



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, music, natural sciences, and social studies). The Master of Education degree is not intended for students seeking initial teacher certification; teacher certification is required for admission. The Master of Arts in Teaching is offered through the Spadoni College of Education with specializations in art, English, 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. The Master of Business Administration (M.B.A.) with a specialization available in accounting is offered through the E. Craig Wall, Sr. College of Business Administration.

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 and the Office of Graduate Studies, 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 Office of Graduate Studies; 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 Graduate Studies. Prospective students are advised to 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 reasons for earning graduate credit without a degree objective.

Credits earned as a non-degree student may be applied toward degree requirements only upon the approval of the academic unit offering the degree. Students holding non-degree admission are advised to contact the graduate coordinator in the academic area where a particular course is offered as to their eligibility to register for the course. Students admitted in a non-degree classification are not eligible for student financial aid.

Readmission

A student enrolled as a 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 with the approval of the coordinator. 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 is 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 students 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). 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. Students are advised that some academic programs may have more stringent standards and to contact the graduate coordinator in their academic area of interest regarding applicable academic standards. 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.

Students who receive grades below B on 12 credits of degree-required graduate course work at the University within a 6 year period are suspended from degree candidacy status and are not permitted to enroll for further courses even as non-degree students, without the specific written approval by the Office of Graduate Studies. 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 the 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 permission of their advisers and the Dean of the course. Students are advised to seek guidance from the graduate administrator 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. This permission is needed even if the student enters another degree program 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 the average grade. 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 (courses over six years old) must secure permission of the Dean where the course is housed. If the revalidation is to be completed by formal examination, 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 one credit hour 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 M.A.T. program. A student is classified as a full-time student for academic purposes with nine (9) or more hours during a fall or spring term, or 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 twelve (12) hours over a twelve month period. Students in good standing and with extenuating circumstances may apply to the Graduate Coordinator in their area of study for an extension to the 12 month period. Students are advised to contact the graduate coordinator in their program area with respect to any specific requirements in terms of course loads for graduate assistants in that area.

Senior Privilege (Undergraduate Enrollment in Graduate Courses)

Qualified undergraduate students may enroll for graduate course credit in courses numbered 500 through 699. Students who have earned a minimum of 90 credits and are within 30 credit hours of completing the requirements for the bachelor's degree may be permitted to enroll in course for graduate credit. Students are expected to have a minimum grade point average of 3.0 on a 4.0 scale and be adequately prepared for graduate work in the field concerned. Undergraduate students may earn graduate credit provided:

1. Prior to registering, a Non-Degree Seeking Graduate Application is completed with the Office of Graduate Studies;
2. A Senior Privilege Coursework Authorization form is obtained from the Graduate Program Coordinator in the appropriate College;
3. A Registration form for the graduate course, a copy of the student's tran-

- script, and a copy of the student's undergraduate registration for the semester in which the graduate course will be taken are attached to the senior privilege form;
4. Signatures and action taken by the student's adviser, the Department Chair of the student's major, the Dean, and Graduate Program Coordinator are on the senior privilege form;
 5. The academic course load does not exceed 16 credit hours including the proposed graduate course in the semester the graduate course is taken; and
 6. The total number of graduate credits acquired through senior privilege does not exceed 12 credit hours;

Graduate credit earned by undergraduate students through senior privilege is not applied toward the undergraduate degree.

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 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 not 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. The credit must be approved by the graduate administrator and the Dean of the College where the student seeks to have the credit applied. 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 University community. All graduate students, full and part-time, are expected to have their vehicles registered with the appropriate display of the University parking decal. This pertains to the traditional academic year as well as summer study. Regulations regarding automobile registration and parking are distributed by the Department of Public Safety. 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, they may be replaced at a cost of twenty dollars. For information regarding ID cards, contact the Identification Card Office, 349-6435, located in Atheneum Hall.

INTERNATIONAL STUDENTS

Admission

Graduate applicants from countries other than the United States must meet the University's regular admission requirements plus any particular requirements specific to the chosen degree program. All international applicants are expected to:

1. Complete the appropriate application for international admission,
2. Provide evidence of required credentials or degrees, to include original or certified copies of transcripts and/or leaving certificates in English,
3. Submit the required standardized tests results (*See Below), and
4. Provide verification that there is adequate funding for a year of study in the U.S.

*Applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL). Graduate school applicants must score 550 on the paper-based test, 213 on the computer based test, or 79 on the internet-based test. Students should consult their desired program to see if a higher TOEFL minimum score has been established.

Transfer Credit

Credit from foreign colleges/universities is reviewed by the Office of International Programs and Services (OIPS). Students who are interested in receiving international transfer credit must submit detailed credit evaluation reports prepared by organizations such as American Association of College Registrars and Admissions Officers (AACRAO) or World Education Services (WES). International course work will be reviewed by the OIPS for transfer in coordination with the Dean of the student's major and the Dean of each course in review.

Financial Resource Verification and Visas

Upon admission and proper financial resources verification, individuals will be sent a formal letter of acceptance and the appropriate immigration document (I-20 or DS-2019) for use in requesting a student visa. Additional information regarding the visa process may be found at www.unitedstatesvisas.gov. Under no circumstances should students come to Coastal Carolina University without first receiving the formal acceptance letter and appropriate travel documents. Individuals already in the U.S. who are out of status with the Immigration and Naturalization Service will not be permitted official registration.

Health Insurance

International students attending Coastal on student visas are required to purchase the University insurance plan or show proof of a comparable plan acceptable to University personnel responsible for issuing visa-related documents.

