



GRADUATE PROGRAMS



COASTAL CAROLINA
UNIVERSITY

GRADUATE DEGREE PROGRAMS

Coastal Carolina University is a primarily undergraduate, comprehensive liberal arts institution committed to excellence in teaching, research, and public service. Graduate programs of study leading to the Master of Education are offered through the Spadoni College of Education in the areas of early childhood education, elementary education, and secondary education (with specializations in English, mathematics, natural sciences, social studies, and Spanish). The Master of Education degree is not intended for students seeking initial teacher certification; teacher certification is required for admission. The Master of Science (M.S.) degree in Instructional Technology offers advanced study to qualified degree candidates who seek specialized positions in the field of instructional technology in and out of the field of education. The Master of Arts in Teaching degree is offered through the Spadoni College of Education with specializations in art, English, foreign languages, mathematics, music, science and social studies. The Master of Arts in Teaching is considered as a teacher preparation degree at the graduate level. Successful degree completers will be eligible for a South Carolina teaching certificate. The Master of Science in Coastal Marine and Wetland Studies is offered through the College of Natural and Applied Sciences.

Other graduate opportunities are available at Coastal Carolina University, including cooperative programs with other institutions as follows:

1. Graduate study leading the Masters in Business Administration (M.B.A) is available through a cooperative program with Winthrop University.
2. Graduate study leading to the Master of Education (M.Ed.) in Educational Administration and the Professional Masters in Business Administration (P.M.B.A) are available through cooperative programs with the University of South Carolina.
3. Graduate study leading to the Doctor of Philosophy Degree (Ph.D.) in Educational Leadership is available through a cooperative program with Clemson University.

The following pages contain information pertinent to graduate study at Coastal Carolina University. Information regarding Fees, Veterans Benefits, Confidentiality of Student Records, Dropping a Course, Withdrawal From all Courses, and Transcripts, is provided in an earlier section(s) of this catalog.

All graduate programs at the University are administered through the Office of the Provost, with each individual College that offers graduate programs having its own administrative responsibility for administering particular programs. For example, at the college level, the chief administrator of graduate programs in education is the Dean of the Spadoni College of Education. Questions regarding admission to graduate study at the University may be addressed to the Director of Admissions; questions regarding admission into a particular degree program may be addressed to the Dean of the College. Applications for graduate study at Coastal Carolina University should be made directly to the Office of Admissions. Prospective students should submit a completed application form at least thirty days prior to the opening of the term in which they wish to enroll. A one time non-refundable application fee of \$45 is required of all applicants.

Admission Categories

Students admitted to graduate study are placed in either one of two general categories: candidates for degrees or non-degree candidates. Applicants are required to meet all standards for admission if they wish to pursue a degree program. The category of non-degree admission is available for qualified students with legitimate reasons for earning graduate credit without a degree objective. Non-degree admission is limited to twelve semester hours of credit. Admission is available for certified teachers whose purpose in enrolling is for renewal of a certificate only (limited to 12 hours in a 5 year period). Credits earned as a Non-Degree student may be applied toward degree requirements at a later date. Students admitted in a Non-Degree classification cannot receive any student financial aid.

Readmission

A student enrolled as a masters degree-seeking student who leaves the University in good standing and misses one or more major terms and does not attend another institution need only submit the application for readmission in order to return to the University. Summer terms do not count as a major term in this instance.

Valid Period of Admission

Admission to a graduate program is valid for one year. If an applicant fails to complete any graduate course or part of the prescribed program within this period, the acceptance lapses, and the student becomes subject to any new requirements that may have been adopted. If a student has not acted upon an admission after one calendar year, the student must reapply for admission.

Students who have been admitted to a graduate program under regulations other than those now in force and who have not completed any Coastal Carolina University graduate courses during a period of three or more years, are required to fulfill current admission requirements prior to returning to the University for additional graduate work. Upon readmission, such students become subject to current regulations of the institution and of the program to which they are admitted.

Time Period - Maximum/Minimum Period Allowed

A student may be expected to obtain a degree in accordance with the requirements set forth in the regulations in force at the time he/she is admitted to degree candidacy, or under subsequent regulations published while he/she is enrolled as a degree candidate. However, a student is restricted in his/her choice to the requirements of one specific catalog. Students have a period of 6 years inclusive and continuous in which to claim the rights of a specific catalog.

Academic Standards

Graduate courses will earn degree credit completed at a grade level of C or above, but the student's average on all courses attempted for graduate credit which are to be applied to degree completion must be at least a B (3.0 on a 4-point system). A grade of C- is not considered to be at the C level. Additionally, the student's grade point average on all courses numbered 700 or above, that are to be applied to degree completion, must be no less than 3.0. Grades earned on credits transferred from other universities do not count in the grade point average. Grades earned below the grade of C do not transfer to Coastal Carolina University.

An accumulation of grades of C+ or below on 12 credits of graduate course work taken at the University within a 6 year period will disqualify a student for a graduate degree. This rule applies only to courses taken for degree completion purposes; it applies even to courses taken in two or more degree programs.

Students who receive grades below B on 12 or more graduate credit hours, where these

hours are being taken for degree completion purposes, are consequently suspended from degree candidacy status and are not permitted to enroll for further courses even as non-degree students without the specific approval by the University. After a grade below B is 6 years old, it will cease to be a disqualifying factor.

Academic Discipline

Infractions of academic discipline at the University are dealt with in accordance with the Code of Student Conduct and Academic Responsibility. Examples of such infractions include but are not limited to cheating, plagiarism, and illegal use of old laboratory reports. Further information is contained in The Student Handbook, Office of Student Services or the Office of the Provost.

Advisement

Every graduate student admitted to a degree program is entitled to an adviser. Students admitted as non-degree students, that is, those who do not seek degree admission or who have not yet met all the conditions for degree candidacy, are not assigned to advisers. They may, however, consult with the designated graduate administrator within the college where their course work is offered about both specific and general information.

Appeals and Petitions

Appeals should be made within the academic unit that directs the student's program. Appeals should be addressed to the designated graduate administrator in the college where their course work is housed. Only after the internal process for appeals and grievances has been exhausted should a student take his/her case to the Dean of the College. If the Dean cannot resolve the question being raised, he/she will refer it to the Committee on Petitions and Scholastic Standing, or other similar committee, in the college of the student's degree.

A student who wants relief from any academic regulation of the University may submit the case for consideration to the appropriate committee in the College of the student's major or the appropriate University-wide committee. Petitions related to programs, regulations, or other matters in the graduate program should be addressed to the Dean of the College who will then refer it to the appropriate College committee. Petitions requesting substantial deviation from established practice also should be referred to the Dean of the College. Appeals, grievances, or petitions may be related to academic matters only.

Appeals for Reinstatement

Appeals for reinstatement to degree candidacy should be forwarded to the Dean of the College for review by the college's appeals process. Appellants who have maintained a B average despite their accumulation of lower grades may, if their appeals are supported by their academic units/programs, be allowed to proceed toward their degrees provided they receive no additional grades below B. Appellants who have not maintained a B average should show extenuating circumstances and obtain the support of their academic units/programs if they wish to be considered for reinstatement.

Correspondence Courses

The University neither offers correspondence courses for graduate credit nor accepts correspondence work as applicable toward a graduate degree.

Courses Outside Major Program Area

Students wishing to enroll in courses outside the area to which they have been admitted should do so only with the express permission of their advisers, the dean of the course, and should seek guidance from the dean of the college sponsoring the course regarding eligibility and prerequisites.

An individual who has been denied admission to a program may not continue to enroll in courses in that program without special permission of the Dean of that college, even if admission is sought through another program area at the institution.

Credit by Examination

No graduate credit is offered by examination only.

Pass-Fail Option

Under certain circumstances, a student may elect pass-fail grading in a course whose content is outside the major area. This option permits enrichment of the student's experience without affecting grade average. A grade of either satisfactory (S) or unsatisfactory (U) will be awarded, and those courses completed with a satisfactory grade may be counted toward total credit hours earned. Any student interested in this option should consult his/her adviser and the Chair of the department offering the course prior to registration. Satisfactory/unsatisfactory grading is available only for courses specifically approved for such grading or individually by prior authorization of the Dean of the course.

Prerequisites

Prerequisite courses are listed to inform students about the academic background recommended for satisfactory course completion. If a student believes that he/she has the knowledge and/or skills represented by a prerequisite course obtained via other courses or methods, this should be discussed with the professor prior to registration regarding special permission to enroll.

Revalidation

Regular graduate students of the institution desiring to revalidate over-age courses must secure permission of the Dean where the course is housed. The applicant must pay to the Bursar's Office, in advance of the examination, a fee of \$75.00 for each course revalidated. The fee is not refundable once the student has presented himself/herself to the instructor for the examination.

Residence

Students may transfer a maximum of twelve credit hours into the University applicable to the completion of a degree program. Hours remaining beyond the maximum of twelve that may be transferred in must be completed in residence at the University. Students studying in a degree program that requires a thesis must register for a minimum of three credit hours in the semester of the thesis defense.

Course Load

A student may enroll for a semester load not to exceed twelve (12) graduate hours (with the exception of the fall semester of the Master of Arts in Teaching (M.A.T.) program in the Spadoni College of Education, when Track B candidates will take 15 hours. A student is classified as a full-time student for academic purposes with nine (9) or more hours during a fall or spring term, six (6) hours during the entire summer session. A student is classified as a part-time (half-time) student for academic purposes with six (6) credit hours during a fall or spring term.

Course Loads for Graduate Assistants

Graduate assistant applicants must be full-time students. Graduate assistants are required to carry a minimum of six (6) hours and may carry up to twelve (12) hours combined during both fall and spring terms. Assistants are expected to carry a minimum of three (3) credit hours each summer session.

Senior Privilege (Undergraduate Enrollment in Graduate Courses)

Qualified undergraduate students (it is normally expected that the student have a minimum grade point average of 3.0 on a 4.0 scale) may enroll for graduate course credit in courses numbered 500 through 699. Graduate credit may be earned by an undergraduate student only if:

- a) the student is classified as a senior and has earned a minimum of 90 credits;
- b) prior to registration, the student has been accepted as a prospective graduate student and has completed the "Senior Privilege" form available from the Dean of the College where the desired course is housed;
- c) all required signatures on the Senior Privilege form have been secured; and
- d) the student is adequately prepared for graduate work in the field concerned.

In no case may a student's enrollment constitute more than a legal full-time academic load of 12 credits. Work taken by undergraduate students at the graduate level may not be applied toward an undergraduate degree. Any course authorizations should be obtained from the respective department and College prior to registering for the course.

Transfer Credit

A student transferring to the University from another college or university should, before enrolling in any course at the University, have transcripts evaluated by the Office of Admissions. It is only through such evaluation that a student will know which transferred courses may be applicable toward Coastal degree requirements. Students from regionally accredited colleges and universities may transfer credit for academic courses completed with grades of C (meaning C-, C or C+) or above, but the University reserves the right to determine what credit, if any, for courses taken elsewhere will be counted toward its degrees.

The regional accrediting associations are: Middle States Association of Colleges and Schools, North Central Association of Colleges and Schools, New England Association of Schools and Colleges, Northwest Association of Schools and Colleges, Southern Association of Colleges and Schools, and Western Association of Schools and Colleges. Students cannot receive degree credit for a course taken at Coastal if they have received transfer credit for an equivalent course taken previously at another institution. Similarly, transfer credit will not be awarded if a Coastal equivalent, regardless of the grade earned, appears on the Coastal academic record. A student can never be awarded more transfer credit for a course than the original institution awarded.

Credits earned at another institution while a student is on suspension, academic or non-academic, from Coastal Carolina University are not transferable and cannot be applied toward a degree or used in improving the grade point average.

Evaluation of Transfer Credit

Up to 12 semester hours of credit with grades of B or above (or equivalent grades if a different system is used from other institutions of approved graduate standing may be transferred for use with the following restrictions. Credit must have been earned at an institution accredited, at the time the course work was completed, by a regional accrediting commission. The only exceptions to this standard are as follows: transfer from foreign institutions, transfer of course work completed at an institution accredited by a recognized accrediting body, or the acceptance of credit for military education. Graduate credit will not be accepted for portfolio-based experiential learning which occurs prior to the student's matriculation into a Coastal Carolina University graduate program and which has not been under the supervision of the institution.

1. The credit must be approved by the graduate administrator and the Dean of the College where the student seeks to have the credit applied.

2. The credit must be dated within the six-year period allowed for a degree. There is no revalidation mechanism for transfer credit that does not fall within the time limit.

Vehicle Registration

As a primarily non-residential or commuter campus, the University recognizes the importance of providing adequate parking for all members of the community. Regulations regarding automobile registration and parking are distributed by the Department of Public Safety. Copies are available in the Student Center. Students, faculty, and staff are required to register their vehicles each school year.

Identification Cards

Identification cards are required for all members of the University community. Upon completion of their first registration, students will be issued a photo-ID card for use while enrolled at Coastal Carolina University. Valid ID cards are required for entrance to campus activities and events, for use of library materials and resources, and for use of all campus facilities. University police officers are authorized by state law to request students and staff to present identification cards on campus property at any time. Students must present an ID card when requested by any University Official.

If cards are misplaced or destroyed, ARAMARK will make replacement ID cards at a cost of ten dollars. For information regarding ID cards, contact the Identification Card Office, 349-2255, located in the Student Center, first floor.

