Graduate Curriculum Committee (GCC)
Meeting Minutes
Wednesday, February 1, 2012

Regular Members Present:
Rose Allen (Chair)
Jim Decker (Vice-Chair)
Carol Brown
Hamid Fonooni
Will Forsythe
Ravi Paul
Bob Thompson

Regular Members Absent/Excused:
None

Ex-Officio Members Present:
Linner Griffin

Ex-Officio Members Absent/Excused:
Marc Stevens

Academic Program Planning and Development:
Kimberly Nicholson

Guests:
College of Education: Melissa Engleman, Vivian Mott, and Anthony Thompson
College of Human Ecology: Sharon Ballard and Jane Teleki
Thomas Harriot College of Arts and Sciences: Michael Dingfelder

Actions of Committee:

I. Call to Order

1. **Report on Graduate Council Actions**
   The Graduate Council has not met since the last GCC meeting.

2. **The 01-18-12 GCC minutes were approved electronically and forwarded to the Graduate Council for agenda placement.**
   Dr. Decker provided the section of the minutes pertaining to 5000-level courses to the Executive Council.

II. College of Human Ecology, Department of Child Development and Family Relations

Revision of Existing Courses: CDFR 6991; FACS 6990

Approved as amended

(1.) Revise justification (CDFR 6991; FACS 6990)
(2.) Revise course description (FACS 6990)
(3.) Revise course credit (CDFR 6991; FACS 6990)
(4.) Revise #13 CTE (FACS 6990)
(5.) Revise textbooks (CDFR 6991; FACS 6990)
(6.) Revise course objectives (CDFR 6991)
(7.) Revise course assignments/grading scale (CDFR 6991)
(8.) Revise marked catalog copy (FACS 6990)

Prerequisite Revision of Existing Course: CDFR 6990

Approved as amended

(1.) Replace "Admitted" with "Admission"

Banking of Existing Course: CDFR 6995

Approved as amended

Revision of Departmental Text: Department of Child Development and Family Relations

Approved as amended

(1.) Revise paragraph that references the MAT in family and consumer sciences education

Revision of Existing Degree: MAEd in Birth Through Kindergarten (BK)

Approved as amended

(1.) Replace "Individuals who hold a teaching license in another area and wish to add BK at the graduate level must complete requirements for the BK Add-on license" with "Individuals who hold a teaching license in another area and wish to obtain advanced licensure in BK must first complete requirements for the BK Add-on license"
(2.) Replace "Applicants lacking licensure" with "Individuals lacking licensure"
(3.) Break paragraph into three separate paragraphs to clearly identify the three applicant pools

III. Thomas Harriot College of Arts and Sciences, Department of Physics

Proposal of New Course with Revision of Existing Course: PHYS 6720, 6722

Approved as amended

(1.) Revise requested action
(2.) Revise justification
(3.) Revise #10, changes in degree hours of your program
(4.) Revise textbooks
(5.) Revise assignments/grading scale

Revision of Existing Degree: MS in Physics

Approved as amended

IV. College of Education, Department of Curriculum and Instruction – concurrent submission with Item V

Editorial Revision of Existing Courses: SPED 6702, 6703

Approved as amended

(1.) Deletion of OCCT 6703 and OCCT 6703 taking place in concurrent submission from the Department of Occupational Therapy

Revision of Existing Certificate: Certificate in Assistive Technology

Approved as amended

(1.) Integrate stray line after first paragraph into paragraph text

(2.) Replace "and an elective" with "and an elective selected in consultation with the advisor"

V. College of Allied Health Sciences, Department of Occupational Therapy – concurrent submission with Item IV

Deletion of Existing Courses: OCCT 670, 6703

Approved as amended

Removal of Existing Certificate from Department: Certificate in Assistive Technology

Approved as amended

VI. College of Education, Department of Mathematics, Science, and Instructional Technology Education

Revision of Existing Degree: MAEd in Mathematics

Approved

(1.) The committee asked Kimberly Nicholson to make one editorial formatting revision (combine the first two paragraphs into one)

Deletion of Existing Concentrations: Pre-secondary Concentration, Secondary Concentration

Approved

Proposal of New Concentrations: Elementary Concentration (Grades K – 6), Middle School Concentration (grades 6-9), High School Concentration (Grade 9-12)

Approved

III. Old Business

1. **Implement any actions recommended by the Graduate Council relative to 5000-level courses.**
   The GCC response was forwarded to the Graduate Council as part of the 01-18-12 minutes.