GRADUATE PROGRAMS

E. CRAIG WALL, SR. COLLEGE OF BUSINESS ADMINISTRATION

MASTER OF BUSINESS ADMINISTRATION (MBA)

Purpose of the Program

The Master of Business Administration (MBA) degree provides students with the opportunity to continue their study of business administration at the graduate level. The purpose of the MBA is three-fold: to prepare graduates for significant careers in a broad spectrum of business activities; to answer local demand for such a program; and to provide accounting students with the preparation needed to pursue the CPA designation.

Objectives

1. To prepare students for a changing domestic and global business environment characterized by organizational and cultural values, diversity, opportunity, and growth.
2. To involve students in an intense learning experience that emphasizes conceptual reasoning by using student-centered learning, flexible class design, and technology for learning and research.
3. To provide a continuously improving learning environment characterized by faculty interaction with students and based on collegiality, integrity, service, respect for others and the world, and the pursuit of knowledge.
4. To ensure that students command core knowledge across business disciplines.
5. To ensure that students understand the current boundaries of business knowledge and possess the skills to apply and build upon that knowledge, thereby preparing them for lifelong learning.
6. ACCOUNTING EMPHASIS: To fulfill the requirements of CPA candidacy and to ensure that students are able to demonstrate the ability to analyze and question claims, mastery of accounting models and theories, and the ability to apply their knowledge to solve concrete problems.

Master of Business Administration (MBA) Requirements

Applicants for regular admission to the Master of Business Administration must meet the following criteria:

1. Completion of an application form and payment of the application fee.
2. Submission of an official undergraduate transcript from each post-secondary school or college previously attended, including any graduate study previously undertaken.
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.
4. Completion of the Graduate Management Admissions Test [GMAT] within the last five years with a score of at least 500. International students whose native language is not English must also submit scores on the Test of English as a Foreign Language [TOEFL] of at least 575.
5. Submission of two letters of recommendation from individuals familiar with the academic ability, level of responsibility, and work ethic of the candidate.
6. Completion of prerequisites with an average grade of B or better during the last five years. Prerequisites required for admission are:

Financial and Managerial Accounting	6 hours
Macro and Micro Economics	6 hours
Finance	3 hours
Statistics	3 hours
Marketing	3 hours
Management	3 hours

Significant work experience providing evidence of professional competence may be considered. Candidates for admission to the MBA who demonstrate competence in prerequisite areas should consult the MBA director.

Admission decisions are made when all evidence of the candidate's ability to succeed in graduate studies has been submitted. The decision is based on the following formula:

$$(\text{GPA} \times 200) + \text{GMAT score} = 1050 \text{ or more}$$

Provisional Admission

Applicants may receive provisional admission to the MBA if they do not meet the stated admission requirements. The decision to offer provisional admittance to the program is made by the MBA director. Students who are provisionally admitted are limited to 12 hours of course work. Upon satisfactory completion of this coursework with a B or better in each course, provisional status may be lifted.

Degree Requirements

The Master of Business Administration requires:

1. Successful completion of an approved program of study with a minimum of 36 graduate hours;
2. A minimum grade point average of 3.0 (B) on all course work;
3. A maximum of 6 credit hours may be completed below the grade of B before dismissal from the program;

4. Completion of all requirements for the degree during a six-year period; and
5. A record of professional performance and integrity during all phases of the program of study.

Non-Degree Students

Students classified as non-degree graduate students may take no more than 6 credit hours of graduate study in MBA-related coursework. Non-degree student registrations must be approved by the MBA Director.

Transfer Credits

With the MBA Director's approval, a maximum of 6 transfer credit hours may be applied to a student's program of study; all transfer course work must have been completed with a minimum grade of B.

Required Courses (36 Credits)

The MBA degree at Coastal Carolina University requires 36 graduate credit hours for completion.

I. CORE CURRICULUM (12 Credits)	Credits
Business Administration 630	3
Business Administration 631	3
Business Administration 700	3
Economics 720	3
II. REQUIRED COURSES (15 Credits)	
Business Administration 725/Computer Science 725	3
Business Administration 750	3
Business Administration 760	3
Business Administration 774	3
Business Administration 778	3
III. SELECTIVES (3 Credits)	Credits
(Choose One)	3
Business Administration 665	
Business Administration 772	
Business Administration 773	
IV. RESEARCH COMPONENTS (6 Credits)	
Business Administration 691	3
Business Administration 798	3

ACCOUNTING CONCENTRATION

In addition to satisfying the admissions requirements previously listed, students wishing to pursue the MBA with an accounting concentration must present evidence of successful completion of the baccalaureate degree and, at a minimum, 15 hours in business and 21 hours in accounting, to include the study of financial accounting, managerial or cost accounting, business law, accounting information systems, and taxation.

Required courses for the accounting concentration include 36 credit hours as follows:

I. General MBA Requirements (18 Credits)	Credits
Business Administration 691	3
Business Administration 700	3
Business Administration 760	3
Business Administration 778	3
Business Administration 798	3
Economics 720	3
II. MBA Selective (3 Credits)	
(Choose One)	3
Business Administration 725/Computer Science 725	
Business Administration 750	
Business Administration 772	
Business Administration 773	
Business Administration 774	
III. Accounting Requirements (12 Credits)	
Business Administration 533	3
Business Administration 535	3
Business Administration 537	3
Business Administration 639	3
IV. Accounting Selective (3 Credits)	
(Choose One)	3
Business Administration 632	
Business Administration 636	
Business Administration 631	
Business Administration 665	

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 conceptual underpinning of all graduate programs in the Spadoni College of Education 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. offers degree candidates opportunities to develop skills and abilities based upon five performance dimensions of competence expected of all initial licensure candidates and documented in a required electronic portfolio. The five dimensions are:

- I. Content and Pedagogical Knowledge
- II. Technology
- III. Diversity
- IV. Ethical Professional Behavior and Dispositions
- V. Reflective Practice

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 the content area of specialization (Secondary)

Admission to Study

Applications for graduate study are to be directed to the Office of Graduate Studies 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 Graduate Studies.