GRADUATE PROGRAMS

SPADONI COLLEGE OF EDUCATION

COLLEGE OF NATURAL AND APPLIED SCIENCES

SPADONI COLLEGE OF EDUCATION

Coastal Carolina University graduate programs in education are administered by the Spadoni College of Education. The Master of Education (M.Ed.) degree programs are designed to offer educational practitioners an opportunity for professional growth and to develop Master Teachers who are able to provide leadership in their teaching areas. The Master of Arts in Teaching (M.A.T.) degree programs are designed to offer a route to initial teacher licensure through graduate study. The Master of Science degree program in instructional technology offers advanced study to qualified degree candidates, in and out of the field of education, who seek specialized positions in the field of instructional technology.

The conceptual underpinning of all graduate programs in the Spadoni College of Education directed specifically toward educational practitioners is the Teacher as Reflective Practitioner. Reflective practitioners are teachers who work as scholars in the classroom with the ability to make sound decisions using information at hand, but who also have the ability to gather, analyze and utilize new information as needed.

The M.A.T. program offers degree candidates opportunities to develop skills and abilities based upon five strands and fourteen performance dimensions of competence expected of all initial licensure candidates and documented in a required electronic portfolio. The five strands are:

- I. Knowledge of Learners, Learning and Teaching
- II. Ability to Work with Diverse Populations
- III. Development of High Ethical Standards
- IV. Skills in Research and Scholarship
- V. Integration of Information Literacy

In the M.Ed. programs, degree candidates are offered learning opportunities that will enable them to increase their skills and knowledge in eight (Early Childhood and Elementary) or ten (Secondary) competency areas. These Competency Strands reflect standards outlined by the National Board for Professional Teaching Standards/Core Propositions and incorporate the College's commitment to the Teacher as Reflective Practitioner. Each competency area has multiple indicators that are taught and assessed throughout the program; mastery evidence/artifacts comprise the content of a candidate's required final electronic portfolio.

The M.Ed. Competency Strands are:

- Understanding of student differences and development
- Ability to plan instruction that maximizes student performance, addresses student diversity, and offers multiple paths to subject and skill mastery
- Demonstrated content proficiency
- Ability to address the motivational needs of students and manage the classroom
- Ability to design and implement appropriate assessment tools and utilize student performance data for instructional planning
- Evidence of being a reflective practitioner and lifelong learner who can analyze and utilize research and "best practice"
- Demonstrated ethical commitment to students, their learning, parents and the profession
- Demonstrated commitment to serve as an active member of the learning community in which they work
- Demonstrated ability to effectively use technology as a teaching and learning tool (Secondary)
- Demonstrated advanced proficiency in their content area of specialization (Secondary)

Admission to Study

Applications for graduate study are to be directed to the Office of Admissions at the University. Applicants may receive approval for provisional study if they are entering the University for the first time or returning to the University after an extended absence. This basis of approval allows the student to begin classes prior to providing all of the credentials necessary to qualify for full admission and allows the student to register for up to 12 hours of course work before matriculation. Minimally, however, students must present validation that they hold the baccalaureate degree. Students who are not seeking degrees may request approval for additional credits through the Office of Admissions.

Master of Education (M.Ed.) Degree in Early Childhood, Elementary and Secondary Education

The Master of Education (M.Ed.) degree programs in Early Childhood Education, Elementary Education, and Secondary Education are designed to offer professional growth and development for qualified candidates who are already professionals in the education profession. This specialized study is designed to extend the body of knowledge that would normally have been gained during related undergraduate study.

Admission Requirements

Applicants cannot be given continuing approval for graduate study and entry into degree-granting status into the aforementioned programs until the following required credentials have been received:

1. A completed application for graduate study at the University and an official transcript from each school or college previously attended (all prior undergraduate academic study must be represented as well as other graduate study if such study has been completed).
2. At least two letters of recommendation.
3. A) report of scores on the Graduate Record Examination (GRE), or B) report of score on the Miller Analogies Test (MAT). Applicants are expected to have, minimally, a score of 800 on the GRE (no less than a score of 400 in both the verbal and quantitative portions), or a minimum score of 35 on the MAT. Scores must be no more than 5 years old.
4. Submission of a written analysis of program purpose and personal goals using The Teacher As Reflective Practitioner conceptual model as the guide for the analysis.
5. Evidence of teacher certification.

Degree Expectations

All Master of Education (M.Ed.) degrees in the Spadoni College of Education include the following requirements:

1. Successful completion of an approved program of study, minimally 36 semester hours, of which at least 50 percent must be earned in courses numbered 700 or above. Students in secondary education programs are advised to complete 9-12 hours in the subject in which they are specializing.
2. Successful completion of a comprehensive examination covering the area of study. A comprehensive final examination in the major field of study is required for all degree candidates. The comprehensive examination should not be given more than two calendar years prior to the date at which all degree requirements are met. See program seminar requirement in degree requirement listings in each program for further details.
3. A minimum grade point average of 3.0 (B) is required on the total graduate program. Grades below B on 12 hours of graduate work will disqualify a student for a graduate degree in the College.
4. Every candidate for a degree will have a faculty adviser with whom to plan a program of study sufficiently intensive and sequential to assure professional competence and breadth of knowledge. Advisers are assigned by the dean of the College. Typically, the adviser will be a specialist in the candidate's major area of study.

Though an adviser may be appointed, the appointment of an adviser is not intended as an assurance to the student that he or she has been officially admitted to any particular program of study. The request for admission to a specific program is made formally at a later date.

No academic program can be approved until the student has been admitted to the graduate program as a degree candidate. Students are cautioned that graduate credit earned prior to full admission to degree candidacy may not be applicable toward the degree requirements. The program should be established, at the latest, by the end of the first semester of study.

Students seeking admission to a degree program where the program represents a notable difference from their baccalaureate level study traditionally are expected to engage in additional study in the specialized degree area beyond basic degree requirements.

MASTER OF EDUCATION

EARLY CHILDHOOD EDUCATION

(36 GRADUATE CREDIT HOURS)

BASIC STUDIES (21 Credit Hours)

EDUC 700	Introduction to Research in Education (3)
EDUC 706	Human Development and Learning Situations (3)
EDUC 740	The Young Child: Applying Theory and Research (3)
EDUC 742	Advanced Study of Early Childhood Curricula & Program Models (3)
EDUC 749	The School and Modern Society
EDUC 531	Microcomputers and Instruction (3)
ECED 797	Seminar in Early Childhood Education (3)

This course includes a comprehensive examination and must be taken during the final twelve (12) Credit hours of the degree program.

SPECIALIZED STUDIES (9 Credit Hours)

ECED 744	Advanced Study of Language Development and Communication Skills (3)
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Select two (2) courses from the following:

ECED 608	Parent Involvement in Early Childhood Education (3)
EDUC 610	Integrated Reading and Writing Instruction (3)
ECED 750	Play Theory and Early Learning (3)
ECED 794	Types of Early Childhood Centers (3)
ECED 631	Special Topics in Early Childhood Education (3)

RELATED STUDIES (6 Credit Hours)

ECED 540	The Young Child: Behavior and Development in Early Childhood Education (3)
ECED 541	Integrated Early Childhood Curriculum I (3)
ECED 542	Integrated Early Childhood Curriculum II (3)
ECED 544	Language Development and Communication Skills (3)
ECED 546	Education of Young Children: Ecological Approach (3)
EDUC 600	Foundations of Reading Instruction (3)

Related studies are courses outside the required program that address the student's objectives. The student may select from the courses listed above or from courses listed in other graduate education programs at the institution. Courses must be approved in advance by the student's adviser.

MASTER OF EDUCATION

ELEMENTARY EDUCATION (36 GRADUATE CREDIT HOURS)

BASIC STUDIES (21 Credit Hours)

EDUC 700	Introduction to Research in Education (3)
EDUC 706	Human Development and Learning Situations (3)
ELED 715	The Elementary School Curriculum (3)
ELED 717	Curriculum Problems in the Elementary School (3)
EDUC 531	Microcomputers and Instruction (3)
EDUC 749	The School and Modern Society (3)
ELED 780	Seminar in Elementary Education (3)

This course includes a comprehensive examination and must be taken during the final twelve (12) credit hours of the degree program.

SPECIALIZED STUDIES (9 Credit Hours)

(Three credit hours must be at the 700 level or above.)

ELED 608	Parent Involvement in Elementary Education (3)
EDUC 610	Integrated Reading and Writing Instruction (3)
ELED 511	Teaching Writing in Elementary and Middle School (3)
ELED 870	Advanced Study of Language Arts in the Elementary School (3)
ELED 710	Social Studies in the Elementary School (3)
ELED 758	Advanced Study of Science in the Elementary and Middle School (3)
EDUC 755	Teaching Environmental Education (3)
ELED 540	Teaching Problem Solving, Geometry, and Measurement in the Elementary School (3)
ELED 740	Advanced Study of Teaching Mathematics in the Elementary School (3)
ELED 631	Specialized Topics in Elementary Education (3)

RELATED STUDIES (6 Credit Hours)

ELED 515	Science in the Elementary School (3)
ELED 645	Diagnostic Teaching of Arithmetic (3)
EDUC 600	Foundations of Reading Instruction (3)

Related studies are courses outside the required program that address the student's objectives. The student may select from the courses listed above or from courses listed in other graduate education programs at the institution. Courses must be approved in advance by the student's adviser.

MASTER OF EDUCATION
SECONDARY EDUCATION ENGLISH
(36 GRADUATE CREDIT HOURS)

BASIC STUDIES (18 Credit Hours)

EDUC 700	Introduction to Research in Education (3)
EDUC 706	Human Development and Learning Situations (3)
EDUC 725	Principles of Curriculum Construction (3)
EDUC 749	The School and Modern Society (3)
EDUC 531	Microcomputers and Instruction (3)
SCED 780	Seminar in Secondary Education (3)

This course includes a comprehensive examination and must be taken during the final twelve (12) credit hours of the degree program.

SPECIALIZED STUDIES (9 Credit Hours)

SCED 726	Advanced Principles and Practices of Teaching in High School (3)
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Select two (2) courses from the following:

SCED 786	The Teaching of Literature in the Secondary School (3)
SCED 787	The Teaching of Composition in the Secondary School (3)
EDUC 610	Integrated Reading and Writing Instruction (3)
SCED 711	Special Topics in English Education (3)

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL
(9 Credit Hours).

Students should consult with their academic advisers regarding specific course requirements.

MASTER OF EDUCATION

SECONDARY EDUCATION MATHEMATICS (36 GRADUATE CREDIT HOURS)

BASIC STUDIES (18 Credit Hours)

EDUC 700	Introduction to Research in Education (3)
EDUC 706	Human Development and Learning Situations (3)
EDUC 725	Principles of Curriculum Construction (3)
EDUC 749	The School and Modern Society (3)
EDUC 531	Microcomputers and Instruction (3)
SCED 780	Seminar in Secondary Education (3)

This course includes a comprehensive examination and must be taken during the final twelve (12) credit hours of the degree program.

SPECIALIZED STUDIES (9 Credit Hours)

SCED 726	Advanced Principles and Practices of Teaching in High School (3)
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Select two (2) courses from the following:

EDUC 610	Integrated Reading and Writing Instruction (3)
SCED 773	Advanced Study of the Teaching of Computer Studies (3)
SCED 770	Computers in Mathematical Education (3)
SCED 766	Special Topics in Mathematics Education (3)

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL (9 Credit Hours)

Students should consult with their academic advisers regarding specific course requirements.

MASTER OF EDUCATION
SECONDARY EDUCATION NATURAL SCIENCES
(36-39 GRADUATE CREDIT HOURS)

BASIC STUDIES (18 Credit hours)

EDUC 700	Introduction to Research in Education (3)
EDUC 706	Human Development and Learning Situations (3)
EDUC 725	Principles of Curriculum Construction (3)
EDUC 749	The School and Modern Society (3)
EDUC 531	Microcomputers and Instruction (3)
SCED 780	Seminar in Secondary Education (3)

This course includes a comprehensive examination and must be taken during the final twelve (12) credit hours of the degree program.

SPECIALIZED STUDIES (9 Credit Hours)

SCED 726	Advanced Principles and Practices of Teaching in High School (3)
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Select two (2) courses from the following:

EDUC 610	Integrated Reading and Writing Instruction (3)
SCED 671	Computers in Science Education (3)
EDUC 755	Teaching Environmental Education (3)
SCED 701	Specialized Topics in Science Education (3)

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL
(9-12 Credit Hours)

Students should consult with their academic advisers regarding specific course requirements.

MASTER OF EDUCATION
SECONDARY EDUCATION SOCIAL STUDIES
(36 GRADUATE CREDIT HOURS)

BASIC STUDIES (18 Credit Hours)

EDUC 700	Introduction to Research in Education (3)
EDUC 706	Human Development and Learning Situations (3)
EDUC 725	Principles of Curriculum Construction (3)
EDUC 749	The School and Modern Society (3)
EDUC 531	Microcomputers and Instruction (3)
SCED 780	Seminar in Secondary Education (3)

This course includes a comprehensive examination and must be taken during the final twelve (12) credit hours of the degree program.

SPECIALIZED STUDIES (9 Credit Hours)

SCED 726	Advanced Principles and Practices of Teaching in High School (3)
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Select two (2) courses from the following:

EDUC 610	Integrated Reading and Writing Instruction (3)
SCED 679	Multicultural Issues in Education (3)
SCED 759	Teaching Reasoning and Inquiry Skills (3)
SCED 733	Special Topics in Social Studies Education (3)

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL
(9 Credit Hours)

Students should consult with their academic advisers regarding specific course requirements.