2. **Send forward a motion to the Graduate Council for an initial catalog cleanup based on information in the revised *Graduate Courses Not Offered in 10 Years* spreadsheet.**
   Approved

Active Graduate-level Courses Not Offered in 10 or More Years
The GCC would like to recommend the following action plan regarding active graduate-level courses not offered in 10 or more years:

- The Office of Academic Program Planning and Development will identify all graduate-level courses that have not been offered in 10 or more years.
- Dean Gemperline, on behalf of the Graduate Council, will notify applicable units of the intent to delete the identified courses. Units desiring to keep courses in this list will be given an opportunity to submit a justification memorandum to the GCC mailbox (gcc@ecu.edu) describing why their course(s) should remain active in the university catalog. The deadline for submission of the justification memoranda will be March 13, 2012. The retention requests, and deletions, will be reviewed at the March 21, 2012 GCC meeting.
- Following completion of the process by the GCC and Graduate Council, the Office of Academic Program Planning and Development will delete all graduate-level courses not offered in 10 or more years, other than those which receive exceptions by the GCC and Graduate Council to keep the course(s) in the active course list of the catalog.
- The GCC will establish a policy for annual review.

3. **Send forward a motion to the Graduate Council for an Active Courses Not Offered in 10+ Years Action Plan.**
   Tabled.

4. **Vice Chair Decker recommended the GCC continue their work with the Graduate Working Group on 3.6.2 Graduate Curriculum.**
   No discussion.

5. **Develop training modules utilizing Mediasite technology with topics to include: Pieces in a Curriculum Development Package, Completion of the Course Proposal Form, and Tips for Certificate Planners. Recordings will be posted on the GCC Web site.**
   No discussion.

6. **SACS Principle 4.9 – awaiting definition of credit hour from GA.**
   Dr. Griffin shared that SACS principle 4.9 was approved at the December meeting. A PRR application was submitted by ECU regarding the credit hour definition and is awaiting approval. Once approved, this definition will be posted to the PRR Web site, which identifies all university policies.

VI. New Business

None

Marked Catalog Copy:

II. College of Human Ecology

Department of Child Development and Family Relations

http://www.ecu.edu/cs-acad/grcat/programCDFR.cfm

College of Human Ecology

DEPARTMENT OF CHILD DEVELOPMENT AND FAMILY RELATIONS

Cynthia Johnson, Chairperson, 108 Rivers Building

Graduate Teaching Degrees

The department offers the master of arts in education (MAEd) degree, specifically in the areas of birth through kindergarten teacher education (BK) and family and consumer sciences education (FACS). This degree leads to advanced licensure. See the College of Education, Department of Curriculum and Instruction, for degree requirements for the master of arts in teaching. Both degrees the MAEd in birth through kindergarten and the MAEd in family and consumer sciences are offered online; applicants to either program must hold a North Carolina teaching license.

A master of arts in teaching (MAT) degree in family and consumer sciences education is available through the College of Education. See the College of Education, Department of Curriculum and Instruction, for degree requirements.

MAEd in Birth Through Kindergarten (BK)

This program The MAEd in birth through kindergarten is designed to prepare individuals beyond the entry level for professional leadership roles as master teachers, consultants, program coordinators, supervisors, and staff development trainers in early childhood education. This The program is based on the philosophy, rationale, and competencies established for the initial birth through kindergarten (BK) license. Thus, it is open to persons who hold a continuing clear and current license in BK or closely related area.

Individuals who hold a teaching license in another area and wish to obtain advanced licensure in BK must first complete requirements for the BK add-on license prior to applying for admission to the Graduate School for the MAEd in birth through kindergarten program. Information about add-on

licensure can be found on the Office of Alternative Licensure Web site at http://www.ecu.edu/cs-educ/alternative_licensure/AddOnLicensure.cfm.

Applicants Individuals lacking licensure who hold a baccalaureate degree from a regionally-accredited institution must meet requirements for licensure-only in BK before applying to the Graduate School for the MAEd in birth through kindergarten program. Information about licensure-only can be found on the Office of Alternative Licensure Web site at www.ecu.edu/cs-educ/alternative_licensure/Index.cfm. or experience in the BK area must complete an internship and/or course work to make up deficiencies in required BK competencies. A flexible program of study is developed to meet the needs and allow for previously attained competencies of individual students. After obtaining initial licensure in BK, individuals can apply to the Graduate School for admission to the MAEd in birth through kindergarten program. Upon acceptance into the BK birth through kindergarten program, the student is assigned an advisor.

Prior to enrolling in action research courses (CDFR 6990 and 6991) or thesis (CDFR 7000), MAEd in birth through kindergarten students must have been admitted to candidacy and have completed the following courses with an overall GPA of 3.0: CDFR 6402, 6501, 6503 and FACS 6990.

Admission to candidacy will have been met when the following have been completed:

1. Obtained NC teaching license in BK
2. Admitted unconditionally to graduate standing
3. Accepted into birth through kindergarten program and assigned an adviser
4. Completed 12 s.h. of graduate credit beyond any entrance deficiencies or conditions

The program requires 39 s.h. consisting of 12 s.h. of core courses, 18 s.h. of professional area courses, and 9 s.h. from a specialty area strand as follows:

1. Required core courses - 12 s.h.

   Research, Trends, and Issues Competency Area - 3 s.h.
   EDUC 6482 or SCIE 6500
   Diverse Learner Competency Area - 6 s.h.
   EDUC 6001 and SPED 6002
   Effective Communication and Leadership Competency Area - 3 s.h.
   ADED 6550 or ELEM 6550 or LEED 6000