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 admission requirements have been met.

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. Official transcripts reflecting an undergraduate Grade Point Average (GPA) of 3.0 (overall), OR, report of minimum scores on the Graduate Record Examination (GRE) (minimum score of 800 with no less than 400 in both the verbal and quantitative portions), OR, report of a minimum score (35) on the Miller Analogies Test (MAT). Scores must be no more than five years old.
4. Evidence of teacher certification at the grade level or in the subject area of the degree sought.

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 600 or above.
2. Successful completion of a capstone project, presentation of an electronic portfolio and evidence of mastery of the competency standards covering the area of study.
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. No more than twelve hours of study may be taken/applied to meet program requirements prior to full admission to the program.

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 (15 Credit Hours)

EDUC 606 Educational Theory to Increase Achievement.....	3
EDUC 607 Research and Assessment in Today's Schools	3
EDUC 625 Student Motivation and Management	3
EDUC 685 Strategies for Serving Diverse Learners.....	3
EDUC 692 Advanced Topics in Special Education	3

Early Childhood Core (12 Credit Hours)

EDEC 601 Emergent Literacy	3
EDEC 640 Trends and Issues in Early Childhood Education.....	3
EDEC 642 Advanced Study of Early Childhood Curriculum and Program Models	3
EDEC 681 Early Childhood Partnerships.....	3

Specialization/Electives (6 Credit Hours)

Study in Special Education, ESOL, Literacy, or other area	6
approved by the student's adviser	

Capstone (3 Credit Hours)

EDUC 680 Capstone Experience.....	3
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MASTER OF EDUCATION/Elementary Education

36 Graduate Credit Hours

Basic Studies (15 Credit Hours)

EDUC 606 Educational Theory to Increase Achievement.....	3
EDUC 607 Research and Assessment in Today's Schools	3
EDUC 625 Student Motivation and Management	3
EDUC 685 Strategies for Serving Diverse Learners.....	3
EDUC 692 Advanced Topics in Special Education	3

Elementary Core (12 Credit Hours)

EDEL 602 Developing Early Literacy	3
EDEL 615 Advanced Study of Elementary Curriculum and Program Models	3
EDEL 687 Differentiating Instruction in the Elementary Classroom.....	3
EDEL 695 Special Education for Teachers in Elementary Education.....	3

Specialization/Electives (6 Credit Hours)

Study in Literacy, Science, Mathematics, Social Studies or other area	
approved by the student's adviser	6

Capstone (3 Credit Hours)

EDUC 680 Capstone Experience.....	3
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MASTER OF EDUCATION/Secondary Education

**With specializations in English, Mathematics,
Music, Science and Social Studies**

36 Graduate Credit Hours

Basic Studies (15 Credit Hours)

EDUC 606	Educational Theory to Increase Achievement.....	3
EDUC 607	Research and Assessment in Today's Schools	3
EDUC 625	Student Motivation and Management	3
EDUC 685	Strategies for Serving Diverse Learners.....	3
EDUC 692	Advanced Topics in Special Education	3

Secondary Core (9 Credit Hours)

EDSC 618	Content Literacy	3
EDSC 650	Advanced Secondary Instructional Methods and Strategies.....	3
EDSC 675	Advanced Study of Secondary Curriculum and Program Models.....	3

Specialization (9 Credit Hours)

	Study in the content area as approved by the student's adviser	9
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Capstone (3 Credit Hours)

EDUC 680	Capstone Experience	3
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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, science and social studies, leading to certification in grades 9-12, and in art and music, 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 two courses of the M.A.T. program prior to receiving a bachelors degree.

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 prior to entry into the Internship semester (Spring of each year). Students will not be placed in the Internship experience until a passing score on the PRAXIS II exam has been verified by 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 reflecting an undergraduate GPA of 2.5 (overall) and 2.75 (content area), OR, report of minimum scores on the Graduate Record Examination (GRE) (minimum score of 800 with no less than 400 in both the verbal and quantitative portions), OR, report of a minimum score (35) on the Miller Analogies Test (MAT). Scores must be no more than five years old.
- Provide two letters of recommendation (on forms provided) supporting the candidate's academic qualifications.

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 M.A.T. Graduate Admissions Committee.

Portal III. Admission to Internship.

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 course work 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 M.A.T. Graduate Admissions Committee.
- Submit passing score on Principles of Learning and Teaching (P.L.T.).

Post-Graduation

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

MASTER OF ARTS IN TEACHING

**With specializations in Secondary English, Mathematics,
Science, and Social Studies and PreK-12 in Art and Music**

39-45 Graduate Credit Hours

Core Courses (12 to 18 Graduate Hours)

EDSC 415 or EDSC 515 Teaching in Diverse Classroom Settings	3
EDSC 475 or EDSC 575 Learners and the Learning Process	3
EDSC 500 Assessment and Action Research.....	3
EDSC 518 Addressing Literacy in the Content Area.....	3
EDSC 525 Managing the Classroom	3
EDSC 546 Foundations of Secondary Education	3

Teaching Specialization (15 Graduate Hours)

One methodology course in the content area of specialization.....	3
EDSC 547 Principles and Methods of Teaching English	
EDSC 549 Principles and Methods of Teaching Social Studies	
EDSC 550 Principles and Methods of Teaching Art	
EDSC 551 Principles and Methods of Teaching Music	
EDSC 552 Principles and Methods of Teaching Mathematics	
EDSC 553 Principles and Methods of Teaching Science	
EDSC 590 Internship	9
EDSC 580 Internship Seminar.....	3

Content Preparation (12 Credit Hours)

Graduate content coursework as approved by the adviser	12
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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 Graduate Studies at the University.