MASTER OF EDUCATION
SECONDARY EDUCATION SPANISH
(36 GRADUATE CREDIT HOURS)

BASIC STUDIES (18 CREDIT HOURS)

EDUC 700	Introduction to Research in Education (3)
EDUC 706	Human Development and Learning Situations (3)
EDUC 725	Principles of Curriculum Construction (3)
EDUC 749	The School and Modern Society (3)
EDUC 531	Microcomputers and Instruction (3)
SCED 780	Seminar in Secondary Education (3)

This course includes a comprehensive examination and must be taken during the final twelve (12) credit hours of the degree program.

SPECIALIZED STUDIES (9 CREDIT HOURS)

SCED 726	Advanced Principles and Practices of Teaching in High School (3)
EDUC 610	Integrated Reading and Writing Instruction (3)
SCED 579	Multicultural Issues in Education (3)

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL
(9 Credit Hours)

Students should consult with their academic advisers regarding specific course requirements.

Master of Science (M.S.) Degree in Instructional Technology

The Master of Science (M.S.) degree in Instructional Technology prepares degree candidates for careers in education and industry as specialists, instructors, and coordinators skilled in technology applications. Candidates need not be certified teachers to enter the program.

Admission Requirements

1. A completed application for graduate study at the University and an official transcript from each school or college previously attended (all prior undergraduate academic study must be represented as well as other graduate study if such study has been attempted).
2. At least two letters of recommendation.
3. A) report of scores achieved on the Graduate Record Examination (GRE), or B) report of score achieved on the Miller Analogies Test (MAT). Applicants are expected to have, minimally, a score of 800 on the GRE (no less than a score of 400 on both the verbal and quantitative portions) or a minimum score of 35 on the MAT.
4. Submission of a written essay.
5. Successful completion of EDUC 531, or a passing score on the Educational Technology Entrance Examination (ETEE).

MASTER OF SCIENCE

INSTRUCTIONAL TECHNOLOGY (36 GRADUATE CREDIT HOURS)

BASIC STUDIES (15 Credit Hours)

EDET 704	Technology and Curricula (3)
EDET 760	Educational Technology and Leadership (3)
EDET 770	Field Experience in Educational Technology (3)
EDET 790	Technology and Society (3)
EDET 780	Seminar in Educational Technology (3)

This course includes a comprehensive examination and must be taken during the final twelve (12) credit hours of the degree program.

SPECIALIZED STUDIES (12 Credit Hours)

EDET 700	Principles of Instructional Design (3)
EDET 710	Educational Technology Tools (3)
EDET 740	Product Design and Development I (3)
EDET 750	Product Design and Development II (3)

ELECTIVES (9 Credit Hours)

*EDET 730	Educational Videography (3)
*EDET 742	Distance Education (3)
*EDET 744	Graphic Design (3)

*Sample electives

Master of Arts in Teaching (M.A.T.) Degree

The Master of Arts in Teaching (M.A.T.) degree provides an avenue of entry into the teaching profession through graduate level study. It is intended for persons with a baccalaureate degree who desire to become certified to teach in a content area in which they hold a major or the equivalent in one of the areas where the degree is offered. M.A.T. degrees are currently offered in the fields of English, mathematics, natural or applied science and social studies, leading to certification in grades 9-12, and in art, music, and foreign languages (French and Spanish), leading to PreK-12 certification.

Students who currently are enrolled at Coastal Carolina University majoring in one of the areas of M.A.T. degree preparation, and who desire to enter the program upon graduation to pursue a masters degree and certification in teaching, may enroll in up to three courses of the M.A.T. program prior to receiving a bachelors degree. This study reflects 12 credit hours of specialized study at the undergraduate level in the areas of classroom management, learners and the learning process, and diversity in the classroom. This is called Track A. Candidates for the Track A program should consult their advisers in the appropriate major area and the Spadoni College of Education for more information on admission to the program and course work required for the degree.

Track B is designed for the student who already holds the baccalaureate degree and is seeking certification in one of the areas where the M.A.T. degree is offered. Track B candidates should contact the graduate programs administrator in the Spadoni College of Education regarding admissions procedures and program requirements. Candidates are advised that additional requirements may be added to the program of study in support of the discipline background and/or study in general education.

The **PRAXIS II** content knowledge examination must be successfully passed by both Track A and Track B students prior to entry into the Internship II semester (Spring of each year) of the M.A.T. program. Students will not be placed in the Internship II experience until a passing score on the PRAXIS II exam has been verified by the Office of Teacher Education Program Information in the Spadoni College of Education.

Requirements for the Master of Arts in Teaching Degree:

Portal I. Admission to the Graduate Program.

For admission to the Graduate Program, the candidate must:

- Submit an application for graduate study at the University with the \$45 application fee (check or money order) enclosed. Applications are due May 1 for each cohort.
- Submit official transcripts of all previous college or university course work including proof of attaining an overall Grade Point Average (GPA) of 2.5 on a 4.0 scale and a GPA of 2.5 in the content area. (Depending on the candidate's level of study in the major while completing the baccalaureate degree, additional content courses may be required. Advisers have checklists for the content area requirements for each major.)
- Submit official scores on the Graduate Record Examination (GRE) or Miller Analogies Test (MAT). Applicants are expected to have, minimally, a score of 800 on the GRE (no less than a score of 400 in both the verbal and quantitative portions), or a minimum score of 35 on the MAT. Scores must be no more than 5 years old. *Math and science majors must take the GRE.
- Provide two letters of recommendation (on forms provided) supporting the candidate's academic qualifications.

- Attach an essay stating the candidate's reasons for desiring a career in teaching. The essay should be word-processed in 12-point font, double-spaced, and 3-5 pages in length.

Following the completion of this process, the M.A.T. Graduate Admissions Committee (GAC) will evaluate the candidate's file. All applicants will be informed in writing of the committee's decision.

Portal II. Continuation in the M.A.T. Program and Admission to the Professional Program in Teacher Education. (determined at the conclusion of Summer II)

The candidate must::

- Attain a GPA of 3.0 for two education courses and two content area courses, with no grades below "C".
- Receive satisfactory recommendations from professors.
- Receive approval of the MAT Graduate Admissions Committee.

Portal III. Admission to Internship. (Deadline: Third Friday in January)

The candidate must:

- Complete 24 semester hours in the graduate program, maintaining a GPA of 3.0 in content area courses and an overall GPA of 3.0, with no course grade less than "C."
- Complete practicum experiences with satisfactory recommendations from both cooperating teachers and university supervisors.
- Submit an essay, 3-5 pages in length, explaining what it means for a teacher to be a Reflective Practitioner, commenting specifically on the candidate's own professional development in this area.
- Receive satisfactory recommendations from professors.
- Pass Praxis II subject area examinations.
- Fulfill the fingerprinting requirements.
- Receive approval of the adviser and the M.A.T. Graduate Admissions Committee.

Portal IV. Graduation

- Complete all coursework with a 3.0 GPA overall and in the content area with no course grade less than "C."
- Complete Internship with satisfactory recommendations from cooperating teacher and supervisor.
- Receive satisfactory recommendations from professors.
- Receive approval of the adviser and MAT Graduate Admissions Committee.

Post-Graduation

- Provide contact information to the Spadoni College of Education and complete an evaluation of the program.

MASTER OF ARTS IN TEACHING

(M.A.T.) IN ART (36 GRADUATE CREDIT HOURS)

Track A

The Track A M.A.T. program is designed to accommodate degree candidates who have received a baccalaureate degree from Coastal Carolina University in the major and who have successfully completed the specified 12 credit hours of undergraduate course work identified below.

BASIC STUDIES (24 Credit Hours)

EDUC 504	Technology and Instruction (3)
EDUC 618	Teaching of Reading in the Content Area (3)
EDUC 646	Basic Principles of Curriculum Development (3)
*ARTE 569	Principles and Methods of Teaching Art/Internship I Clinical Experience (3)
EDUC 560	Internship (9) (Successful completion of PRAXIS II required.)
EDUC 580	Internship Seminar (3)

*Denotes an accompanying clinical experience.

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL (12 Credit Hours)

A minimum of 12 credit hours at the graduate level in the specialized content area is expected. Students should consult with their academic advisers regarding specific course requirements.

SPECIALIZED STUDY AT THE UNDERGRADUATE LEVEL (12 Credit Hours)

EDUC 375	Learners and the Learning Process (4)
EDUC 415	Teaching in Diverse Classroom Settings (4)
EDUC 425	Managing the Classroom (4)

MASTER OF ARTS IN TEACHING
(M.A.T.) IN ART
(45 GRADUATE CREDIT HOURS)

Track B

The Track B M.A.T. program is designed to accommodate degree candidates who have already received a baccalaureate degree in the major or a related discipline. Additional requirements may be added in support of the candidate's discipline background and/or study in general education.

BASIC STUDIES (33 Credit Hours)

EDUC 504	Technology and Instruction (3)
EDUC 615	Teaching in Diverse Classroom Settings (3)
EDUC 618	Teaching of Reading in the Content Area (3)
EDUC 625	Managing the Classroom (3)
EDUC 646	Basic Principles of Curriculum Development (3)
EDUC 702	Human Development and Learning Processes (3)
*ARTE 569	Principles and Methods of Teaching Art/Internship I Clinical Experience (3) (Coreq: EDUC 615, EDUC 625 and EDUC 702)
EDUC 560	Internship (9) (Successful completion of PRAXIS II required.)
EDUC 580	Internship Seminar (3)

*Denotes an accompanying clinical experience.

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL
(12 Credit Hours)

A minimum of 12 credit hours at the graduate level in the specialized content area is expected. Students should consult with their academic advisers regarding specific course requirements.

MASTER OF ARTS IN TEACHING

(M.A.T.) IN ENGLISH (36 GRADUATE CREDIT HOURS)

Track A

The Track A M.A.T. program is designed to accommodate degree candidates who have received a baccalaureate degree from Coastal Carolina University in the major and who have successfully completed the specified 12 credit hours of undergraduate course work identified below.

BASIC STUDIES (24 Credit Hours)

EDUC 504	Technology and Instruction (3)
EDUC 618	Teaching of Reading in the Content Area (3)
EDUC 646	Basic Principles of Curriculum Development (3)
*EDUC 547	Principles and Methods of Teaching English/Internship I Clinical Experience (3)
EDUC 561	Internship (9) (Successful completion of PRAXIS II required.)
EDUC 580	Internship Seminar (3)

*Denotes an accompanying clinical experience.

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL (12 Credit Hours)

A minimum of 12 credit hours at the graduate level in the specialized content area is expected. Students should consult with their academic advisers regarding specific course requirements.

SPECIALIZED STUDY AT THE UNDERGRADUATE LEVEL (12 Credit Hours)

EDUC 375	Learners and the Learning Process (4)
EDUC 415	Teaching in Diverse Classroom Settings (4)
EDUC 425	Managing the Classroom (4)

MASTER OF ARTS IN TEACHING
(M.A.T.) IN ENGLISH
(45 GRADUATE CREDIT HOURS)

Track B

The Track B M.A.T. program is designed to accommodate degree candidates who have already received a baccalaureate degree in the major or a related discipline. Additional requirements may be added in support of the candidate's discipline background and/or study in general education.

BASIC STUDIES (34 Credit Hours)

EDUC 504	Technology and Instruction (3)
EDUC 615	Teaching in Diverse Classroom Settings (3)
EDUC 618	Teaching of Reading in the Content Area (3)
EDUC 625	Managing the Classroom (3)
EDUC 646	Basic Principles of Curriculum Development (3)
EDUC 702	Human Development and Learning Processes (3)
*EDUC 547	Principles and Methods of Teaching English/Internship I Clinical Experience (3) (Coreq: EDUC 615, EDUC 625 and EDUC 702)
EDUC 561	Internship (9) (Successful completion of PRAXIS II required.)
EDUC 580	Internship Seminar (3)

*denotes an accompanying clinical experience.

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL
(12 Credit Hours)

A minimum of 12 credit hours at the graduate level in the specialized content area is expected. Students should consult with their academic advisers regarding specific course requirements.

MASTER OF ARTS IN TEACHING
(M.A.T.) IN FOREIGN LANGUAGES - FRENCH
(36 GRADUATE CREDIT HOURS)

Track A

The Track A M.A.T. program is designed to accommodate degree candidates who have received a baccalaureate degree from Coastal Carolina University in the major and who have successfully completed the specified 12 credit hours of undergraduate course work identified below.

BASIC STUDIES (24 Credit Hours)

EDUC 504	Technology and Instruction (3)
EDUC 618	Teaching of Reading in the Content Area (3)
EDUC 646	Basic Principles of Curriculum Development (3)
*EDUC 548	Principles and Methods of Teaching in Foreign Language/Internship I Clinical Experience (3)
EDUC 562	Internship (9) (Successful completion of PRAXIS II required.)
EDUC 580	Internship Seminar (3)

*Denotes an accompanying clinical experience.

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL
(12 Credit Hours)

A minimum of 12 credit hours at the graduate level in the specialized content area is expected. Students should consult with their academic advisers regarding specific course requirements.

SPECIALIZED STUDY AT THE UNDERGRADUATE LEVEL
(12 Credit Hours)

EDUC 375	Learners and the Learning Process (4)
EDUC 415	Teaching in Diverse Classroom Settings (4)
EDUC 425	Managing the Classroom (4)

MASTER OF ARTS IN TEACHING
(M.A.T.) IN FOREIGN LANGUAGES - FRENCH
(45 GRADUATE CREDIT HOURS)

Track B

The Track B M.A.T. program is designed to accommodate degree candidates who have already received a baccalaureate degree in the major or a related discipline. Additional requirements may be added in support of the candidate's discipline background and/or study in general education.