2. Professional Area courses: Birth through Kindergarten Education - 18 s.h.

   CDFR 6402, 6501, 6503, 6990, 6991;, 6995 FACS 6990
   Final product requirement: a research project with an oral presentation (CDFR 6991) or a thesis with an oral thesis defense (CDFR 7000)

3. Specialty Area (Select one strand; choose three courses) - 9 s.h.

   Select three advisor-approved courses from one of the following strands:
   Assistive Ttechnology strand: SPED/OCCT 6701, 6702, 6703
   or
   Autism and autism spectrum disorder strand: Choose 9 s.h. from SPED 6800, 6801, 6802, 6803
   or
   Community Ccollege Teaching instruction strand: ADED 6240, 6450, 6453
   or
   Deaf-blindness strand: SPED 6810, 6811, 6812
   or
   Teaching English as a second language strand: TESL 6100, 6200, 6300
   or

   Individualized strand: three adviser-approved courses

http://www.ecu.edu/cs-acad/grcat/coursesCDFR.cfm

CDFR: Child Development and Family Relations

6985. Child Life Internship (6) P: CDFR 6402, 6406, 7400. Minimum of 480 hours of observation and clinical experience in approved program that provides health services to children and their families under supervision of certified child life specialist. Requires an approved project.
6990. Action Research I in Educational Settings (3) P: Admission to candidacy; FACS 6990; EDUC 6482 or SCIE 6500. Quantitative and qualitative research methods including data collection and data analysis.
6991. Action Research II in Educational Settings (3) P: CDFR 6990. Development, and implementation, and analysis of an action research project in classrooms serving children birth through kindergarten.
6995. Leadership in Birth Through Kindergarten Education (3) Supervised internship under supervision of public school administration or other approved administrative structure.

7000.Thesis (1-6) May be repeated. May count a maximum of 6 s.h. toward the degree.

CDFR Banked Courses

6424. Family Therapy Seminar IV (3)
6995. Leadership in Birth through Kindergarten Education (3)

http://www.ecu.edu/cs-acad/grcat/coursesCDFR.cfm

FACS: Family and Consumer Sciences

6430. Trends and Issues in Family and Consumer Sciences Education (3) P: Admission to FACS MAEd program. Current trends and issues affecting the family and consumer sciences profession.
6990. Review of Research Literature in Family and Consumer Sciences Education Educational Settings (3) P: Admission to FACS MAEd program in child development and family relations; EDUC 6482 or SCIE 6500. Foundational approaches in the research process, including conceptualization of the problem, literature search, and review.

FACS Banked Courses

5300. Middle Grades Careers Exploration (3) **6900. Review of Current Literature (2)**

III. Thomas Harriot College of Arts and Sciences

Department of Physics

http://www.ecu.edu/cs-acad/grcat/programphys.cfm

Department of Physics

John Sutherland, Chair, C-209A Howell Science Complex
Michael Dingfelder, Assistant Chair for Graduate Studies, E-203 Howell Science Complex

MS in Physics

The Department of Physics offers the master of science in physics with concentrations in applied physics, health physics, and medical physics. Students seeking a MS degree must apply and be admitted into one of these three concentrations. A satisfactory knowledge of an acceptable computer language or of an acceptable foreign language is required. Attendance at a minimum of one-half of the regular Department of Physics seminars given during the student's residence in

the graduate program is required.

The applied physics concentration requires minimum of 34 s.h. of courses and the completion of a thesis. The health physics concentration requires a minimum of 39 s.h. of courses, and, in addition, students must complete a 10-16 week rigorous practicum in applied health physics in an industrial, university or national laboratory setting in lieu of a thesis. The medical physics concentration requires a minimum of 38 39 s.h. of courses that include a minimum of 6 s.h. of clinical study in lieu of a thesis.

1. Core - 16-22 s.h.

   PHYS 5410*, 5600, 5601, 5900, 5901, 6816
   Applied physics concentration: PHYS 7000 (repeated once); minimum of 6 s.h. electives from: PHYS 6250, 6700, 6715, 6900
   Health physics concentration: EHST 5164, 5800, 5801; PHYS 6900; minimum of 3 s.h. electives from: EHST 6700, PHYS 6200, 7450
   Medical physics concentration: PHYS or RONC 6992, 6993; minimum of or 3 s.h. electives from: PHYS 6300, 7992

2. Concentration (Choose one area.) - 12-19 20 s.h.

   Applied physics concentration (12 s.h.): PHYS 5311, 6200, 6300, 7450
   Health physics concentration (19 s.h.): RONC 7370; HLTH 6011; PHYS 6700, 6750, 7730, 7740
   Medical physics concentration (19 20 s.h.): RONC 7370; PHYS 6700, 6710, 6715, 6720, 6722; PHYS or RONC 6718

*Students in the medical physics concentration who have had an undergraduate course in quantum mechanics may substitute the 3 s.h. elective, listed above, for PHYS 5410.

