSIC 700. THESIS.

Six credits.

A thesis in the major field of interest and completed to the satisfaction of the Student's Advisory Committee and the Graduate Council may be submitted in partial fulfillment of the requirements for the Master's degree. Students who elect to write a thesis are required to complete twenty-four semester hours in course work. The Student's Advisory Committee must recommend the thesis subject and outline to the Graduate Council for approval at least three months prior to the time the degree is expected to be awarded. The thesis must be completed one month before the time of graduation to assure the Advisory Committee of its acceptability.

SCIENCE

The Division of the Natural Sciences is offering the following program in science to give those elementary teachers who are interested in science an opportunity to obtain a minor in science in the graduate program. This minor is limited to elementary teachers.

Students electing this minor will be required to take the following three courses and one additional science course. These courses will enable the elementary teacher to become acquainted with three areas of scientific progress from which practical techniques as well as theoretical foundations may be learned.

BIOLOGY 510. VERTEBRATE ECOLOGY.

Three credits.

A course designed to acquaint students with fundamental relationships existing between animals and their environment. Emphasis will be placed on the dynamic aspect of ecology and its importance to mankind. The laboratory will consist of group discussion sessions and selected field trips throughout the Shenandoah regions.

PHYSICAL SCIENCE 510. EARTH SCIENCE.

Three credits.

A course designed to familiarize the graduate student with the basic aspects of most branches of geology. Emphasis is upon materials and structure of the earth, and how rock units are shaped into their scenic expression.

PHYSICAL SCIENCE 520. MATTER AND ENERGY.

Three credits.

This course is intended to give graduate students planning to teach in the elementary school an understanding of one of the major physical science problems facing mankind. Emphasis is placed on matter and energy as unifying concepts in the physical sciences. The course is taught jointly by staff members of the Chemistry and Physics Departments.

SOCIAL SCIENCE

MR. E. L. SMITH, *Head of the Department*

A student may elect to major or minor in Social Science in the Graduate Program.

MAJOR—21 hours required.

9 credit hours concentration in one Social Science subject to be selected from: Economics, Geography, Political Science or Sociology, and

12 credit hours in at least two other social science subjects including history.

or

12 hours credit in one social science subject to be selected from: Economics, Geography, or Political Science, and

3 hours elective from any other social science area including history, and

6 hours credit in a thesis.

MINOR—12 hours required.

In order to minor in Social Science, the student must complete twelve semester hours from any courses listed in the Graduate Bulletin.

COURSE OFFERINGS IN ECONOMICS, GEOGRAPHY, POLITICAL SCIENCE, AND SOCIOLOGY

A. *Economics*

1. SOCIAL SCIENCE 501A. ECONOMICS SEMINAR: INDUSTRY-IN-ACTION

Three credits.

This course is designed to highlight the American free enterprise system. Students will participate in field trips to examine how our economic system operates at the production level. Lectures and demonstrations in the field will include visits to major representative industrial plants.

Enrollment is limited. On account of the field trips, a special non-refundable fee of twenty-five dollars (\$25.00) must be paid in advance to the Head of the Department of Social Science and History. This special fee will be in addition to the regular registration fees for the course which are payable to the Business Office. The course will be offered during Intersession only.

2. SOCIAL SCIENCE 501B. ECONOMICS SEMINAR: GOVERNMENT AND BUSINESS.

Three credits.

This course is organized to place emphasis on government regulation of business in the United States and competing countries. Students will examine the historical development of regulation, consider its contemporary scope and discuss its philosophical and economic basis.

3. SOCIAL SCIENCE 501C. ECONOMICS SEMINAR: LABOR- MANAGEMENT RELATIONS.

Three credits.

In this seminar economic analysis is applied to the labor market with a consideration given to wage determination, prices and wages, employment and wages and other areas of relationships.

Students will examine the history of the labor movement, the methods, policies and theories of labor and compare these with policies, methods and theories of management.

4. SOCIAL SCIENCE 522. ECONOMIC PROBLEMS OF EMERGING NATIONS.

Three credits.

A study of economic prospects in the emerging underdeveloped nations of the world. Using a case study approach, selected areas will be investigated in terms of their past with emphasis on economic growth and the prospects of improving standards of living for the masses in a technological age.

5. SOCIAL SCIENCE 527. ECONOMIC PROBLEMS OF MODERN EUROPE.

Three credits.

A study of economic conditions and related political developments as a background for understanding the contemporary economic positions of major European countries.

6. SOCIAL SCIENCE 600. CONTEMPORARY ECONOMICS.

Three credits.

The role of economics in national and world affairs is analyzed and special attention is given to international trade, distribution of wealth, income, taxation and public debt, recurrent major depressions and periods of prosperity, and types of economic systems.