BASIC STUDIES (33 Credit Hours)

EDUC 504	Technology and Instruction (3)
EDUC 615	Teaching in Diverse Classroom Settings (3)
EDUC 618	Teaching of Reading in the Content Area (3)
EDUC 625	Managing the Classroom (3)
EDUC 646	Basic Principles of Curriculum Development (3)
EDUC 702	Human Development and Learning Processes (3)
*EDUC 548	Principles and Methods of Teaching in Foreign Language/Internship I Clinical Experience (3) (Coreq: EDUC 615, EDUC 625 and EDUC 702)
EDUC 562	Internship (9) (Successful completion of PRAXIS II required.)
EDUC 580	Internship Seminar (3)

*Denotes an accompanying clinical experience.

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL
(12 Credit Hours)

A minimum of 12 credit hours at the graduate level in the specialized content area is expected. Students should consult with their academic advisers regarding specific course requirements.

MASTER OF ARTS IN TEACHING
(M.A.T.) IN FOREIGN LANGUAGES - SPANISH
(36 GRADUATE CREDIT HOURS)

Track A

The Track A M.A.T. program is designed to accommodate degree candidates who have received a baccalaureate degree from Coastal Carolina University in the major and who have successfully completed the specified 12 credit hours of undergraduate course work identified below.

BASIC STUDIES (24 Credit Hours)

EDUC 504	Technology and Instruction (3)
EDUC 618	Teaching of Reading in the Content Area (3)
EDUC 646	Basic Principles of Curriculum Development (3)
*EDUC 548	Principles and Methods of Teaching in Foreign Language/Internship I Clinical Experience (3)
EDUC 562	Internship (9) (Successful completion of PRAXIS II required.)
EDUC 580	Internship Seminar (3)

*Denotes an accompanying clinical experience.

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL
(12 Credit Hours)

A minimum of 12 credit hours at the graduate level in the specialized content area is expected. Students should consult with their academic advisers regarding specific course requirements.

SPECIALIZED STUDY AT THE UNDERGRADUATE LEVEL
(12 Credit Hours)

EDUC 375	Learners and the Learning Process (4)
EDUC 415	Teaching in Diverse Classroom Settings (4)
EDUC 425	Managing the Classroom (4)

**MASTER OF ARTS IN TEACHING
(M.A.T.) IN FOREIGN LANGUAGES - SPANISH
(45 GRADUATE CREDIT HOURS)**

Track B

The Track B M.A.T. program is designed to accommodate degree candidates who have already received a baccalaureate degree in the major or a related discipline. Additional requirements may be added in support of the candidate's discipline background and/or study in general education.

BASIC STUDIES (34 Credit Hours)

EDUC 504	Technology and Instruction (3)
EDUC 615	Teaching in Diverse Classroom Settings (3)
EDUC 618	Teaching of Reading in the Content Area (3)
EDUC 625	Managing the Classroom (3)
EDUC 646	Basic Principles of Curriculum Development (3)
EDUC 702	Human Development and Learning Processes (3)
*EDUC 548	Principles and Methods of Teaching in Foreign Language/Internship I Clinical Experience (3) (Coreq: EDUC 615, EDUC 625 and EDUC 702)
EDUC 562	Internship (9) (Successful completion of PRAXIS II required.)
EDUC 580	Internship Seminar (3)

*Denotes courses with an accompanying clinical experience.

**STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL
(12 Credit Hours)**

A minimum of 12 credit hours at the graduate level in the specialized content area is expected. Students should consult with their academic advisers regarding specific course requirements.

MASTER OF ARTS IN TEACHING

(M.A.T.) IN MATHEMATICS (36 GRADUATE CREDIT HOURS)

Track A

The Track A M.A.T. program is designed to accommodate degree candidates who have received a baccalaureate degree from Coastal Carolina University in the major and who have successfully completed the specified 12 credit hours of undergraduate course work identified below.

BASIC STUDIES (24 Credit Hours)

EDUC 504	Technology and Instruction (3)
EDUC 618	Teaching of Reading in the Content Area (3)
EDUC 646	Basic Principles of Curriculum Development (3)
*EDUC 540	Principles and Methods of Teaching Mathematics /Internship I Clinical Experience (3)
EDUC 565	Internship (9) (Successful completion of PRAXIS II required.)
EDUC 580	Internship Seminar (3)

*Denotes an accompanying clinical experience.

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL (12 Credit Hours)

A minimum of 12 credit hours at the graduate level in the specialized content area is expected. Students should consult with their academic advisers regarding specific course requirements.

SPECIALIZED STUDY AT THE UNDERGRADUATE LEVEL (12 Credit Hours)

EDUC 375	Learners and the Learning Process (4)
EDUC 415	Teaching in Diverse Classroom Settings (4)
EDUC 425	Managing the Classroom (4)

MASTER OF ARTS IN TEACHING
(M.A.T.) IN MATHEMATICS
(45 GRADUATE CREDIT HOURS)

Track B

The Track B M.A.T. program is designed to accommodate degree candidates who have already received a baccalaureate degree in the major or a related discipline. Additional requirements may be added in support of the candidate's discipline background and/or study in general education.

BASIC STUDIES (33 Credit Hours)

EDUC 504	Technology and Instruction (3)
EDUC 615	Teaching in Diverse Classroom Settings (3)
EDUC 618	Teaching of Reading in the Content Area (3)
EDUC 625	Managing the Classroom (3)
EDUC 646	Basic Principles of Curriculum Development (3)
EDUC 702	Human Development and Learning Processes (3)
*EDUC 540	Principles and Methods of Teaching Mathematics/Internship I Clinical Experience (3) (Coreq: EDUC 615, EDUC 625, and EDUC 702)
EDUC 565	Internship (9) (Successful completion of PRAXIS II required.)
EDUC 580	Internship Seminar (3)

*Denotes an accompanying clinical experience.

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL
(12 Credit Hours)

A minimum of 12 credit hours at the graduate level in the specialized content area is expected. Students should consult with their academic advisers regarding specific course requirements.

MASTER OF ARTS IN TEACHING

(M.A.T.) IN MUSIC

(36 GRADUATE CREDIT HOURS)

Track A

The Track A M.A.T. program is designed to accommodate degree candidates who have received a baccalaureate degree from Coastal Carolina University in the major and who have successfully completed the specified 12 credit hours of undergraduate course work identified below.

BASIC STUDIES (24 Credit Hours)

EDUC 504	Technology and Instruction (3)
EDUC 618	Teaching of Reading in the Content Area (3)
EDUC 646	Basic Principles of Curriculum Development (3)
*MUED 544	Principles and Methods of Teaching Music/Internship I Clinical Experience (3)
EDUC 558	Internship (9) (Successful completion of PRAXIS II required.)
EDUC 580	Internship Seminar (3)

*Denotes an accompanying clinical experience.

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL (12 Credit Hours)

A minimum of 12 credit hours at the graduate level in the specialized content area is expected. Students should consult with their academic advisers regarding specific course requirements.

SPECIALIZED STUDY AT THE UNDERGRADUATE LEVEL (12 Credit Hours)

EDUC 375	Learners and the Learning Process (4)
EDUC 415	Teaching in Diverse Classroom Settings (4)
EDUC 425	Managing the Classroom (3)

MASTER OF ARTS IN TEACHING

(M.A.T.) IN MUSIC

(45 GRADUATE CREDIT HOURS)

Track B

The Track B M.A.T. program is designed to accommodate degree candidates who have already received a baccalaureate degree in the major or a related discipline. Additional requirements may be added in support of the candidate's discipline background and/or study in general education.

BASIC STUDIES (33 Credit Hours)

EDUC 504	Technology and Instruction (3)
EDUC 615	Teaching in Diverse Classroom Settings (3)
EDUC 618	Teaching of Reading in the Content Area (3)
EDUC 625	Managing the Classroom (3)
EDUC 646	Basic Principles of Curriculum Development (3)
EDUC 702	Human Development and Learning Processes (3)
*MUED 544	Principles and Methods of Teaching Music/Internship I Clinical Experience (3) (Coreq: EDUC 615, EDUC 625 and EDUC 702)
EDUC 558	Internship (9) (Successful completion of PRAXIS II required.)
EDUC 580	Internship Seminar (3)

*Denotes an accompanying clinical experience.

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL (12 Credit Hours)

A minimum of 12 credit hours at the graduate level in the specialized content area is expected. Students should consult with their academic advisers regarding specific course requirements.

MASTER OF ARTS IN TEACHING

(M.A.T) IN SCIENCE

(36 GRADUATE CREDIT HOURS)

Track A

The Track A M.A.T. program is designed to accommodate degree candidates who have received a baccalaureate degree from Coastal Carolina University in the major and who have successfully completed the specified 12 credit hours of undergraduate course work identified below.

BASIC STUDIES (24 Credit Hours)

EDUC 504	Technology and Instruction (3)
EDUC 618	Teaching of Reading in the Content Area (3)
EDUC 646	Basic Principles of Curriculum Development (3)
*EDUC 553	Principles and Methods of Teaching Science/Internship I Clinical Experience (3)
EDUC 565	Internship (9) (Successful completion of PRAXIS II required.)
EDUC 580	Internship Seminar (3)

*Denotes an accompanying clinical experience.

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL (12 Credit Hours)

A minimum of 12 credit hours at the graduate level in the specialized content area is expected. Students should consult with their academic advisers regarding specific course requirements.

SPECIALIZED STUDY AT THE UNDERGRADUATE LEVEL (12 Credit Hours)

EDUC 375	Learners and the Learning Process (4)
EDUC 415	Teaching in Diverse Classroom Settings (4)
EDUC 425	Managing the Classroom (4)

MASTER OF ARTS IN TEACHING
(M.A.T.) IN SCIENCE
(45 GRADUATE CREDIT HOURS)

Track B

The Track B M.A.T. program is designed to accommodate degree candidates who have already received a baccalaureate degree in the major area or a related discipline. Additional requirements may be added in support of the candidate's discipline background and/or study in general education.

BASIC STUDIES (34 Credit Hours)

EDUC 504	Technology and Instruction (3)
EDUC 615	Teaching in Diverse Classroom Settings (3)
EDUC 618	Teaching of Reading in the Content Area (3)
EDUC 625	Managing the Classroom (3)
EDUC 646	Basic Principles of Curriculum Development (3)
EDUC 702	Human Development and Learning Processes (3)
*EDUC 553	Principles and Methods of Teaching Science/Internship I Clinical Experience (3) (Coreq: EDUC 615, EDUC 625 and EDUC 702)
EDUC 565	Internship (9) (Successful completion of PRAXIS II required.)
EDUC 580	Internship Seminar (3)

*Denotes courses with an accompanying clinical experience.

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL
(12 Credit Hours)

A minimum of 12 credit hours at the graduate level in the specialized content area is expected. Students should consult with their academic advisers regarding specific course requirements.

MASTER OF ARTS IN TEACHING

(M.A.T.) IN SOCIAL STUDIES (36 GRADUATE CREDIT HOURS)

Track A

The Track A M.A.T. program is designed to accommodate degree candidates who have received a baccalaureate degree from Coastal Carolina University in the major and who have successfully completed the specified 12 credit hours of undergraduate course work identified below.

BASIC STUDIES (24 Credit Hours)

EDUC 504	Technology and Instruction (3)
EDUC 618	Teaching of Reading in the Content Area (3)
EDUC 646	Basic Principles of Curriculum Development (3)
*EDUC 549	Principles and Methods of Teaching Social Studies/Internship I Clinical Experience (3)
EDUC 563	Internship (9) (Successful completion of PRAXIS II required.)
EDUC 580	Internship Seminar (3)

*Denotes an accompanying clinical experience.

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL (12 Credit Hours)

A minimum of 12 credit hours at the graduate level in the specialized content area is expected. Students should consult with their academic advisers regarding specific course requirements.

SPECIALIZED STUDY AT THE UNDERGRADUATE LEVEL (12 Credit Hours)

EDUC 375	Learners and the Learning Process (4)
EDUC 415	Teaching in Diverse Classroom Settings (4)
EDUC 425	Managing the Classroom (4)

MASTER OF ARTS IN TEACHING

(M.A.T.) IN SOCIAL STUDIES (45 GRADUATE CREDIT HOURS)

Track B

The Track B M.A.T. program is designed to accommodate degree candidates who have already received a baccalaureate degree in the major area or a related discipline. Additional requirements may be added in support of the candidate's discipline background and/or study in general education.

BASIC STUDIES (34 Credit Hours)

EDUC 504	Technology and Instruction (3)
EDUC 615	Teaching in Diverse Classroom Settings (3)
EDUC 618	Teaching of Reading in the Content Area (3)
EDUC 625	Managing the Classroom (3)
EDUC 646	Basic Principles of Curriculum Development (3)
EDUC 702	Human Development and Learning Processes (3)
*EDUC 549	Principles and Methods of Teaching Social Studies/Internship I Clinical Experience (3) (Coreq: EDUC 615, EDUC 625 and EDUC 702)
EDUC 563	Internship (9) (Successful completion of PRAXIS II required.)
EDUC 580	Internship Seminar (3)

*Denotes courses with an accompanying clinical experience.