Admission Requirements

Regular admission to the Master of Science in Coastal Marine and Wetland Studies is met by satisfactorily meeting the following 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.
7. Submission of a resume.

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, within the first two academic semesters (either fall, spring, or spring, fall):

- a. earn a B or better in two core courses;
- b. maintain a 3.0 GPA in all graduate courses taken;
- 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 Candidacy

Admission to the graduate program in Coastal Marine and Wetland Studies does not signify 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 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 of the College of Natural and Applied Sciences. 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. 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 be allowed another examination not later than one semester after the unsuccessful attempt.

Degree Requirements

The Master of 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. Admission to Candidacy;
3. A minimum grade point average of 3.0 (B) on all course work;
4. Completion, presentation, and successful defense of the graduate thesis; and
5. 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 Master of Science in Coastal Marine and Wetland Studies requires the successful completion of an approved program of study with a minimum of 30 graduate credit hours including the successful preparation and defense of a thesis based on the student's original research. Within the approved program are three core classes, three seminar classes, and the required thesis research. The three core classes prepare students to deal with complex multidisciplinary scientific interrelationships that apply to coastal areas.

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



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 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 accord-

ing to suffix. Examples of topics include Photographic Techniques for Art Education, Pre K-12 Painting Methods, and Handbuilt Ceramics for Pre 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. (3) (Coreq: Biology 571L) Selected ecology topics emphasizing research literature. Three lecture credits and three laboratory hours per week.

BIOL 571L Principles of Ecology Lab. (1) (Coreq: Biology 571) Exercises to accompany Biology 571.

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 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 598 Special Topics in Biology. (1-4) In depth investigation of specific topics and scientific methods not generally available in the curriculum. May be repeated for credit under different topics.

BIOL 600 Advanced Placement Biology. (4) Course designed for high school biology teachers who are preparing to teach AP Biology. The course will review the format, schedule, and expectations of the AP course and AP exam. Students will familiarize themselves with required AP labs and build the conceptual framework.

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) (Coreq: Biology 778L) 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.

BIOL 778L Wetland Ecology for Teacher Laboratory. (1) (Coreq: Biology 778) Laboratory and field experiences emphasizing the topics covered in Biology 778.

BIOL 780 Topics in Molecular Biology. (3) (Coreq: BIOL 780L) The study of modern molecular biological methods emphasizing the methods and applications of recombinant DNA techniques. Selected topics will include DNA sequencing, gene cloning, the polymerase chain reaction and the disruption of genes in microorganisms.

BIOL 780L Topics in Molecular Biology Laboratory. (1) (Coreq: BIOL 780) A laboratory course to introduce commonly used molecular biology and recombinant DNA methods and their applications in biomedical research, agriculture and forensic science.

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 566** **Advanced Security Analysis.** (3) (Prereq: CBAD363) Principles of value investing as developed by Benjamin Graham and refined by Warren Buffett; application of value investing theory to the complete equity analysis of the firm and valuation of common stocks; required research component.
- CBAD 630** **Financial and Managerial Accounting.** (3) Study of managerial and financial accounting, with emphasis on the preparation and use of budgets, business plans, the accounting cycle, and financial statement analysis in the service sector. Online research into important accounting topics and presentation of findings is required.
- CBAD 631** **Fraud Examination.** (3) Study of the principles and methodology of fraud detection and deterrence. The course includes such topics as asset misappropriation schemes (e.g., skimming, cash larceny, check tampering, etc.), corruption, fraudulent financial reporting, internal control, and deterrence.
- CBAD 632** **Advanced Managerial Accounting.** (3) The process of using accounting information for long- and short-term decision making is addressed. The course presents advanced concepts helpful for understanding internal accounting as a tool to generate information for strategic managerial planning and control. It surveys fundamental managerial accounting, develops an operational understanding of elementary cost systems, capital and operating budgeting concepts, incremental analysis, transfer pricing, performance evaluation, and quantitative techniques for assisting managers in the planning and control functions.
- CBAD 636** **Advanced Accounting Information Systems.** (3) Study of database design theory and principles unique to accounting information systems. Students create and design accounting information systems using sound database design theory and mid-level accounting software.
- CBAD 639** **Advanced Topics in Taxation.** (3) Tax planning in the business environment. Students prepare cases and research briefs using an online tax service and other sources. Topics include planning for business organization and sale or liquidation, distributions, mergers and acquisitions, employee compensation and retirement plans, and the gift and estate tax. Alternatives to the income tax are considered.
- CBAD 665** **Financial Statement Analysis.** (3) An advanced case course which includes an in-depth study into the analysis of the profitability and viability of a commercial enterprise. Primary focus is given to the analysis of a firm's accounting practices and financial statements from the framework of overall business analysis. The case method is utilized.

