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Madison College (Harrisonburg, Va.)

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Harrisonburg, Va. 22801
MADISON COLLEGE
GRADUATE SCHOOL

ACREDITED 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.


CORPORATE MEMBER OF: American Association of University Women.
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Graduate Academic

1973 SPRING SEMESTER

April 7—Last day to withdraw from a course with a "WP" grade.
April 12—Deadline for filing application for May graduation with the Records Office.
April 14—Graduate School Foreign Language Test.
April 28—Deadline for Comprehensive Examinations (written or oral).
April 28—Graduate Record Examination.
April 30—Deadline for final filing of thesis with the Office of the Graduate School.

May 1—Classes end second semester.
May 2—Reading Day.
May 3-8—Final Examination period.
May 12—Commencement, 10:00 a.m. Residence Halls close at 2:00 p.m.
May 18—Deadline for filing with Educational Testing Service for Graduate Record Examination on June 16.

1973 SUMMER SESSION

May 27—Residence Halls open at 2:00 p.m.
May 28—Registration for First 5½-Week Summer Session. (7:00 a.m. to 10:00 a.m.) Classes begin 7:15 a.m.
June 16—Saturday—Classes meet.
June 16—Graduate Record Examination.
June 18—Registration for Eight-Week Session. (9:30 a.m. to 3:00 p.m.)
June 19—Classes begin for Eight-Week Session 7:15 a.m.
July 3—Deadline for filing with Educational Testing Service for the Graduate School Foreign Language Test on July 28.
July 3—Final Examinations for First 5½-Week Session.
July 4—Holiday. Classes do not meet.
July 5—Registration and classes begin for Second 5½-Week Session (7:00 a.m. to 10:00 a.m.) Classes begin 7:15 a.m.
July 10—Deadline for filing application for August graduation with the Records Office.
July 20—Deadline for final filing of thesis with the Office of the Graduate School.
July 21—Deadline for Comprehensive Examinations (written or oral).
July 28—Graduate School Foreign Language Test.

August 9—Reading Day for Eight-Week courses.
August 10—Examinations for Second 5½-Week and Eight-Week Sessions.
August 11—Commencement, 7:00 p.m.
August 12—Residence Halls close 9:00 a.m.
Calendar

1973 FALL SEMESTER

September 3—Residence Halls open 9:00 a.m.
September 3—Registration for full-time and part-time graduate students 6:00-8:00 p.m.
September 5—Classes begin 8:00 a.m.
September 12—Last day of class changes without payment of $5.00 fine. Last day to add a new course.
September 22—Institute on Education.
September 27—Deadline for filing with Educational Testing Service for the Graduate Record Examination to be given on October 27.

October 3—Deadline for filing with Educational Testing Service for Graduate School Foreign Language Test to be given on October 27.
October 10—Last day to withdraw from a course with a "W" grade.
October 13—Homecoming.
October 27—Graduate Record Examination.

November 6—Classes do not meet 8:00 a.m. to 6:00 p.m. Evening classes will meet.
November 8—Deadline for filing with Educational Testing Service for the Graduate Record Examination to be given on December 8.
November 15—Last day to withdraw from a course with a “WP” grade.
November 21—Thanksgiving vacation begins 9:50 p.m. Residence Halls close 8:00 p.m.
November 25—Residence Halls open 2:00 p.m.
November 26—Thanksgiving vacation ends and classes begin 8:00 a.m.

December 8—Graduate Record Examination.
December 14—Last day of classes, 9:50 p.m.
December 15—Reading Day.
December 17-21—Final Examinations.
December 19—Deadline for filing with Educational Testing Service for the Graduate Record Examination to be given on January 19.
December 21—End of First Semester. Mid-year recess begins. Residence Halls close 8:00 p.m.
December 26—Deadline for filing with Educational Testing Service for Graduate School Foreign Language Test given on January 19.
### 1974 SPRING SEMESTER

| January 13 | Residence Halls open 2:00 p.m. |
| January 14 | Registration for full-time and part-time graduate students 6:00-8:00 p.m. |
| January 16 | Second Semester classes begin 8:00 a.m. |
| January 19 | Graduate Record Examination. |
| January 19 | Graduate School Foreign Language Test. |
| January 23 | Last day of class changes without payment of $5.00 fine. Last day to add a new course. |

### FEBRUARY

| February 20 | Last day to withdraw from a course with a “W” grade. |

### MARCH

| March 8 | Mid-semester recess begins 9:50 p.m. Residence Halls close 8:00 p.m. |
| March 17 | Residence Halls open 2:00 p.m. |
| March 18 | Classes begin 8:00 a.m. |
| March 22 | Founder’s Day. |
| March 27 | Deadline for filing for the Graduate Record Examination on April 27. |

### APRIL

| April 3 | Deadline for filing for Graduate School Foreign Language Test given on April 27. |
| April 5 | Last day to withdraw from a course with a grade of “WP.” |
| April 11 | Deadline for filing application for May graduation with Records Office. |
| April 20 | Deadline for Comprehensive Examinations (written or oral). |
| April 27 | Deadline for filing of thesis with the Office of the Graduate School. |
| April 27 | Graduate Record Examination. |
| April 27 | Graduate School Foreign Language Test |
May 3—Classes end Second Semester 9:50 p.m.
May 4—Reading Day.
May 6-10—Final Examinations.
May 11—Commencement. Residence Halls close at 2:00 p.m.
May 15—Deadline for filing with Educational Testing Service for the Graduate Record Examination on June 15.
May 22—Deadline for filing for Graduate School Foreign Language Test on June 15.

1974 SUMMER SESSION
May 26—Residence Halls open for Summer Session 2:00 p.m.
May 27—Registration and classes begin 7:15 a.m. for First 5 1/2-Week Session.

June 15—Graduate School Foreign Language Test.
June 15—Graduate Record Examination.
June 15—Saturday—Classes meet.
June 17—Registration for Eight-Week Session.
June 18—Classes begin for Eight-Week Session.

July 3—First 5 1/2-Week Session ends. Final examinations.
July 4—Holiday. Classes do not meet.
July 5—Registration and classes begin for Second 5 1/2-Week Session 7:15 a.m.
July 10—Deadline for filing application for August graduation with Records Office.
July 20—Deadline for filing thesis with the Office of the Graduate School.
July 20—Deadline for Comprehensive Examinations (written or oral).

August 8—Reading Day for Eight-Week courses.
August 9—Examinations for Second 5 1/2-Week and Eight-Week Sessions.
August 10—Commencement 7:00 p.m.
August 11—Residence Halls close 9:00 a.m.
The Visitors of Madison College

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Nashville, Tennessee

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Home Economics ......................................Dr. Dorothy Rowe

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CATALOG

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WILLIAM O. HALL, JR., Professor of Education and Psychology. B.S.C., Ohio University; M.A., Ed.D., University of Kentucky.

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Cary S. Henderson, Associate Professor of History. B.A., M.A., University of Florida; Ph.D., Duke University.

Billy J. Hinton, Professor of Business Administration and Economics. B.A., M.A., Baylor University; Ph.D., Louisiana State University.

Phillip G. Huntsinger, Associate Professor of Health Education. B.S., Friends University; M.S., Colorado State College; D.Ed., University of Tennessee.

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William F. Jones, Associate Professor of Biology. B.A., Davis and Elkins College; M.S.Ed., Madison College; Ed.D., University of Virginia.

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Clark D. Kimball, Assistant Professor of Speech and Drama. B.A., Butler University; Ph.D., Indiana University.

Paul H. Kipps, Associate Professor of Economics. B.S., M.S., Virginia Polytechnic Institute; Ph.D., Cornell University.

James W. Kuhns, Associate Professor of Psychology. A.B., Goshen College (Indiana); M.Ed., Ed.D., Temple University.
S. James Kurtz, Associate Professor of Music. B.A., M.A., New York University; Ph.D., University of Iowa.

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Elizabeth G. Shafer, Associate Professor of Counselor Education. B.A., M.S., Ph.D., Florida State University.

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Gilbert S. Trelawny, Professor of Biology. B.S., Delaware Valley College of Science and Agriculture; M.S., Ph.D., Lehigh University.

Lester E. Tuttle, Jr., Associate Professor of Counselor Education. B.S., Wittenburg University; M. Ed., University of Pittsburgh; Ed.D., University of Florida.

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John C. Wells, Professor of Physics. A.B., Colgate University; M.A., Ed.D., Columbia University.

George A. West, Professor of Music. B.M., Oberlin Conservatory of Music; M.M., Ph.D., Michigan State University.

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COLUMBIA WINN, *Associate Professor of Psychology*. B.A., University of Colorado; A.M., University of Chicago.

JANET WINSTEAD, *Associate Professor of Biology*. B.S., Midwestern University; M.S., Ohio University; Ph.D., University of Texas at Austin.

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

BEN E. WRIGHT, *Associate Professor of Music*. B.A., Arkansas Polytechnic College; M.M.Ed., Louisiana State University; Ed.D., University of Northern Colorado.

CHONG-KUN YOON, *Associate Professor of History*. B.A., University of Oregon; M.A., Ph.D., The American University.
THE
GRADUATE PROGRAM
OF
MADISON COLLEGE

HISTORY
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 degrees 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 programs leading to the Master of Science degree with majors in Biology and in Mathematics. The Master of Arts degree in other fields and the Master of Business Administration degree were authorized by subsequent actions of the State Council of Higher Education.

PURPOSE
The graduate program was inaugurated at Madison College to provide teachers with an opportunity to improve their competency through greater subject-matter mastery in their respective areas of teaching and by increased professional skills through further study in professional education. Fulfilling this purpose continues to be a major function of the graduate program.

In addition, the graduate program at Madison College now offers a systematic program of study in several academic and other professional fields designed to afford students who are not teachers an opportunity to pursue advanced study and research.
ADMINISTRATION

In the organization and administration of the graduate school, the Commission on Graduate Studies and Research of the College Council, the Graduate Council, the Graduate Faculty as a body, and the Dean of the Graduate School play significant roles.

Commission on Graduate Studies and Research

The Commission on Graduate Studies and Research of the College Council has responsibility for recommending to the College Council long-range planning and the development of general policies affecting the Graduate School and its role in accomplishing the overall objectives of the College.

The Graduate Council

The Graduate Council has responsibility for implementing the plans and policies affecting the Graduate School, and for the approval of graduate courses, programs, appointments to the Graduate Faculty, and degree requirements.

The Graduate Faculty

The Graduate Faculty as a body has responsibility for final approval of the award of graduate degrees and serves as an appellate body when decisions of the Graduate Council are appealed by a minimum of three members of the Graduate Council.

The Graduate Faculty meets at three regular meetings during the academic year, and at special meetings as required.

Dean of the Graduate School

The Dean of the Graduate School has responsibility for administering the Graduate School under the broad policy guidance of the Graduate Council. He serves as chairman of the Graduate Commission and of the Graduate Council, and as such is responsible for scheduling meetings and the conduct of business of those bodies.
PROGRAMS OF GRADUATE STUDY

The Graduate School of Madison College offers the following Programs of Graduate Study:

Major Programs

Master of Arts Degree (M.A.)
- Art*
- English*
- History*

Master of Science Degree (M.S.)
- Biology*
- Mathematics*

Master of Business Administration (M.B.A.)*

Master of Arts in Education (M.A.Ed.)
- English
- History
- Music
- Secondary Education
- Social Science

Master of Science in Education (M.S.Ed.)
- Biology
- Business Education
- Counselor Education*
- Early Childhood Education*
- Elementary Education
- Mathematics
- Physical and Health Education
- Physics
- Reading*
- School Administration*
- School Psychology*
- Secondary Education
- Special Learning Disabilities*

* Minor not authorized
Minor Programs

Master of Arts in Education (M.A.Ed.)
- Art
- Economics
- Elementary Education
- English
- Higher Education
- History
- Music
- Political Science
- Secondary Education
- Social Science
- Sociology
- Spanish
- Speech and Drama

Master of Science in Education (M.S.Ed.)
- Biology
- Business Education
- Chemistry
- Economics
- Elementary Education
- Higher Education
- Home Economics
- Library Science
- Mathematics
- Physical and Health Education
- Physics
- Political Science
- Secondary Education
- Sociology
- Speech and Drama

All programs of study leading to advanced degrees are available to students enrolled in the regular academic year sessions, including the evening programs and in the summer session.
Graduate degrees are conferred upon students who satisfactorily complete stated requirements. An individual program of study is planned by each student with his adviser in conformance with specific requirements for the degree. Programs of study require the approval of the major Department Head.

Although the requirements for most graduate degrees at Madison College include thirty (30) semester hours credit, the student should be aware that this is a minimum requirement and should in no way be regarded as a limiting factor in the formulation of a program of graduate study. It should be clearly understood that the graduate degree is not given as a certificate of residence or for duties performed, but is awarded only to students who give evidence of sound scholarship and proficiency in research in their fields of specialization.

Most programs leading to the degrees of Master of Arts in Education and Master of Science in Education require work in both a subject-matter field and in education. However, in the programs of Early Childhood, Counselor Education, Reading, School Administration, School Psychology and Special Learning Disabilities, a minor area of study is not authorized. In those programs requiring a major and a minor, either the major or the minor must be taken in the field of education. The student must satisfactorily complete a major in a subject-matter field consisting of a minimum of twenty-one (21) semester hours of graduate credit and a minor in education consisting of nine (9) semester hours, or a major in education consisting of eighteen (18) semester hours and a minor in a subject-matter field consisting of a minimum of twelve (12) semester hours of graduate credit.

ADMISSION TO THE GRADUATE SCHOOL

Application forms for admission to the Graduate School of Madison College may be obtained from the Office of the Graduate School. Application forms should be completed and returned at least thirty (30) days before registration.
Applications for admissions will be considered without regard to race, color, sex, or national origin of individuals.

Each applicant must have an official transcript submitted of all undergraduate and graduate work previously taken. A completed medical form is required of all full-time applicants. A statement of good health signed by a physician must be submitted to the Office of the Graduate School by part-time students. A ten dollar ($10) application fee, payable once only and non-refundable, is required of all applicants.

Action will not be taken on a student’s application until all credentials have been received.

It is strongly recommended that the applicant submit as part of the application for admission to the Graduate School an official record of scores on the Aptitude Test of the Graduate Record Examination. If not submitted at this time, the student must submit an acceptable score prior to the completion of the first semester in residence. The Advanced Test (in the area of specialization) may be required upon recommendation of the Department Head or major adviser.

Applicants for the Master of Business Administration degree will be required to take the Advanced Test for Graduate Study in Business (ATGSB) in addition to the Graduate Record Examination.

All foreign student applicants must submit satisfactory scores of the Test of English as a Foreign Language (TOEFL) as part of their application for admission.

For additional departmental requirements, see the appropriate departmental section of the catalog.

Applications for admission to the Graduate School will be reviewed by the Heads of the Departments in which the applicant wishes to major and minor. The applicant must be accepted by the departments in which he desires to study and
be approved by the Dean of the Graduate School. The student will be notified of the disposition of his application by the Office of the Graduate School.

Applicants may be admitted to the Graduate School of Madison College or to graduate study at Madison College under three classifications: Unconditional, Conditional, or Non-Degree Admission.

**Unconditional Admission** is admission to a graduate program without reservation and indicates a sound academic background in preparation for a specific program of graduate study.

**Conditional Admission** is admission to a graduate program with reservations as indicated in the letter of acceptance. Such reservations are usually academic deficiencies in undergraduate preparation which must be removed by the applicant. Upon removal of the conditions, the student may request a change of status to Unconditional.

**Non-Degree Admission** is admission for graduate study but does not constitute admission to a graduate program. If a non-degree graduate student should, at a later date, wish to change his admission status, he may petition the Dean of the Graduate School. Such petitions will be processed as applications for regular admission. Approval for graduate credit of courses taken while enrolled in a non-degree status will be determined by the Dean of the Graduate School upon recommendation of the appropriate Department Head.

**Transient Admission** (non-degree status) is accorded to those students who have already been admitted to graduate studies at another institution and desire only to earn graduate credits for transfer to that institution. Admission for such persons requires written approval from the applicant’s home institution and special approval from the Dean of the Graduate School.
Applications for admissions will be considered without regard to race, color, sex, or national origin of individuals.

Each applicant must have an official transcript submitted of all undergraduate and graduate work previously taken. A completed medical form is required of all full-time applicants. A statement of good health signed by a physician must be submitted to the Office of the Graduate School by part-time students. A ten dollar ($10) application fee, payable once only and non-refundable, is required of all applicants.

Action will not be taken on a student’s application until all credentials have been received.

It is strongly recommended that the applicant submit as part of the application for admission to the Graduate School an official record of scores on the Aptitude Test of the Graduate Record Examination. If not submitted at this time, the student must submit an acceptable score prior to the completion of the first semester in residence. The Advanced Test (in the area of specialization) may be required upon recommendation of the Department Head or major adviser.

Applicants for the Master of Business Administration degree will be required to take the Advanced Test for Graduate Study in Business (ATGSB) in addition to the Graduate Record Examination.

All foreign student applicants must submit satisfactory scores of the Test of English as a Foreign Language (TOEFL) as part of their application for admission.

For additional departmental requirements, see the appropriate departmental section of the catalog.

Applications for admission to the Graduate School will be reviewed by the Heads of the Departments in which the applicant wishes to major and minor. The applicant must be accepted by the departments in which he desires to study and
Exceptions to Regulations

Any exception to the published rules and regulations may be requested by petition to the Graduate Council. Such petitions must be initiated by the graduate student with the written approval of the student's adviser and the Department Head and must mention the regulation and justify completely the exception being requested.

Faculty Advisers

The Heads of the Department in which the student is majoring and minoring or designated members of the graduate faculty, will serve as faculty advisers. After admission to the graduate program, the student pursuing a degree program will meet with his assigned faculty advisers to plan his further studies. Additional committee members may be appointed as needed to direct the thesis or to conduct the comprehensive examination.

The student's advisers are available for assisting the student in planning his program of study, for any subsequent changes in the program of study, for the conduct of the final examination, and for other phases of the specific requirements for the graduate degree.

Non-degree students will also be assigned an adviser to approve courses for which the student plans to register.

Program of Study

Prior to the end of the first semester of enrollment in a graduate program, the student will meet with his major adviser to plan his Program of Study.

Admission to Candidacy

A student may be admitted to candidacy upon the recommendation of the major adviser after (1) the completion of twelve (12) semester hours of acceptable work (distributed in both the major and minor fields, if the program requires a minor), (2) the submission of satisfactory scores on the Graduate Record Examination, and (3) the forwarding of a properly
approved Program of Study form (and thesis outline, if a thesis is to be done). A request for Admission to Candidacy must be made by the student not later than the end of the second week of classes in the academic term in which he plans to be graduated.

**Course Level Requirements**

At least one-half of the credits contained in the student's program leading to an advanced degree at Madison College will be in courses designated as exclusively for graduate students (i.e., courses numbered 600 or above). Where the program has a minor area, at least three (3) of these 600-level credits must be in the minor.

**Teaching Certificates**

If candidates in programs leading to the Master of Arts in Education or Master of Science in Education degrees do not hold the Collegiate Professional Certificate, the requirements for such a certificate must be met before the degree is conferred unless this requirement is waived by the Dean of the Graduate School. As a general exception, students minoring in Higher Education or those majoring in School Psychology, are not required to hold the Collegiate Professional Certificate.