STUDY IN THE CONTENT AREA AT THE GRADUATE LEVEL (12 Credit Hours)

A minimum of 12 credit hours at the graduate level in the specialized content area is expected. Students should consult with their academic advisers regarding specific course requirements.

COLLEGE OF NATURAL AND APPLIED SCIENCES

Master of Science in Coastal Marine and Wetland Studies

The Coastal Marine and Wetland Studies graduate program encompasses a broad range of scientific disciplines relevant to the coastal zone. It is a multidisciplinary degree including biology, chemistry, geology, marine science, and physics. The applications of current knowledge related to marine and wetland environments, understanding natural processes, policy and ethical management, and the ability to conduct and report original research are emphasized. The program is designed for students interested in marine and wetland systems, organisms living in these systems, and the management of these systems. A thesis is required.

The program is administered by the College of Natural and Applied Sciences.

Admission to Study

Applications for graduate study are to be directed to the Office of Admissions at the University.

Admission Requirements

Regular admission to the Master in Science in Coastal Marine and Wetland Studies is met by satisfactorily meeting the following six criteria:

1. Completion of an application form.
2. Submission of an official transcript from each post secondary school or college previously attended (all prior undergraduate academic study must be represented as well as other graduate study). Transcripts should show a minimum overall graduating GPA of 3.0 and a minimum GPA of 3.0 in the basic courses prerequisite to the area of proposed graduate study and in any graduate work already completed.
3. Evidence of having received a baccalaureate degree from a regionally accredited institution in this country or its equivalent at a foreign institution based on a four-year degree program.
4. Completion of the Graduate Record Examination (GRE). The University expects successful applicants to have a score of no less than 400 on both the verbal and quantitative portions. International students whose native language is not English must also submit scores on the Test of English as a Foreign Language (TOEFL). Scores on the GRE (and TOEFL) must be less than five years old.
5. Submission of at least two letters of recommendation.
6. Submission of a written statement of educational and career goals, how this degree will fulfill those goals and the subject area of research interest while completing this degree.

Provisional Admission

Applicants may receive provisional admission in the Master of Science in Coastal Marine and Wetland Studies degree program if they do not meet the stated admission requirements and are entering the University for the first time or are returning to the University after an extended absence. Students on provisional admission are limited to 12 hours of course work.

Removal of Provisional Status

To remove provisional status the student must:

- a) earn a B or better in each course of the first 9-12 hours of course work, which includes at least two core courses;
- b) meet all the requirements for regular admission, except for undergraduate GPA;
- c) earn a B or better in all undergraduate prerequisites required as specified in the provisional acceptance letter; and
- d) have the commitment from a faculty member to be the major professor.

Admission to Degree Candidacy

Admission to the graduate program in Coastal Marine and Wetland Studies does not signify Admission to Candidacy. After completing nine to twelve semester hours, students must apply for Admission to Candidacy. To be eligible for Admission to Candidacy for the Master of Science in Coastal Marine and Wetland Studies, a student must:

1. achieve regular admission status;
2. have a degree plan and thesis proposal approved by the student, the major professor, thesis committee, and the Dean;
3. complete a minimum of 12 semester hours of graduate work at Coastal Carolina University;
4. have earned a B or better average on all graduate work pursued and a B or better in the three core classes (CMWS 601, CMWS 602, CMWS 603); and
5. show successful completion of the qualifying examination.

***Transfer credit(s) cannot be used to raise the GPA at CCU.**

The final decision for admission to Candidacy is made by the Dean in the College of Natural and Applied Sciences based upon the recommendation of the student's committee and the CMWS Graduate Committee.

All students, including transfer students, must clear the English Proficiency Requirement, if applicable, before being admitted to Candidacy. Candidacy Applications are available in the Dean's office.

Thesis Committee

A thesis committee of at least three members will be established by the second semester of enrollment. It will consist of at least three full-time CCU faculty members including the major professor who will chair the committee. An approved member from an outside institution is also recommended. The entire thesis committee will meet with the student semi-annually to assess progress and give advice.

Qualifying Examination

In addition to the regularly scheduled course examinations, a candidate for the master's degree must satisfactorily pass a written qualifying examination arranged by the CMWS Graduate Committee. The examination is designed to incorporate general information from the core courses. Exam questions will require students to integrate and apply their knowledge.

A student who is not successful in passing the qualifying examination may, at the discretion of the CMWS Graduate Committee, be allowed another examination not later than one semester after the unsuccessful attempt.

Degree Requirements

A Master in Science in Coastal Marine and Wetland Studies requires:

1. Successful completion of an approved program of study with a minimum of 30 graduate hours;
2. Successful completion of the qualifying examination;
3. A minimum grade point average of 3.0 (B) on all course work;
3. Completion, presentation, and successful defense of the graduate thesis; and
4. All work applied toward the degree must be earned in the six years immediately preceding the completion of the graduate program.

Required Courses (30 Credits)

The Masters of Science degree program in Coastal Marine and Wetland Studies at Coastal Carolina University requires 30 graduate credit hours for completion. This includes the successful defense of a thesis based on the student's original research. Three core classes prepare students to deal with complex multidisciplinary scientific interrelationships that apply to coastal areas. All students also are required to participate in the seminar series.

Core Courses (9 Credits)

CMWS 601	Coastal Marine and Wetland Processes (3)
CMWS 602	Coastal Marine and Wetland Ecology (3)
CMWS 603	Coastal and Wetland Policy and Management (3)

Thesis Research (6 Credits)

CMWS 700	Thesis Research (6)
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The student must assemble a thesis committee of three faculty members, one of which is the major professor.

Graduate Seminar (3 Credits)

CMWS 697	Graduate Seminar I (1)
CMWS 698	Graduate Seminar II (1)
CMWS 699	Graduate Seminar III (1)

Electives (12 Credits)

Coastal Marine and Wetland Studies courses 500-level or above. A maximum of 6 credits at the 500-level may be used towards completing the degree requirements



COURSE DESCRIPTIONS - GRADUATE

COASTAL CAROLINA
UNIVERSITY

ANTHROPOLOGY (ANTH)

ANTH 540 Seminar in Current Archaeological Issues. (3) (Prereq: Anthropology 320 or permission of instructor) Selected topics of major concern to the practical conduct of archaeological research.

ANTH 541, 542 Field Problems in Archaeology. (3) (Prereq: Anthropology 101, 320 or permission of instructor) Courses must be taken in sequence. A spring-summer sequence consisting of class work followed by a field session. Research design, field methods, interpretation of data and the development of theory from these data. Methods of relating a specific problem in a given area to more general considerations.

ANTH 591 Selected Topics. (3) (Prereq: Anthropology 101 or permission of instructor) Topics in anthropology of special interest but which are too specific to be served by an established course. May be taken more than once as topics vary.

ART EDUCATION (ARTE)

ARTE 540 School Art Program (3). Analysis of historical, philosophical, and theoretical foundations of art education as a profession, including the origins and contexts of prevailing practices, contemporary change models, and prominent rationales for art in the schools. Methods for standards-based curriculum development, assessment of teaching and learning, and evaluation of art programs and student art products will be explored through readings, seminars, research and studio projects, and field experiences.

ARTE 541 Practicum in Art Education (3). Supervised clinical teaching experiences of conducting standards-based instruction with middle and high school students in a laboratory setting. Experiences include lesson planning, producing visual aids, peer and self-assessment in teaching, seminars, collaborative projects, field trip implementation and supervision, and proposal preparation for professional development opportunities.

ARTE 549 Principles and Methods for Teaching Art (3). Focus on methods, materials, and processes suitable for comprehensive art education content implementation. Students will develop art learning units with relevant teaching support materials organized around specific art concepts and modes of inquiry, produce assessment instruments for the evaluation of art programs and student art products, and engage in the

review and analysis of art education literature for research. Emphasis is placed on secondary schools. Supervised clinical teaching experiences in the public schools are required.

ARTE 569 **Principles and Methods of Teaching Art** (3) (Prereq: Admission to MAT Degree Program) A study of methods, techniques, and materials appropriate to teaching art. A clinical experience in public schools is included.

ARTE 595 **Art Education Workshop: Special Topics** (3). Course designed for graduate-level MAT art students or teachers holding existing certification who are preparing to teach art in the public schools. Students will develop specific disciplinary content units for various developmental levels from Pre-K to senior high school. Materials and methods will be organized around exploration of special topics. Topics will vary according to suffix. Examples of topics include Photographic Techniques for Art Education, K-12 Painting Methods, and Handbuilt Ceramics for K-12 Art Teachers.

BIOLOGY (BIOL)

BIOL 526 **Ichthyology.** (3) (Prereq: permission of instructor) (Coreq: Biology 526L) Morphology, classification, evolution and distribution of fishes with emphasis on South Carolina marine and freshwater species.

BIOL 526L **Ichthyology Laboratory.** (1) (Prereq: permission of instructor) (Coreq: Biology 526) Laboratory and field exercises emphasizing the topics covered in Biology 526. Students will be required to make and turn in a collection of preserved fish specimens.

BIOL 536 **Animal Behavior.** (3) (Prereq: permission of instructor) (Coreq: Biology 536L) Study of the historical and modern developments in the study of animal behavior and emphasizes the evolutionary, ecological, physiological determinants of behavior.

BIOL 536L **Animal Behavior Laboratory.** (1) (Prereq: permission of instructor) (Coreq: Biology 536) This lab course gives students the opportunity to further their knowledge of animal behavior through hands-on field and laboratory-based exercises.

BIOL 542 **Advanced Genetics.** (3) (Prereq: permission of instructor) (Coreq: Biology 542L) The molecular processes of genetic change within genomes, individuals, and populations over both short and long time-scales. Students will read current research in evolutionary genetics to better appreciate the benefits and detriments of genetic change in domesticated and natural populations of organisms.

BIOL 542L **Advanced Genetics Laboratory.** (1) (Prereq: permission of instructor) (Coreq: Biology 542) Laboratory exercises to accompany Biology 542.

- BIOL 551** **Molecular Techniques.** (4) A research-based practicum on techniques of DNA analysis. Laboratory exercises serve as an introduction to DNA purification, quantitation and sequencing, PCR, gel electrophoresis, enzyme digestion and cloning.
- BIOL 555** **Marine Botany.** (3) (Coreq: Biology 555L) Field course in marine flora with emphasis on ecology and functional morphology. Work will stress the roles of marine bacteria, fungi, algae, and angiosperms in coastal marine communities.
- BIOL 555L** **Marine Botany Laboratory.** (1) (Coreq: Biology 555) The laboratory demonstrates the topics and principles presented in lecture.
- BIOL 561** **Ornithology.** (3) (Coreq: Biology 561L) The study of birds with emphasis on morphological and behavioral adaptations exhibited by birds in response to their environment. Laboratory exercises introduce the student to the diversity of birds with emphasis on the avifauna of North America. Topics include field identification of species, morphological and behavioral adaptations for feeding and locomotion, bird assemblages of the southeastern United States, and censusing procedures for estimating population densities.
- BIOL 561L** **Ornithology Laboratory.** (1) (Coreq: Biology 561) Field experience and exercises to accompany Biology 561.
- BIOL 570** **Principles of Ecology.** (4) Selected ecology topics emphasizing research literature. Three lecture credits and three laboratory hours per week.
- BIOL 581** **Freshwater Ecology.** (3) (Prereq: Biology 370 or permission of instructor) (Coreq: Biology 581L) Interactions of physical, chemical, and biological properties of freshwater ecosystems (i.e., groundwater, wetlands, lakes, and streams). Three lecture hours per week.
- BIOL 581L** **Freshwater Ecology Laboratory.** (1) (Prereq: Biology 370 or permission of instructor) (Coreq: Biology 581) Laboratory and field exercise devoted to understanding the interactions of physical, chemical, and biological properties of freshwater ecosystems. Three laboratory hours per week.
- BIOL 582** **Plant Ecology.** (3) (Prereq: permission of instructor) (Coreq: Biology 582L) A survey of natural plant communities and theories of plant ecology including the interrelationships between plants and their environment.
- BIOL 582L** **Plant Ecology Laboratory.** (1) (Prereq: permission of instructor) (Coreq: Biology 582) Applications of principles and techniques used in the study of plants and their ecology, both in the lab and in the field.

- BIOL 583** **Population Biology.** (3) (Coreq: Biology 583L) Focus on learning core population characteristics, such as genetics, growth and intraspecific interactions. An introduction to the metapopulations and the history of the field of population ecology is included.
- BIOL 583L** **Population Laboratory.** (1) (Coreq: Biology 583) Laboratory exercises to accompany Biology 583.
- BIOL 584** **Conservation Ecology.** (3) (Coreq: Biology 584L) A comprehensive framework of conservation ecology. Students that successfully complete this course will learn the techniques used to study biodiversity and become familiar with the framework used to address problems in conservation biology.
- BIOL 584L** **Conservation Ecology Laboratory.** (1) (Coreq: Biology 584) This lab course gives students the opportunity to further their knowledge of conservation biology through hands-on, field and laboratory-based exercises.
- BIOL 585** **Vertebrate Zoology.** (3) (Prereq: permission of instructor) (Coreq: Biology 585L) The classification and natural history of vertebrates with additional emphasis on adaptive features in the functional morphology and ethology of animals.
- BIOL 585L** **Vertebrate Zoology Laboratory.** (1) (Prereq: permission of instructor) (Coreq: Biology 585) Laboratory and field experiences emphasizing the topics covered in Biology 585. Laboratories will be centered around field observations of local vertebrates and may include field trips at “unusual” times – nights, early mornings and weekends.
- BIOL 588** **Wetland Plant Ecology.** (3) (Prereq: permission of instructor) (Coreq: Biology 588L) An introduction to wetland types, wetland processes, and wetland management. Types of wetlands covered will include tidal freshwater, tidal saltwater, mangroves, interior freshwater, bogs, swamps, and riparian. Processes covered include hydrology, biogeochemistry, and biological adaptation. Wetland management topics include wetland definitions, classification, evaluation, manipulation, creation, and protection.
- BIOL 588L** **Wetland Plant Ecology Laboratory.** (1) (Prereq: permission of instructor) (Coreq: Biology 588) Applications of principles and techniques used in the study of wetland plants and their ecology, both in the lab and in the field.
- BIOL 775** **Plants of South Carolina.** (4) Lecture-laboratory-field course. Introduction to the major forms of plant life in their native habitats.
- BIOL 776** **Animals of South Carolina.** (4) Lecture-laboratory-field course. Introduction to the major forms of animal life in their native habitats.