- CBAD 691** **Applied Research Methods.** (3) Building on students' knowledge of statistics and elementary data analysis, the course focuses on definition of the research problem, sampling and data collection, entry and storage of data, application of appropriate analysis techniques to test assumptions and hypotheses, and reporting and interpretation of results.
- CBAD 697** **Graduate Internship in Business.** (3) (Prereq: Permission of M.B.A. Director) Supervised work experience involving a research component and responsibilities commensurate with graduate level work. A maximum of 15 hours per week for 12-14 weeks; a research project is required. Open to M.B.A. students who have demonstrated professionalism.
- CBAD 700** **Corporate Responsibility.** (3) An interdisciplinary examination of the role of the corporation in the United States and the world over the long term. The relationship between the corporation and its constituencies is considered in the context of ethics, economics, and politics. Case studies and formal debates required.
- CBAD 725** **Database Management and E-commerce.** (3) (=Computer Science 725) Structure and function of E-commerce database systems; design options and implementation of database management systems in E-commerce; hands-on laboratory practice and term project includes use of a widely used database software application to deliver E-commerce applications on the Internet; case readings including implications of database technologies to E-commerce.
- CBAD 750** **Service Marketing Management.** (3) Analysis of marketing problems of business firms and other types of organizations through readings and case studies. Attention focuses on the influence of the marketplace and the marketing environment on marketing decision making; the determination of the organization's products, prices, channels, and communication strategies; and the organization's system for planning and controlling its marketing effort. Special attention is focused on the marketing of services.
- CBAD 760** **Financial Management.** (3) An advanced case course focusing on financial theory and techniques for the analysis and solution of financial problems dealing with valuation theory and investment, financing, and dividend decisions of the firm.
- CBAD 772** **Service Management.** (3) An understanding of the important marketing and operational characteristics of service businesses. These include service process design, quality management and control, facility design, capacity management, human resource selection and training, technologies in services, and defining the exchange process in terms of marketing parameters of product, price, place, and promotion.
- CBAD 773** **Project Management.** (3) The purpose of this course is to explore the project management environment in business and technology today.

Students will acquire new software skills and the methodology on how to successfully manage a project. The goal is to provide the student with a framework to understand the current issues and challenges of the project management environment today as it applies to industry, software development, or service management.

CBAD 774 Human Behavior in Business. (3) An overview of worker and consumer behavior in a discussion format. Emphases are on (1) the dynamic interactions of people working in organizations, (2) application of various managerial concepts, models, theories, and tools for identifying, diagnosing, and solving organizational problems, (3) social and psychological influences on buyer behavior, and (4) application of consumer behavior models to marketing decision making processes. Topics include theories of individual and group behavior, motivation, leadership, and ethical decision making.

CBAD 778 Strategic and International Issues in Management. (3) Seminar in strategic management designed to integrate business functions and examine issues that develop in the relationship between organizations and their changing environments, both global and domestic. The course concentrates on modern analytical approaches and on applying successful strategic practices in a team-based, asynchronous, diverse learning environment.

CBAD 798 Research Project. (3) An applied research project in the student's discipline or area of special interest. Requires presentation of research results orally and in writing.

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 605 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-relationships between geological, physical, biological and chemical processes affecting wetlands and coastal zone ecosystems. Emphasis is placed on understanding the relationships between processes and features within the terrestrial, estuarine and near shore 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 201 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 615 Advanced Experimental Designs and Analyses.** (3) (Prereq: CMWS 610) An advanced graduate course in the design and statistical analyses of experiments building on materials covered in CMWS 610 and focusing on categorical data, use of null models and simulation, Bayesian approaches, meta-analyses and additional analytical techniques.
- CMWS 630 Aquatic Physiological Ecology.** (3) Physiological and biochemical mechanisms of adaptation to aquatic environments. Topics include principles of physiological measurement, bioenergetics, and the effects of temperature, salinity, oxygen, light, turbidity, pressure and nutrients. The class will include lectures, discussions, and demonstrations.
- 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 670 Watershed Science and Management.** (3) An interdisciplinary survey of watershed science, covering essentials of hydrology, geology, biogeochemistry, ecosystem structure and function, watershed modeling, and ecological economics. Current trends in watershed management are covered from the perspective of the USEPA's Watershed Approach which relies on development and implementation of watershed management plans. Other tools for watershed protection will be addressed, such as the Clean Water Act, storm water best management practices, Better Site Design, habitat conservation, and public outreach strategies.
- 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.

COMPUTER SCIENCE (CSCI)

- CSCI 725 Database Management and E-commerce** (3) (=Business Administration 725) Structure and function of E-commerce database systems; design options and implementation of database management systems in E-commerce; hands-on laboratory practice and term project includes use of a widely used database software application to deliver E-commerce applications on the Internet; case readings including implications of database technologies to E-commerce.

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.

ECON 720 Economic Strategy. (3) Applications of economic theory, techniques, and tools of analysis to decision-making at the firm/organization level. The course is designed to develop students' understanding of how to efficiently achieve the goals of the firm and their ability to recognize how economic forces affect the organization.

EDUCATION - EARLY CHILDHOOD (EDEC)

EDEC 601 Emergent Literacy. (3) Course designed to explore the thought, writings, and research in the area of language development and emergent literacy, as well as the theoretical foundations of constructivist approaches to early childhood education.

EDEC 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.

EDEC 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.

EDEC 632 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.

EDEC 633 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.

EDEC 640 Trends and Issues in Early Childhood Education. (3) Study of the trends and issues that characterize early childhood education today. The course is designed to create an awareness of the directions the field is taking, the myriad problems early childhood education faces and how these problems may be resolved.

EDEC 641 Integrated Early Childhood Curriculum. (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.

EDEC 642 Advanced Study of Early Childhood Curricula and Program Models. (3) Historical traditions and contemporary programs and curriculum models are analyzed with an emphasis on dominant practices, methodologies, current research that influences curriculum

development in programs serving young children and implications for today's classrooms.

EDEC 643 **Integrated Early Childhood Curriculum II.** (3) Integration of areas within the curriculum emphasizing language arts, reading, and fine arts. Learning activities, materials, equipment, multicultural influences, and needs of exceptional children are addressed.