**Research and Thesis**

A thesis written as the result of the successful completion of a research project is required of all candidates for the Master of Science degree with a major in Biology. In other Master of Arts or Master of Science programs a research project and the writing of a thesis is an option which may be elected by the student.

Six (6) semester hours of graduate credit in the major field will be allowed for the research and thesis. The thesis will consist of a written interpretation of facts and opinions gained through critical reading and independent research, and will include an adequate analysis of the assembled data.
For those students who submit a thesis in partial fulfillment of the requirement for a graduate degree at Madison College, the following steps will be completed:

1. With the guidance of the professor under whom the research will be conducted, the student will choose a subject area and prepare a Thesis Outline.

2. Initial approval of the Thesis Outline is to be obtained from the department as early as possible in the research program. This will be evidenced by written approvals on the student’s Program of Study by his Thesis Supervisor and the Department Head.

The Thesis Supervisor serves as Chairman of the Thesis Committee, which shall include at least two other persons in the department. An additional person outside the major department may be recommended to be added to the Committee.

3. *Form and Style in Thesis Writing* by William G. Campbell is to be used as a guide in thesis writing, unless the major department has specified another style manual.

4. Three unbound copies of the written thesis, approved by the Thesis Committee, will be filed with the Office of the Graduate School not later than fifteen (15) days before the expected date of graduation. An abstract of the thesis consisting of not more than six hundred words is required to be filed with the thesis.

No grades will be given for thesis until the research has been completed and the thesis written. The thesis grade will then be recorded as either Satisfactory or Unsatisfactory. For the purpose of registration and payment of fees, each thesis research will be assigned equivalent credit hours.

Students failing to complete a thesis during the semester for which registered are required to register for Thesis Continuation the following semester.
THE COMPREHENSIVE EXAMINATION

A comprehensive written and/or oral examination, as decided by the student's major department in consultation with the student, is required of all graduate students in partial fulfillment of the requirements for the graduate degree. The deadline dates, by which all comprehensive examinations are to be given for each academic term, are indicated in the Graduate Academic Calendar at the front of this Catalog. A candidate is eligible to take the comprehensive examination when he has: (1) been admitted to candidacy; and (2) either completed the required course work or is currently registered in work which, when successfully completed, will fulfill the degree requirements. A comprehensive examination involving a major-minor program cannot be taken until at least six semester credit hours of the minor program have been completed; about one-third of the examination will be devoted to the minor field.

The purpose of the comprehensive examination is to clarify and to appraise the extent of the student's knowledge in the field(s) of his program as a whole. Therefore, it should incorporate the following features: (1) be of appropriate depth; (2) be of a broad nature, not just a re-testing of the student's course work; and (3) if professionally pertinent, be relative to the application of his degree work to his career.

For written comprehensive examinations, departments offering graduate programs will work out arrangements by which questions are developed, distributed, administered and graded by them for a major and/or major-minor program.

If an oral examination is to be given, the major adviser will arrange for a suitable date and location for the examination. A minimum of two members of the Graduate Faculty in addition to the major adviser shall be recommended by him to his Department Head and the Dean of the Graduate School for the purpose of conducting the examination. The oral comprehensive examination will be open to all members of the Graduate Faculty.
TIME LIMIT

A graduate student must complete all requirements for the degree within six (6) years from the time he begins his graduate study. A student may, however, submit a petition to the Dean of the Graduate School to receive an extension of time because of extenuating circumstances.

RESIDENCE REQUIREMENTS

As a minimum, the candidate in a degree program must spend one semester enrolled in full-time study, taking at least nine (9) semester hours of graduate credit. This requirement may be satisfied by enrolling in two summer sessions with a minimum load of six (6) semester hours of graduate credit each summer.

APPLICATION FOR GRADUATION

When a student expects to graduate, he must indicate that intent to the Records Office at least thirty (30) days prior to the date of graduation.

CREDIT BY TRANSFER

Course credits not exceeding six (6) semester hours obtained from an accredited college or university may be applied to the major requirements for a graduate degree at Madison College. Such transfer credits may be considered for inclusion in a student's program of study upon recommendation of the major adviser and approval by the Dean of the Graduate School. Transfer credits may not be used to satisfy minor requirements.

No transfer credit will be allowed for courses taken at the graduate level if such credits have been previously used toward another degree. No transfer credit will be approved while a student is in a Non-Degree status.

Students enrolled in a graduate program may take courses at other institutions of higher learning for graduate credit at Madison College only if prior approval is obtained from the major adviser and the Dean of the Graduate School.
No credit toward the graduate degree will be allowed for courses taken by correspondence study.

Extension courses are usually offered to part-time students not in residence on the Madison College campus. Credit for such courses may be allowed toward the graduate degree provided the extension course is taught by a member of the graduate faculty of the institution, the extension course has the prior approval of the student’s adviser and the Dean of the Graduate School, and the credits so obtained do not reduce the minimum residence requirements.

**Grading System**

The following grades are given in graduate courses solely on the basis of scholarly achievement: A = Excellent; B+ = Good; B = Satisfactory; C = Unsatisfactory; I = Incomplete; W = Withdrawal; WP = Withdrawal Passing; WF = Withdrawal Failing; F = Failure; S = Satisfactory (for thesis only); U = Unsatisfactory (for thesis only). Graduate students must receive a grade of “B” or higher in courses (“S” in thesis) to receive graduate credit applicable to their degree program.

The grade of “I” (Incomplete) may be given in a course when, because of extenuating circumstances, the requirements of the course have not been completed. The incomplete grade in a course must be removed during the following semester.

**Withdrawal**

Under extenuating circumstances a student may petition the Dean of the Graduate School to withdraw from a course. The Dean of the Graduate School in conference with the course instructor will act on the petition.

**Academic Loads**

A full-time graduate student in a regular semester is one who is carrying nine (9) or more semester hours of graduate
credit or serving as a full-time graduate assistant. In a summer session full-time study is defined as a minimum load of six (6) semester hours of graduate credit.

**EMPLOYMENT**

It is recognized that many graduate students depend upon part-time or full-time employment to meet expenses. Though there is no limit to the number of hours an employed student may take, the student and his adviser should realize that his course schedule should take into consideration the demands of his employment.

**FOREIGN LANGUAGE**

A reading knowledge of a foreign language is required in those departments which so specify.

**DEPARTMENTAL REQUIREMENTS**

The graduate degree requirements set forth in this publication set the minimum standards acceptable by the Graduate School of Madison College. Each department may have additional regulations approved by the Graduate Council which their students are expected to satisfy.

**ATTENDANCE AT COMMENCEMENT**

Attendance at graduation is expected. If a student is unable to be present for the graduation exercises, he must notify the Director of Records at least twenty-one days before Commencement. Because of special handling, a nonrefundable fee of $5.00 is required for mailing the diploma.
### Summary of Procedures for Master's Programs

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<td>Comprehensive Examination</td>
<td>Student Adviser(s)</td>
<td>See calendar in this catalog</td>
</tr>
<tr>
<td>Filing of approved copies of thesis</td>
<td>Student</td>
<td>Fifteen days prior to Commencement</td>
</tr>
</tbody>
</table>

### FEES AND EXPENSES

The following pages list the various fees and expenses charged to students enrolled in the Graduate School of Madison College. The College reserves the right to adjust these fees and charges if deemed advisable by the Board of Visitors because of rising costs or other conditions. All fees and expenses will be due and payable, in full, upon registration. This applies also to fees and expenses for Graduate Assistants and Teaching Assistants.

- **General Fees** .................................................. $ 25.00 per credit hour
- **Tuition Fee** (additional fee required of Non-Virginia students only) .......... 14.00 per credit hour
- **Comprehensive Fee** ........................................ 23.75 per semester
  (Required of full-time students)
- **Room, Board and Laundry** ................................. 497.00 PER SEMESTER
- **Construction Fee** ......................................... 39.75 PER SEMESTER
  (Required of full-time students)
Student Health Service Fee .................. 22.50 per semester  
(Required of full-time students)

The foregoing schedule of fees does not cover cost of books
and supplies.

Course Load: A full-time graduate student in a regular
semester is one who is carrying nine (9) or more semester hours
of graduate credit or serving as a full-time Graduate or Teach-
ing Assistant.

Thesis Fee: Graduate students will be charged for Thesis-
(course number 700) at the rate of $25.00 per credit hour plus
out-of-state tuition if applicable. A continuance fee of $40.00
per semester is required for Thesis work which continues beyond
the semester for which registered.

Auditing: A person who registers as an auditor will pay
the same General Fee as one who registers for credit.

Diploma Fee: A fee of $7.50 will be charged for a Master’s
Diploma. This fee is payable one month prior to graduation.

Comprehensive Fee: A charge of $23.75 per semester is
made for all full-time students in order to finance the various
student organizations, publications, and the entertainment series.
From the collections of this fee, each student is admitted to all
home intercollegiate activities and is also furnished, without ex-
tra charge, a copy of the College annual, Bluestone, and a sub-
scription to the College newspaper, The Breeze.

Room, Board and Laundry: If dormitory facilities are
available, graduate students may elect to live on campus.
Charges are the same as for undergraduate students.

Construction Fee: In accordance with State policy, the Col-
lege must charge a fee to provide for sinking fund requirements
for college buildings financed, in whole or in part, by revenue
bond issues.
Parking Fee: A registration and parking fee will be paid by each student who operates a vehicle on campus. The purpose of this fee is to defray the expense of registering vehicles and administering parking facilities.

Student Health Service Fee: Each full-time student is required to pay this fee for use of infirmary facilities.

Music Fees: The fee per semester for part-time students taking private instruction in music will be $40.00 for one lesson per week and $80.00 for two lessons per week. The fee for full-time students taking private instruction may be obtained by contacting the Music Department.

A practice fee will also be charged if use is made of the practice facilities on campus.

Fee for Late Registration: Students are subject to a fee of $5.00 if they do not complete registration at the designated time. The Dean of the Graduate School may allow exceptions because of extenuating circumstances.

Students Debts: Re-enactment by the Madison College Board of Visitors of a former regulation first established by the State Board of Education requires that (1) no credit for College work may be given to any student for a diploma, or a teacher's certificate, or for transfer purposes, until all debts to the College, other than student loans, have been paid; (2) students will not be eligible to take examinations unless accounts are paid in full for the current semester or a satisfactory plan to pay the balance has been arranged with the Business Manager; and (3) upon recommendation of the Business Manager and with the approval of the Dean of the Graduate School, students who are deficient in their accounts may be restricted from attending classes until satisfactory arrangements have been made for payment of their past due obligations to the College.
Students Refunds: When withdrawing from the college for a semester, it is necessary to submit a written statement to the Dean of Student Services concerning the course(s) affected and the reason for withdrawing. Refunds will be figured from the effective date of withdrawal, which is not necessarily the date of leaving campus. A student is considered to have formally withdrawn from Madison College when the withdrawal has been approved by the Dean of Student Services.

Graduate students who formally withdraw before the second meeting of their classes will be charged the Minimum Registration Fee of $15.00. Students withdrawing after the second meeting of the class, but before the middle of the semester, will be charged one-half the general fee and all other fees in full. After the middle of the semester no adjustment in fees will be made for withdrawal from college.

Students who withdraw because of illness certified by a physician, or for unavoidable emergency, or extenuating circumstances approved by the President of the College, will be charged a pro rata share of all fees.

FINANCIAL ASSISTANCE

Summer School Scholarships

Virginia public school teachers are eligible to apply for scholarships awarded by the State Board of Education for study in the summer session. The applicant must be under contract for the ensuing session*, and must enroll in courses approved by the State Board of Education and the Division Superintendent of Schools, such as those leading toward a REQUIRED endorsement or to the Collegiate Professional Certificate.

*or upon recommendation of the Division Superintendent, candidates whom he intends to employ as kindergarten teachers are eligible.
Application forms may be obtained in March from the Office of the Division of Superintendent of Schools. Application forms should be submitted to the State Department of Education not later than April 28, 1973. For further information on the Graduate Scholarship Assistance program, the teacher should consult his Division Superintendent of Schools.

Approved candidates will be reimbursed 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 costs.

**Assistantships**

*Teaching Assistantships*

A limited number of Teaching Assistantships are available in several departments offering major programs of graduate study. Application forms may be obtained from the Office of the Graduate School. Teaching Assistants are responsible for their tuition, fees, room and board expenses. Applicants should have over-all undergraduate records approximating “B” or higher. Teaching Assistants will teach six semester hours of course work or instruct an equivalent of six semester hours in a laboratory. Teaching Assistants generally carry a course load of eight (8) or nine (9) semester hours of study.

*Graduate Assistantships*

A limited number of Graduate Assistantships are available in most of those departments offering major programs of graduate study. Appropriate application forms may be obtained from the Office of the Graduate School. Graduate Assistants are responsible for their tuition, fees, room and board expenses. Applicants should have over-all undergraduate records approximating “B” or higher. Graduate Assistants undertake various departmental assignments requiring up to fifteen (15) hours a week and generally carry a course load of eight (8) or nine (9) semester hours of study.
Residence Hall Assistantships

In cooperation with the Graduate School, the Office of Student Affairs offers graduate appointments to the residence hall staff. Graduate students may be assigned as a Head Resident or a Resident Advisor depending upon their qualifications. Residence Hall Assistants are responsible for their tuition, fees, room and board expenses.

Head Residents are responsible for the efficient administration of a hall, for guiding the Resident Advisor staff, and for advising and assisting the students assigned to their hall. These positions pay $1080 to $3528 per year, depending upon the size of the hall. Applicants for Head Resident positions may be married or single and of either sex. They should have had some prior experience in residence hall work or have worked with students in some other setting. Graduate students appointed to Head Resident positions are limited to taking nine (9) hours per semester and will not normally be eligible for a Teaching Assistantship or a Graduate Assistantship.

Resident Advisors assist the Head Resident in developing and maintaining the best possible environment with each hall. These positions start at $765 per year. Applicants for Resident Advisor positions must be single, of either sex, and demonstrate their ability to assist students in adjusting to their college experience.

Fellowships

A limited number of Graduate Fellowships of various amounts are awarded by the College to full-time degree students with financial need. Application forms may be obtained from the Office of the Graduate School.

STATE EDUCATION ASSISTANCE AUTHORITY—GUARANTEED LOANS

The State Education Assistance Authority is a State agency, organized under an Act of the General Assembly of Virginia in 1960. Its purpose is to help young men and women of Vir-
Virginia who need to borrow funds in order to obtain a higher education.

The Authority, through participation agreements with Lending Institutions of the State, enables these institutions to make long term personal loans to students to help pay their college expenses.

**Eligibility**

Any person who is a resident of Virginia and is accepted for enrollment as a full-time student in good standing at an institution of higher learning in Virginia is eligible. There are no restrictions as to courses or classes.

**Application Procedure**

Any eligible student who wishes to apply for an Authority-insured loan may do so by making application at a participating Lending Institution. The Authority does not make loans. It insures to the extent of 90% loans made by participating Lending Institutions from their own funds. A list of all participating Lending Institutions in Virginia will be supplied by the Authority on request, but it is suggested that the applicant contact a Lending Institution in his home area. All loan applications from any one student must be submitted to the same Lending Institution. The Lending Institution will furnish the applicant the necessary forms.

**Recipient**

The loan is made to the student after consultation with the student's parent or guardian. A student who is under 21 years of age may apply for an Authority-approved loan. By special law, students 16 or over have full legal capacity to act in their own behalf.

**Limitations**

The proceeds of a loan may be used only for current educational expenses. The amount of each loan will be a matter
for decision between the student and the Lending Institution, but borrowing under the program cannot exceed two thousand dollars ($2,000), exclusive of interest and charges, for any one academic year or its equivalent, or ten thousand dollars ($10,000) for all years. A loan application will ordinarily cover a loan for one academic year. For succeeding years the student, if again qualifying, may apply for needed funds.

**Repayment**

Repayments begin on a monthly installment basis nine months after graduation, or after the borrower ceases to be a full-time college student, whichever first occurs. At that time the borrower gives the Lending Institution an installment note in exchange for his outstanding note or notes. The length of the repayment period and the amount of the monthly repayment requirement depend upon the total amount of the indebtedness. If this exceeds two thousand dollars ($2,000) the period of repayment will not be less than five years.

The borrower may prepay all or any part of the principal of a note at any time without penalty and without liability for interest not then accrued.

**National Defense Student Loans**

Graduate students who are enrolled in full-time study at Madison College and who need financial aid for educational expenses are eligible for National Defense Student Loans. Madison College only has funds available for full-time student borrowers. Graduate students may borrow as much as two thousand five hundred dollars ($2,500) per year to a maximum of ten thousand dollars ($10,000). The repayment period and the interest do not begin until nine months after the student ends his studies. The loans bear interest at the rate of 3 per cent per year and repayment of principal may be extended over a ten-year period, except that the institution may require a repayment of no less than fifteen dollars ($15) per month.
If a borrower becomes a full-time teacher in an elementary or secondary school or in an institution of higher education, as much as half of the loan may be forgiven at the rate of 10 per cent for each year of teaching service. Borrowers who elect to teach in certain eligible schools located in areas of primarily low-income families may qualify for cancellation of their entire obligation at the rate of 15 per cent per year.

The colleges and universities approve and make the loans and are responsible for collections. Repayment may be deferred up to a total of three years while a borrower is serving in the Armed Forces, with the Peace Corps, or as a Volunteer in Service to America (VISTA). Repayment is deferred for as long as a borrower is enrolled at an institution of higher education and is carrying at least a half-time academic work load.

Application forms may be obtained in the Office of Financial Aid.

**College Work-Study Program**

This is a federally supported program of employment for students, especially those from low-income families who need a job to help pay for college expenses. Eligible students may work up to fifteen (15) hours a week while attending classes full time. The basic pay rate is one dollar and sixty cents ($1.60) an hour although up to three dollars ($3) may be paid for highly specialized work. On-campus jobs can include work in the dining halls, laboratories, libraries and the Maintenance Department in addition to secretarial positions for the faculty and administration. To work under this program, a student must be enrolled and be in good standing, or be accepted for enrollment as a full-time student at Madison College. The student’s eligibility depends upon his need for employment to defray college expenses and his academic promise with preference given to applicants from low-income families. The work-study assignments are renewable each year contingent upon need and an acceptable grade average.
Madison College has submitted applications for federal funds to institute an off-campus college work-study program. If funds are approved for this program, students may be employed during the regular term of summer months by qualified organizations or institutions participating in the off-campus program. The employment may be within or outside of the Harrisonburg area.

Application forms may be obtained in the Office of Financial Aid.
The courses offered in each department of the Graduate School are listed on the pages that follow:

Courses numbered 500 to 599 are designed primarily for graduate students but are open to qualified undergraduate and post-baccalaureate students. Courses numbered 600 and above are open to graduate students only.

All courses listed are expected to be offered every year unless otherwise indicated. However, such references are meant to be guides for planning and are subject to change. (I = First Semester; II = Second Semester; I or II = Offered Either Semester).

ART

DR. DILLER, Head of the Department

The Department of Art offers the Master of Arts degree with a major in Art.