7. BUSINESS EDUCATION 630. SEMINAR IN AMERICAN BUSINESS.

Three credits.

Comprehensive review of current books, magazines, and materials in the areas of Marketing, Banking, Taxation, Selling, Exchanges,

Economic Conditions, and other areas essential to improved business understanding. (Social Science credit will be allowed for this course.)

8. SOCIAL SCIENCE 660. ECONOMIC SYSTEMS OF THE
WORLD.

Three credits.

The major types of economic systems, Socialism, Communism, Fascism and Capitalism, will be analyzed and compared with special attention given to national and world affairs and international relations. The distribution of wealth and income, public debt, and business cycles will be explained and compared. (Business Education credit will be allowed for this course.)

9. SOCIAL SCIENCE 680. READING AND RESEARCH.

Three credits.

Opportunity is offered the individual student for reading and research in the areas of economics which are of special interest to the student. *Reading and Research* may be done only in the major field of study.

10. SOCIAL SCIENCE 700. THESIS.

Six credits.

A thesis may be submitted in partial fulfillment of the requirements for the Master's degree. The Student's Advisory Committee must recommend the thesis subject and outline to the Graduate Council for approval. The thesis must be completed one month before the time of graduation to assure the Advisory Committee of its acceptability.

B. Geography

1. SOCIAL SCIENCE 510A. GEOGRAPHY SEMINAR:
ECONOMIC.

Three credits.

This course is designed to acquaint the student with the relationship of geography to the other social sciences. Particular emphasis will be placed on the economic aspects of geography. Students will participate in field trips to selective industrial, commercial, and transportation sites.

2. SOCIAL SCIENCE 510B. GEOGRAPHY SEMINAR: REGIONAL.

Three credits.

This course is designed to emphasize the relationship of geography to the other social sciences. The course will include the use of maps in the study of regions and regional problems. It will use the published maps in the study of both local and distant regions. The compilation of maps of the state and local regions from statistics and other source materials will be included among the exercises. Included in the course will be a study of how maps should be used in classrooms as well as in research.

3. SOCIAL SCIENCE 560. POLITICAL GEOGRAPHY.

Three credits.

A detailed study of the world's pressure areas based upon cause and effect of political tensions from a geographic frame of reference. Principles of political geography will be discussed in detail and will then be applied to tension areas, past as well as present, while special reference will be made to the geographic causes which helped to create post World War I problems.

4. SOCIAL SCIENCE 580. CULTURAL GEOGRAPHY.

Three credits.

A systematic as well as regional study of the world's cultures as based upon differences and similarities of the geographic environment on a global scale. Emphasis will be on the distribution of population and the problems which have arisen from this distribution.

5. SOCIAL SCIENCE 590. THE TROPICAL WORLD.

Three credits.

This course is designed to highlight the areas of the world bordering on the Equator, including Central Africa, Southeastern Asia, Central and Northern Latin America and the Pacific. Students will study the physical environment in relationship with the cultural and social characteristics that together make these areas part of the present world political struggle.

6. SOCIAL SCIENCE 680. READING AND RESEARCH.

Three credits.

Opportunity is offered the individual student for reading and research in the areas of geography which are of special interest to the student. *Reading and Research* may be done only in the major field of study.

7. SOCIAL SCIENCE 700. THESIS.

Six credits.

A thesis may be submitted in partial fulfillment of the requirements for the Master's degree. The Student's Advisory Committee must recommend the thesis subject and outline to the Graduate Council for approval. The thesis must be completed one month before the time of graduation to assure the Advisory Committee of its acceptability.

C. Political Science

1. SOCIAL SCIENCE 520A. GOVERNMENT SEMINAR: FEDERAL.

Three credits.

This course is designed to acquaint the student with the functions and operations of various branches of American Government. Lectures and demonstrations in the field will include visits to agencies and departments in Washington, D.C.

Enrollment is limited to fifteen students. On account of the field trips, a special nonrefundable fee of twenty-five dollars (\$25.00) must be paid *in advance* to the Head of the Department of Social Science. This special fee will be in addition to the regular registration fees for the course which are payable to the Business Office. The course will be offered during Intersession only.

2. SOCIAL SCIENCE 520B. GOVERNMENT SEMINAR: STATE AND LOCAL.

Three credits.

This course is designed to acquaint the student with the functions and operations of the various branches and agencies of state and local government. Lectures and demonstrations in the field will include visits to at least one state capital and to local government offices. (Stu-

dents who participated in Social Science 520A, Government Seminar: Federal, in the past, may receive credit for the state and local government seminar.)