EDEC 644 **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.

EDEC 646 **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.

EDEC 650 **Play Theory and Early Learning.** (3) Theory, research, and practice related to the play of young children in various settings.

EDEC 694 **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.

EDEC 697 **Seminar in Early Childhood Education.** (3) (Prereq: Education 531, 606, 607, 649, Education/Early Childhood 632, 642, with grade of C or better) Students will synthesize their graduate studies for a master's degree in early childhood education.

EDUCATION - ELEMENTARY (EDEL)

EDEL 602 **Developing Early Literacy.** (3) Application of child development and language acquisition knowledge in making effective and appropriate decisions about early childhood and literacy practices for both emergent and early literacy learners.

EDEL 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.

EDEL 610 **Social Studies in the Elementary School.** (3) Selection, classification, and organization of materials in the field of social studies in the elementary school.

- EDEL 611 Teaching Writing in Elementary and Middle School.** (3) Writing instruction in relation to the developmental characteristics of children through preadolescence.
- EDEL 613 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.
- EDEL 615 Advanced Study of Elementary Curriculum and Program Models.** (3) Critical study of the modern elementary school curriculum.
- EDEL 617 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.
- EDEL 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.
- EDEL 640 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.
- EDEL 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.
- EDEL 658 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.
- EDEL 670 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.
- EDEL 687 Differentiated Instruction in the Elementary Classroom.** (3) Study of developing appropriate, differentiated instructional strategies that will help elementary teachers more effectively engage all students in optimal learning experiences.
- EDEL 695 Special Education for Teachers in Elementary Education.** (3) Addresses current issues and needs in instructional programming for students with high incidence disabilities (learning disabilities, emo-

tional/behavioral disorders, and mental retardation) at the elementary level. Emphasizes methods for the development and acceleration of basic academic skills.

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 515** **Teaching in Diverse Classroom Settings.** (3) (Prereq: Admission to MAT Degree Program) 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 525** **Managing the Classroom.** (3) (Prereq: Permission of instructor) Study of effective principles and techniques of management of 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 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 600** **Foundations of Reading Instruction.** (3) Reading and its curriculum implications: grades K-12 and adults. Current trends and issues.
- EDUC 606** **Educational Theory to Increase Achievement.** (3) Presentation and application of theories and principles of human learning, cognition, and individual differences to the classroom. Participants will develop and use tools to determine the individual needs of learners and will explore the appropriate use of such tools to increase student achievement.
- EDUC 607** **Research and Assessment in Today's Schools.** (3) Study of the development of accurate and reliable assessment instruments for evaluating student achievement. The course also focuses on how teachers can conduct educational research that will positively impact instruction.
- EDUC 610** **Integrated Reading and Writing Instruction.** (3) Theoretical bases and techniques for teaching reading and writing using multiple subject areas.

- EDUC 620 *The Middle School Curriculum.*** (3) (Prereq: Permission of the Instructor) 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 625 *Student Motivation and Management.*** (3) Study of effective principles and techniques of motivation and management in classrooms today. Attention is given to theories and strategies of the management of students as well as classroom organization and the relationship between motivation and management.
- EDUC 631 *Special Topics.*** (3-6) Topics selected allow for specialized study of timely topics related to the field of education.
- EDUC 649 *The School and Modern Society.*** (3) (Prereq: Permission of the Instructor) Basic concepts of the relation of the school to the social order; an analysis of the essential features of 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 655 *Teaching Environmental Education.*** (3 or 6) Rationale and strategies for teaching environmental education.
- EDUC 680 *Capstone Experience.*** (3) Study that focuses on the preparation of an action research project, paper and presentation that addresses a real problem found in the classroom/job assignment of the degree candidate and that applies the knowledge and skills gained in the degree program. A portfolio presentation documenting proficiency in designated national and college standards is also included.
- EDUC 685 *Strategies for Serving Diverse Learners.*** (3) Course designed to assist teachers in exploring issues in multicultural and special education to recognize how such factors as socioeconomic status, racial and ethnic backgrounds, gender, language proficiency, and disabilities may affect a child's performance. Teachers will study ways of making classrooms, curricula, and instructional strategies suitable for a diverse student population.
- EDUC 692 *Advanced Topics in Special Education.*** (3) Presentation of an overview of exceptionalities of children and youth, as well as curricular and instructional modifications or accommodations that may be needed to meet their needs in the general education classroom. Philosophical and historical foundations of special education, current trends and issues in service delivery, federal and state law, court cases and regulations for special education programs are addressed.

EDUCATION - SECONDARY (EDSC)

- EDSC 500** **Assessment and Action Research.** (3) An introduction to assessment at the secondary level. Students design, apply, and interpret the results of measurements. Test formats, the correlation of test items with learning objectives and the interpretation of teacher-made and standardized test results are addressed.
- EDSC 518** **Addressing Literacy in the Content Area.** (3) (Prereq: Admission to MAT Degree Program) 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.
- EDSC 546** **Foundations of Secondary Education.** (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.
- EDSC 547** **Principles and Methods of Teaching English.** (3) (Prereq: Admission to MAT Degree Program) A study of methods, techniques and materials appropriate to teaching English. A clinical experience in public schools is included.
- EDSC 548** **Principles and Methods of Teaching Foreign Language.** (3) (Prereq: Admission to MAT Degree Program) Study of methods, techniques, and materials appropriate to teaching Foreign Language. The student is expected to plan, implement, and evaluate specific lessons using various resources and techniques. A clinical experience in public schools is included.
- EDSC 549** **Principles and Methods of Teaching Social Studies.** (3) (Prereq: Admission to MAT Degree Program) Study of methods, techniques, and materials appropriate to teaching Social Studies. A clinical experience in public schools is included.
- EDSC 550** **Principles and Methods of 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.
- EDSC 551** **Principles and Methods of Teaching Music.** (3) An overview of the total music program in a variety of school settings to include the development of artistry in musicianship, pedagogy