In addition, a student in the medical physics concentration must demonstrate a satisfactory knowledge of medical terminology through taking BIOL 2130 (preferred) or HIMA 3000.

Termination rules:

1. A student must receive a minimum final grade of B in each of the required courses in the medical physics option.
2. A student, because of inappropriate behavior in a clinical setting, will be immediately suspended by the instructor. A review by the Graduate Committee will determine if the student is eligible to continue in the medical physics option.

http://www.ecu.edu/cs-acad/grcat/coursesphys.cfm

PHYS: Physics

5311. Mathematical Physics I (3) Same as MATH 5311
P: MATH 4331; PHYS 2360; or consent of instructor. Mathematical methods important in physics. Emphasis on application. Functions of complex variables, ordinary and partial differential equations, integrals and integral transforms, and special functions.

5410. Introduction to Quantum Mechanics (3)
P: PHYS 4416, 4560; or consent of instructor. Survey of the fundamental principles of quantum mechanics and their application to the solution of selected problems in atomic, molecular, condensed matter, and biological physics.

5600, 5601. Modern Electronics (3,0)
2 lecture and 2 lab hours per week. P: PHYS 4610. Theory and application of modern electronic devices. Circuit design using linear, nonlinear, and hybrid integrated circuits and their application in a graphical (GUI), computer-based environment for scientific instrument and process control.

5900, 5901. Computational Physics (3,0)
1 lecture and 4 lab hours per week. P: MATH 4331; PHYS 2360 or 5311. Applies modern computer program with symbolic, numerical, and graphical capabilities to problems in physics.

6200. Thermodynamics and Statistical Physics (3)
P: Intermediate thermodynamics. Classical thermodynamics with applications and introduction to statistical thermodynamics. Topics include heat engines, thermodynamic potentials, Maxwell relations, phase changes, ideal gases, kinetic theory of gases, and quantum statistics.

6250. Classical Mechanics (3)
P: Intermediate mechanics. Theoretical classical mechanics including Lagrange's equations, central force motion, rigid body motion, special relativity, and oscillations.

6300. Electrodynamics I (3)
P: Intermediate electromagnetic theory. Boundary value problems in electrostatics. Emphasis on use of Green's functions and special functions, multipoles and dielectrics, magnetostatics Maxwell's equations, and plane EM waves, wave guides and resonant cavities.

6410. Quantum Mechanics I (3) Formerly PHYS 5400
P: PHYS 5410; or consent of instructor. Intermediate study of the principles of quantum mechanics and their application to selected subfields of physics.

6526, 6527, 6528. Readings in Physics I, II, III (1,2,3)
Equivalent of 1 classroom hour per week, per credit hour. P: Consent of chair. Intensive readings or problem research in some physics-related field under supervision of faculty.

6620, 6621. Advanced Techniques in Experimental Physics (2,1)
2 classroom and 3 lab hours per week. P: Graduate standing in PHYS or CHEM. Experimental techniques in radio frequency spectroscopy (NMR, ESR, and NEQR), microwave applications, and accelerator-based atomic physics (trace element analysis using x-rays), which includes theory of phenomena and operation of lab instruments.

6700. Health Physics (3) Formerly PHYS 5700

P: Consent of instructor. Broad spectrum of topics in radiation protection. Emphasis on interactions of radiation with matter, methods of radiation detection, dosimetry, principles of shielding, and regulations pertaining to work with radiation.

6710. Nuclear Medicine Physics (3)

P: PHYS 4417 or consent of director of medical physics. Comprehensive overview of physical aspects of diagnostic and therapeutic applications of radionuclides, radiation beams and measurements, imaging systems, and related equipment with lab activities in facility design, instrumentation essentials, quality assurance, and survey techniques.

6715. Biomedical Physics (3) Formerly PHYS 5715

P: Consent of instructor. Applies physics principles in biology and medicine.

6718. Therapeutic Radiological Physics (3) Same as RONC 6718

P: Consent of director of medical physics. Production, application, and measurement of electromagnetic radiation and high energy particle beams in therapeutic practice. Emphasis on conceptual, instrumental, and methodological aspects of therapeutic radiology.

6720. Physics of Medical Imaging (3)

P: PHYS 6710 or consent of director of medical physics program. Physical principles of diagnostic radiology. Analog and digital x-ray radiography (including mammography), fluoroscopy, and computed tomography. Principles and applications of ultrasound and magnetic resonance imaging, diagnostic calibration, radionuclide sources, counters, scanners, cameras, dosimetry, recording media, film densitometry, non-film media, and image evaluation.

6720, 6722. Physics of Medical Imaging (4,0)

3 classroom and 2 lab hours per week. P: Consent of director of medical physics program. Physical principles of diagnostic radiology. X-ray radiography (including mammography), fluoroscopy, and computed tomography. Principles and applications of ultrasound, magnetic resonance imaging, SPECT and PET.

6750. Risk Assessment, Risk Communication and Regulations (3)

P: Consent of instructor. Risk assessment and communication including relative risks, voluntary and coerced risks with focus in the nuclear industry.