Besides the general admission requirements, the prospective graduate student in Art must present evidence of successful completion of at least thirty-six (36) semester hours, or the equivalent, in art, including six (6) semester hours surveying generally the history of Western Art. A portfolio including actual examples, photographs, and/or slides of the student’s work must be submitted to the faculty of the Art Department for examination before action on an application for admission to a master’s degree program takes place. A concentration in Art Education requires the Collegiate Professional Certificate, or its equivalent from other states.

The Master of Arts degree with a major in Art is designed to provide studio, historical, and theoretical disciplines at an advanced level. The student is expected to concentrate within a general area. Those now available are (1) painting, drawing, and printmaking; (2) sculpture; (3) ceramics; and (4) art education. The minimum requirement for the Master of Arts degree
with a major in Art is thirty (30) semester hours of graduate credit in Art including twelve (12) semester hours in one of the areas of concentration, Art 683 (Criticism of Art), and six (6) semester hours in graduate-level courses in Art History. The candidate in a studio concentration must produce an exhibition of his graduate work near the end of the study program. Candidates concentrating in Art Education produce written theses under Art 700.

Minor: Students planning a program leading to the Master of Arts in Education degree with a major in Education may minor in Art with a minimum requirement of twelve (12) semester hours of graduate credit in Art, including Art 683 (Criticism of Art).

ART HISTORY AND CRITICISM COURSES
Art 503. Studies in Greek Art.
Art 606. Twentieth-Century Art.
Art 683. Criticism of Art.

ART EDUCATION COURSES
Art 510. Art, the Child, and the School.
Art 515. Problems in Art Education.
Art 616. Art and the Adolescent.

STUDIO ART COURSES
Art 524. Advanced Weaving and Textile Design.
Art 526. Advanced Jewelry and Metalwork.
Art 530. Sculpture.
Art 550. Printmaking.
Art 570. Advanced Ceramic Design.
Art 630. Sculpture.
Art 670. Ceramics.
SPECIAL ART COURSES

Art 501. Workshops in Art.
Art 680. Reading and Research.
Art 700. Thesis.

COURSE OFFERINGS

Art 501. Workshops in Art. (Summer Only) Each area three hours daily for two weeks. 1 credit each area.

Concentrated workshops, accompanied by lecture and discussion periods, selected from such areas as painting, sculpture, printmaking, ceramics, art education, photography, and crafts. This course is particularly designed to update and strengthen art skills of practicing teachers.

Art 503. Studies in Greek Art. (1973-74) 3 credits.

A selection of specialized topics in the arts of ancient Greece. Sculpture, Architecture, Pottery and other arts of a given period will be studied in depth. Prerequisite: Art 205 or equivalent.

Art 510. Art, the Child, and the School. (By Demand) 3 credits.

Art and its relationship to the needs of the preschool and school child. The development of the child through the creative process is examined through laboratory work, discussions and readings. The purpose is to improve art teaching in the schools. Prerequisite: Art 310 or equivalent.

Art 515. Problems in Art Education. (By Demand) 3-6 credits.

Specific problem areas, according to individual needs, are investigated, discussed and evaluated.

Art 524. Advanced Weaving and Textile Design. (I or II) 3-4 credits.

Studio projects in handcrafted textile arts. Ordinarily the emphasis will be on weaving or methods of textile decoration. Prerequisite: Art 121 or equivalent.

Art 526. Advanced Jewelry and Metalwork. (I or II) 3-4 credits.

Studio projects in the metal arts. The student may elect to widen his experience in these craft areas, or to specialize in one or two of them. Emphasis is on high quality of craftsmanship and design. Prerequisite: Art 122 or equivalent.

Art 530. Sculpture. (I or II) 3-6 credits.

Advanced sculptural projects with choices from a wide range of materials and techniques including welding, casting, wood and metal construction, wood and stone carving, and others. Prerequisite: Art 434 or equivalent.
<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 550</td>
<td>Printmaking</td>
<td>3-4</td>
<td>Problems in printmaking chosen from intaglio processes such as etching and engraving, and from woodcut, serigraphy, and lithography. <strong>Prerequisite:</strong> Art 354 or equivalent.</td>
</tr>
<tr>
<td>ART 560</td>
<td>Graphics and Painting</td>
<td>3-6</td>
<td>Studio work aimed towards the development of the student's individual expressive means. The student may choose from a wide variety of media. <strong>Prerequisites:</strong> Art 244, Art 360, or equivalents.</td>
</tr>
<tr>
<td>ART 570</td>
<td>Advanced Ceramic Design</td>
<td>3-6</td>
<td>Individual development in the techniques and processes of ceramic design, with emphasis upon quality as evidenced in form, color, and decoration. <strong>Prerequisite:</strong> Art 373 or equivalent.</td>
</tr>
<tr>
<td>ART 605</td>
<td>Nineteenth-Century Art</td>
<td>3</td>
<td>A seminar dealing with important aspects of the art and architecture of the Western World during the 19th century. <strong>Prerequisite:</strong> Art 206 or equivalent.</td>
</tr>
<tr>
<td>ART 606</td>
<td>Twentieth-Century Art</td>
<td>3</td>
<td>A seminar investigating in depth selected movements and philosophies in art and architecture of the 20th century. <strong>Prerequisite:</strong> Art 206 or equivalent.</td>
</tr>
<tr>
<td>ART 616</td>
<td>Art and the Adolescent</td>
<td>3</td>
<td>A course emphasizing the needs and development of the preadolescent and adolescent in terms of creative expression. <strong>Prerequisite:</strong> Art 316 or equivalent.</td>
</tr>
<tr>
<td>ART 630</td>
<td>Sculpture</td>
<td>3-6</td>
<td>Individual problems in sculpture. Special consideration will be given to the relation between the sculptural work of art and its environmental setting. <strong>Prerequisite:</strong> Art 530.</td>
</tr>
<tr>
<td>ART 660</td>
<td>Graphics and Painting</td>
<td>3-6</td>
<td>Individual studio problems stressing the relation between pictorial organization and the demands of expression. Media will be chosen by the student in consultation with the instructor. <strong>Prerequisite:</strong> Art 560.</td>
</tr>
<tr>
<td>ART 670</td>
<td>Ceramics</td>
<td>3-6</td>
<td>Ceramic problems which may be an extension of Advanced Ceramic Design, or which may emphasize experimental investigation of glaze or ceramic body compositions. <strong>Prerequisite:</strong> Art 373 or equivalent.</td>
</tr>
</tbody>
</table>
| ART 680      | Reading and Research               | 3       | Directed reading and research in art areas of special concern to the student. Usually the topics will deal with art history, art theory, philo-
sophical aesthetics, or technical problems related to art production. Approval of the Head of the Art Department and the instructor who will direct the research is required.

**Art 683. Criticism of Art. (Summer Only) 3 credits.**

An overview of major art theories, both as philosophy and as style analysis, for the purpose of investigating the functions and practice of art criticism.

**Art 700. Thesis. 6 credits.**
BIOLOGY

DR. TRELAWNY, 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 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.

The Department of Biology offers both the Master of Science degree with a major in biology and the Master of Science in Education degree with a major in biology. The minimum requirement for the Master of Science degree is thirty (30) semester hours of graduate credit in biology including no more than six (6) semester hours of Biology 700 (Thesis). Of these, not more than eight (8) hours of graduate study including not more than two (2) courses may be taken in a “non-degree” status and credited toward the Master of Science degree. Accompanying a request for change from “non-degree” to “unconditional” status the applicant must submit the appropriate credentials of anyone applying for admission to the Master of Science degree program. The minimum requirement for the Master of Science in Education degree is twenty-one (21) semester hours of graduate credit in biology and nine (9) semester hours of graduate credit in education. Thesis research toward the Master of Science degree is offered in the following fields: biosystematics, cytology, cytogenetics, ecology, embryology, entomology, genetics, invertebrate zoology, microbiology, mycology, parasitology, plant morphology, physiology (cell, plant and human), limnology and algal physiology.

Prospective graduate students should have completed an undergraduate major consisting of a minimum of thirty-two (32)
semester hours in biology, including courses covering the areas of general botany, general zoology, physiology (cell, plant or human), ecology (or some other area involving field work), and genetics. A student may be admitted with deficiencies in one or more of these areas, but should be aware that he may be required by his Graduate Advisory Committee to make up deficiencies for no credit toward his master's degree. The applicant should have completed a minimum of a year (2 semesters) of general chemistry and a year (2 semesters) of organic chemistry. A course in general physics is strongly recommended, especially for those students interested in physiology or genetics. Submission of scores on the Graduate Record Aptitude Test and the Advanced Test in Biology, as well as three letters of recommendation from individuals who know of the student's academic potential, is required for admission to the Graduate Program in Biology.

Full-time students who elect to major in the Department of Biology are required to attend and participate in the bi-weekly departmental seminar while in residence.

Graduate students planning a program of study leading to the Master of Science in Education degree with a major in Education may minor in biology with a minimum requirement of twelve (12) semester hours of graduate credit in biology.

Students electing to major or to minor in biology must have their program of study approved by the Departmental Graduate Committee and the Head of the Department.

COURSE OFFERINGS

2 credits.

A short course for those interested in the native wildflowers of Virginia. This course is designed for amateur botanists as well as semi-trained individuals in the field who have the desire to learn more about the native flora of the State. Emphasis will be placed on sight identification of the wildflowers in their native habitats. Field trips will be taken to botanically rich and diverse areas such as Fort Valley in the Massanutten Mountains, Reddish Knob, Big Meadows, the higher Alle-
gheny Mountain region of West Virginia and numerous local areas of botanical interest. This course cannot be used for credit toward any major or minor in Biology.

**Biology 505. Natural History.** (Summer only) 3 credits.

An integrated course in field biology designed to acquaint students with local plants and animals both in terrestrial and aquatic habitats. (A course restricted to graduate students majoring in elementary education.) This course cannot be counted toward any degree with a major in biology.

**Biology 510. Animal Ecology.** (Summer, 1974) 3 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 515. Parasitology.** (I) 4 credits.

A study of the origin and nature of parasitism as illustrated by representative animal parasites. Emphasis is on species of medical and economic importance.

**Biology 516. Vertebrate Embryology.** (I, 1974) 4 credits.

An introduction to the comparative developmental anatomy of the vertebrates, including the human. (Recommended for students who are majoring or minoring in biology, students preparing to teach, and for students preparing for medicine, medical technology, or nursing.) *Prerequisite: General Zoology.*

**Biology 520. Plant Ecology.** (II, 1974) 3 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. *Prerequisite: General Botany.*

**Biology 540. Public Health Microbiology.** (Summer, 1973; I, 1974) 4 credits.

A study of infectious diseases, epidemiology and the interactions of agent and host. The microbiology of water, sewage, air, and foods is covered with respect to the dissemination of disease agents and methods of their control.

**Biology 545. Cytology.** (Summer, 1974) 4 credits.

A study of the organization and components of cells, relating structure to function. Laboratory study will include cytoplasmic organelles as well as nuclear and chromosomal morphology. *Prerequisite: Genetics.*
Biology 550. Cellular Physiology. (Summer, 1974) 4 credits.
A study of physiochemical relationships as they apply to cell function. Prerequisite: Organic Chemistry.

Biology 555. Introduction to Plant Physiology. (Summer, 1973) 4 credits.
An introduction to the physiology of higher plant cells and organisms including both biophysical and biochemical aspects. Discussions include water relations, mineral nutrition, transport phenomena, metabolism, growth and development, and selected topics in physiological ecology. Prerequisites: General Botany and Organic Chemistry.

Biology 570. Cryptogamic Botany. (Summer, 1973) 4 credits.
Comparative morphology, ecology and taxonomy of representative algae, fungi, and bryophytes, and nonseed-bearing vascular plants.

A comparative study of the microscopic anatomy of vertebrates. Prerequisites: General Zoology and either Comparative Anatomy of Vertebrates or Vertebrate Embryology.

Biology 610. Population Genetics. 4 credits.
An introductory study of the genetics of populations as a basis for understanding evolutionary change.

A review of the modern problems of developmental biology with emphasis given to the topics of cytodifferentiation, protein synthesis, enzyme regulation, and the interplay between DNA and RNA.

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.

A study of the effect of ionizing radiation on organisms. The nature and source of these radiations will be discussed as well as their effect and methods of protection against them. The experimental nature of the field is stressed through the inclusion of varied laboratory experiments.

An introduction to the structure and form of fungi with consideration of their experimental potential and relationships to human affairs.
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 675. Aquatic Ecology. (Summer 1973) 4 credits.
A study of the life of the fresh-water environment. Emphasis on methods for the examination of effects of physical and chemical factors on aquatic organisms and interpretive procedures of assaying results of aquatic investigations.

Biology 685. Systematics of Vascular Plants. (Summer, 1974) 3 credits.
This course is a study of the classification systems beginning with the pragmatic systems of the Greeks and continuing through the phylogenetic systems of the present, emphasizing pre- and post-Darwinian concepts. Major consideration will be given the identification and nomenclature of the native flora of the State with emphasis on the ecological relationships between the species. Problematic areas such as the species concept and the development of a true phylogenetic system of classification will be discussed. Prerequisite: General Botany.

Biology 690. Insect Ecology. (Summer, 1973) 4 credits.
The environmental relations of insects, including insect development, habits, distribution, and abundance. Emphasis will be placed on field studies.

Biology 695. Independent Study. 3 credits.
Individual research in the discipline involved.

Biology 700. Thesis. 6 credits.

Science 512. Natural Resource Conservation. (Summer only) 3 credits.
The following areas of conservation will be investigated: mineral resources, marine life, soil and water conservation, forestry and wildlife management. (This course is sponsored by the Virginia Resource-Use Education Council for teachers in the public schools of Virginia.)
DEPARTMENT OF BUSINESS
ADMINISTRATION AND ECONOMICS

Dr. King, Head of the Department

The Department of Business Administration and Economics offers a program leading to a Master of Business Administration degree, and graduate courses designed to supplement and broaden knowledge in the field of business administration for Master of Science in Education candidates. Graduate courses in economics are offered in conjunction with the MBA program and for Master of Science in Education or Master of Arts in Education candidates.

The program for the Master of Business Administration degree requires a minimum of thirty-three (33) credits in business administration. These include a core program of eighteen (18) credits and either fifteen (15) credits in elective fields or nine (9) credits in elective fields and six (6) credits for a thesis. Only six (6) hours of electives may be taken in economics.

The Advanced Test for Graduate Study in Business (ATG-SB) is required of all applicants for the Master of Business Administration degree.

The core program consists of Business Administration 602 (Research Methodology and Quantitative Analysis), Business Administration 640 (Seminar in Planning and Control), Business Administration 645 (Seminar in Organizational Theory), Business Administration 655 (Seminar in Financial Management and Control), Business Administration 670 (Seminar in Policy Formulation and Administration), and Economics 650 (Economics of the Firm). Students who have completed intermediate microeconomic theory at the undergraduate level may be permitted to waive the requirements for Economics 650 (Economics of the Firm) and select an additional three hours of elective courses.
In the discipline of Economics, the Department of Business Administration and Economics offers a program of graduate study leading to a minor. The minimum requirement is twelve (12) semester hours of graduate credits, including Economics 600 (Contemporary Economics), and Economics 620 (Seminar in Economic Policy). Six (6) additional hours must be taken from the following courses: Economics 501 (Economic Seminar: Industry-in-Action), Economics 601 (Economic Principles and Issues), Economics 602 (Economic Problems and Issues), Economics 603 (Economic Policy and Issues), Economics 650 (Economics of the Firm), Economics 651 (Economic Seminar: Market Organization and Structure), and Economics 675 (Seminar in Wages and Employment).

In addition, graduate students pursuing the Master of Arts in Education degree with a major in Social Science may concentrate in Economics. A concentration in Economics requires nine (9) semester hours of graduate credit.

COURSE OFFERINGS

Business Administration 502. Advanced Marketing Research and Analysis. (I or II) 3 credits.

Study of the role of research in marketing decision-making, the research process, scientific-method, analysis and interpretation of research findings.

Business Administration 515. Financial Statement Analysis. (I or II) 3 credits.

A study of the concepts, theories, and principles underlying financial statements, controversial problems in asset valuations and price level changes.

Business Administration 524. Managerial Economic Analysis. (I or II) 3 credits.

Analysis of economic forces affecting business management including economic consideration in managerial control, forecasting, and decision-making.
**Business Administration 525.** Advanced Auditing.  
(I or II) 3 credits.  
Provides in-depth study of auditing standards and philosophy. Emphasis is placed on the increasing responsibilities of the public accountant relating to the audit and reports.

**Business Administration 531.** Seminar in Personnel Management. (I or II) 3 credits.  
Analysis of day to day and long term industrial and commercial personnel problems. Review of major personnel decisions affecting business enterprises and approaches being recommended for meeting future problems.

**Business Administration 540.** Collective Bargaining and Labor Relations.  
(I or II) 3 credits.  
A comprehensive review of the development and current status of national labor policy. Consideration will also be given to organization of labor unions, analysis of bargaining power, bargaining strategy and tactics of unions and management, and the current economic and social impact of organized labor. Case study method and guest speakers will be included.

**Business Administration 602.** Research Methodology and Quantitative Analysis  
(I) 3 credits.  
An introduction to the theory and methods of scientific research for graduate students in the fields of Business-Economics and related Social Sciences. Topics covered include problem identification, formulation of hypotheses, sampling, data classification, empirical techniques of analysis and presentation of research results.

**Business Administration 606.** Physical Distribution Management. (I or II) 3 credits.  
A course designed to familiarize the advanced Marketing student with the functions, facilities, and activities involved in the management of movement and storage services, and coordination of demand and supply patterns for the optimization of physical distribution activities in terms of cost and customer service. Particular attention will be given to such factors as location, inventory control, and responsiveness to changes in customer requirements.

**Business Administration 616.** Controllership in Business  
(I or II) 3 credits.  
In-depth study in the basic concepts of a control system, management's uses of financial data, project planning, specific controls in marketing, production, personnel, and planning capital acquisitions.
Business Administration 626. Managerial Pricing Strategies. (I or II) 3 credits.

An analysis of the development of modern price theory, with particular emphasis upon current concepts in demand and supply analysis, and the techniques whereby business firms actually price their products.

Business Administration 640. Seminar in Planning and Control. (I or II) 3 credits.

This course deals with the review and evaluation of the conceptual foundations of the management planning process and the use of management controls. Consideration is given to the formulation, evaluation and modification in establishing long and short term plans. Budgets and other managerial tools used to evaluate performance in both dollar and non-dollar terms are emphasized.

Business Administration 645. Seminar in Organizational Theory. (I or II) 3 credits.

A review of classical and neo-classical organizational theory with special emphasis upon the behavioral sciences and their application in working with and through individuals and groups.

Business Administration 655. Seminar in Financial Management and Control. (I or II) 3 credits.

Emphasizes financial planning, management of short term assets and liabilities, optimum policies for inventories, accounts receivable and cash, capital structure policies, cost of capital and capital expenditure policies.

Business Administration 670. Seminar in Policy Formulation and Administration. (I or II) 3 credits.

Developing, through the seminar approach and case problem method, of executive skills in the area of business policies. Emphasis is upon competence in effective analysis of organizational problems, formulation and implementation of managerial policies. Prerequisite: Bus. Adm. 487.

Business Administration 673. Seminar in Accounting. (I or II) 3 credits.


Business Administration 674. Seminar in Marketing. (I or II) 3 credits.