Enrollment is limited to fifteen students. On account of the field trips, a special nonrefundable fee of twenty-five dollars (\$25.00) must be paid *in advance* to the Head of the Department of Social Science. This special fee will be in addition to the regular registration fees for the course which are payable to the Business Office. The course will be offered during Intersession only.

3. SOCIAL SCIENCE 520C. GOVERNMENT SEMINAR: INTERNATIONAL RELATIONS.

Three credits.

This course is designed to acquaint the student with the operations of the various branches of our government, which function in the field of international relations. Lectures and demonstrations in the field will include visits to Washington, D.C. and some of the specialized agencies associated with world affairs.

Enrollment is limited to fifteen students. On account of the field trips, a special nonrefundable fee of twenty-five dollars (\$25.00) must be paid *in advance* to the Head of the Department of Social Science. This special fee will be in addition to the regular registration fees for the course which are payable to the Business Office. The course will be offered during Intersession only.

4. SOCIAL SCIENCE 529. INTERNATIONAL ORGANIZATION.

Three credits.

An examination of the international organization such as The Organization of American States, United Nations, Pan-American Union, and regional organization in terms of structure, functions and role in foreign affairs.

5. SOCIAL SCIENCE 550. PROBLEMS IN STATE AND LOCAL GOVERNMENT.

Three credits.

This course will focus attention on the major problems faced by local and state governments. The problem will include political leadership, operation of the courts, police power, fiscal problems, metropolitan areas and others.

6. SOCIAL SCIENCE 610. MODERN POLITICAL THEORY.

Three credits.

Examination of the contributions of political thinkers from Machiavelli to the present. Bodin, Hobbes, Locke, Montesquieu, Rousseau, Burke, Hegel, and Marx will be among those considered.

7. SOCIAL SCIENCE 650. COMPARATIVE WORLD GOVERNMENTS.

Three credits.

This course is designed to acquaint the student with the governmental forms and structures of the major world powers. A comparison is made between the American Federal Government and the governments of Russia and England.

8. SOCIAL SCIENCE 680. READING AND RESEARCH.

Three credits.

Opportunity is offered the individual student for reading and research in the areas of government which are of special interest to the student. *Reading and Research* may be done only in the major field of study.

9. SOCIAL SCIENCE 700. THESIS.

Six credits.

A thesis may be submitted in partial fulfillment of the requirement for the Master's degree. The Student's Advisory Committee must recommend the thesis subject and outline to the Graduate Council for approval. The thesis must be completed one month before the time of graduation to assure the Advisory Committee of its acceptability.

D. Sociology

1. SOCIAL SCIENCE 530A. SOCIOLOGY SEMINAR: SOCIAL PROBLEMS.

Three credits.

This course is organized to place emphasis on social disorganization and the special areas of breakdown. Contemporary problems will be discussed and recent research reviewed on alcoholism, juvenile delinquency, family problems, social mobility, automation and the critical areas.

2. SOCIAL SCIENCE 530B. SOCIOLOGY SEMINAR:
SOCIAL THEORY.

Three credits.

A review of the history of sociology will offer a frame of reference from which students will study the classical works of a variety of sociologists. This course will also provide the participant an opportunity to explore the works of some leading social philosophers and examine comparative social and behavioral concepts.

3. SOCIAL SCIENCE 578. COMMUNITY ANALYSIS.

Three credits.

Representative community studies are read as an aid in the development of theories of community organization. A detailed analysis is made of the relationship between social stratification and occupation, family, religion, political behavior and education.

4. SOCIAL SCIENCE 670. SOCIAL CHANGE.

Three credits.

An analysis is made of the dynamics of social behavior by reference to changes in value orientation, technology, population characteristics, power structure, system of stratification, and communication techniques.

5. SOCIAL SCIENCE 676. THE SOCIOLOGY OF THE
FAMILY.

Three credits.

The family is studied in its structural aspects. Primary emphasis is upon the husband-wife, parent-child, and in-law relationships. Family behavior is related to occupational structure, religious orientation, educational patterns, and social stratification. (Home Economics credit will be allowed for this course.)

6. SOCIAL SCIENCE 680. READING AND RESEARCH.

Three credits.

Opportunity is offered the individual student for reading and research in the areas of sociology which are of special interest to the student. *Reading and Research* may be done only in the major field of study.

7. SOCIAL SCIENCE 700. THESIS.

Six credits.

A thesis may be submitted in partial fulfillment of the requirements for the Master's degree. The Student's Advisory Committee must recommend the thesis subject and outline to the Graduate Council for approval. The thesis must be completed one month before the time of graduation to assure the Advisory Committee of its acceptability.