- EDSC 552** **Principles and Methods of Teaching Mathematics.** (3) (Prereq: Admission to MAT Degree Program) Study of methods, techniques, and materials appropriate to teaching mathematics. A clinical experience in public schools is included.
- EDSC 553** **Principles and Methods of Teaching Science.** (3) (Prereq: Admission to MAT Degree Program) Study of methods, techniques, and materials appropriate to teaching science. A clinical experience in public schools is included.
- EDSC 575** **Human Development and Learning Processes.** (3) (Coreq: Education 515, Education 625, permission of instructor) 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.
- EDSC 580** **Internship Seminar.** (3) (Prereq: Admission to MAT Degree Program) (Coreq: Education Secondary 590) 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.
- EDSC 590** **Internship.** (9) (Prereq: Admission to MAT Degree Program) (Coreq: Education Secondary 580) Supervised teaching experience. Interns will be assigned to field placements for a period of no fewer than 70 instructional days.
- EDSC 601** **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.
- EDSC 611** **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.
- EDSC 618** **Content Literacy.** (3) Course designed to assist teachers in developing methods and materials that will improve their students' literacy skills. After gaining a sound theoretical knowledge of the reading and writing processes and the basic tenets of the media literacy movement, teachers will apply what they've learned to their own disciplines, creating strategies that will support students in reading, writing, and working with media in the context of content area instruction.
- EDSC 626** **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.

- EDSC 628** **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.
- EDSC 629** **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.
- EDSC 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.
- EDSC 632** **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.
- EDSC 633** **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.
- EDSC 650** **Advanced Secondary Instructional Methods and Strategies.** (3) Advanced study of instructional strategies and best teaching practices applicable to teaching in secondary schools. Instructional planning, delivery and assessment are included.
- EDSC 659** **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.
- EDSC 664** **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.
- EDSC 666** **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.

- EDSC 670** **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.
- EDSC 671** **Computers in Science Education.** (3) Use of computer technology in teaching and managing science classes and programs.
- EDSC 673** **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.
- EDSC 675** **Advanced Study of Secondary Curriculum and Program Models.** (3) Study of effective principles of secondary 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, program models and implementing standards-based curriculum instruction and assessment.
- EDSC 679** **Multicultural Issues in Education.** (3) Effects of cultural diversity in instruction with emphasis on teaching strategies and programs for multicultural student populations.
- EDSC 680** **Seminar in Secondary Education.** (3) (Prereqs: Education 531, 606, 607, 649, Education Secondary 675 with grade of C or better) Student's will synthesize their graduate studies for a master's degree in secondary education.
- EDSC 686** **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.
- EDSC 687** **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.

ENGLISH (ENGL)

- ENGL 685** **Adolescent Literature.** (3) Course designed to introduce the various issues which have encouraged the proliferation of modern critical views within the field and to enable students to use theory effectively across a wide range of texts in the classroom.
- 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.

GEOLOGY (GEOL)

- GEOL 516** **Hydrogeology.** (3) (=Marine Science 516) (Permission of instructor) Study of the elements of the hydrologic cycle, emphasizing ground and surface water movement through the hydrologic system. Topics include hydrologic modeling, hydrogeology, streams and floods, estuarine and wetland hydrologic system. Oral presentations on recent and pertinent literature required.
- GEOL 516L** **Hydrogeology Lab.** (1) (=Marine Science 516L) (Permission of instructor) The laboratory demonstrates the topics and principles presented in lecture. Students will be required to conduct and present a research project during the semester based on field work or extensive literature analysis. Three laboratory hours per week.

HISTORY (HIST)

- HIST 501** **World History for Secondary Instruction.** (3) Overview of current World History curriculum and pedagogy for secondary school instruction.
- HIST 502** **World History for Middle School Instructors.** (3) Study of the emergence of humans up to the Agricultural Revolution and an examination in greater depth of the developments in human history from 1600 to 2001 (from the emergence of modernity to the post-9/11 world). Instruction will be selective and topical, emphasizing the origin and development of the great world civilizations, the philosophical

heritages of Europe and Asia, the artistic and literary expressions that defined modernity, and the impact of global exploration, trade, conquest, and colonization.

HIST 505 United States Survey History for Secondary School Instructors. (3) An overview of United States history from prehistory to the present. Course designed for those who anticipate teaching at the college preparatory level.

HIST 528 Renaissance and Reformation Europe. (3) An examination of the most recent scholarly literature on Renaissance and Reformation Europe (c. 1300-1648). Emphasis is on how the Renaissance and Reformation contributed to the development of the modern world, particularly with regard to such concepts as individualism, capitalism, nationalism, and the scientific revolution.

HIST 592/593/594 Special Topics in History. (3) In depth readings and research selected in historical subjects; themes and/or methods not currently or regularly available in the graduate history curriculum. May be repeated for credit under different topics.