6810. Topics in Atomic Collisions (3)

P: Consent of instructor. Review of processes in atomic collisions and their quantitative understanding, Introduces theories required to describe experimentally-observed behavior in electron-atom, ion-atom, and/or molecule collisions, and methods of observations. Emphasis on general topics of interest as found in current literature and particular areas of research at ECU Accelerator Laboratory.

6816, 6817. Seminar (1,1)

Equivalent of 1 lecture hour per week. Areas of research in progress in physics department.

6900. Introduction to Research (3)

Literature and lab research on individual problems in major field.

6992. Radiation Therapy Physics (3) Same as RONC 6992

P: PHYS 6718 or RONC 6718. Radiation dose calculation and measurement of high energy photon and electron beams, high and low dose rate brachytherapy sources in clinical radiation therapy, cavity theory in ion chamber calibrations of photon and

electron beams. Quality assurance, acceptance testing, and commissioning of equipment for clinical radiation therapy (linear accelerators, HDR, TLD, simulator, CT scanner).

6993. Clinical and Medical Dosimetry (3) Same as RONC 6993

P: PHYS 6992 or RONC 6992. Practical patient dosimetry problems in radiation oncology. Irregular field calculations, two-and three dimensional treatment planning, isodose distribution, high and low dose rate brachytherapy planning for intracavitary, and interstitial radioactive sources.

7000. Thesis (1-6)

May be repeated. May count maximum of 6 s.h.

7001. Thesis: Summer Research (1)

May be repeated. No credit may count toward degree. Students conducting thesis research may only register for this course during the summer.

7110. Mathematics Physics II (3) Formerly PHYS 6100

P: MATH 5311 or PHYS 5311; or consent of instructor. Math methods important in physics. Emphasis on application, including conformal mapping and other applications of functions of complex variables, eigenfunctions, eigenvalues, and Green's functions, special functions, partial differential equations, boundary value problems, integral equations, calculus of variations, numerical methods, probability and statistics, and group theory.

7310. Electrodynamics II (3) Formerly PHYS 6310

P: PHYS 6300. Advanced electromagnetic theory and related numerical methods, including plane wave and wave propagation, waveguides and resonant cavities, radiating systems, multipole fields and radiation, scattering and diffraction, dynamics of relativistic particles, collisions between charged particles, finitedifference methods, moment methods, and finite element method.

7410. Quantum Mechanics II (3) Formerly PHYS 6400

P: PHYS 6410; or consent of instructor. A rigorous, advanced study of the principles of quantum mechanics and their application to selected subfields of physics.

7450. Solid State Physics (3) Formerly PHYS 6450

P: PHYS 6410; or consent of instructor. Coherent picture for understanding complex properties of solids. Topics include periodic structure of crystal lattice, phonons, electronic properties in framework of energy band theory, basic concepts of quasiparticles and their interactions in solid materials.

7715. Biomedical Optics (3)

P: Consent of instructor. Fundamental concepts in optics and spectroscopy and to acquire basic skills for modeling and experimental research in selected biomedical applications.

7730. Radiation Instrumentation (3)

1 lecture and 4 lab hours per week. P: PHYS 6700; or consent of instructor. Laboratory study of fundamental concepts in radiation detection and the use of health physics monitoring equipment.

7740. Special Problems in Radiation Dosimetry and Modeling (3)

P: Consent of instructor. Advanced study of external and internal dosimetry. Assessment of dose from internal and external radiation exposure using analytic and statistical models.

7992. Clinical Rotation in Radiation Therapy Physics (8)

1 lecture and 21 practicum hours per week. P: PHYS 6992 or RONC 6992 and consent of assistant chair for graduate studies. Students participate in all aspects of clinical radiation therapy physics, gaining practical expertise in the major clinical applications of radiation to the treatment of disease.

8526, 8527, 8528. Advanced Readings in Physics I, II, III (1,2,3)
May be repeated for a maximum of 12 s.h. Equivalent of 1 classroom hour per week, per credit hour. P: Consent of assistant chair for graduate studies. Intensive readings at the advanced PhD level in a physics field under supervision of faculty.

8910. Research Problems in Biomedical Physics (3) Formerly PHYS 6910
May be repeated. P: Consent of instructor and dept chair. Research on specialized topic or topics related to biomedical application of physics under supervision of faculty member.

9000. Dissertation (3-12)
May be repeated. May count maximum of 18 s.h.

9001. Dissertation: Summer Research (1)
May be repeated. No credit may count toward degree. Students conducting dissertation research may only register for this course during the summer.