BIOL 778 **Wetland Ecology for Teachers.** (3) A course designed to increase general knowledge of wetland habitats, introduce the possibilities of exploring wetlands in teaching, critique and adapt available laboratory and field activities, and develop original classroom teaching modules.

BUSINESS ADMINISTRATION (CBAD)

CBAD 533 **Governmental Accounting.** (3) (Prereq: Grade of **C** or above in Business Administration 330) Accounting techniques for governmental and not-for-profit entities, topics include accounting standards and procedures for governmental units, colleges and universities, health care, and voluntary health and welfare organizations.

CBAD 535 **Advanced Accounting.** (3) (Prereq: Grade of **C** or above in Business Administration 332, or concurrent enrollment in Business Administration 332) Financial accounting for investments in stock and consolidations, foreign currency operations, not-for-profit governmental units, colleges, universities, and voluntary health and welfare organizations. **S.**

CBAD 537 **Auditing Theory.** (3) (Prereq: Grade of **C** or above in Business Administration 291, 331 and 333) Generally accepted auditing standards governing external financial audits, audit techniques and procedures, evaluation of internal control systems and the audit opinion. **S.**

CHEMISTRY (CHEM)

CHEM 570 **Environmental Chemistry.** (4) A survey of the chemistry of the atmosphere, soil and water with an emphasis on the effects of pollution. In lab, students will learn the standard methods used to measure pollutants and contaminants in water, soils and tissues.

CHEM 705 **Modern Instrumental Methods in Chemistry.** (4) A survey of the applications of modern instrumental techniques to the solution of chemical problems, with emphasis on development of basic understanding of the experiment and on interpretation of data.

CHEM 709 **Topics in Chemical Education.** (4) Selected chemical topics with emphasis on modern chemical concepts. Lectures, discussion, and laboratory.

COASTAL MARINE AND WETLAND STUDIES (CMWS)

CMWS 580 **Environmental Sociology.** (3) An introduction to important areas of thinking and research in environmental sociology. The primary focus of the course is on the relationship between society and the environment. Special attention is given to the study of how and why societies create environmental problems.

- CMWS 587 Selected Topics for Coastal Marine and Wetland Studies I.** (1-4) Topics designed in specialty areas of coastal marine and wetland studies.
- CMWS 601 Coastal Marine and Wetland Processes.** (3) A comprehensive overview through lectures and field observations of the inter-relations between geological, physical, biological and chemical processes affecting wetlands and coastal zone ecosystems. Emphasis is placed on understanding the relations between processes and features within the terrestrial, estuarine and nearshore coastal environments.
- CMWS 602 Coastal Marine and Wetland Ecology.** (3) Relations between organisms and their environments in wetland and coastal zone ecosystems. Interconnectedness, energy flows and food webs will be presented in lectures, laboratories and field experiences in coastal wetland environments, estuaries and coastal marine habitats.
- CMWS 603 Coastal and Wetland Policy and Management.** (3) An examination of the relationships between economics, environmental policy, environmental ethics, and environmental law. Environmental laws, federal, state and local permitting agencies and their regulations that apply to the coastal zone and wetlands will be examined using locally focused case studies. Consideration is given to gathering and presenting scientific information needed for policy decisions. The interactions and competing pressures between economic interests that impact wetlands will be contrasted with a commitment to ethical treatment and responsible management of wetlands and coastal ecological systems.
- CMWS 610 Applied Experimental Designs & Analyses.** (3) (Prereq: Graduate status and STAT 210 or equivalent) A comprehensive course covering topics in observational and manipulative experimental design (e.g., sample size determination, power of the test) and surveying the variety of available statistical techniques and analyses (e.g., MANOVA, PCA, Loglinear models, Bayesian statistics).
- CMWS 611 Marine Environmental Modeling and Data Analysis.** (3) (Prereq: MATH 260 and one advanced statistics course). Study to enable students to collect and analyze meaningful data in marine and wetland environments, leading to the prediction of (and the power to change) environmental trends. Topics include aspects of sampling and resampling methods, simulation techniques, basic design of experimental techniques, fundamentals of time series analysis, modeling with difference and differential equations and **linear** and nonlinear dynamics that pertain to marine and wetland studies.
- CMWS 612 Advanced Geographic Information Systems.** (3) The use of Geographic Information Systems in the study and management of coastal and marine systems at an advanced level. Topics covered include project design, data management and analysis, exploration of surfaces and statistical modeling, and interpretation of aerial photograph and remotely sensed data.

- CMWS 613 Standard Methods of Seawater, Tissue and Sediment Analysis.** (3) (Prereq: Marine Science 305 or consent of instructor) An introduction to the practices and techniques of marine analyses. Topics include measurement of nutrients, organic matter, bacteria and trace metals. Students will be introduced to the use of standard marine analytical equipment including atomic absorption spectrophotometer, gas chromatograph-mass spectrometer, ion chromatograph, TOC/TIC analyzer, and CHNS elemental analyzer.
- CMWS 614 Applied Geophysical Field Methods.** (3) A field course to provide the student with an understanding of data collection in the field. Detailed study of pertinent data collection techniques for understanding the geology and physical processes in the coastal region to include side-scan sonar, seismic, and ground penetrating radar techniques, as well as integral ground truthing techniques. Integration of digital data collection techniques using computer software, hardware, and networking techniques will be covered.
- CMWS 630 Aquatic Physiological Ecology.** (3) Physiological mechanisms of adaptation of organisms to coastal marine and wetland environments. Topics include the effects of temperature, salinity, current, oxygen, light, turbidity, nutrients, habitat alteration, and pollution. Significant field work as well as experiments designed to verify important physiological principles will be included.
- CMWS 641 Environmental Ecotoxicology.** (3) (Prereq: Marine Science 305 or consent of instructor) An introduction to the field of environmental ecotoxicology. Topics include chemical principles of bioaccumulation and degradation, organic and inorganic toxicants, modeling approaches to understanding and predicting the fate of pollutants in the marine environment.
- CMWS 642 Applications of Isotope Geochemistry.** (3) (Prereq: Marine Science 304 and 305 or consent of instructor) An introduction to the manifold uses of stable and radioactive isotopes in elucidating biologic and inorganic reaction pathways and past environmental conditions in marine and terrestrial systems. Topics include paleotemperature, paleosalinity estuarine mixing, as well as biological pathways and global biogeochemical cycles.
- CMWS 650 Climate Change and Evolution of Coastal Environments.** (3) Study emphasizing short and long-term coastal and estuarine changes throughout the late Quaternary, specifically with respect to decadal, centennial, millennial, and longer time scales. Quaternary geomorphologies and long and short-term climate changes are studied and placed into a global context of various spatial and temporal changes, induced change, and the factors involved in change.
- CMWS 675 Wetland Regulation and Delineation.** (3) (Prereq: permission of instructor) Study of legal definitions and regulations relevant to wetlands and the methods used to delineate wetlands. Lectures are augmented with practical field experience identifying various indicators

of hydrology, soils and vegetation in riparian, estuarine and pocosin wetlands.

- CMWS 687 Selected Topics for Coastal Marine and Wetland Studies II.** (1-4) Topics designed in specialty areas of coastal marine and wetland studies.
- CMWS 697 Graduate Seminar I.** (1) Approaches to research and literature review of possible thesis research. Presentations, readings, and discussions.
- CMWS 698 Graduate Seminar II.** (1) Plans for research and expected outcomes based on a review of literature. Presentations, readings, and discussions.
- CMWS 699 Graduate Seminar III.** (1) (Prereq: Coastal Marine and Wetland Studies 700) Participation will require the public presentation of the completed thesis.
- CMWS 700 Thesis Research.** (1-6) Research will be conducted leading toward the preparation, acceptance and defense of a thesis. Students must complete a total of six credit hours to complete the degree requirements.

CRIMINAL JUSTICE (CRMJ)

- CRMJ 521 Constitutional Law.** (3) A study of judicial review, the political role of the courts, American federalism, the jurisdiction and limitations of the judicial branch, the power of taxation, the commerce power, the substantive and procedural rights of the individual, and the powers of the president.

EARLY CHILDHOOD EDUCATION (ECED)

- ECED 540 The Young Child (Behavior and Development in Early Childhood).** (3) Intellectual, physical, social, and emotional development, prenatal through grade four, within an ecological context. Critical thinking, creative expression, and diagnosis/assessment are emphasized.
- ECED 541 Integrated Early Childhood Curriculum I.** (3) Integration of content areas within the curriculum emphasizing mathematics and the sciences. Learning activities, materials, equipment, multicultural influences, and needs of exceptional children are addressed.
- ECED 542 Integrated Early Childhood Curriculum II.** (3) Integration of content areas within the curriculum emphasizing language arts, reading, and fine arts. Learning activities, materials, equipment, multicultural influences, and needs of exceptional children are addressed.
- ECED 544 Language Development and Communication Skills.** (3) The course deals with the relationship of language development and thinking to teaching the communicative skills of young children.

Specific areas covered are activities designed to develop oral language facility, writing (handwriting, spelling, functional and creative writing) and listening. Specific techniques dealing with diagnosis of language development will be addressed.

- ECED 546** **Education of Young Children: An Ecological Approach.** (3) An ecological study with emphasis on home-school relations, parent involvement, and community resources. Multicultural perspectives and needs of exceptional children are addressed.
- ECED 608** **Parent Involvement in Early Childhood Education.** (3) Analysis of programs and practices for involving parents in early childhood educational settings. Emphasis on objectives, methods, techniques, and materials for program development. Community resources for supporting programs for children in various instructional settings are reviewed.
- ECED 631** **Special Topics in Early Childhood Education.** (3) Specific analysis of crucial issues in the field as they exist and emerge in the future. Provides an opportunity for students to do in-depth study of specific areas of concern.
- ECED 740** **The Young Child: Applying Theory and Research.** (3) Analysis and discussion of theory and research related to the education of young children. Intellectual, social, emotional, and physical development of infants, toddlers, and young children will be examined. Special emphasis on implications for developing early childhood educational programs.
- ECED 742** **Advanced Study of Early Childhood Curricula and Program Models.** (3) An analysis of early childhood program models and curricula with theoretical orientation, related research, societal needs, and the student's philosophy of education.
- ECED 744** **Advanced Study of Language Development and Communication Skills in Early Childhood Education.** (3) Provides an overview of the development of language and communication skills in children, birth through eight.
- ECED 750** **Play Theory and Early Learning.** (3) Theory, research, and practice related to the play of young children in various settings.
- ECED 794** **Types of Early Childhood Centers.** (3) An overview of the function, funding, management, and organization of the many varied programs for young children including research centers, private and agency controlled schools.
- ECED 797** **Seminar in Early Childhood Education.** (3) (Prereq: 24 semester hours of credit earned as specified on the master's degree program of study) Students will synthesize their graduate studies for a master's degree in early childhood education.

ECONOMICS (ECON)

- ECON 524** **Essentials of Economics.** (3) A course designed to acquaint the student with the principles of operation of the American economic system. A survey course for social studies teachers in secondary schools.

EDUCATION (GENERAL) (EDUC)

- EDUC 504** **Technology and Instruction.** (3) (Computer Usage) (Prereq: Admission to MAT Degree Program) Development of essential technology skills for educational settings. Classroom applications of word processing, spreadsheet, database, multimedia and Internet technologies.

- EDUC 517** **Reading in the Middle School.** (3) Study of skills necessary for successful reading at the middle level and appropriate teaching methods for the acquisition of these skills. Included are comprehension, fluency, word **attack**, higher level thinking skills, content area reading skills, and study skills. Constructivist teaching methods are emphasized in conjunction with concerns for developmental and motivational issues of middle level students. A clinical field experience accompanies this course.

- EDUC 531** **Microcomputers and Instruction.** (3) A hands-on laboratory approach for developing computer literacy skills and for developing skills necessary to use instructional technology to enhance classroom instruction. Off-campus clinical experiences are included.

- EDUC 540** **Principles and Methods of Teaching Mathematics.** (3) (Prereq: Admission to MAT Degree Program) (Coreq: Education 625) A study of methods, techniques, and materials appropriate to teaching mathematics. A clinical experience in public schools is included.

- EDUC 547** **Principles and Methods of Teaching English.** (3) (Prereq: Admission to MAT Degree Program) (Coreq: Education 625) A study of methods, techniques and materials appropriate to teaching English. A clinical experience in public schools is included.