This course deals with study and analysis in the major areas of marketing. Students will analyze individual problems, consider alternate
solutions and decide on a preferred course of action. Problem solving techniques and research methods will be applied, with emphasis on modern trends and concepts in marketing.

**Business Administration 700. Thesis.** 6 credits.

**Economics 501. Economics Seminar: Industry-In-Action.**
(I or II) 3 credits.

This course deals with the contemporary American enterprise system. Students will participate in local and extended overnight field trips to major representative industrial plants to examine the operation of our economic system at the production level.

Enrollment will be limited. Because of the overnight field trips, a special non-refundable fee of forty dollars ($40) must be paid in advance to the Head of the Department. This special fee will be in addition to regular registration fees for the course which are payable to the Business Office.

**Economics 600. Contemporary Economics.** (I or II) 3 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.

**Economics 601. Economic Principles and Issues.** (Summer, 1973) 3 credits.

The first of a sequence of three non-technical courses dealing with economic problems and issues of interest to the concerned citizen. Economic growth, employment and inflation are given consideration in this course. *(May be taken independently of Economics 602 and 603.)*


The second of a sequence of three non-technical courses dealing with the economic aspects of population growth, the quality of the environment and urban problems. *(May be taken independently of Economics 601 and 603.)*

**Economics 603. Economic Policy and Issues.** (Summer, 1974) 3 credits.

The third of a sequence of three non-technical courses dealing with the role of the United States in the world economy, international trade issues, and the problems of underdeveloped countries. *(May be taken independently of Economics 601 and 602.)*

**Economics 620. Seminar in Economic Policy.**
(I or II) 3 credits.

A study of national economic policy as it relates to unemployment, inflation, and the rate of economic growth.
Particular programs and proposals will be viewed from the perspective of their being the means of moving toward general economic policy objectives.

Economics 650. Economics of the Firm. (I or II) 3 credits.

Theories of demand, production and pricing with special emphasis on recent developments in theories of the firm including linear programming, game theory, risk and uncertainty.


An exploration of the relationship of market organization and structure to the efficiency of the production and marketing processes. Alternative market structures will be examined with particular emphasis on the effectiveness of competition and on the economic performance of a range of industries characterized by varying degrees of market concentration and government intervention. Prerequisite: Economics 650.

Economics 675. Seminar in Wages and Employment. (I or II) 3 credits.

An advanced course in the theoretical analysis of national labor markets and related public policy issues. Major emphasis will focus on wage and employment theory, the economic effects of technological change, the problem of inflation and a consideration of employment and income maintenance policies.

Economics 680. Reading and Research. 3 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.

Economics 700. Thesis. 6 credits.
BUSINESS EDUCATION AND OFFICE ADMINISTRATION

Dr. Dickerson, Head of the Department

The graduate program of the Department of Business Education is planned so the student may improve his teaching ability, develop personally and professionally, and strengthen his ability to do research.

The Department of Business Education offers a program of study leading to the Master of Science in Education degree with a major in Business Education and a minor in Education. The minimum requirement for the degree is twenty-one (21) semester hours of graduate credit in Business Education and nine (9) semester hours in Education. Students planning a program of study leading to the Master of Science in Education degree with a major in Education may minor in Business Education with a minimum requirement of twelve (12) semester hours of graduate credit in Business Education.

Each student majoring in the department will be assigned an advisory committee composed of three members of the graduate faculty from which a chairman will be selected. The committee will assist the graduate student in preparing a program commensurate with his background and teaching and future educational goals.

COURSE OFFERINGS

Business Education 501. In-Service Business Education.
(I, II & Summer) 1-3 credits.

These comprehensive workshops in areas of business education provide the latest methods of teacher education through in-service education.

Business Education 505. Seminar in Business Education.
(I or II) 3 credits.

A seminar involving a study of the relationship of business education to business and industry to enable the teacher to obtain a better understanding of the free enterprise system. Field trips, consultants, and case studies are essential parts of the course.
Business Education 540. Seminar in Automated Data Processing. (Summer Only) 3 credits.
A course in the basic understanding of data processing, including extensive readings in the entire field. Laboratory emphasis on the operation of a unit record installation.

Business Education 600. Curriculum Construction in Business Education. (I or II) 3 credits.
Analysis of new curriculum patterns and the development of materials for use in the block-time program in business education.

Business Education 610. Problems in Business Education. (I or II) 3 credits.
Consideration of individual problems in business. Topics covered will include programmed instruction, data processing, community surveys, tests and measurements, and related areas.

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

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

Business Education 640. Seminar in Computer Systems. (Summer Only) 3 credits.
A course in the basic understandings of computer installations and systems, including all forms of input and output, capabilities of different central processing units, and languages for computers. Experience in program writing and hands-on operation of a business computer. Prerequisite: Bus. Ed. 340 or equivalent.

Business Education 650. Advanced Studies in Data Processing Systems. (Summer Only) 3 credits.
Advanced studies designed to provide the latest methods and techniques essential to the teaching of unit record and computer systems. Practical machine experience will be included in the course. Prerequisites: Bus. Ed. 540 and 640.

Business Education 660. Advanced Studies in Business Machines. (I or II) 3 credits.
Advanced studies for the improvement of the teaching of business machines. Practical experience on calculating, duplicating, secretarial, and other modern office equipment is an essential part of the course.
BUSINESS EDUCATION 680. READING AND RESEARCH. 3 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. 6 credits.
CHEMISTRY

Dr. DeGraff, Head of the Department

The Department of Chemistry offers graduate courses which are designed to supplement and broaden students' knowledge in this discipline. A program of graduate study is offered which can apply to a minor in chemistry for those pursuing the Master of Science in Education degree with a major in Secondary Education. The minimum requirement for a minor in chemistry is twelve (12) semester hours of graduate credit in chemistry.

COURSE OFFERINGS

Chemistry 501. Advanced Inorganic Chemistry. (II) 3 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. Prerequisite: One semester of physical chemistry.

Chemistry 505. Theoretical Chemistry. (By Demand) 3 credits.

A study of fundamental concepts, laws, theories, and philosophies of chemistry. Considerable emphasis is placed on the practical applications of various 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. Prerequisite: Permission of instructor.

Chemistry 510. Physiological Chemistry. (By Demand) 3 credits.

This course includes a study of foodstuffs, their digestion and metabolism, respiration, body secretions and excretions, the blood, urine, calorigravimetry, nutrition, endocrine organs and vitamins. Prerequisite: One year of organic chemistry.

Chemistry 525. Intermediate Organic Chemistry. (I) 3 credits.

An advanced study of the theory of organic chemistry as applied to chemical reactions and synthetic methods. Such topics as reaction mechanisms, spectroscopy, and stereochemistry will be included. Prerequisite: One year of organic chemistry.

Chemistry 602. Solutions. (By Demand) 3 credits.

A study of modern theories of solutions. Considerable emphasis will be placed on nonaqueous solutions. Prerequisite: Permission of instructor.
Chemistry 698. Special Topics in Chemistry. (Summer, 1973)
1-4 credits.

Deals with a special phase of chemistry of topical and current interest. The 1973 offering will focus on the application of instrumental methods of analysis to various current problems such as drug analysis, pollution monitoring, and advanced clinical chemistry. Both the theory and practice of applicable techniques will be presented. Prerequisite: Permission of instructor.
MADISON COLLEGE

EDUCATION

DR. BLAIR, Head of the Department

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

The graduate programs of the Department of Education are designed to improve the competency in professional education of teachers holding positions in the elementary school, of teachers in academic and special subject fields in the secondary school, and of individuals preparing for positions in higher education or in areas related to education.

Students, regardless of classification, must have completed at least nine (9) hours of course work in undergraduate professional education before enrolling in graduate courses in education. Generally, the nine hours should have included study in educational or developmental psychology, curriculum, and methods of teaching. Exceptions to prerequisite requirements may be made for students entering the minor in higher education. Exceptions to all departmental requirements must be approved in writing by the Head of the Education Department and by the Dean of the School of Education.

Designated sections of the course Education 501, Workshop in Education, may be taken on a pass-fail basis. While graduate credit is granted, such credit earned on a pass-fail basis cannot be applied toward degree requirements.

MAJOR PROGRAMS

The Department of Education offers five major programs of study. Major programs for elementary teachers, nursery school and kindergarten teachers, and reading specialists require a minimum of thirty (30) semester hours of credit for completion. The major programs for elementary and secondary school principals require thirty-six (36) credit hours for completion.
Students who major in these programs need not elect a minor to complete degree requirements.

The major program for secondary teachers requires a minimum of eighteen (18) semester hours for completion. Students who major in this program must elect a minor to meet degree requirements.

The Education Department assists students who do not hold teaching certificates in the planning of programs of study which may lead to certification and a Master’s degree.

**MAJOR IN EARLY CHILDHOOD EDUCATION**

This program is designed to improve the competency of teachers holding positions in the Nursery School, Kindergarten, or First Grade, or teachers who plan to work at this level. Students who elect this major and who do not hold the Collegiate Professional Certificate with endorsement for the primary grades may need to take courses in addition to the minimum requirement for the major to meet certification requirements.

<table>
<thead>
<tr>
<th>Minimum Requirements</th>
<th>Semester Hours</th>
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<tbody>
<tr>
<td><strong>A. Required Courses</strong></td>
<td>30</td>
</tr>
<tr>
<td>Education 509. Curriculum for Early Childhood Education</td>
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<tr>
<td>Education 510. The Creative Arts in Early Childhood Education</td>
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<tr>
<td>Education 609. The Elementary School Curriculum</td>
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<tr>
<td>Education 612. Advanced Curriculum Theory in Early Childhood Education</td>
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<tr>
<td>Psychology 614. Laboratory Study of the Young Child</td>
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</tbody>
</table>
MAJOR IN ELEMENTARY EDUCATION

This graduate program of the Department of Education is designed to improve the professional competency of teachers holding positions in the Elementary School.

Semester Hours

Minimum Requirements: 30

A. Required Courses 15

Education 609. The Elementary School Curriculum
Education 630. Research Methods in Education
Education 656. Seminar in Elementary Education

One of the following:
Psychology 626. Growth and Development During the Elementary Years, or
Education 625. Evaluation in Education

One of the following:
Education 505. The Role of the School in Society, or
Education 603. Philosophy of Education
B. Electives

Courses included as electives must be selected so as to develop the professional needs and interests of the student. All electives must be approved by the major adviser and may be drawn from the graduate offerings of the College.

MAJOR IN SECONDARY EDUCATION

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

Minimum Requirements

Semester Hours

A. Required Courses

Education 607. Secondary School Curriculum and Co-Curriculum

Psychology 628. Advanced Adolescent Psychology

Education 630. Research Methods in Education

B. Background courses essential for effective teaching in the secondary school are required and must be selected with the approval of the adviser.

Education 501. Workshop in Education

Education 505. The Role of the School in Society

Education 506. High School and Adult Reading Programs
Education 520. Audio-Visual Instruction
Counselor
Education 520. Guidance Principles and Practices in Education
Education 533. Teaching Mathematics in the Secondary School
Education 538. Teaching the Social Studies in the Secondary School
Education 539. Teaching Foreign Language in the Secondary School
Education 550. Junior High and Intermediate School Education
Education 567. Instruction
Education 603. Philosophy of Education
Education 620. Comparative Education
Education 640. The Fundamentals of Educational Administration
Education 650. Supervision of Instruction
Education 658. Diagnostic and Remedial Techniques in Reading
Education 660. Practicum in Diagnostic and Remedial Techniques in Reading
Education 680. Reading and Research
Education 700. Thesis
C. The student must also elect a minor of twelve (12) hours in a field outside of Education. The courses included in the minor should be determined by the minor department and should be appropriate to the background of a secondary teacher.

MAJOR FOR READING SPECIALISTS

This program is designed to prepare reading specialists for the public schools. State and national standards for the professional preparation of reading specialists are met by this program. Students admitted to this program must have completed one basic course in reading, and must meet all course requirements for endorsement as a reading specialist in the State of Virginia.

**Semester Hours**

Minimum Requirements 30

A. Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
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</thead>
<tbody>
<tr>
<td>Education 580.</td>
<td>3</td>
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<tr>
<td>Education 630.</td>
<td>3</td>
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<tr>
<td>Education 658.</td>
<td>3</td>
</tr>
<tr>
<td>Education 660.</td>
<td>3</td>
</tr>
<tr>
<td>Education 665.</td>
<td>3</td>
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<tr>
<td>One of the Following:</td>
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<tr>
<td>Education 502.</td>
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<td>Education 506.</td>
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</tbody>
</table>

- Foundations of Reading
- Research Methods in Education
- Diagnostic and Remedial Techniques in Reading
- Practicum in Diagnostic and Remedial Techniques in Reading
- Organization, Administration and Supervision of the Reading Program
- Elementary School Reading, or High School and Adult Reading Programs
One of the Following:

Education 609. Elementary School Curriculum, or
Education 607. Secondary School Curriculum and Co-Curriculum

B. Electives
Electives must be selected with the approval of the adviser.

Psychology 670. Group Psychological Tests
Psychology 626. Growth and Development During the Elementary Years
Psychology 628. Advanced Adolescent Psychology
Education 680. Reading and Research
Education 501. Workshop in Education
Counselor
Education 520. Guidance Principles and Practices in Education
Psychology 675. Individual Intelligence Testing
Special
Education 630. Advanced Study of the Exceptional Child

MAJOR FOR SCHOOL ADMINISTRATORS

The Education Department offers graduate programs in educational administration which are designed to prepare students to serve as either elementary or secondary school principals.

In addition to the general requirements for admission to graduate study in the Education Department at Madison College, applicants for these programs must meet the following requirements:

A. For admission to full-time graduate study in these programs, the applicant must have completed three years
of successful teaching at the appropriate level (elementary or secondary) as evidenced by a letter from a public school supervisor or administrator acquainted with his work. Part-time admission will be granted to students who are concurrently engaged in teaching at the appropriate level and who supply similar evidence of teaching success.

B. Two letters of recommendation from public school personnel must be provided which would indicate potential to function effectively as a principal.

C. Previous study in Education must have included study related to the level at which the student plans to serve as a principal.

In addition to the general degree requirements, candidates for degrees in these programs must meet the following requirements:

A. Hold a Collegiate Professional Certificate with endorsement for the appropriate level.

B. Possess leadership qualities essential to the principalship.

C. A minimum of three years of public school experience.

Semester Hours

I. Program for Elementary School Principals.

Minimum Requirements 36

A. Foundation Areas 9

1. Required 6

Psychology 262. Growth & Development During the Elementary Years

Education 630. Research Methods in Education

2. Elective 3

Education 603. Philosophy of Education

Or another appropriate course selected with the adviser.
Semester Hours

B. Instructional Program 9
   1. Required 3
      Education 609. Elementary School Curriculum
   2. Electives 6
      Selected with the adviser so as to broaden the student's understanding of the instructional program.

C. Administration and Supervision 18
   1. Required 18
      Education 640. The Fundamentals of Educational Administration
      Education 650. Supervision of Instruction
      Education 642. Public School Relations
      Education 641. School Law
      Education 647. The Elementary School Principal
      Education 649. Internship for Principals
         (Students with limited backgrounds may be required to earn a total of six (6) hours as interns.)

Minimum Requirements 33

A. Foundation Areas 9
   1. Required 6
      Psychology 628. Advanced Adolescent Psychology
      Education 630. Research Methods in Education
2. Elective

Semester Hours: 3
Education 603. Philosophy of Education
Or an appropriate course selected with the adviser.

B. Instructional Program 9

1. Required 3
Education 607. Secondary School Curriculum and Co-Curriculum

2. Electives 6
Two courses elected with the approval of the adviser.

C. Administration and Supervision 18

1. Required 18
Education 640. The Fundamentals of Educational Administration
Education 650. Supervision of Instruction
Education 642. Public School Relations
Education 641. School Law
Education 648. The Secondary School Principal
Education 649. Internship for Principals
(Students with limited backgrounds may be required to earn a total of six (6) hours as interns.)

MINORS

The Education Department offers minor programs in the areas of secondary education, elementary education, and higher education. All courses included in the minor programs must be approved by the minor adviser in Education.
MINOR IN SECONDARY EDUCATION

This minor program is designed for secondary teachers who choose to major in a subject-matter area.

<table>
<thead>
<tr>
<th>Minimum Requirements</th>
<th>Semester Hours</th>
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</thead>
<tbody>
<tr>
<td>A. Required</td>
<td>6</td>
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<tr>
<td>Education 607.</td>
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<tr>
<td>Psychology 628.</td>
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</tbody>
</table>

B. Electives in Education

MINOR IN ELEMENTARY EDUCATION

This minor program is designed for subject area specialists who desire additional study in elementary education.

<table>
<thead>
<tr>
<th>Minimum Requirements</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Required</td>
<td>6</td>
</tr>
<tr>
<td>Education 609.</td>
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<tr>
<td>Psychology 626.</td>
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</tbody>
</table>

B. Electives in Education

MINOR IN HIGHER EDUCATION

This minor program is designed for students with primary needs and interests in higher education or education-related areas.

<table>
<thead>
<tr>
<th>Minimum Requirements</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Required</td>
<td>6</td>
</tr>
<tr>
<td>Education 670.</td>
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</tbody>
</table>

American Higher Education
Education 671. Instructional Techniques in Higher Education

B. Electives in Education  3

COURSE OFFERINGS

Education 501. Workshop in Education. (I or II, Summer 1973) 3 credits.

The course is designed to provide students with workshop experience relative to the current needs evident in elementary and secondary school programs. The topics considered in each workshop will be determined by interest and demand. No more than six credit hours earned in workshops in Education may be applied to a major program in Education and no more than three hours may be applied to a minor program in Education.

Education 502. The Elementary School Reading Program. (I or II, Summer 1973) 3 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. Prerequisite: Ed. 359 or equivalent.

Education 505. The Role of the School in Society. (I or II, Summer 1973) 3 credits.

A study of the forces affecting the organization, administration, curriculum, and other features of the school in the United States today. Particular emphasis is given to current issues and trends in American culture that bear on and give direction to school practice.

Education 506. High School and Adult Reading Programs. (Summer 1973) 3 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 509. Curriculum for Early Childhood Education. (I and Alternate Summers) 3 credits.

Survey of theory and practice in curriculum development for early childhood education. Consideration will be given to historical contributions to contemporary programs. Emphasis is on the planning of appropriate learning experiences in the areas of science, social studies, and mathematics. Prerequisites: Psy. 369 and 480 or Psy. 510 or equivalents.

Education 510. The Creative Arts in Early Childhood Education. (II and Alternate Summers) 3 credits.

Application of knowledge of the creative process and its nurture to programs for young children. The student will explore creative learning
experiences in art, music, language arts, movement and dance. Interpretation and guidance of development in these areas will be emphasized. Prerequisites: Psy. 369 and 480 or Psy. 510 or equivalents.

Education 520. Audio-Visual Instruction. (II and Summers) 3 credits.

This course examines the principles underlying effective use of audio-visual equipment and materials in the teaching-learning process. Students will become familiar with both established and innovative audio-visual materials now used in public school systems. In addition, each student will produce audio-visual teaching aids appropriate to his own instructional area.

Education 525. Teaching the Language Arts in the Elementary School. (1973-74) 3 credits.