PHYS Banked Courses
5060. The Conceptual Development of Physics (3)
5350. Modern Optics (3)
5630. Gaseous Conductors (3)
5800. Biophysics (2)
6991. Clinical Rotation in Diagnostic Physics (3)

IV. College of Education

Department of Curriculum and Instruction

Concurrent submission with Item V

http://www.ecu.edu/cs-acad/grcat/EDUC.cfm

CERTIFICATE IN ASSISTIVE TECHNOLOGY

The certificate in assistive technology will equip students with specific skills and knowledge in assistive technology. The overall objective of the program is to prepare educational and/or health care professionals in the knowledge and skills needed to utilize assistive technology for the enhancement of a student and/or client's functional performance. Specifically, candidates who successfully complete the certification will have a broad-based knowledge of assistive technology, the ability to assess assistive technology needs with clients/students and plan implementation based upon that assessment, the ability to work with a collaborative team to implement assistive technology, and the knowledge and skills to effectively manage resources for procurement of assistive technology. Applicants seeking admission must be graduate students or education or health care professionals working in their respective fields. Professionals can enroll as non-degree seeking students. Admission is based on completion of the certificate application and approval by the program coordinator.

The certificate program requires **12 s.h.** of graduate-level course work in assistive technology, emphasizing practical application and collaborative team work. Required courses include SPED 6701, SPED 6702, SPED 6703, and an elective selected in consultation with the advisor.

http://www.ecu.edu/cs-acad/grcat/CoursesEDUC.cfm

SPED: Special Education

6701. Assistive Technology Devices and Services (3) Same as OCCT 6701 Broad overview of assistive technology, including legal, educational, and discipline specific information. Provides basic information that prepares students for other certificate courses.

6702. Assessment, Planning, and Implementation of Assistive Technology (3) Same as OCCT 6702 P: SPED 6701 or OCCT 6701. Explores assistive technology assessments and planning and implementation of assistive technology within student/client's environment. Students attain skills in variety of technology using cross-disciplinary team approach.

6703. Collaborative Resource Management of Assistive Technology (3) Same as OCCT 6703 P: SPED 6701 or OCCT 6701. Human, product, electronic, and funding resources to meet technology needs for individuals with disabilities
examined within state and national networks. Practical collaborative skills practiced in cross-disciplinary team assignments.

V. College of Allied Health Sciences

Department of Curriculum and Instruction

Concurrent submission with Item IV

http://www.ecu.edu/cs-acad/grcat/programOCCT.cfm

CERTIfICATE IN ASSISTIVE TECHNOLOGY

The certificate in assistive technology will equip students with specific skills and knowledge in assistive technology. The overall objective of the program is to prepare educational and/or health care professionals in the knowledge and skills needed to utilize assistive technology for the enhancement of a student and/or client's functional performance. Specifically, candidates who successfully complete the certification will have a broad-based knowledge of assistive technology, the ability to assess assistive technology needs with clients/students and plan implementation based upon that assessment, the ability to work
with a collaborative team to implement assistive technology, and the knowledge and skills to effectively manage resources for procurement of assistive technology.

Applicants seeking admission must be graduate students or education or health care professionals working in their respective
fields. Professionals can enroll as non-degree seeking students. Admission is based on completion of the

certificate application
and approval by the program coordinator.

The certificate program requires 12 s.h. of graduate-level course work in assistive technology, emphasizing practical application and collaborative team work. Required courses include SPED/OCCT 6701, 6702, 6703, and an elective.

http://www.ecu.edu/cs-acad/grcat/coursesOCCT.cfm

OCCT: OCCUPATIONAL THERAPY

6000. Foundations of Occupational Therapy (4) P: OCCT 3000 or introductory OCCT course approved by dept chair. Foundations and models of practice of OT. Dimensions and characteristics of human occupation and their relationship to
models of practice. Analysis of occupation, including real and symbolic aspects meaningful for individuals and populations.

6001, 6002. Occupation and Movement (3,1) 2 classroom and 3 lab hours per week. P: ANAT and PHLY courses approved by dept chair. P/C: OCCT 6000. Musculoskeletal system as related to human occupation. Mobility, stability, posture,
biomechanics, development of movement, relationship between kinesiological components, and gradation of activities.

6003, 6004. Dyadic and Group Skills in Occupational Therapy (3,1) 3 classroom and 3 lab hours per week.
P: OCCT 3000, P/C: OCCT 6000. Applies systems theory, communication, and techniques to dyadic and group processes
relevant to OT. Relationships and roles of OT practice with individuals across life span.

6005, 6006. Health Impairments and Occupational Therapy I (3,1) 3 classroom and 3 lab hours per week.
P: OCCT 3000. P/C: OCCT 6000, 6001, 6002. Etiology of impairments and models of ablement/disablement. Identification
of consequences of diseases, injuries or disorders and impact of these on human occupation.Applies appropriate OT frames of reference and remedial techniques.

6007, 6008. Health Impairments and Occupational Therapy II (3,1) 3 classroom and 3 lab hours per week.
P: OCCT 6001, 6002, 6005, 6006. Continuation of OCCT 6005, 6006.

6009. Neurological Foundations of Occupational Therapy (3) P: OCCT 6000; ANAT and PHLY courses
approved by dept chair. Occupational performance as affected by human nervous system. Structures and functions of human nervous system and relationship of occupation to brain function.