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 510** **Earth Systems Science.** (3) Earth systems science is the interdisciplinary study of the interaction between the earth's biosphere, atmosphere, hydrosphere, and geosphere. Lecture, lab, and discussion topics include origin of the solar system and earth, Earth's interior and plate tectonics, climate, oceans, geological resources, ecosystems, and a major focus on global environmental change and sustainability.
- MSCI 510L** **Earth Systems Science Lab.** (1) Laboratory course designed to accompany study in Marine Science 510.
- MSCI 516** **Hydrogeology.** (3) (=Geology 516) (Permission of instructor) Study of the elements of the hydrologic cycle, emphasizing ground and surface water movement through the hydrologic system. Topics include hydrologic modeling, hydrogeology, streams and floods, estuarine and wetland hydrology, properties of water, and the hydrologic continuum between rivers and the sea. Lecture will focus on theoretical aspects of water movement and the hydrologic system. Oral presentations on recent and pertinent literature required.
- MSCI 516L** **Hydrogeology Lab.** (1) (=Geology 516L) (Permission of instructor) The laboratory demonstrates the topics and principles presented in lecture. Students will be required to conduct and present a research project during the semester based on field work or extensive literature analysis. 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 572** **Population Biology of Marine Organisms.** (3) Study of the advanced principles of population biology as related to marine organisms emphasizing theoretical and applied aspects of natural population dynamics and regulation and development of skills for modeling and managing coastal marine populations. Specific topics covered include

concepts of linear and nonlinear dynamics, demography, life history evolution, density dependence, population interaction models, individual based models, and larval ecology.

MSCI 573 **Biology of Sharks** (3) Prereq: permission of instructor) (Coreq: MSCI 573L) An introduction to the biology of sharks. Lecture component covers evolution, anatomy, behavior, natural history, physiology, conservation, and ecology. Classes will be held on campus and/or in the Bahamas.

MSCI 573L **Biology of Sharks Laboratory** (1) (Coreq: MSCI 573) Topics will include taxonomy, diversity, anatomy, physiology, capture and identification; telemetry tracking; and observation of shark behavior in both their natural habitat and captivity.

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 576 **Marine Plankton.** (3) (Coreq: Marine Science 576L) Study of the structure and function of planktonic communities. The role of phytoplankton, zooplankton and bacteria are examined in detail. Concepts such as mineral cycling, energy flow, predatory/prey relationships, trophic interactions as well as spatial and temporal dynamics are investigated in lecture, discussion, and an integrated laboratory setting. A review paper on a selected topic will be assigned. Offered every other year in spring.

MSCI 576L **Marine Plankton Laboratory.** (1) (Coreq: Marine Science 576) The laboratory will demonstrate the topics and principles presented in lecture. The laboratory consists of a field or laboratory study dealing with planktonic processes in estuarine or marine environments and may require weekend commitments. Students will be responsible for selecting and moderating the discussion of a series of research papers associated with the research topic of the semester. Offered every other year in spring.

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 equations 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, homo-

morphisms, 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 Pre K-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 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.

MUED 561 **Brass Methods.** (3) A course emphasizing development of student performance skills on trumpet, trombone, French horn, and tuba. Embouchure formation, breath support, articulation, tone production, and standard and alternate fingerings are practiced in all registers. Students perform scales, elementary solos, and selections from elementary method books.

MUED 562 **Woodwind Methods.** (3) A course emphasizing development of student performance skills on clarinet, saxophone, bassoon, oboe, and flute. Embouchure formation, breath support, articulation, tone production, and standard and alternate fingerings are practiced in all registers. Students perform scales, elementary solos and selections from elementary method books.

MUED 661 Percussion Methods. (3) Study of snare drums rhythm and techniques common to most percussion instruments. Major topics covered include mallet instruments, rudiments, concert and marching percussion techniques. Students perform elementary solos and selections from elementary method books.

MUED 662 String Methods. (3) Study of violin, viola, cello and string bass. Techniques of bowing and fingering needed to instruct beginning string classes are emphasized. Topics covered include nomenclature, care of the instrument, tuning, development of proper playing position, tone production, fundamentals of bowing, finger patterns and scales, rhythms and melodies.

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 532 International Relations of the Middle East. (3) An examination of the relations among the Middle Eastern states and great power impact on them. Special attention is given to national politics of oil, and pan-Arabism.

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.

POLI 560 **Advanced American Government.** (3) (Prereq: Permission of Instructor) Survey course in American government. A content-based course that examines the fundamental principles and major institutions of American government.

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) A graduate-level overview of the scientific study of behavior. The theme of basic research will be followed through the study of personality, learning and memory, cognition, human development, social behavior, abnormal behavior, and the biological bases of behavior, in addition to some other selected topics.

SPANISH (SPAN)

SPAN 610 **Advanced Topics in Literature and Culture.** (3) Intensive study of selected topics in the literature and culture of Latin America and/or Spain. Class format includes reading assignments, lectures, discussion, oral and written reports. Topics vary.

SPAN 620 **Seminar on Latin American Poetry.** (3) Intensive study of selected topics in Latin American poetry. A course designed to develop students' appreciation of poetry and to develop critical approaches to poetic text. A study of representative movements and authors.

SPAN 630 **Seminar on Hispanic Cinema.** (3) Survey of Latin American cinema in the context of world film. Introductions to the semiotics of cinema and development of critical skills.

SPAN 640 **Graduate Language Seminar.** (3) Advanced study of grammar, syntax, and composition. Emphasis on mastery of complex language structures. Oral and written examinations included.

SPAN 650 **Masterpieces of Hispanic Literature and Culture.** (3) Intensive study and analysis of one or a few masterpieces of Hispanic literature and culture. Emphasis placed on any of various forms of the artistic, cultural or literary expressions of the Hispanic world.

SPAN 660 **Seminar on Latin American Intellectual Thought.** (3) Intensive study of selected topics in the history of Latin American intellectual thought. Class format includes reading assignments, lectures, discussion, oral and/or written reports. Topics vary.

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.