This course for experienced teachers considers the principles and teaching techniques which are essential to effective language arts instruction in the elementary school. Attention is given to research findings and to innovative practices in the area of language arts instruction.

Education 530. Teaching Mathematics in the Elementary School. (Summer Only) 3 credits.

This course is designed to assist experienced teachers to improve the teaching of mathematics in the elementary school. Opportunities for individual and group study of content, methodology, and instructional materials necessary to the design and implementation of instructional programs in modern mathematics will be provided.

Education 533. Teaching Mathematics in the Secondary School. (Summer Only) 3 credits.

This course is designed to assist experienced teachers to improve the teaching of mathematics in the secondary school. Opportunities for individual and group study of content, methodology, and instructional materials essential to the design and implementation of effective instructional programs in modern mathematics will be provided.


This course for experienced teachers gives attention to the role of the social studies in the elementary school curriculum. Procedures for integrating content from the various social sciences are considered in relation to children at various stages of development.

Education 538. Teaching the Social Studies in the Secondary School. (Summer Only) 3 credits.

This course is designed to assist experienced teachers in the improvement of social studies instruction at the secondary level. Attention is given to innovative programs and materials.
Education 539. Teaching Foreign Language in the Secondary School. (Summer Only) 3 credits.

The purpose of this course is to assist teachers of foreign languages in the field who need a deeper understanding of the new methods in the teaching of foreign languages.

Education 540. Supervising the Student Teacher. (1973-74) 3 credits.

The student teaching experience is explored as a major component of the teacher education program. Specific attention is given to the role of public school personnel in the guidance of the student teacher.


This course is designed to introduce in-service teachers to the concept of the junior high and the intermediate school and to the role of these unique school units in American education. Consideration will be given to the philosophy, functions, and total program of these schools, including curriculum, guidance, personnel, plant, and administration.

Education 567. Instruction. (Summer Only) 3 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 580. Foundations of Reading. (1) 3 credits.

The purpose of this course is to provide the student with an understanding of the historical, psychological, physiological, sociological and psycholinguistic factors which influence the development of reading proficiency. The course is designed for reading specialists and other graduate majors in education, psychology, counselor education and special education.

Education 585. Administration and Supervision in Early Childhood Education. (Summer Only) 3 credits.

This course is designed for individuals who may be responsible for the administration and supervision of educational programs for children under six years of age. The various aspects of early childhood education are studied in relationship to budgeting, staff development, personnel problems, and the planning for adequate facilities. Prerequisite: Written permission of instructor and Head of the Department.

Education 603. Philosophy of Education. (II in Alternate Years, and Alternate Summers) 3 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.

The principles and forms of curriculum organization with appraisal of such curriculum patterns as the subject-matter curriculum, the correlated, fused, core and experience curriculum are included in this course. Also considered are techniques for reorganizing the curriculum; leadership in curriculum development, and participation of teachers in curriculum improvement. Prerequisite: Ed. 360 or equivalent.

Education 609. The Elementary School Curriculum. (I and Summers) 3 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 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. Prerequisite: Ed. 360 or equivalent.


The purpose of this course is to enable the student to acquire skills, understanding and attitudes which are essential to effective involvement in educational change. Group behavior, organizational theory, leadership behavior, and the diffusion of innovation are considered in relationship to educational change.

Education 612. Advanced Curriculum Theory in Early Childhood Education. (I) 3 credits.

A study in depth of early childhood education programs. Emphasis will be placed on current research and contemporary programs for young children, especially those related to the educationally deprived. Prerequisite: Education 509 or Education 510.

Education 616. Practicum in Early Childhood Education. (Summer 1973) 3 or 6 credits.

Supervised teaching experience with preschool children. Emphasis on planning and executing creative learning activities based on observation and study of young children. A minimum of four hours per week in classroom involvement is required in addition to seminar meetings. Prerequisites: Ed. 509, 510 and 612 or equivalents.

Education 619. Seminar in Early Childhood Education. (II) 3 credits.

A consideration of current issues and problems in early childhood education. Opportunity for the advanced student to pursue individual investigations of research or to develop projects related to early childhood education. Prerequisite: Education 630.
Education 620. Comparative Education. (II in Alternate Years and in Alternate Summers) 3 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 development which brought about progress.

Education 625. Evaluation in Education. (I) 3 credits.

Designed to help teachers improve in their construction and use of classroom tests. Particular emphasis will be given to analyzing test results and to investigating newer developments in the evaluation of learning and instructional programs.

Education 630. Research Methods in Education.
(II and Summers) 3 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.


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. Prerequisite: Nine hours of graduate study in education or permission of the instructor.

Education 641. School Law. (II) 3 credits.

The purpose of this course is to provide the teacher, the prospective school administrator, and the practicing school administrator with the minimum essentials of school law so that they will be able to obtain both a general understanding of the processes of law as they affect American education, and also important specific information as it affects education in the public schools of Virginia.

Education 642. Public School Relations. (1973-74) 3 credits.

This course explores the relationships among public school administrators, instructional personnel, the community, and other social agencies. Specific attention is given to effective school personnel programs and to the establishment and maintenance of effective school community relations. Prerequisite: Ed. 640.

Education 647. The Elementary School Principal.
(II) 3 credits.

This course relates various aspects of public school administration to the unique problems of elementary school administration. Patterns of
elementary school organization are studied. The role of the elementary school principal is explored in relationship to educational and social change. **Prerequisites:** Ed. 640 and 650.


The essential aspects of secondary school administration are identified and explored. Specific attention is given to the role of the secondary school principal as an administrator and instructional leader. **Prerequisites:** Ed. 640 and 650.

**Education 649. Internship for Principals.** (1973-74) 3-12 credits.

This course is designed to allow prospective elementary and secondary school principals to gain practical experience in applying educational theory to daily problems encountered by public school principals. The specific activities included in the internship will be determined by the needs of the student. (Amount of credit given will be determined by the amount of experience acquired, but no more than 6 hours can be counted toward a degree program.)

**Education 650. Supervision of Instruction.** (II and Summer) 3 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. **Prerequisite:** Nine hours of graduate study or permission of the instructor.

**Education 656. Seminar in Elementary Education.** (1973-74) 3 credits.

This course enables students to engage in intensive study of selected problems in elementary education. Research findings are reviewed and educational theory is explored in relationship to current problems and issues. **Prerequisite:** Ed. 609 or permission of the instructor.

**Education 658. Diagnostic and Remedial Techniques in Reading.** (Summers) 3 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. **Prerequisite:** Ed. 502 or 506 or equivalent.
Education 660. Practicum in Diagnostic and Remedial Techniques in Reading. (Summers) 3 credits.

This course will be a logical continuation of Education 658. 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 665. Organization, Administration and Supervision of the Reading Program. (1973-74) 3 credits.

The knowledge and skills essential to the development, administration, and supervision of the balanced reading program in the elementary and secondary school are considered. The roles of the reading specialist, special reading teacher, administrator, and supervisor are explored in relationship to the reading program.

Education 670. American Higher Education. (I or II) 3 credits.

The objective and organization of prevalent types of institutions are studied. Current problems and issues in American higher education are explored.

Education 671. Instructional Techniques in Higher Education. (I or II) 3 credits.

Instructional practices and themes are studied in relationship to programs in higher education. Attention is given to innovative programs.

Education 680. Reading and Research. 3 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. Prerequisites: Ed. 630 or equivalent, and written permission of the adviser and department head.

Education 700. Thesis. 6 credits.
ENGLISH

Dr. McMurray, Head of the Department

The Department of English Language and Literature offers both the Master of Arts degree with a major in English and the Master of Arts in Education degree with a major in English.

The minimum requirement for the Master of Arts degree is thirty (30) hours of graduate credit in English. The minimum requirement for the Master of Arts in Education degree is twenty-one (21) hours of graduate credit in English and nine (9) hours in Education as recommended by the Department of Education. A student may fulfill six (6) of his required hours by writing a thesis. All students are required to take English 618 (Bibliography and Methods of Research) and to pass a comprehensive examination. Completion of the third year of a college foreign language course with a grade of “C” or above or passage of a reading examination in a foreign language is also a requirement for the Master of Arts degree.

A student must plan a program of study with his English adviser before registering for graduate courses in English.

The minimum requirement for a Master of Arts in Education degree with a major in Education and a minor in English is twelve (12) hours of graduate credit in English.

Students are urged to submit scores for the Graduate Record Examination Aptitude Test and the Advanced Test in Literature in English as part of their application to graduate school. When this is not possible, a student must take these Tests the first time they are given after his application for graduate work has been accepted.

COURSE OFFERINGS

English 501. Growth and Structure of the English Language. (1) 3 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 510. Special Authors Seminar. (1973-74) 3 credits.**

An intensive study of a major English or American author or of a selected group of authors.

**English 512. Special Topic Seminar. (II) 3 credits.**

A study of a literary school, movement, genre, or of some other significant literary topic.

**English 535. The History of Literary Criticism. (I or II) 3 credits.**

A survey of literary criticism from Aristotle to Eliot.

**English 550. Modern Drama. (1973-74) 3 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 560. Currents of Thought in Early Renaissance. (I) 3 credits.**

The awareness of history and human possibility from Erasmus's *In Praise of Folly* to Shakespeare's *Richard III*.

**English 572. Contemporary Approaches to English Linguistics. (Summer, 1974) 3 credits.**

A course designed for teachers who desire to familiarize themselves with the basic ideas and procedures in the various approaches to the "New English." Special attention is paid to the utility of these approaches in the classroom.

**English 590. Studies in Old English. (Summer, 1973) 3 credits.**

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

**English 601. Shakespeare. (II) 3 credits.**

A study of selected plays by Shakespeare. The choice of plays will vary in different years. *Prerequisite: An undergraduate course in Shakespeare.*

**English 610. Studies in Middle English. (I or II) 3 credits.**

A study of representative literary works of the Middle English period.

**English 612. Major American Authors Seminar. (II) 3 credits.**

An intensive study of a major American author or of a selected group of authors.
a. Seminar in Poe, Hawthorne, Melville. 3 credits.
b. Seminar in Emerson, Thoreau, Whitman. 3 credits.
c. Seminar in American Realism. 3 credits.

**English 616. The Drama to Shakespeare. (1974-75) 3 credits.**
A study of the evolution of the drama from its religious beginnings to the development of the public theater of Elizabethan England.

**English 618. Bibliography and Methods of Research. (I) 3 credits.**
An introduction to scholarly materials, procedures, and techniques, including scholarly writing. Work in this course is done in both the classroom and the library.

**English 620. Studies in Restoration and Eighteenth-Century Literature. (I) 3 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 622. Modern Literary Criticism. (I or II) 3 credits.**
A survey of the nature and development of literary criticism from Eliot to the present.

**English 630. Studies in English Literature in the Victorian Period. (II) 3 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 631. Studies in American Romanticism. (I) 3 credits.**
A concentrated examination of selected authors, such as Poe, Hawthorne, Emerson, Thoreau, Melville, and Whitman.

**English 632. Studies in American Realism. (Summer, 1973) 3 credits.**
A concentrated examination of such authors as Mark Twain, Howells, Stephen Crane, and Henry James.

**English 635. Elizabethan and Jacobean Drama. (1973-74) 3 credits.**
The development of English drama from the morality plays to 1642.

**English 640. Studies in Contemporary Literature. (1973-74) 3 credits.**
Poetry and fiction of the most significant contemporary authors will be examined. Choice of authors studied will vary in different years.
ENGLISH 660. STUDIES IN SEVENTEENTH-CENTURY LITERATURE. (1973-74) 3 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.


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 680. READING AND RESEARCH. 3 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. 6 credits.
FOREIGN LANGUAGES

Dr. Rauch, Head of the Department

The Department of Foreign Languages offers graduate courses in Spanish which are designed to supplement and broaden the student's knowledge in this field. A program of graduate study is offered which can apply to a minor in Spanish for those pursuing the Master of Arts in Education degree with a major in Education. The minimum requirement for a minor in Spanish is twelve (12) semester hours of graduate credit in Spanish. The student will plan his program with the help of the Head of the Department.

MINOR IN SPANISH

 Semester Hours

Minimum Requirements 12

SPANISH 515. Spanish Poetry and Drama of the 19th Century

SPANISH 516. Spanish Novel of the 19th Century

SPANISH 620. Contemporary Spanish Theater

SPANISH 630. Contemporary Spanish Novel

Background course essential for students in teaching: 3

EDUCATION 539. Teaching Foreign Language in the Secondary School

COURSE OFFERINGS

SPANISH 515. Spanish Poetry and Drama of the 19th Century. (1) 3 credits.

A study of the main currents of Spanish poetry and drama of the 19th Century from the Romanticists to the alta comedia and the realistic dramas of Galdos. Given in Spanish.
SPANISH 516. **Spanish Novel of the 19th Century.**

(II) 3 credits.

A study of the main currents in the Spanish novel of the 19th Century with special emphasis on the works of Valera, Pereda, Galdos, and others. Given in Spanish.

SPANISH 620. **Contemporary Spanish Theater.**

(I or II) 3 credits.

A study of Spanish drama from Benavente and the Generation of 1898 to the contemporary theater of García Lorca, Casona, Buero Vallejo, and others. Given in Spanish.

SPANISH 630. **Contemporary Spanish Novel.** (I or II) 3 credits.

A study of the development of the novel during the present century from the Generation of 1898 to the contemporary works of Cela, Gironella, Delibes, and others. Given in Spanish.
GEOLOGY DEPARTMENT

MR. HARNSBERGER, Head of the Department

Though the Department of Geology does not offer a graduate major or minor at the present time, selected basic courses in Geology are available to interested graduate students.

COURSE OFFERINGS

Geology 501. Workshop in Geology: Problems in Earth Science. (Summer Only) 2 credits.
An investigation of laboratory techniques in rock and mineral identification, geologic and topographic map reading and field investigations of crustal structures.

Geology 510. Earth Science. (Summer only) 3 credits.
A course designed to familiarize the graduate student with the basic aspects of most branches of geology. Emphasis is on materials and structure of the earth and how rock units are shaped into their scenic expression. May not be used to satisfy undergraduate geology requirements.

Geology 535. Paleobiology (I) 3 credits.
Principles of study and systematics of the organisms preserved in the geologic record. This course covers Protista through vertebrates. (Open to biology majors and graduate students.) Prerequisite: A one-year course in biology or geology.

Geology 540. Paleoecology (II) 2 credits.
An introduction to the evolution of the earth’s past environments. Methods of study and interpretation of ancient environments. Biological and geological approaches to paleoecology are considered. Prerequisite: Geol. 535.
The Department of History offers the Master of Arts degree with a major in History and the Master of Arts in Education degree with a major or a minor in History.

The program leading to the Master of Arts degree with a major in History offers an opportunity for concentration in four fields of History: United States History Prior to 1877; United States History Since 1877; Early Modern European History (1648-1815); and Modern European History (Since 1815). Admission requirements are: completion of at least twenty-four (24) semester hours of undergraduate credit in History, or their equivalent, with approximately a “B” average or higher; and submission of satisfactory scores on the Graduate Record Aptitude Test and the Advanced Test in History.

Minimum departmental requirements for the Master of Arts degree with a major in History are:

1. Thirty (30) semester hours of graduate credit in History which may include no more than six (6) semester hours in allied Social Science fields.

2. A thesis for six (6) semester hours credit (to be included in the 30-hour requirement), or a Master’s essay in partial satisfaction of the requirements of a selected 600-level course.

3. A grade of “C” or above in a third year college course in a modern foreign language, or successful completion of French 205-206 or German 205-206, or successful completion of a reading examination in one foreign language.

4. Successful completion of an oral comprehensive examination in one of the four fields of concentration offered by the History Department.
5. At least six (6) semester hours of course work outside the field of concentration.

Admission requirements for the program leading to the Master of Arts in Education degree with a major or minor in History are: completion of at least twenty-four (24) semester hours of undergraduate credit in History for the major or at least eighteen (18) semester hours for the minor, or their equivalent, with approximately a “B” average or higher; and submission of satisfactory scores on the Graduate Record Aptitude Test.

Minimum requirements for the Master of Arts in Education degree with a major in History are: twenty-one (21) semester hours of graduate credit in History, which may include History 700 (Thesis), or fifteen (15) semester hours of graduate credit in History and six (6) semester hours of graduate credit in approved courses in Social Science (Economics, Geography, Political Science, and Sociology). The minor consists of nine (9) semester hours of graduate credit in appropriate courses in Education.

The minor in History in the Master of Arts in Education degree requires a minimum of twelve (12) semester hours of graduate credit in History.

Prerequisites for enrolling in graduate courses in History are: History 233-234, United States History, or equivalent, for courses in United States or Latin American History; and History 255-256, History of Civilization, or equivalent, for courses in European, African, or Asian History.

COURSE OFFERINGS

History 520. United States History, 1763-1800. (I) 3 credits.

An interpretive study of the political, economic, social, and cultural history of the United States from the French and Indian War through the Federalist period.
History 525. United States History, 1800-1850. (II) 3 credits
An interpretive study of the political, economic, social and cultural history of the United States from the election of Jefferson to the Compromise of 1850.

History 530. United States History, 1877-1919.
(I or II) 3 credits.
An interpretive study of United States History from Reconstruction through World War I. Special attention is given to the nation’s emergence as an industrial and urban society and as a world power, and to third party and reform movements of the late 19th and early 20th centuries.

History 531. Recent United States History. (I or II) 3 credits.
An interpretive study of the United States since World War I, emphasizing the changing roles of the national government in domestic affairs and of the United States in its world relations.

History 545. Latin America and the United States.
(II, 1974-75) 3 credits.
An examination of the diplomatic relations between Latin America and the United States from the era of the Latin American revolutions for independence to the present. Emphasis will be placed on the Monroe Doctrine and its extensions, and the development of the Pan-American system.

History 546. Mexico, Central America, and the Caribbean.
(II) 3 credits.
A regional study of the history of Central American and Caribbean nations with special emphasis given to Mexico from the Revolution of 1910 to the present.

History 559. Modern France. (I or II) 3 credits.
Topical studies in French history from the fall of Napoleon I to the present. The July monarchy, the second empire, the revolutions of 1830, 1848, 1870, 1945 and 1958, and the four republics are given special emphasis. The roles of the Franco-Prussian war, the two world wars of the twentieth century and colonialism in French history are also stressed.

History 562. Modern Germany, 1918-Present.
(I or II, 1974-75) 3 credits.
An advanced lecture, reading, discussion course on 20-century Germany. Readings and discussion will center around the aftermath of World War I, Weimar Germany, the rise of Nazi Germany, the Third Reich, World War II, and the founding of West and East Germany in the post-war world.

History 565. Twentieth Century Britain. (II) 3 credits.
An examination of the major themes of British history in the twentieth century. The course will include material on political, social, eco-
onomic, diplomatic, and imperial topics from the pre-World War I decade down through the post-World War II decade.

**History 575. Soviet Russia. (I or II) 3 credits.**

Modernization of Russia and the Soviet Union from the 1917 Revolution to the present with an emphasis on significant political, economic, social, and cultural developments. A study in comparative history; the Soviet experience is examined in the context of 20th century global achievements.

**History 576. Russia and the Baltic. (I or II) 3 credits.**

A topical, regional history approach will be utilized to trace the growth of the Russian position in northeastern and northcentral Europe from the Early Middle Ages to present times. Although Russian development will be emphasized, other Baltic powers, such as Sweden, Poland, and Germany, will be given due consideration.