6020. Theoretical Models of Practice in Occupational Therapy (3) P: Enrollment in OCCT or consent of
chair.Advanced examination and conceptualization of OT theories within models of practice,including consultation.Analysis
and comparison of theories applied to areas of specialty in service delivery systems.

6060. Directed Independent Study (3) Requires approval by occupational therapy advisor and/or graduate committee. May be repeated more than once with change of topic. Individualized, advanced, or in-depth study of topic not offered in
OT curriculum.

6070. Special Topics (3) May be repeated more than once with change of topic. Topics of current importance not covered thoroughly in other courses.

6080. Environmental Contexts and Systems of Occupational Therapy (3) P: OCCT 6000, 6003, 6004; or consent of dept chair. Systems analysis of societal, cultural, physical, and temporal environments. Evaluates use of environment and technology to enhance occupational function.

6100, 6150. Therapeutic Use of Human Occupation I (4,1) 4 classroom and 3 lab hours per week. P: OCCT 6000, 6001, 6002, 6003, 6004, 6009; P/C: OCCT 6005, 6006, 6007, 6080. First in three course sequence. Reflects a variety of system-practice contexts such as medical, educational, and natural environments. Occupational therapy roles, responsibilities, and interventions in the different settings will be examined.

6200, 6250. Therapeutic Use of Human Occupation II (4,1) 4 classroom and 4 lab hours per week. P: OCCT 6100, 6150; P/C 6008. Extension of OCCT 6100, 6150. P/C: 6008. Case studies reflect complex health care systems, reimbursement issues, and professional support environments.

6300, 6350. Therapeutic Use of Human Occupation III (4,1) 3 classroom and 3 lab hours per week. P: OCCT 6200, 6250; C: OCCT 6400. Extension of OCCT 6200, 6250. Case studies reflect community-based practice, require coordination of systems, and development of innovative OT services.

6400. Fieldwork I (1) 2-week clinical experience. P: OCCT 6200, 6250; C: OCCT 6300, 6350. Role of occupational therapist in variety of nontraditional or emerging practice settings and service delivery systems. Continued development of OT theory, evaluation, and treatment planning skills. Exploration and development of creative applications of therapeutic occupation.

6450. Fieldwork II (6) May be repeated. May count for a maximum of 12 credits. 12-week, full-time clinical practice. P: OCCT 6080, 6300, 6350, 6400, 6500. Practice and master skills necessary to function as competent, entry-level occupational therapist.

6455. Application of Theory to Practice (3) P: 6300, 6350; P/C: OCCT 6450. Integrates fieldwork and classroom experiences. Cases used to explore issues about management and supervision, OT intervention, research, and education.
Analyzes current use of theory in OT practice sites.

6500, 6550. Managing Occupational Therapy Services (3,1) P: OCCT 6080. Leadership theory and roles in OT. Focus on supervision issues, planning, and management of service delivery programs. Emphasis on theories of change and student developments as change agents. Systems theory used as basis for understanding organizational structures and development.

http://www.ecu.edu/cs-acad/grcat/coursesOCCT.cfm

6600. Concepts and Practice of Research in Occupational Therapy (3) P: A statistics course approved by dept chair. Principles and processes involved in scientific research. Qualitative and quantitative approaches. Application of knowledge culminates in development of research proposal.

6650. Conducting Research in Occupational Therapy (3) P: OCCT 6600, 6200, 6250. P/C: 6300, 6350.
Design and implementation of research project that contributes to knowledge base of OT. Approved research proposal and collection of research data.

6660. Master's Project (3) P: OCCT 6650. Completion of research project which contributes to knowledge base of
OT and manuscript appropriate for submission to refereed journal.

6701. Assistive Technology Devices and Services (3) Same as SPED 6701 Admission to certification program or consent of instructor. Broad overview of assistive technology, including legal, educational, and discipline specific information. Provides basic information that prepares students for other certificate courses.

6702. Assessment, Planning, and Implementation of Assistive Technology (3) Same as SPED 6702 P: SPED 6701 or OCCT 6701. Explores assistive technology assessments and planning and implementation of assistive technology within student/client's environment. Students attain skills in variety of technology using cross-disciplinary team approach.

6703. Collaborative Resource Management of Assistive Technology (3) Same as SPED 6703 P: OCCT 6701 or SPED 6701. Human, product, electronic, and funding resources to meet technology needs for individuals with disabilities
examined within state and national networks. Practical collaborative skills practiced in cross-disciplinary team assignments.

7000. Thesis (1-6) May be repeated. May count maximum of 6 s.h.

7001. Thesis: Summer Research (1) May be repeated. No credit may count toward degree. Students conducting thesis research may only register for this course during the summer.

7100. Qualitative Research: Analysis and Interpretation (3) Same as HLTH 7100, NURS 7100 P: Consent of instructor. Application and evaluation of qualitative research design and methods including data collection, management, and analysis approaches, and the art and science of interpretation.