- EDUC 548** **Principles and Methods of Teaching in Foreign Language.** (3) (Prereq: Admission to MAT Degree Program) (Coreq: Education 625) A study of methods, techniques, and materials appropriate to teaching Foreign Language. A clinical experience in public schools is included.

- EDUC 549** **Principles and Methods of Teaching Social Studies.** (3) (Prereq: Admission to MAT Degree Program) (Coreq: Education 625) A study of methods, techniques, and materials appropriate to teaching Social Studies. A clinical experience in public schools is included.

- EDUC 553** **Principles and Methods of Teaching Science.** (3) (Prereq: Admission to MAT Degree Program) (Coreq: Education 625) Study of methods, techniques, and materials appropriate to teaching science. A clinical experience in public schools is included.
- EDUC 558** **Internship (Music).** (9) (Prereq: Admission to MAT Degree Program) (Coreq: Education 580) Supervised teaching experience in music. Interns will be assigned to field placements for a period of no fewer than 70 instructional days.
- EDUC 560** **Internship (Art).** (9) (Prereq: Admission to MAT Degree Program) (Coreq: Education 580) Supervised teaching experience in art. Interns will be assigned to field placements for a period of no fewer than 70 instructional days.
- EDUC 561** **Internship (English).** (9) (Prereq: Admission to MAT Degree Program) (Coreq: Education 580) Supervised teaching experience in English. Interns will be assigned to field placements for a period of no fewer than 70 instructional days.
- EDUC 562** **Internship (Foreign Language).** (9) (Prereq: Admission to MAT Degree Program) (Coreq: Education 580) Supervised teaching experience in foreign language. Interns will be assigned to field placements for a period of no fewer than 70 instructional days.
- EDUC 563** **Internship (Social Studies).** (9) (Prereq: Admission to MAT Degree Program) (Coreq: Education 580) Supervised teaching experience in social studies. Interns will be assigned to field placements for a period of no fewer than 70 instructional days.
- EDUC 564** **Internship (Mathematics).** (9) (Prereq: Admission to MAT Degree Program) (Coreq: Education 580) Supervised teaching experience in mathematics. Interns will be assigned to field placements for a period of no fewer than 70 instructional days.
- EDUC 565** **Internship (Science).** (9) (Prereq: Admission to MAT Degree Program) (Coreq: Education 580) Supervised teaching experience in science. Interns will be assigned to field placements for a period of no fewer than 70 instructional days.
- EDUC 580** **Internship Seminar.** (3) (Prereq: Admission to MAT Degree Program) Candidates will meet periodically with their university supervisor and with other candidates to establish links between the theoretical principles taught in the methods course and the practical application of these theories during the internship.
- EDUC 600** **Foundations of Reading Instruction.** (3) Reading and its curriculum implications: grades K-12 and adults. Current trends and issues.
- EDUC 610** **Integrated Reading and Writing Instruction.** (3) Theoretical bases and techniques for teaching reading and writing using multiple subject areas.

- EDUC 615 Teaching in Diverse Classroom Settings.** (3) (Prereq: Admission to MAT Degree Program) (Coreq: Education 625 and Education 702) A study of the diverse population of students in today's classrooms. Alternative methods of instruction and evaluation of concepts and skill development will be presented. A clinical field experience in public schools is included.
- EDUC 618 Teaching of Reading in the Content Area.** (3) (Prereq: Admission to MAT Degree Program) A study of the reading process and readiness to read as related to the teaching of academic areas found in public schools. Alternative methods of instruction and evaluation of concepts and skill development are presented. Attention is given to addressing reading difficulties and enhancing reading skills necessary for effective teaching of content area materials.
- EDUC 625 Managing the Classroom.** (3) (Prereq: Admission to MAT Degree Program) (Coreq: Education 615 and 702) Study of effective principles and techniques of management in classrooms today. Attention is given to theories and strategies of management of students as well as classroom organization and the relationship between motivation and management. A clinical experience in public schools is included.
- EDUC 631 Special Topics.** (3-6) Topics selected allow for specialized study of timely topics related to the field of education.
- EDUC 646 Basic Principles of Curriculum Development.** (3) (Prereq: Admission to MAT Degree Program) A study of the principles of curriculum development in schools today as related to standards-based instruction and assessment. Attention is given to the teacher's role in understanding curriculum, theory behind curriculum development, and implementing standards-based curriculum, instruction, and assessment.
- EDUC 700 Introduction to Research in Education.** (3) Emphasis on the major methods and techniques of research employed by students of education. Off-campus clinical experiences are included.
- EDUC 702 Human Development and Learning Processes.** (3) (Prereq: Admission to MAT Degree Program) (Coreq: EDUC 615 & EDUC 625) An investigation of various patterns of intellectual, social, emotional, and physical growth of learners from prenatal through adolescence periods with an emphasis on the period of adolescence and a focus on developmental applications in educational settings. A clinical experience in public schools is included.
- EDUC 706 Human Development and Learning Situations.** (3) Presentation of theories and principles of human development that are particularly relevant to teaching. Application of such theories and principles to learning situations suitable to various age and grade levels. Off-campus clinical experiences are included in this course.
- EDUC 720 The Middle School Curriculum.** (3) A course intended to increase the student's knowledge and awareness of current trends and practices in

middle school curriculum with an emphasis placed on the future direction of middle school education to prepare teachers for the demands of an increasingly advanced technological, multicultural society.

EDUC 725 **Principles of Curriculum Construction.** (3) Presentation of methods and procedures to design, develop, implement, and evaluate curricula. Off-campus clinical experiences are included in this course.

EDUC 749 **The School and Modern Society.** (3) Basic concepts of the relation of the school to the social order; an analysis of the essential features of the changing social context within which American educational policy and practice now operate. The educational implications of recent social change in the American and world society.

EDUC 755 **Teaching Environmental Education.** (3 or 6) Rationale and strategies for teaching environmental education.

EDUCATIONAL TECHNOLOGY (EDET)

EDET 531 **Technology and Education.** (3) Development of basic technology skills for educational settings. Applications of word processing, spreadsheet, database, multimedia and Internet technologies.

EDET 704 **Technology in Curricula.** (3) Methods and procedures to design, develop, implement, and evaluate technology-rich instruction across curricula.

EDET 700 **Principles of Instructional Design.** (3) Systematic design of products for education and training. Emphasis on instructional goals, teaching methodologies, and evaluation techniques.

EDET 710 **Educational Technology Tools.** (3) Essential technology installation, productivity, and maintenance skills.

EDET 720 **Psychology of Educational Technology.** (3) Application of major theories and principles of human learning and development to the design of educational technology products and systems.

EDET 730 **Educational Videography.** (3) (Prereq: Educational Technology 710) Planning, producing and managing videographic content for educational settings.

EDET 740 **Product Design and Development I.** (3) (Prereq: Educational Technology 710) Application of essential technology tools to instructional product development.

EDET 742 **Distance Education.** (3) Application of instructional design, learning theory, pedagogy, and technology to models of distance education.

- EDET 744** **Graphic Design for Instruction.** (3) (Prereq: Educational Technology 700, 710) Theory and application of graphic design for print and non-print instructional products.
- EDET 750** **Product Design and Development II.** (3) (Prereq: Educational Technology 740) Application of advanced technology tools to instructional product development.
- EDET 760** **Educational Technology Leadership.** (3) Research, theory and models of managing technology resources--facilities, personnel, financing, acquisition, development, policy and training.
- EDET 770** **Field Experiences in Educational Technology.** (3) Field-based observation, planning, implementation, management and assessment of educational technology products and systems.
- EDET 780** **Seminar in Educational Technology.** (3) Capstone experiences in design, delivery and evaluation of educational technology products and systems. Portfolio development.
- EDET 790** **Technology and Society.** (3) Ethical, legal, and human issues relative to the evolution of technology and its probable future roles in society. Emphasis on instructional implications.

ELEMENTARY EDUCATION (ELED)

- ELED 511** **Teaching Writing in Elementary and Middle School.** (3) Writing instruction in relation to the developmental characteristics of children through preadolescence.
- ELED 515** **Science in the Elementary School.** (3) Reinforces the science background of prospective and practicing elementary teachers. Innovations are examined. Emphasis is placed on methods, materials, community resources and evaluation procedures.
- ELED 540** **Teaching Problem Solving, Geometry, and Measurement in the Elementary School.** (3) Problem-solving, measurement, and geometry in the school mathematics curriculum; identification of concepts and skills to be taught, teaching methodology.
- ELED 608** **Parent Involvement in Elementary Education.** (3) Analysis of programs and practices for involving parents in elementary educational settings. Emphasis on objectives, methods, techniques, and materials for program development. Community resources for supporting programs for children in various instructional settings.
- ELED 631** **Special Topics in Elementary Education.** (3) Specific analyses of crucial issues in the field as they exist and emerge in the future. Provides an opportunity for students to do in-depth study of specific areas of concern.

- ELED 645** **Diagnostic Teaching of Arithmetic.** (3) Analysis of the concepts and skills of arithmetic in the school mathematics curriculum, exploration of diagnostic-prescriptive teaching methods.
- ELED 710** **Social Studies in the Elementary School.** (3) Selection, classification, and organization of materials in the field of social studies in the elementary school.
- ELED 715** **The Elementary School Curriculum.** (3) Critical study of the modern elementary school curriculum.
- ELED 717** **Curriculum Problems in the Elementary School.** (3) (Prereq: Elementary Education 715) A course designed to examine the internal facets of the elementary school, including the library; health, guidance, and other pupil personnel services; curriculum revision; elementary school procedures; and pupil accounting.
- ELED 740** **Advanced Study of Teaching Mathematics in the Elementary School.** (3) The selection of teaching procedures and instructional materials which facilitate pupil discovery and learning. Research findings relative to current trends, diagnostic teaching, and mathematics as a contemporary necessity will be examined.
- ELED 758** **Advanced Study of Teaching Science in the Elementary School/Middle School.** (3) Study of curriculum models and instructional theory underlying elementary and/or middle school science programs.
- ELED 780** **Seminar in Elementary Education.** (3) (Prereq: 24 semester hours of credit earned as specified on the master's degree program of study) Students will synthesize their graduate studies for a master's degree in elementary education.
- ELED 870** **Advanced Study of Language Arts in the Elementary School.** (3) The relationship between language learning and the genesis and development of personality with implications that would follow for the elementary school language arts curriculum.

ENGLISH (ENGL)

- ENGL 690** **Special Topics in Composition.** (3) Course content varies.
- ENGL 710** **The Renaissance.** (3) Study of representative poetic, dramatic, and prose works of 16th century England.
- ENGL 711** **Shakespeare I: The Comedies and Histories.** (3) Survey of leading examples of the two genres in relation to the conditions of Shakespeare's time and modern critical views of the plays.
- ENGL 712** **Shakespeare II: The Tragedies.** (3) Survey of the development of Shakespearean tragedy in relation to the drama of the time and modern criticism.

ENGL 723 **English Poetry of the Romantic Period.** (3) Poetry of Burns, Blake, Wordsworth, Coleridge, Byron, Shelley, Keats, and their contemporaries. Intensive study of several of these poets to illustrate the character of the period; attention is given to important statements of poetic theory.

ENGL 744 **American Romanticism.** (3) Survey of leading romantic and/or transcendental writers of the 19th century such as Emerson, Thoreau, Whitman, Hawthorne, and Melville.

ENGL 781 **History of the English Language.** (3) The historical background of Modern English with attention to the major linguistic and cultural developments which distinguish English from other related languages. No prior knowledge of Old English or Middle English is required.

HISTORY (HIST)

HIST 501 **World History for Secondary Instruction.** (3) Overview of current World History curriculum and pedagogy for secondary school instruction.

HIST 631 **Issues in Southern History.** (3) A survey of the basic historical literature, issues, and the interpretation of the development of Southern society as a distinctive section of the United States.

HIST 642 **Issues in Modern Russian History.** (3) A survey of the basic historical literature, issues, and the interpretations of late Imperial Russia and Soviet studies.

HIST 755 **Issues in Twentieth-Century United States History.** (3) A survey of the basic historical literature, issues, and the interpretations of the American experience from the Age of Progressivism to present day.

HIST 770 **Latin American History.** (3) Readings in selected topics in Latin American history.

MARINE SCIENCE (MSCI)

MSCI 502 **Analytical and Field Methods in Environmental Chemistry.** (3) Laboratory analysis and field sampling skills needed to conduct measurements of chemical and physical characteristics of water, soils, organisms, and the atmosphere. EPA methods including statistical techniques for quality control and assurance are taught, as well as techniques for computerized data recording, calculation, graphical presentation, and library research. Students are given a background in instrumental theory for all equipment used. Each student is required to give an oral presentation. Three lecture hours per week.