**History 580. West Africa. (I or II) 3 credits.**

An introduction to that part of Africa from which the blacks of America trace their ancestry. The area covered includes the basins of Lake Chad and the Senegal, Niger, Gambia, Volta, Sanaga, Ogooue, Congo and Cuanza rivers. The whole sweep of history from neolithic times through the independence movements of the fifth and sixth decades of the twentieth century is examined. This course is designed especially for those teaching Black History or Black Studies in secondary schools.

**History 585. Southeast Asia. (I or II, 1974-75) 3 credits.**

A history of mainland Southeast Asia from Burma to Vietnam, Indonesia, and the Philippines, with emphasis on the influences of Indian and Chinese civilization, the impact of European colonial rule, the rise of nationalism, the gaining of independence, and the post-war political developments.

**History 601. United States Diplomatic History, 1800-1890. (I or II) 3 credits.**

A study of diplomatic activities and foreign relations of the United States in the nineteenth century, with special attention to the development of principles of foreign policy and the significance of foreign affairs in United States history.

**History 602. United States Diplomatic History, 1890-1941. (I, 1974-75) 3 credits.**

An intensive study of American diplomatic activities and foreign relations from the 1890's to the eve of World War II, with emphasis on the development of imperialism, isolationism, and disarmament, as well as the diplomacy of the Spanish-American War, World War I, and the pre-World War II period.
History 610. The Era of Franklin D. Roosevelt.  
(II, 1974-75) 3 credits.

An intensive study of the period 1933-1945 as a dividing line in American economic, social, and political development. Attention is also given to the emergence of the Grand Alliance of World War II and of Cold War problems. Evaluations of FDR and of the New Deal era by contemporaries and by historians are carefully examined.

History 620. The New South. (I or II) 3 credits.

A general survey of the economic, political, religious, cultural, and social development of the Southern region since 1877, with emphasis on the various problems confronting the South in its development.

History 624. Colonial America. (I or II) 3 credits.

An interpretive study of the colonial period of American history to 1763. Special attention is given to social and cultural life, the imperial system, and the political heritage of colonial America.

(II, 1974-75) 3 credits.

This course is concerned with vital philosophical, social, and economic aspects of the age of the democratic revolutions. Special attention is given to an interpretive study of the Enlightenment, to the historiography of the French Revolution, and to the career of Napoleon.

History 626. Europe in the Age of Louis XIV, 1638-1715.  
(I or II) 3 credits.

Although Louis XIV's France will be its focal point, this course will examine the main currents which molded European society in the seventeenth century. Classical France, the growth of absolutism and constitutionalism, the impact of science and religion, the crisis of the European mind and the effects of war and popular revolts upon Baroque society will be some of the themes examined.

History 627. Tudor-Stuart England. (I or II) 3 credits.

A study of the economic, intellectual, political, and religious development of the English people from 1485 to 1714, with special attention to the constitutional struggles of the seventeenth century.

History 630. Europe in the Era of World War I.  
(1 or II) 3 credits.

A study of the first World War as a pivotal event in the history of the modern world with special emphasis on the war's origins and its shattering effect on late 19th century European civilization. Attention will also be given to the conduct of the war and to the making of the peace settlement.
History 640. Europe in the Era of World War II.  
(I or II) 3 credits.
A study of the Second World War with emphasis on its origin and aftermath. Attention will be given to such topics as the rise of the totalitarian state, interwar diplomacy, the conduct of the war, and the advent of the Cold War.

History 655. The Balkans. (I or II) 3 credits.
A study in Balkan nationalism, both internally with respect to the various countries directly concerned, and within the framework of the international rivalries between Russia, the Ottoman Empire, Germany, the Hapsburg Monarchy, Great Britain, and the United States at different times in the area from the seventeenth century to the present.

Main currents in European and American thought from the 17th century to the present. Scientific and esthetic trends will be dealt with, but the main emphasis will be on political and social theory. Students will have considerable opportunity to pursue topics of their own choosing.

History 665. South American Republics.  
(I or II) 3 credits.
Historic development of the continent with special attention to selected nations since the early national period of the nineteenth century.

History 670. Twentieth-Century China. (I or II) 3 credits.
This course will examine in depth the main course of the developments that led to the final collapse of Imperial China, the abortive experiments in republicanism, the triumph of the communists, and the development of China under Mao Tse-tung.

History 680. Reading and Research. 3 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.

History 700. Thesis. 6 credits.
HOME ECONOMICS

Dr. Rowe, Head of the Department

The Department of Home Economics offers graduate courses which are designed to supplement and broaden students' knowledge in this field. A program of graduate study is offered which can apply to a minor in Home Economics for those pursuing the Master of Science in Education degree with a major in Education. The minimum requirement for a minor in Home Economics is twelve (12) semester hours of graduate credit in Home Economics.

COURSE OFFERINGS

Home Economics 501. Workshop in Home Economics.
(By Demand) 3 credits.

Workshops in different areas of home economics will be studied as student needs indicate. This course is designed expressly for continuing education. It can be repeated as frequently as the area of emphasis is changed.

(By Demand) 3 credits.

Managerial approaches to financial problems of families in contemporary society. Factors influencing decisions on acquiring and using income. Concepts and techniques related to consumer credit, savings and investment, insurance, home ownership, and estate programming.

Home Economics 520. World Nutrition Needs and Food Resources. (By Demand) 3 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 521. Seminar in Nutrition and Dietetics.
(By Demand) 1 credit.

This is a course designed to up-date the dietitian who wishes to re-enter the profession or has entered into some phase of dietetics and feels the need for newer knowledge in nutrition and dietetics. It will cover the current understanding in metabolism and the role of the nutrients as they apply to normal and modified nutrition. Prerequisite: H.E. 180 or equivalent.
(By Demand) 3 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: H.E. 210 or its equivalent.

(By Demand) 3 credits.

A review and interpretation of the major housing problems facing families today. Special emphasis will be given to trends in house planning, materials, and furnishings.

Home Economics 590A. Seminar in Occupational Training—Food Service.
(By Demand) 1 credit.

The theory and practical application of food service training as used in teaching vocational occupational food service courses in the high schools. Prerequisite: H.E. 140 or equivalent.

Home Economics 590B. Seminar in Consulting Dietetics.
(By Demand) 1 credit.

Areas of concern to the consulting dietitian will be studied: in-service and pre-service education, communications and human relations, diet planning, food purchasing, quantity and quality food production, sanitation, and equipment and layout. Prerequisite: Senior or graduate in dietetics.

(By Demand) 1 credit.

An in-depth investigation of new advances in human nutrition and diet therapy. Prerequisites: H. E. 180, 380, 484 or equivalents.

Home Economics 590D. Occupational Workshop—Child Care.
(By Demand) 1 credit.

The theory and practical application of child care as used in teaching vocational occupational courses in the high school in preparing persons for employment in child care services. Prerequisite: H.E. 300 or equivalent.

Home Economics 590E. Seminar in Dietetics—Food and Its Relation to Health.
(By Demand) 1 credit.

A study of the factors which influence food habits and their modification. Consideration of food acceptance, meanings of food, physiological aspects, effects of illness, dietary planning, and changing food habits. Prerequisite: H.E. 180 or equivalent.
Home Economics 590F. Seminar in Dietetics—Nutrition Education. (By Demand) 1 credit.

An investigation of methods of teaching nutrition, of nutrition education materials, and of pilot projects. Review of motivation and learning as applied to nutrition. Prerequisite: H.E. 180 or equivalent.

Home Economics 590G. Occupational Workshop—Home Furnishings. (By Demand) 1 credit.

The theory and practical application of home furnishing training as used in teaching vocational occupational home furnishing courses in the high schools. Prerequisite: H.E. 210 or equivalent.

Home Economics 590H. Money Management Education. (By Demand) 1 credit.

This course will examine several approaches to money management education. Programmed spending for basic needs and the use of discretionary income will be considered. Prerequisite: H.E. 320 or equivalent.

Home Economics 590I. Seminar in Dietetics—Geriatric Nutrition. (By Demand) 1 credit.

A study of the nutritional needs of the older person. Ways of meeting these needs during health and illness and an investigation of geriatric institutional feeding practices. Prerequisite: H.E. 180 or equivalent.

Home Economics 590J. Seminar in Dietetics—Convenience Foods. (By Demand) 1 credit.

The use, planning, preparing and presentation of convenience foods in the institution food service. Prerequisite: H.E. 363 or equivalent.

Home Economics 590K. Seminar in Dietetics—Institutional Equipment and Layout. (By Demand) 1 credit.

New trends in equipment and layout for dietary departments in institutions. Prerequisite: H.E. 463 or equivalent.

Home Economics 610. New Developments in Foods. (By Demand) 3 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: H.E. 140 or equivalent.

Home Economics 639. Seminar in Textiles. (By Demand) 3 credits.

Recent trends in textile developments affecting characteristic behavior of old and new fibers as reported in current literature. Study in selection and care of specific consumer needs. Problems in construction involving principles of new fabric use. Study of production and distribution. Field trips. Prerequisite: H.E. 290 or equivalent.
Home Economics 679. Seminar in Vocational Home Economics Education. (By Demand) 3 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: H. E. Ed. 400 or equivalent.

Home Economics 680. Seminar in Supervision of Student Teachers in Vocational Home Economics. (By Demand) 3 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.
LIBRARY SCIENCE

Dr. Haban, Head of the Department

The Department of Library Science offers graduate courses designed to increase the competence of present school librarians, and to foster more effective use of library resources by educators in the elementary and secondary schools. The program of graduate study offered can apply to a minor in Library Science for those pursuing the Master of Science in Education degree, with a major in Elementary or Secondary Education. The minimum requirement for a minor in Library Science is twelve (12) semester hours of graduate credit in Library Science.

COURSE OFFERINGS

Library Science 501. Workshops in Library Science.
(Summer Only) 3 credits.
Concentrated workshops designed for the continuing professional development of school personnel for more effective provision and utilization of school library services and resources. Each workshop will deal with a topic of current concern, with emphasis on practical methods and projects. Prerequisite: Collegiate Professional Certificate or permission of Head of Department.

(I or II) 3 credits.
Principles and procedures for developing multi-media library collections. Study of reviewing media and bibliographies for print and non-print materials. Developing standards of judgment for selection of materials of quality for depth within subject areas and for breadth of coverage. Prerequisite: Collegiate Professional Certificate or permission of Head of Department.

Library Science 520. Literary Enrichment Activities.
(I or II) 3 credits.
Activities for teachers and librarians for developing the enjoyment of books in elementary and secondary students. Experience in such skills as storytelling, book talks, broadcast programs, creative dramatics and puppetry, and the preparation of annotated book lists. Prerequisite: Collegiate Professional Certificate or permission of Head of Department.
Library Science 605. Seminar in School Library Administration. (Summer 1973) 3 credits.

A seminar for librarians and educators involving consideration of recent innovations and intensive study of current problems in school librarianship. Prerequisite: Collegiate Professional Certificate and experience in an elementary or secondary school.
MATHEMATICS

Dr. Sanders, Head of the Department

The graduate program of the Department of Mathematics is planned to meet the needs of four groups of students: (1) those preparing to teach mathematics, especially in high schools, junior, and community colleges; (2) those preparing for non-teaching professions or vocations in which mathematics plays an important part; (3) those who want to supplement study in other fields with a program in mathematics; and (4) those who are attracted to mathematics as a major scholarly pursuit, including those who plan to work toward a doctor’s degree in mathematics.

The Department of Mathematics offers both the Master of Science in Education degree with a major in mathematics and the Master of Science degree with a major in mathematics.

The minimum requirement for the Master of Science in Education degree with a major in mathematics is twenty-one (21) semester hours of graduate credit in mathematics and nine (9) semester hours of graduate credit in Education. This must include at least fifteen (15) semester hours of courses numbered 600 or above (in mathematics, education, or both). The minimum requirement for the degree must include at least one course in algebra, at least one course in analysis, and at least one course in geometry or topology. The choice of electives is subject to the approval of the Head of the Department. It will be possible for all but three semester hours for this degree to be completed in three summer sessions.

The minimum requirement for the Master of Science degree with a major in mathematics is thirty (30) semester hours of graduate credit in mathematics. This must include at least fifteen (15) semester hours of courses numbered 600 or above. The minimum requirement for the degree must include at least one course in algebra, at least one course in analysis, and at least one course in geometry or topology. The choice of electives is subject to the approval of the Head of the Department. No
minor is required for this degree. A thesis in mathematics is an option which may be elected by the student.

Graduate students planning a program leading to the Master of Science in Education degree with a major in Education may minor in mathematics with a minimum requirement of twelve (12) semester hours of graduate credit in mathematics. This must include one course in analysis, one in algebra, and one in geometry or topology.

**COURSE OFFERINGS**

**Mathematics 506. Mathematical Statistics.** (I or II) 3 credits.

Sampling distributions, point and interval estimation, tests of hypothesis, regression and correlation, design and analysis of experiments.

**Mathematics 510. Advanced Calculus I.** (I) 3 credits.

A rigorous treatment of fundamental concepts of the calculus, further topics from the calculus of functions of one variable, calculus of real functions of finitely many real variables. *Prerequisite: At least two semesters of calculus.*

**Mathematics 511. Advanced Calculus II.** (II) 3 credits.

Continuation of Mathematics 510.

**Mathematics 515. History of Mathematics.** (I or II) 3 credits.

Topics in the history of mathematics, chiefly before the eighteenth century.

**Mathematics 520. Foundations of Euclidean Geometry.** (I) 3 credits.

A study of the structure and content of Euclidean geometry from an advanced standpoint.

**Mathematics 525. Numerical Analysis.** (I or II) 3 credits.

Error analysis, interpolating functions, roots of equations by successive approximations, iterative methods for solving simultaneous linear equations, and programming. *Prerequisite: Math. 237 (or the consent of the instructor).*

**Mathematics 530. Abstract Algebra.** (I or II) 3 credits.

A study of groups, rings, integral domains, and fields.

**Mathematics 535. Topology I.** (I or II) 3 credits.

Introduction to general and point set topology.
Mathematics 550. Theory of Numbers. (I or II) 3 credits.
Topics in numbers theory including divisibility properties, integral solutions of equations, congruences, prime numbers, arithmetic functions, and number theoretic functions.

Classical theory of functions of a complex variable. Prerequisite or corequisite: Math 510 or equivalent.

(I or II or Summer) 3 credits.
Introductory study of the logical structure of mathematics. The axiomatic method will be illustrated by developing the Peano theory of numbers.

Topics in real analysis including measure and integration theory. Prerequisites: Math 510 and 511 or equivalents.

Mathematics 611. Real Variables II. (1973-74) 3 credits.
Continuation of Mathematics 610.

(I or II or Summer) 3 credits.
Topics in the history of mathematics since the seventeenth century.

Mathematics 620. Topics in Geometry.
(I or II or Summer) 3 credits.
A study of the relationships among different geometries using both synthetic and algebraic methods. The axiomatic structure of synthetic projective geometry; analytic projective geometry.

Vector spaces, linear transformations, and matrices.

Continuation of Mathematics 535.

Theory of algebraic structures such as groups, rings, Euclidean domains, unique factorization domains. Prerequisite: Math. 530 or equivalent.

Mathematics 646. Algebra II. (1973-74) 3 credits.
Continuation of Mathematics 645.
(I or II or Summer) 3 credits.
General theory of ordinary differential equations including existence and uniqueness theorems, introduction to partial differential equations. Prerequisites: Math. 510 and 511 or equivalents; a first course in differential equations is desirable but not essential.

(I or II or Summer) 3 credits.
Introduction to modern differential geometry, including a modern treatment of topics from classical differential geometry. Prerequisites: Math. 510 and 511 or equivalents, and some knowledge of linear algebra.

Mathematics 661. Complex Variables II. (1974-75) 3 credits.
Continuation of Mathematics 660.

Mathematics 680. Reading and Research. 3 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.

Mathematics 700. Thesis. 6 credits.
MUSIC

DR. OHLMANN, Head of the Department

The Department of Music offers a program of graduate study leading to the Master of Arts in Education degree with a major in Music. The minimum requirement for a major in Music is fifteen (15) semester hours of graduate credit in Music and the writing of a thesis, or twenty-one (21) semester hours of graduate credit in Music; and a minor of nine (9) semester hours in Education chosen from the graduate courses recommended by the Education Department.

Graduate students planning a program of study leading to the Master of Arts in Education degree with a major in Education may minor in Music with a minimum requirement of twelve (12) semester hours of graduate credit in Music.

Students electing to major in the Department of Music will be expected to have completed an undergraduate major in Music, and those electing to minor, an undergraduate minor in Music.

The specific aim of the Music Department is to prepare its students for the advancing standards of their profession. Students are directed into advanced-level courses which serve their individual needs, enabling them to meet this challenge. These courses are combined into flexible, balanced programs which include music and music education, research and study, and applied music.

The Music Department is a member of the National Association of Schools of Music.

Minimum requirements for a music major

<table>
<thead>
<tr>
<th>Required courses</th>
<th>Semester Hours</th>
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<tbody>
<tr>
<td>1. Music Education 610 or 613</td>
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<tr>
<td>2. One of the following:</td>
<td></td>
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<tr>
<td>Music 561, 562 or 563</td>
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<td>11-13</td>
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</table>
3. One of the following with the approval of the music department adviser:

   Music 502, 510, 526, 527, 545, 605, Music Education 610, 611, or 613  
   \( \text{(not to include course selected to satisfy requirement under number 1)} \)  

4. Applied Music: 511, 512, 513, 514  \( \text{2-4} \)

Electives  \( \text{8 or 10} \)

Selected, according to student’s interests, from other music courses listed.

Students may elect graduate courses given in conjunction with the Virginia State Music Camp at Massanetta Springs not to exceed a total of six semester hours (see course description).

Minimum requirements for a music minor

Required courses

1. Music Education 610 or 613  \( \text{3} \)

2. One of the following with the approval of the music department adviser:

   Music 561, 562 or 563  
   or  
   Music 502, 510, 526, 527, 545, 605, or Music Education 610 or 613  
   \( \text{(not to include course selected to satisfy requirement under number 1)} \)  

Electives  \( \text{6} \)

Selected from other music courses listed.

Students may elect graduate courses given in conjunction with the Virginia State Music Camp at Massanetta Springs not to exceed a
total of six semester hours (see course description).

COURSE OFFERINGS

Music 502. **Instrumental Materials and Techniques.**
   (I or II or Summer) 3 credits.
   A study of the problems, materials, and techniques of teaching instrumental music in the high school, with emphasis on orchestra.

Music 510. **Choral Materials and Techniques.**
   (I or II or Summer) 3 credits.
   A study of the problems, materials, and techniques of teaching choral music in the high school.

Music 511, 512, 513, 514. **Applied Music.**
   (I or II or Summer) 1 credit.
   Four semester hours of credit in applied music—piano, voice, organ, or an orchestral instrument—may be offered toward the Master's degree. Graduate students are required to study applied music, and must accumulate a minimum of two and not more than four hours in this area.

Music 521. **Music of the Church.**
   (I or II or Summer) 3 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.**
   (I or II or Summer) 3 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).**
   (I or II or Summer) 3 credits.
   Refinement of baton technique. Score reading. Specific problems selected from standard works. Practical experience with choral and instrumental groups. **Prerequisite:** Mus. 327-328 or equivalent.