VI. College of Education

Department of Mathematics, Science, and Instructional Technology Education

HTML catalog: http://www.ecu.edu/cs-acad/grcat/programMATE.cfm

MAEd in Mathematics

The MAEd in mathematics is designed for a teacher whose primary teaching assignment is has been in K – 12 the area of pre-secondary or secondary mathematics. The MAEd in mathematics consists of three concentrations: elementary, middle school, and high school. For each graduate student, the selection of a concentration will be made in consultation with a mathematics education advisor and will be based on a student's prior education and future career plans. Prior teaching experience is not necessary for admission to this program, but certification to teach is required for admission. Students holding the equivalent of an undergraduate mathematics major and certified to teach at the secondary level will complete the secondary level concentration. Students who earned the equivalent of an undergraduate concentration in mathematics and are certified to teach at the pre-secondary level will complete the pre-secondary-level concentration.

Admission materials must include a letter of recommendation from someone aware of the applicant's performance or potential as a classroom teacher.

Degree Requirements

Minimum degree requirement is 39 36 s.h. of credit.

1. Common core - 21 15 s.h.

   EDUC 6001; 6482 or SCIE 6500; MATE 6200, 6206, 6211
   6 s.h. of mathematics analysis and algebra as follows:
   Pre-secondary concentration students take MATH 5521. Readings and Lectures in Mathematics (3) once as analysis and once as algebra.
   Secondary concentration students take MATH 5101 or 5102; 5021 or 5064 or 5581 or 6011

   EDUC 6001; MATE 6200 or 6062*, 6206 or 6063*, 6211, 6400
   * Students who wish to obtain the elementary mathematics education specialist certificate must take MATE 6062 and MATE 6063.

2. Concentration areas (Choose one.) - 18 21 s.h.

   Pre-secondary concentration:
   Choose 9 s.h. mathematics education electives in consultation with advisor; MATE 6320 or 6321 is normally included unless the student has credit for a similar course
   Choose 9 s.h. electives from the following: MATE 5263, 5264, 6221, 6222, 6223; MATH 5521, 6263
   Secondary concentration:
   Choose 9 s.h. mathematics education electives in consultation with advisor; MATE 6323 is normally included unless the student has credit for a similar course
   Choose 9 s.h. from the following: MATH 5021, 5031, 5064, 5101, 5102, 5110, 5121, 5122, 5131, 5132, 5311, 5322, 5521, 5551, 5581, 5601, 5801, 6001, 6011, 6012, 6022, 6111, 6112, 6121, 6122, 6251, 6252, 6401, 6402, 6411, 6412, 6561, 6601, 6611, 6612, 6651, 6802, 6803, 6804, 6805

   Elementary concentration (Grades K – 6): 21s.h.
   Mathematics for K–6 teachers (12 s.h.)
   Students will take the following 4 courses to develop expertise in grades K – 6 mathematics: MATE 6058, 6059, 6060, 6061
   Mathematics for K–12 teachers (9 s.h.)
   Students will take 3 of the following courses to develop a broader view of K – 12 mathematics. Other courses might be acceptable; please consult with your advisor: MATE 6120, 6130, 6140, 6331, 6341, 6351, 6361, 6371, 6391

   Middle School concentration (Grades 6–9): 21 s.h.
   Mathematics for 6–9 teachers (12 s.h.)

Students will take 4 of the following courses to develop expertise in grades 6 – 9 mathematics; other courses might be acceptable; please consult with your advisor: MATE 6331, 6341, 6351, 6361, 6371, 6391

Mathematics for K–12 teachers (9 s.h.)

Students will take 3 of the following courses to develop a broader view of K – 12 mathematics. Other courses might be acceptable; please consult with your advisor: MATE 6058, 6059, 6060, 6061, 6062, 6063, 6120, 6130, 6140, 6331, 6341, 6351, 6361, 6371, 6391

High School concentration (Grade 9–12): 21 s.h.

Mathematics for 9–12 teachers (12 s.h.)

Students will take 4 of the following courses. Other courses might be acceptable; please consult with your advisor: MATH 5021, 5031, 5064, 5101, 5102, 5110, 5121, 5131, 5132, 5551, 5581, 5601, 5774, 5801, 6001, 6150, 6251, 6651

Mathematics for K-12 teachers (9 s.h.)

Students will take 3 of the following courses to develop a broader view of K – 12 mathematics. Other courses might be acceptable; please consult with your advisor: MATE 6110, 6120, 6130, 6140, 6150, 6331, 6341, 6351, 6361, 6371, 6391

3. Other requirements

Capstone experience:

The capstone experience will consist of either a research project or a portfolio that is modeled on the National Board Professional Teaching Standards or other equivalent project. The capstone experience (MATE 6400) will consist of an action research project and assignments modeled on the *National Board Professional Teaching Standards* portfolio. This will allow The graduate students will be able to show knowledge of and skills in the use of appropriate materials, pedagogy, and technology in the construction of a portfolio or research project mathematics education.

School-based experience:

Teaching experience at the K-12 level is not mandatory for admittance to the MAEd program. However, for the graduate student not teaching at the pre-college level, some of the course work will require a practicum with an approved school.