- MSCI 502L Analytical and Field Methods in Environmental Chemistry Laboratory.** (1) Marine Science 502L demonstrates the topics and principles presented in Marine Science 502. Three laboratory hours per week.
- MSCI 545 Coastal Processes.** (3) (Prereq: Mathematics 161, Marine Science 301 or permission of instructor) (Coreq: Marine Science 545L) A comprehensive study of the physical and geological processes controlling the morphology and circulation within estuaries and the coastal ocean. Beach, estuarine and shelf processes are examined in detail as to their importance to coastal management and protection. Focus is on application of standard process models and morphodynamic concepts.
- MSCI 545L Coastal Processes Laboratory.** (1) (Prereq: permission of instructor) (Coreq: Marine Science 545) The laboratory demonstrates the topics and principles presented in lecture.
- MSCI 558 Fisheries Science.** (3) (Prereq: permission of instructor) (Coreq: Marine Science 558L) An introduction to the practices and techniques of fisheries science. Topics include analytical and empirical models, stock assessment, age and growth analysis, mortality, recruitment and yield, production and early life history, harvesting techniques, and detailed study of important fisheries.
- MSCI 558L Fisheries Science Laboratory.** (1) (Prereq: permission of instructor) (Coreq: Marine Science 558) The laboratory demonstrates the topics and principles presented in lecture.
- MSCI 574 Marine Ecosystem Analysis.** (3) (Prereq: permission of instructor) (Coreq: Marine Science 574L) Survey of the theory and techniques of ecosystem analysis. Lecture and laboratory are integrated.
- MSCI 574L Marine Ecosystem Analysis Laboratory.** (1) (Prereq: permission of instructor) (Coreq: Marine Science 574) The laboratory demonstrates the topics and principles presented in lecture.
- MSCI 579 Marine Benthic Ecology.** (3) A comprehensive review of the structure and function of soft bottom marine communities. Taxonomic coverage ranges from microbial members (bacteria and microphytobenthos) to megafauna and demersal fishes. Covered topics include: intertidal communities, roles of predation and competition, cryptic coloration, biodiversity, benthic pelagic coupling, landscape ecology, anthropogenic impacts, and more. Three lecture hours per week. Every other year, Spring.
- MSCI 579L Marine Benthic Ecology Laboratory.** (1) The lab component of the course involves one or more field studies after description and demonstration of some common methods. Every other year, Spring.
- MSCI 599 Directed Research.** (3-6) Structured research project for in-service teachers, conducted with faculty direction and participation. Projects explore marine or related problems using the scientific method.

- MSCI 611** **Marine Science for Elementary Teachers.** (3) An activity-based introduction to the general theories and principles of marine science, covering the biological, chemical, geological, and physical characteristics of the marine environment. In addition to lecture and discussion, the course will emphasize hands-on activities designed to illustrate the principles of marine science to elementary school students.
- MSCI 612** **The Sea: Marine Science for Secondary Teachers.** (3) A lecture-based introduction to oceanography for teachers, including the four basic disciplines of marine science: biological, chemical, geological, and physical oceanography.
- MSCI 612L** **The Sea: Marine Science for Secondary Teachers Lab.** (1) (Prereq or Coreq: Marine Science 612) Optional laboratory exercises to accompany study in Marine Science 612.
- MSCI 666** **Ecosystem Analysis and Lab.** (4) (Prereq: Consent of instructor) The formulation of compartment models of marine and terrestrial ecosystems with complex nutrient cycling, food chains and energy flow. Analog and digital simulation techniques investigating ecosystem stability, sensitivity, organization structure and diversity.
- MSCI 675** **Marine Ecology and Lab.** (4) Principles of organismic environmental interactions in various marine habitats. Emphasis on marshes, estuaries, and coastal waters.

MATHEMATICS (MATH)

- MATH 510** **Algebraic Thinking for Middle School Teachers.** (3) Algebraic expressions, equations and systems of equations, inequalities and systems of inequalities, functions and relations, operations with exponents, problems and applications. Graphing calculators, computer algebra systems, spreadsheets and manipulatives are included.
- MATH 520** **Problem Solving Strategies for Middle School Teachers.** (3) Methods of problem solving required for middle school **students**: diagrams, systematic **lists**, pattern recognition, matrix logic, subproblems, unit analysis, forward-backward methods, recursive relationships, and various ways of organizing information. Spreadsheets and graphing calculators are included.
- MATH 530** **Geometry for Middle School Teachers.** (3) Plane and solid geometry taught from an inductive approach, using manipulatives and technology components such as Geometer's Sketchpad. Deductive reasoning and justification are included.
- MATH 532** **Modern Geometry.** (3) Synthetic and analytic projective geometry, homothetic transformations, Euclidean geometry, non-Euclidean geometries, and topology.
- MATH 542** **Modeling.** (3) (Prereq: Mathematics 130) Introduction of (mostly environmental) examples of modeling; overview of basic function equa-

tions and graphs; exploration of both simple continuous model-fitting and iterated model-building with examples.

- MATH 546** **Algebra.** (3) (Prereq: Mathematics 130) Basic algebra concepts in increasingly complicated contexts. Demonstration of proofs, common inaccuracies and misuse of notation as real-life applications of algebra are addressed.
- MATH 550** **Analysis.** (3) (Prereq: Mathematics 160) Study of the structure of the real number system and the foundations of calculus; an exploration of real numbers and limits more thorough than would be found in a typical undergraduate calculus sequence. Simple demonstrations and calculator exercises replacing long proofs and real-life applications are included.
- MATH 554** **Introduction to Analysis.** (3) The real numbers and least upper bound axiom, sequences and limits of sequences, infinite series, continuity, differentiation, the Riemann integral.
- MATH 574** **Discrete Mathematics I.** (3) Mathematical models, mathematical reasoning, enumeration, induction and recursion, tree structures, networks and graphs, analysis of algorithms.
- MATH 612** **History of Mathematics.** (3) (Prereq: Grade of C or above in Mathematics 161 or the equivalent) Investigation of the history of mathematics from 3000 B.C. to present time.
- MATH 640** **Introduction to Topology.** (3) (Prereq: Mathematics 220 or the equivalent) Set theory, topological spaces, generalized convergence, compactness, metrization, and connectedness.
- MATH 670** **Number Theory.** (3) (Prereq: Grade of C or above in Mathematics 161 or the equivalent) Induction, divisibility theory, primes, congruences, Fermat's Theorem, number theoretic functions, primitive roots and indices, quadratic reciprocity law, perfect numbers, Pythagorean triples, Fibonacci numbers, and continued fractions.
- MATH 674** **Discrete Mathematics II.** (3) A continuation of Mathematics 574. Inversion formulas, Poyla counting, combinatorial designs, minimax theorems, probabilistic methods, Ramsey theory, other topics.
- MATH 675** **Introduction to Graph Theory.** (3) (Prereq: Mathematics 174, 220 or the equivalent) Graphs, paths, cycles, trees, matchings, cuts and flows, colorings, and planarity Hamiltonian Cycles.
- MATH 701** **Foundations of Algebra I.** (3) An introduction to algebraic structures, group theory including subgroups, quotient groups, homomorphisms, isomorphisms, decomposition, introduction to rings and fields.
- MATH 752** **Complex Variables.** (3) Properties of analytic functions, complex integration, calculus of residues, Taylor and Laurent series expansions, conformal mappings.

MUSIC EDUCATION (MUED)

- MUED 520** **Orchestration and Arranging.** (3) An introduction to the instrument and vocal families and basic arranging and compositional concepts for a variety of ensembles. Both classical orchestration and jazz and commercial arranging are covered as well as the practical rearranging required of school and church music directors. Technology Intensive.
- MUED 542** **Foundations of Elementary Music Education.** (3) Principles and practices for teaching music in grades PreK-6. Emphasis is given to planning, teaching and evaluating general music lessons at different levels based on the National Standards for the Arts and to utilizing techniques and materials from a variety of approaches including Kodaly and Orff Pedagogy.
- MUED 543** **Foundations of Secondary Music Education.** (3) Teaching and organization of music classes in middle and senior high school focusing on state and national standards. Emphasis will be given to the areas of general, instrumental, and vocal music. Includes consideration of performance and non-performance classes and implications of the National Standards for the Arts.
- MUED 544** **Principles and Methods of Teaching Music.** (3) (Prereq: Admission to MAT Degree Program) A study of methods, techniques, and materials appropriate to teaching music. A clinical experience in public schools is included.
- MUED 560** **World Music: Cross-Cultural Communication in Contemporary Education.** (3) Study of important musical genres and practices outside the direct influence of Western practice and history. Some of the world's great musical and cultural traditions are experienced through performance, analysis, and discussion of the music within the greater context of the society. Ancillary topics include religion, philosophy, language patterns, cultural history and traditional customs.

PHYSICS (PHYS)

- PHYS 782** **Topics in Contemporary Physical Science for Teachers.** (4) Discussions of subjects including: nuclear energy, black holes, quarks, strange particles, perception of color, integrated circuits, computers, IV games, and other topics of current interest to teachers.
- PHYS 783** **Modern Physics for Teachers.** (3) Basic concepts of modern physics. The experimental basis for quantum theory and the theory of relativity. Fundamental concepts of modern physics.
- PHYS 787** **Design of Physics Laboratory and Demonstration Experiments for Teachers.** (4) Design and performance of qualitative and quantitative demonstrations and experiments to display physical phenomena.

POLITICS (POLI)

POLI 501 **Contemporary Issues in International Relations.** (3)
Intensive study of selected global problems.

POLI 503 **American Political Thought.** (3) Advanced survey of the institutions and processes of the American political system.

POLI 535 **Globalization.** (3) A survey of the various theories and issues surrounding the process of globalization and anti-globalization within the study of international relations. The course will draw on historical, economic, financial, cultural, and political issue areas of globalization in a multitude of world regions.

PSYCHOLOGY (PSYC)

PSYC 501 **Cognitive Processes.** (3) Experimental approaches to cognitive processes, attention, intelligence, cognitive growth, problem solving, and concept information.

PSYC 582 **Advanced General Psychology.** (3) Contemporary trends in approaches and behavior theories.

SECONDARY EDUCATION (SCED)

SCED 631 **Special Topics in Secondary Education.** (3) Specific analysis of crucial issues in the field as they exist and emerge in the future. Provides an opportunity for students to do in-depth study of definitive areas of concern.

SCED 671 **Computers in Science Education.** (3) Use of computer technology in teaching and managing science classes and programs.

SCED 679 **Multicultural Issues in Education.** (3) Effects of cultural diversity in instruction with emphasis on teaching strategies and programs for multicultural student populations.

SCED 701 **Special Topics in Science Education.** (3) Topics will be selected from various science education fields, including trends, methods, and materials of science education. May be repeated; credit up to six hours may be applied toward a degree.

SCED 711 **Special Topics in English Education.** (3) Topics will be selected from various English education fields, including trends, methods, and materials of English education. May be repeated; up to six credit hours may be applied toward a degree.

SCED 726 **Advanced Principles and Practices of Teaching in High School.** (3) A study of historical developments and recent innovations in curricula, resources, and techniques in secondary schools. Students

will be expected to investigate and apply research as it relates to the improvement of instruction.

SCED 728 **Advanced Study of the Teaching of English in Secondary Schools.** (3) A study of historical development and recent innovations in curricula, resources and techniques in the field of teaching English in secondary schools. Students will be expected to investigate research as it relates to the improvement of instruction.

SCED 729 **Advanced Study of the Teaching of History and Social Studies in Secondary Schools.** (3) A study of historical developments and recent innovations in curricula, resources and techniques in the field of teaching history and social studies in secondary schools. Students will be expected to investigate research as it relates to the improvement of instruction.

SCED 732 **Advanced Study of the Teaching of Science in Secondary Schools.** (3) A study of historic developments and recent innovations in curricula, resources, and techniques in the field of teaching science in secondary schools. Students will be expected to investigate research as it relates to the improvement of instruction.

SCED 733 **Special Topics in Social Studies Education.** (3) Topics will be selected from various social studies education fields, including trends, methods, and materials of social studies education. May be repeated; up to six credit hours may be applied toward a degree.

SCED 759 **Teaching Reasoning and Inquiry Skills.** (3) Definition of and methods for teaching reasoning and inquiry skills in various educational settings. Participants develop a plan of instruction based on a study of model programs.

SCED 764 **Advanced Study in Teaching Mathematics in Secondary Schools.** (3) A study of historical developments and recent innovations in curricula, resources, and techniques in the field of teaching mathematics in secondary schools. Students will be expected to investigate research as it relates to the improvement of instruction.

SCED 766 **Special Topics in Mathematics Education.** (3) Topics will be selected from various mathematics education fields, including trends, methods and materials of mathematics education. May be repeated; up to six credit hours may be applied toward a degree.

SCED 770 **Computers in Mathematics Education.** (3) (Prereq: Education 531) Topics in the use of microcomputers in the teaching of mathematics at the middle and secondary school levels.

SCED 773 **Advanced Study of the Teaching of Computer Studies.** (3) (Prereq: Education 531) Recommendations for materials, content, and methods for teaching computer-related subject matter at the middle and high school level. Experience in writing computer programs for educational purposes in Logo, BASIC and Pascal language will be given.

SCED 780 Seminar in Secondary Education. (3) (Prereq: 24 semester hours of credit earned as specified in the master's degree program of study) Students will synthesize their graduate studies for a master's degree in secondary education.

SCED 786 The Teaching of Literature in the Secondary School. (3) Subject content of new literature programs; resources and innovative approaches; problems in organizing literature. Emphasis on specific teaching methodology and the development of materials.

SCED 787 The Teaching of Composition in the Secondary School. (3) New curricula in the teaching of oral and written composition; issues and problems in the composition phase of English programs; innovative teaching techniques and methodology. Development of materials appropriate to the teaching of oral and handwritten composition.

STATISTICS (STAT)

STAT 500 Probability and Statistics for Middle School Teachers. (3) Study of topics in probability and statistics appropriate for middle school teachers.

STAT 601 Conceptual Statistics. (3) Designing experiments, descriptive statistics, probability, concept of chance, models estimation, and testing.

STAT 603 Research Methods. (3) (Prereq: Statistics 201) Nature of surveys, planning and coverage of surveys, basic ideas of sampling experiments and investigations, scaling methods, response errors, and processing data.

Notes