Music 527. **Instrumental Techniques.**
   (I or II or Summer) 2 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.
(I or II or Summer) 3 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.
(I or II or Summer) 3 credits.

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

Music 545. Instrumentation. (I or II or Summer) 3 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.

(I or II or Summer) 3 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.

(I or II or Summer) 3 credits.


(I or II or Summer) 3 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.

(I or II or Summer) 3 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 680. Reading and Research. 3 credits.

An opportunity for the individual music major student to do supervised reading and research in a special interest area in music or music education.

Music 700. Thesis. 6 credits.


Teachers who attend the Virginia Music Workshop and Camp at Massanetta Springs and who devote a minimum of 30 hours to classes, study, and observation may earn one semester hour of graduate credit at Madison College. This credit may be used for certificate renewal or may apply toward the Master's degree. No more than six hours may be considered towards the advanced degree and these may be a combination of credits from this workshop and the Music Education 571-574 summer programs. Since Music Education 501 and 571-574 involve the Virginia Music Camp activities, these courses may be taken concurrently.

Music Education 571. Topics in Choral Techniques and Literature. (June 18-29, 1973) 2 credits.

An opportunity for the student to select a topic of special interest in the field of choral music. Available only in the summer session as described on the following page.

Music Education 572. Topics in Instrumental Techniques and Literature. (June 18-29, 1973) 2 credits.

An opportunity for the student to select a topic of special interest in the field of instrumental music. Available only in the summer session as described on the following page.


An opportunity for the student to select a topic of special interest in the field of teaching theory and music literature. Available only in the summer session as described on the following page.

Music Education 574. Topics in Elementary School Music. (June 18-29, 1973) 2 credits.

An opportunity for the student to select a topic of special interest in the field of elementary music. Available only in the summer session as described on the following page.
Teachers who attend the Virginia Music Workshop and Camp at Massanutten Springs through Madison College may earn a total of six semester hours of graduate credit by participating for three summers. In addition to the week of camp activities the student will spend the following week on the Madison College Campus in individual research and in seminars under the daily supervision of members of the graduate faculty in the Music Department. A student must select a different area of research interest in each of three summer sessions from the four courses listed on the preceding page. It will be advisable for each student to have determined his area of interest and possible research topics prior to camp registration on June 19. At this registration, a representative from the Madison College Music Department will be available for the purpose of discussing and approving the selected field and research topic of each student. Dormitory and dining-hall facilities will be available for the second week on the campus. Graduate tuition is $25.00 per credit hour and fees are $10.00. A graduate application fee of $10.00 is payable once only.

**Music Education 610. Research and Trends in Music Education.** (I or II or Summer) 3 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.** (I or II or Summer) 3 credits.

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

**Music Education 612. Projects in Music Education.** (I or II or Summer) 3 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. Seminars: Principles and Practices in Music Education.** (I or II or Summer) 3 credits.

This course deals with broader concepts in music education in developing a coordinated and continuous program, and in examining methods of instruction.
PHYSICAL AND HEALTH EDUCATION

DR. CRAWFORD, Head of the Department

The graduate program in physical and health education leading to the Master of Science in Education degree is designed to promote competency in teaching and administration, to improve the quality and understanding of research, and to provide advanced instruction in specialized areas.

Major: A minimum of twenty-one (21) semester hours is required for a major including Physical Education 510, Principles of Motor Learning. Courses are to be selected in consultation with the adviser in accordance with the purposes of the student.

Minor: A minimum of twelve (12) semester hours is required for a minor including Physical Education 510, Principles of Motor Learning. Courses must be selected with the approval of the minor adviser in accordance with the purposes of the student.

COURSE OFFERINGS

Physical Education 501. Workshop in Physical Education (Summer only) 1-3 credits.

An intensive study of one aspect of physical education that is of current concern to physical educators in the field.

Physical Education 506. Direction and Performance of Dance Repertoire. (By Demand) 3 credits.

Experiences in the direction and technical training of dance companies, ensembles, and repertory groups, and in the performing of dance roles choreographed by dance faculty, artists-in-residence, or advanced students.

Physical Education 507. Practicum in Choreography. (By Demand) 3 credits.

Experiences in choreography for solo, duet, and small groups, culminating in the presentation of a completed dance utilizing the modern, ballet, jazz, or folk idioms.


Principles and theories of learning motor skills and their applications in teaching and coaching physical education activities.
Physical Education 530. Contemporary Trends and Theories in Dance. (By Demand) 3 credits.

Investigation through directed readings and studio experiences of current theories and trends in dance as applicable to dance in education, performance, choreography and research.

Physical Education 540. Physical Education in the Elementary Schools. (1, 1973) 3 credits.

The planning, conducting, and supervising of the physical education program in the elementary schools. Special emphasis is given to newer concepts in physical activities for children.

Physical Education 560. Evaluation and Measurement in Physical and Health Education. (Summer, 1973) 3 credits.

A study of available tests of physical fitness, motor ability, sports skills, and health knowledge and behaviors. Experience is provided in the use of the tests and in the interpretation of data.

Physical Education 620. Administration of Physical and Health Education. (II, 1974) 3 credits.

Investigation of specific problems and new developments in the administration of health education, physical education, and athletic programs, including such factors as new equipment, budgeting, crowd control, standards of competition, and changes in curriculum.

Physical Education 625. Psychosocial Aspects of Sport. (Summer, 1974) 3 credits.

Current research and literature in the psychology and sociology of sport and dance. The relationship between these issues within the American culture and its subcultures is discussed.

Physical Education 630. Issues and Problems in Physical Education. (I, 1974) 3 credits.

A study of the philosophical and cultural determinants of practices and problems in physical education. Possible solutions to problems and techniques for influencing professional behavior are discussed.


Emphasis is placed on conditioning and practices which will prevent athletic injuries. Care and treatment of common injuries are included.
Physical Education 655. Research Techniques in Physical Education. (Summer, 1973) 3 credits

Techniques for problem solving leading to skill in the initiation, conduct, and interpretation of research. Particular emphasis is given to laboratory procedures in movement analysis, physiology of exercise, and motor learning as well as historical and descriptive methods.

Physical Education 680. Reading and Research. 3 credits.

Directed reading in designated areas and in areas of specialized interest. Investigation, research, and reporting.

Physical Education 700. Thesis. 6 credits.

Prerequisite: Physical Education 655 or equivalent.

Health 501. Workshop in Health Education. (Summer only) 3 credits.

An intensive investigation of one of the major current health problems such as sex education, drug abuse or environmental health.

Health 510. Human Sexuality. (Summer, 1974) 3 credits.

An interdisciplinary team approach is used to study the many specific components of human sexuality as they particularly relate to the physical, social, and emotional health of children, adolescents, and adults. Such topics as physical and sexual changes during adolescence, abortions and contraceptives are discussed.

Health 550. Recent Developments in Health. (Summer, 1973) 3 credits.

A survey of recent developments and trends in medical and paramedical programs and topics.

Health 680. Reading and Research. 3 credits.

Directed reading in designated areas of specialized interest. Investigation, research, and reporting.
PHYSICS

DR. WELLS, Head of the Department

The graduate program in the Department of Physics is designed to meet the needs of students preparing to teach physics in high schools and junior colleges, students preparing for non-teaching professions or vocations in which physics plays an important part, students who wish to supplement study in other fields with a program in physics, and students who plan eventually to work toward a doctor's degree in physics.

The Department of Physics offers the Master of Science in Education degree with a major or minor in physics.

The minimum requirement for the Master of Science in Education degree with a major in physics is twenty-one (21) semester hours of graduate credit in physics and nine (9) semester hours of graduate credit in education. This must include at least fifteen (15) semester hours of courses numbered 600 or above (in physics, education or both).

Graduate students planning a program leading to the Master of Science in Education degree with a major in education may minor in physics with a minimum requirement of twelve (12) semester hours of graduate credit in physics.

COURSE OFFERINGS

Physics 505. Matter and Energy. (By Demand) 3 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.

Physics 510. Theoretical Physics. (1) 3 credits.

Mathematical development of theories and problems in mechanics, thermodynamics, wave motion, electricity, magnetism, optics, and modern physics. This course is especially designed to provide the necessary flexibility for students of varying backgrounds and levels of preparation who may wish to enter the graduate program.
PHYSICS 520. CLASSICAL MECHANICS. (II) 3 credits.

Classical mechanics through Lagrangian and Hamiltonian formulation of Newton's laws, particle and rigid body motion, variational principle. Topics also include small oscillations, canonical transformation, and relativistic mechanics.

PHYSICS 530. EXPERIMENTAL NUCLEAR PHYSICS.
(By Demand) 3 credits.

Topics will include abundance and composition of nuclei, nuclear forces, natural radioactivity, decay series, interactions of radiations with matter, transmutations and artificial radioactivity. Studies of the detection and measurement of radiations will be made in the laboratory. Properties of the neutron will be examined using a 4 Ci Pu-Be isotope neutron source.

PHYSICS 540. SOLID STATE PHYSICS. (By Demand) 3 credits.

Forces between atoms, crystal structure, lattice vibrations and thermal properties of solids, free electron theory of metals, band theory of solids, semi conductors, dielectrics.

PHYSICS 610. QUANTUM MECHANICS. (By Demand) 3 credits.

A basic course in quantum mechanics including a short review of atomic structure. Topics to be covered include uncertainty principle, Schroedinger equation, operators, eigenfunctions, potential wells, harmonic oscillator, hydrogen atom, perturbation theory.

PHYSICS 620. ADVANCED ELECTRONICS. (By Demand) 3 credits.

Micro waves, masers and lazers, pulse techniques and electronic instrumentation will be studied. This course will include laboratory work.

PHYSICS 630. EXPERIMENT DESIGN. (By Demand) 3 credits.

Emphasizes developing of techniques in literature search, experiment design and analysis of data.

PHYSICS 640. ELECTRODYNAMICS. (By Demand) 3 credits.


PHYSICS 645. MATHEMATICAL PHYSICS. (By Demand) 3 credits.

This course is designed to acquaint the physics student with some of the mathematical topics useful in solving important physical problems. Topics covered include vector analysis, general curvilinear coordinates, ordinary and partial differential equations, matrices, and complex analysis.
Physics 650. **Thermal and Statistical Physics.** (By Demand) 3 credits.

The fundamental concepts of heat, the laws of thermodynamics together with the principles of statistical mechanics and the theory of specific heats are discussed.

Physics 660. **Recent Developments and Advanced Topics in Physics.** (By Demand) 3 credits.

This course is designed to offer opportunity to explore in depth special areas of the student’s own choosing. Topic areas will be selected in consultation with adviser and staff.

Physics 680. **Reading and Research.** 3 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.

Physics 700. **Thesis.** 6 credits.
POLITICAL SCIENCE AND GEOGRAPHY

DR. FARNEN, Head of the Department

The Department of Political Science and Geography offers graduate courses in Political Science and in Geography designed to broaden knowledge in these fields and to serve those teaching in these subject matter areas.

Graduate students pursuing the Master of Arts in Education degree or Master of Science in Education degree may minor in Political Science by successfully completing twelve (12) semester hours of graduate Political Science credit. Geography 560, Political Geography, may also be applied toward a Political Science minor.

Graduate students pursuing the Master of Arts in Education degree with a major in Social Science may concentrate in Political Science. A concentration in Political Science requires nine (9) semester hours or fifteen (15) semester hours if a thesis is included.

Graduate courses in Geography are offered by this department. These courses may be applied to the Master of Arts in Education degree.

COURSE OFFERINGS

Geography 560. Political Geography.
(I or II, 1974-75) 3 credits.
A study of the nation state in its geographic setting. Geographic aspects of international politics will also be discussed, including strategic factors in international relations, supranational political and economic organizations and problems of modernization. (This course may be applied toward a graduate minor in Political Science.)

Geography 580. Cultural Geography. (I) 3 credits.
A study of aspects of culture within geographic setting; languages, religion, political organization, pattern of livelihood, settlements, population growth and movement. The interaction of man and his geographic environment will be stressed. (This course may be applied toward a graduate minor in Sociology.)
Geography 590. The Tropical World. (II) 3 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.

Geography 620. Seminar in Regional Geography. (I, II) 3 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.

Geography 680. Reading and Research in Geography. 3-6 credits.

Opportunity is offered the individual student for reading and research in the aspects of geography that are of special interest to him. Approval must be obtained from the Head of the Department.


A study of the problems of political development in the new nations of the world and the concepts and theories for comparative analysis of these nations.

Political Science 529. Problems of International Relations. (I or II) 3 credits.

An analytical study of international problems dealing with such topics as the United Nations, regionalism, political conflict, international law, nationalism, balance of power, and arms control. Problems may be determined by the exigencies of the contemporary international scene.


This course is designed as an intensive survey of national government in the U. S. with primary emphasis on the current problems facing the U. S. government. Problems to be examined will include those involving the presidency, Congress, and the federal court system.

Political Science 550. Problems of State and Local Government. (I or II) 3 credits.

This course will focus attention on the major problems faced by local and state governments. The problems will include political leadership, operation of the courts, police power, fiscal problems, and metropolitan areas and others.
Political Science 601. Special Studies Seminar in Government. 3-6 credits.

This course is designed to acquaint students with problems, functions, and operations of government, as these relate to special areas of interest. Different subject-matter content will be offered in different years. The format of the course will utilize individual contributions of student research.

Political Science 610. Modern Political Theory. (II) 3 credits.

This course will examine the contributions of political thinkers from Plato to the present with emphasis on the more recent theorists. Among those thinkers to be considered will be Machiavelli, Bodin, Hobbes, Locke, Montesquieu, Rousseau, Burke, Hegel and Marx.

Political Science 630. Seminar in State and Local Government. (Summer 1974) 3 credits.

Lectures and demonstrations in the field—may include visits to one or more state capitals and to local government offices.

Enrollment is limited to fifteen (15) students. If field trips are scheduled, a special fee will be required of participants to defray such expenses.

Political Science 640. Seminar in International Relations. (Summer only) 3 credits.

Lectures and demonstrations in the field—may include visits to Washington, D. C. and some of the specialized agencies associated with world affairs.

Enrollment is limited to fifteen (15) students. If field trips are scheduled, a special fee will be required of participants to defray such expenses.

Political Science 650. Comparative Government. (II) 3 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 England, France, West Germany, and the Soviet Union.

Political Science 680. Reading and Research. 3 credits.

This course offers the individual student the opportunity for reading and research under faculty supervision in the areas of government which are of special interest to the student.
Political Science 695. Practicum in Political Science. (I, II) 3-6 credits.

This course is designed to provide graduate students with an opportunity for practical experience in and direct observation of a political agency. Work-experience (approximately 135 hours) will be supervised by an official of the agency to which the student is assigned, and a member of the faculty. An extensive report, based on research in primary source material, theoretical literature, and the student's Practicum experiences, will be required. Students who intend to enroll are requested to notify the Department of Political Science and Geography as far in advance as possible. Prerequisite: Permission of Instructor or Head of the Department.

Political Science 700. Thesis. 6 credits.
PSYCHOLOGY

DR. HANSON, Head of the Department

Graduate courses in the Department of Psychology are aimed at extending the scholar’s breadth and depth of knowledge in specific content areas, and also at enhancing the student’s ability to understand himself, other people, and their relationship in a complex society.

Graduate courses are open to majors in other subject fields, unless prerequisites and limitations are specified in the course descriptions.

The Department of Psychology has graduate programs in School Psychology and in Counselor Education.

Students planning a program of study leading to the Master of Science in Education degree with a major in Education may minor in Psychology with a minimum of twelve (12) semester hours of graduate credit in Psychology. Courses are to be selected with the approval of the minor adviser.

GRADUATE PROGRAM TO PREPARE SCHOOL PSYCHOLOGISTS

The graduate program in School Psychology is designed to prepare specialists who are competent psychologists and creative educators to serve the schools of Virginia. While emphasis is placed upon offering graduate students a firm foundation of both psychological content as well as skills and techniques, emphasis is also placed on emerging roles in the field of school psychology. The School Psychology program outlined on the following pages prepares school psychologists to perform as psychoeducational diagnosticians. It is viewed as preparation for beginning school psychologists who plan to continue their study beyond this minimal entry level to the profession. (Most school psychologists are prepared at the two year graduate level.)

Students will be required to complete an internship in order to qualify as school psychologists.
Admission requirements for the School Psychology Program include submission of satisfactory scores on the Graduate Record Aptitude Test. Admission to the graduate program in School Psychology is based not only on previous records and test results but also on reference questionnaires, and especially upon an interview with a staff member of the program. The Collegiate Professional certificate is not required for the program in School Psychology.

The program as outlined below meets the requirements of the State Board of Education for approval as a School Psychologist in the State of Virginia. Standards for certification in school psychology in Virginia are under revision, and the Madison College program is also under revision to meet national and state standards. Students entering the program in 1973-74 will be expected to enroll in the revised two-year program.

**Minimum Requirements**

1. **Required Courses**
   - Psychology 600.
   - Psychology 625.
   - Psychology 670.
   - Psychology 675.
   - Psychology 677.
   - Psychology 690.

2. Fifteen (15) semester hours from the following:
   - Psychology 510. Advanced Developmental Psychology
   - Psychology 522. Advanced Abnormal Psychology

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<th>Semester Hours</th>
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<td>Research and Statistical Methods in Psychology</td>
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Psychology 610. Learning Theories
Psychology 619. Seminar in Behavior Modification
Psychology 620. Personality Theories
Psychology 626. Growth and Development During the Elementary Years
Psychology 628. Advanced Adolescent Psychology
Psychology 648. Research in Human Development
Psychology 650. Psychological Consultation and Interviewing
Psychology 680. Reading and Research
Special Education 505. Psychoeducational Analysis in Special Education
Counselor Education 614. Counseling Theories and Techniques

(Other electives with adviser's approval.)

3. Three (3) semester hours from the following:
(Two years of successful experience as a teacher, supervisor, administrator, or school psychologist may meet the requirements of this area in which case three (3) additional hours must be chosen from the group above.)

Education 603. Philosophy of Education
Education 607. Secondary School Curriculum and Co-Curriculum

COUNSELOR EDUCATION PROGRAM

The Department of Psychology offers a graduate program which leads to the Master of Science in Education degree with
a major in Counselor Education. This major requires a minimum of thirty (30) semester hours of credit, and is designed to prepare students to meet the requirements of the State Board of Education for qualification as school guidance counselors. It is also designed for persons interested in applying counselor skills in other human service fields such as industry, religion, community colleges, community agencies, and the like.

Students preparing for guidance and counseling in schools in Virginia must hold the Collegiate Professional Teaching Certificate and have had one or more years of paid professional experience in schools. These requirements do not apply to those interested in preparing for other human service fields.

Students admitted to the school counselor education program must have a minimum of twelve (12) semester hours of undergraduate preparation in Education and/or Psychology and hold a bachelor’s degree from an accredited institution. Students interested in other counselor occupations must have a minimum of twelve (12) semester hours in the behavioral sciences.

The present program is under revision to meet new state standards for counselor education. The program will differentiate more clearly among the roles of elementary and secondary school counselors, as well as other counseling occupations.

**Semester Hours**

Minimum Requirements

1. Required Courses

   - Counselor Education 520. Guidance Principles and Practices in Education
   - Counselor Education 605. Career Development Theories
   - Counselor Education 614. Counseling Theories and Techniques

| Semester Hours | 30 | 21 |
Counselor Education 626. Group Techniques in Guidance
Counselor Education 650. Practicum in Guidance and Counseling
Education 630. Research Methods in Education
Psychology 670. Group Psychological Tests

2. Six (6) semester hours selected from among the following:
   Counselor Education 530. Dynamics of Mental Health
   Psychology 510. Advanced Developmental Psychology
   Psychology 522. Advanced Abnormal Psychology
   Psychology 620. Personality Theories
   Psychology 628. Advanced Adolescent Psychology
   Psychology 648. Research in Human Development
   Psychology 675. Individual Intelligence Testing

3. Three (3) semester hours selected from among the following:
   Education 567. Instruction
   Education 658. Diagnostic and Remedial Techniques in Reading
Counselor Education 510. The Case Study in Guidance

Counselor Education 636. Personnel Services in Higher Education

Counselor Education 640. Organization and Administration of Guidance Programs

Counselor Education 680. Reading and Research

Psychology 618. Seminar in Sensitivity Training

Sociology 630. Seminar in Social Problems

Special Education 505. Psychoeducational Analysis in Special Education

The student majoring in Counselor Education may elect to take Counselor Education 700 (Thesis) for six (6) of the required thirty (30) hours credit.

COURSE OFFERINGS

Psychology 510. Advanced Developmental Psychology.
(I or II) 3 credits.

This course presents an overview of the origins and development of behavior extending from the prenatal period through adolescence and maturity. The interrelationships among various aspects of development, e.g., biological, cognitive, personality, social, are delineated.

Psychology 522. Advanced Abnormal Psychology.
(I or II, Summer, 1973) 3 credits.

Dealing with the causes, symptoms, dynamics, and leading therapeutic approaches to the neuroses and psychoses, this course attempts to contrast normal behavior with pathological. The course is relevant to the service professions.
Psychology 600. Research and Statistical Methods in Psychology. (I) 3 credits.

This course is designed to provide an introduction to research and statistical methods in psychology which may be most useful to psychologists in schools.

Psychology 610. Learning Theories. (I or II) 3 credits.

This course is a study of the principles and conditions of behavioristic learning theory. A study is made of recent research contributions.

Psychology 614. Laboratory Study of the Young Child. (II) 3 credits.

Designed for professionals who work with children under six, this course deals with methods of studying children in group settings. Major emphasis is on developing adult sensitivity to language, concept formation, and perception of the individual child. A seminar parallels the observation participation requirements, and focuses on related research. Theories of Piaget, Erikson and Sears are covered. Two hour Lab; two hour Seminar. Prerequisite: Psychology 510 or equivalent.


This course covers analysis of attitude organization and change, as well as the relationship between feelings and developing behavior patterns. Observations and supervised participation in nursery school settings are required. The course purpose is to increase sensitivity to developing personalities of young children. Prerequisite: Permission, Head, Department of Psychology or Instructor.

Psychology 619. Seminar in Behavior Modification. (I or II) 3 credits.

An applied seminar in the application of behavior modification techniques in the schools, this course emphasizes study of current research, problem analysis and intervention, and application of procedures in school settings. Designed primarily for graduate students in school psychology, counselor education, and special education, it is open to other students only with permission of the instructor.

Psychology 620. Personality Theories. (I or II) 3 credits.

This course deals with the major theories of personality and identifies implications of each theory for education, business, medicine, industry, law enforcement, and civic and religious groups.

Psychology 621. Behavior Pathologies of School-Aged Individuals. (Summer, 1974) 3 credits.

This course is designed to provide a clinical analysis of functional and physiological determinants and dynamics of behavior pathologies of children and youth.
Psychology 625. The Role of the School Psychologist. 
(1) 3 credits.

This course is designed especially to provide the beginning student in School Psychology with an understanding of the people, issues and responsibilities with which a school psychologist must deal. Special attention is given to the clinical, consultant and prevention roles of the psychologist.

Psychology 626. Growth and Development During the Elementary Years. (I or II) 3 credits.

This course presents a contemporary view of child development with emphasis on major theories, concepts, and research findings. Of primary concern are the origin and development of basic psychological processes, such as perception, learning, personality, and social development.

Psychology 627. Psychological Foundations of Education. 
(1) 3 credits.

Designed to provide a comprehensive review of psychological foundations of education, this course covers the nature of human learning and intelligence, personality and motivational factors, psychosocial interaction among pupils, and mental health in the schools.

Psychology 628. Advanced Adolescent Psychology. 
(I or II) 3 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.

Psychology 648. Research in Human Development. 
(I or II) 3 credits.

This course deals with research related to the principles basic to an understanding of the growth and development of human beings. Research on the dynamics influencing behavior are explored. Techniques for studying behavior are considered and case materials analyzed. Prerequisite: Psychology 233-234 or equivalent.

Psychology 650. Psychological Consultation and Interviewing. 
(I or II) 3 credits.

Designed to enhance the school psychologist's knowledge of and ability with a variety of interview and consultation techniques. This course also covers an overview of traditional counseling techniques. A major focus is on relationship techniques most useful to school psychologists, such as methods of gathering case histories, use of directive interpretation, applications of support therapy, introduction to behavior therapy techniques, and crisis and third party intervention.
MADISON COLLEGE


Primary focus in this course is on the evaluation, interpretation and application of standard group psychological tests. A brief introduction to test construction is included.

Psychology 675. Individual Intelligence Testing. (I or II) 3 credits.

This course is designed to acquaint the advanced graduate student in psychology with the classic individual tests of mental ability and to enable the student to develop proficiency in the administration of an individual intelligence test of his choice. Students will be required to administer tests to a minimum of twenty subjects during the course. Prerequisite: Permission of Instructor.

Psychology 677. Clinical Techniques of Assessment. (II) 3 credits.

This course includes administration, interpretation and integration of data from psychological assessments. Techniques to be included in a screening battery are examined and cover psycholinguistic and perceptual-motor skills, interpersonal relations, emotional dynamics, and achievement. Prerequisite: Permission of Instructor.

Psychology 678. Practicum in School Psychology. (I and/or II, Summer) 3 credits.

Designed to provide supervised clinical and field experiences, this course is required for students in school psychology. Field experiences will be in area schools and agencies. Prerequisite: permission of Instructor.

Psychology 680. Reading and Research. 3 credits.

The student is given an opportunity for directed reading and/or research in areas of his special interest. Reading and Research may be done only in the major field of study. Prerequisite: Permission of Instructor.

Psychology 690. Internship in School Psychology. (I, II, Summer) 3 or 6 credits.

The internship provides the advanced graduate student with supervised on-the-job training. The full time experience for six semester hours is equivalent to 350 clock hours of work in one semester. The range of supervised activities covers pupil assessment and interviewing, parent and staff consultation, and involvement in the full range of other daily activities required of school psychologists. Prerequisite: Completion of required courses in school psychology and/or permission of the program director.
Psychology 700. Thesis. 6 credits.

Counselor Education 501. Workshops in Guidance. (Summer) 1-3 credits.

Designed to provide a detailed study of a particular topic of interest in guidance. Prerequisite: Permission of Head of Department.

Counselor Education 510. The Case Study in Guidance. (I or II) 3 credits.

A study of the methods used by guidance counselors to gather and analyze information about the individual obtained from all sources. Emphasis in the course is upon application of this information to counseling procedures and techniques.

Counselor Education 520. Guidance Principles and Practices in Education. (I or II) 3 credits.

A detailed study of the roles of guidance personnel, including teachers, in elementary and secondary schools. Consideration is given to the interrelationships of these guidance roles, and to the relationship of elementary guidance services to those of the secondary school.

Counselor Education 530. Dynamics of Mental Health. (I or II) 3 credits.

A detailed study of the personal and social factors which are related to the development of individual mental health and mental illness.

Counselor Education 605. Career Development Theories. (I) 3 credits.

A survey of the sources of occupational and educational 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 are emphasized.

Counselor Education 614. Counseling Theories and Techniques. (II) 3 credits.

This course deals with a study of the philosophy and principles of various schools of counseling, and the techniques employed in the counseling process by each of these schools. Prerequisite: Counselor Education 520.

Counselor Education 626. Group Techniques in Guidance. (I or II) 3 credits.

A survey of the theories and practices relating to group guidance and counseling. Prerequisite: Counselor Education 520.

Counselor Education 636. Personnel Services in Higher Education. (II) 3 credits.

A detailed study of the personnel services offered in colleges and universities.
Counselor Education 640. Organization and Administration of Guidance Programs. (I or II) 3 credits.

A consideration of the theory, organization, and personnel practices, involved in organizing and administering guidance programs. Prerequisite: Counselor Education 520.

Counselor Education 650. Practicum in Guidance and Counseling. (I, II) 3 credits.

Supervised practicum experiences in counseling are arranged in educational and occupational settings. These experiences emphasize the roles and functions of the Counselor, and his relations with the client and the referring organization. Prerequisites or corequisites: Nine hours of coursework in Counselor Education, including Counselor Education 614.

Counselor Education 680. Reading and Research. 3 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 must be done in the major field of study.

Counselor Education 700. Thesis. 6 credits.
SOCIAL SCIENCE

Dr. Arthur Hall, Adviser

Madison College offers programs of study leading to the Master of Arts in Education degree with a major in Social Science and a minor in Education. The College also offers a minor in Social Science.

Major—21 credit hours required.

Option 1

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

12 credit hours in at least two Social Science fields other than that of concentration, with subjects to be selected from Economics, Political Science, Sociology, Geography, and courses in Psychology when recommended by the Adviser and the Head of the Department of Psychology.

Option 2

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

6 credit hours in one or two Social Science fields other than that of concentration, with subjects to be selected from Economics, Political Science, Sociology, Geography, and courses in Psychology when recommended by the Adviser and the Head of the Department of Psychology, and

6 credit hours in a thesis.

Minor—12 credit hours required.

6 credit hours in each of two Social Science fields, selected from Economics, Political Science, Sociology, Geography, and courses in Psychology when recommended by the Adviser and the Head of the Department of Psychology.
SOCIOLOGY

DR. GUTHRIE, Head of the Department

The Department of Sociology offers graduate courses which are designed to broaden the students knowledge in this field. The minor program in Sociology which is available for those graduate students pursuing the Master of Arts in Education or Master of Science in Education degree requires a minimum of twelve (12) semester hours of graduate credit.

In addition, graduate students pursuing the Master of Arts in Education degree with a major in Social Science may concentrate in Sociology. A concentration in Sociology requires nine (9) semester hours of graduate credit or fifteen (15) semester hours, if a thesis is included.

COURSE OFFERINGS

SOCIOLOGY 530. THE NEGRO IN AMERICA. (I or II) 3 credits.
A survey of the history of the Negro in American Society which will provide a background for the examination and analysis of the present role and status of this minority group.

SOCIOLOGY 540. EDUCATIONAL SOCIOLOGY. (I or II) 3 credits.
Analysis of the sociological foundations of education (organization, processes, values, goals, etc.). Emphasis is placed on social climate, groupings, teacher/learner social roles.

SOCIOLOGY 576. THE CONTEMPORARY FAMILY. (I or II) 3 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.)

SOCIOLOGY 580. COMPARATIVE FAMILY SYSTEMS. (I or II) 3 credits.
The structure and functions of typical families in several areas of the world will be compared and analyzed. Emphasis will be placed on the Russian, Chinese, and American Negro family. Selected primitive family systems will also be reviewed.

SOCIOLOGY 630. SEMINAR IN SOCIAL PROBLEMS. (I or II) 3 credits.
This course is organized to place emphasis on social disorganization and the special areas of breakdown. Contemporary problems will be dis-
cussed and recent research reviewed on alcoholism, juvenile delinquency, family problems, social mobility, automation and the critical areas.

Sociology 640. Seminar in Social Theory. (I or II) 3 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.

Sociology 670. Seminar in Social Change. (I or II) 3 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.

Sociology 680. Reading and Research. 3 credits.
Opportunity is offered the individual student for reading and research in the areas of sociology which are of special interest to the student. Approval must be obtained from the Head of the Department.

Sociology 700. Thesis. 6 credits.
SPECIAL EDUCATION SERVICES

Dr. Christiansen, Head of the Department

The Department of Special Education Services offers graduate courses in Special Education and Speech Pathology. This course work is designed to provide qualified students with opportunities for enrichment in each discipline.

The Department participates with the Departments of Education and Psychology in offering a Master of Science in Education degree in the area of Special Learning Disabilities. Students enrolled in this program must complete a minimum of thirty (30) semester hours of prescribed course work in Education, Psychology, and Special Education.

The Master of Science in Education degree in Special Learning Disabilities is designed to allow the student to progress sequentially from classroom work to a wide variety of field experience work. Whenever possible, observation and participation experiences with the learning disabled child are integrated with classroom theory.

Applicants for the Master's degree in Special Learning Disabilities must hold the Collegiate Professional Teaching Certificate and have had one or more years of teaching experience. In addition, the applicant must have completed one or more courses in each of these areas: (1) Survey of Exceptional Children, (2) Human Growth and Development, (3) Teaching of Reading, (4) Teaching of Mathematics, and (5) Pupil Evaluation (including Tests and Measurements).
SPECIAL LEARNING DISABILITIES PROGRAM

Minimum Requirements 30

1. Required Courses 18

   Education 658.  Diagnostic and Remedial Techniques in Reading

   Special Education 505.  Psychoeducational Analysis in Special Education

   Special Education 605.  Characteristics of Children with Learning Disabilities

   Special Education 610.  Teaching Children with Learning Disabilities

   Special Education 620.  Practicum in Learning Disabilities

   Special Education 650.  Student Teaching in Learning Disabilities

2. Nine (9) semester hours selected from among the following: 9

   Education 501.  Workshop: Remedial Arithmetic

   Psychology 522.  Advanced Abnormal Psychology

   Psychology 626.  Growth and Development During the Elementary Years

   Speech Pathology 540.  Language Disorders
Other Courses Related to Characteristics of Children in Other Areas of Exceptionality

3. Three (3) semester hours selected from among the following:

- Psychology 610. Learning Theories
- Psychology 619. Seminar in Behavior Modification
- Special Education 512. Behavior Management in the Classroom

COURSE OFFERINGS

Special Education 501. Workshops in Special Education. (Summer) 1-3 credits.

Designed to provide an intensive study of a particular topic in special education. Prerequisite: Special Education 340.

Special Education 505. Psychoeducational Analysis in Special Education. (I) 3 credits.

A study of curricular adjustment procedures as determined by intellectual, social, emotional, and physical data about the individual. The focus of the course is upon methods of diagnosing the learning strengths and limitations of the individual. Prerequisites: Special Education 340, Psychology 488, and permission of Instructor.

Special Education 512. Behavior Management in the Classroom. (II) 3 credits.

An application of behavioral modification techniques to the control of discipline problems in the classroom. The use of these principles as an aid in learning is also stressed.

Special Education 514. Seminar in Special Education. (II) 3 credits.

An intensive study of current problems and issues in special education. Prerequisite: Special Education 340.

A detailed study of the nature and needs of the special learning disabled child. The focus of the course is on terminology, etiology, characteristics, diagnosis, and special problems.

Special Education 610. Teaching Children with Learning Disabilities. (I, II) 3 credits.

A detailed study of curriculum and methods for teaching the special learning disabled child. The course emphasizes programs, class organization, lesson planning, behavior control, curricular materials, and teaching strategies. Prerequisite: Special Education 605.

Special Education 620. Practicum in Learning Disabilities. (I, II) 3 credits.

The purpose of this course is to provide the student with observation and participation experiences, other than student teaching, with learning disabled children in educational and non-educational settings.

Special Education 630. Advanced Study of the Exceptional Child. (I) 3 credits.

An in-depth study of the exceptional child. The focus of the course is upon the medical, social, psychological, and cultural factors which are relevant to an understanding of definitions of exceptionality, incidence, characteristics, and educational and therapeutic issues and problems.

Special Education 650. Student Teaching in Learning Disabilities. (I, II) 3 credits.

The purpose of directed teaching is to enable the preservice teacher to apply in a classroom setting with learning disabled children understandings and competencies acquired in the program prior to student teaching. Prerequisite: Special Education 610.

Speech Pathology 501. Workshops in Speech Pathology. (Summer) 1 - 3 credits.

Designed to provide a detailed study of a particular topic of interest in speech pathology. Prerequisite: Permission of Head of Department.

Speech Pathology 503. Seminar in Speech Pathology. (I) 3 credits.

A study of the current trends and issues in speech pathology. Prerequisites: Speech Pathology 214 and permission of instructor.

Speech Pathology 540. Language Disorders. (I, II) 3 credits.

A comprehensive study of the etiology and remediation of language disorders in communicatively-impaired children. Specific diagnostic procedures and remedial models will be included in relation to delayed language development resulting from mental retardation and learning disabilities.
SPEECH AND DRAMA

Dr. McConkey, Head of the Department

The Department of Speech and Drama offers graduate courses which are designed to supplement the student’s knowledge in various areas including: Drama, Communications, Public Address, and Radio and Television Broadcasting. A program of graduate study is offered which can result in a minor in Speech and Drama for those pursuing the Master of Science in Education degree and Master of Arts in Education degree. The minimum requirement for a minor in Speech and Drama includes twelve (12) semester hours of graduate studies in the subject areas.

COURSE OFFERINGS

Study and research in the broad spectrum of communication arts and sciences. Emphasis is upon integrating the various aspects for application to academic and practical use. Consideration is given to topics relating to drama, public address, broadcasting, and interpersonal communication.

Speech 501. Teachers Workshop: High School Co-Curricular Speech and Drama Activities. (Summer only) 3 credits.
An intensive two-week study of the philosophy, organization, and administration of speech activities in the high schools. Emphasis is on a selected area of concentration: forensics-debate, drama, or broadcasting. Opportunities for practical work with high school students attending the Madison Summer Speech and Drama Workshop.

Study and research in the philosophical and historical bases of rhetorical theory. Emphasis is on the process of rhetoric both as a practical art and as a scholarly method. Consideration is given to topics relating to the development and practice of rhetoric and public address.

Study and research in the aspects of academic and professional theatre. Emphasis is upon research methods in solving practical problems of theatrical production. Consideration is given to topics relating to acting, directing, and technical elements.

Study of creative and imaginative drama. Emphasis is upon motivating and guiding advanced students to a higher degree of aesthetic appreciation for the theatre. Consideration is given to the relationship of experimental theatre to the traditional theatre.

Speech 560. Seminar in Broadcasting Media.
(II, 1973-74) 3 credits.

Study and research in the history, organization and mechanics of the various media. Emphasis is upon the social and artistic roles of the media. Consideration is given to topics relating to methods of assessing the influence and effectiveness of the broadcasting media.

Speech 600. Seminar in Teaching Speech.
(I, 1973-74) 3 credits.

Study and research in the theories and methodologies of teaching speech and drama in the secondary schools. Emphasis is upon course development and extra-curricular responsibilities of the teacher. Consideration is given to materials related to speech, debate and discussion, and drama.
For further information concerning graduate study at Madison College write:

Dean of the
Graduate School
Madison College
Harrisonburg, Va. 22801