MATHEMATICS, BS

Program Coordinators:
- Computer Science, Mathematics, and Science Concentrations: Alexandra Shlapentokh (231 Austin Building; 252-328-4108; shlapentokh@ecu.edu)
- Statistics Concentration: Christopher Carolan (125-C Austin Building; 252-328-2130; carolanc@ecu.edu)

Credit toward the degree will not be given in any MATH course with a grade less than C- (1.7).

Minimum degree requirement is 120 s.h. of credit as follows:

1. General education requirements - 40 s.h.

(For information about courses that carry general education credit see General Education Program.)

2. Common mathematics core - 37 s.h.

- CSCI 1010 - Algorithmic Problem Solving
- CSCI 1011 - Algorithmic Problem Solving Lab
- MATH 2171 - Calculus I
- MATH 2172 - Calculus II
- MATH 2173 - Calculus III
- MATH 2300 - Transition to Advanced Mathematics
- MATH 3256 - Linear Algebra
- MATH 3263 - Introduction to Modern Algebra
- MATH 3307 - Mathematical Statistics I
- MATH 3308 - Mathematical Statistics II
- MATH 4101 - Advanced Calculus I
- MATH 4331 - Introduction to Ordinary Differential Equations

3. Concentrations - 13-33 s.h.

(Choose one.)

Computer science concentration - 13 s.h.

- CSCI 2410 - Digital Electronics or
- EENG 2410 - Digital Electronics
  or
- CSCI 3675 - Organization of Programming Language
  or
- MATH 4110 - Elementary Complex Variables

- CSCI 2639 - Algorithms and Data Structures
Mathematics concentration - 21-33 s.h.

- MATH 4110 - Elementary Complex Variables
- Minor (18-30 s.h.)

Science concentration - 27-28 s.h.

- CHEM 1150 - General Chemistry I
- CHEM 1151 - General Chemistry Laboratory I
- CHEM 1160 - General Chemistry II
- CHEM 1161 - General Chemistry Laboratory II
- MATH 4110 - Elementary Complex Variables
- PHYS 2350 - University Physics I
- PHYS 2360 - University Physics II

Choose one of the following:

- BIOL 1101 - Principles of Biology I
- BIOL 1101 - Principles of Biology Laboratory I
- BIOL 1200 - Principles of Biology II
- BIOL 1201 - Principles of Biology Laboratory II
- A combination of any 3 courses numbered above 1999 in chemistry or numbered above 3999 in physics.

Statistics concentration - 18 s.h.

- MATH 4005 - Introduction to Sampling and Experimental Design
- MATH 4031 - Applied Statistical Analysis

- MATH 4100 - Mathematics of Risk Analysis or
- MATH 4300 - Financial and Actuarial Mathematics

- MATH 4201 - Introduction to Stochastic Processes
- MATH 4774 - Programming for Research
- MATH 4801 - Probability Theory

4. Restricted electives - 3-15 s.h.

(According to concentration area)

Computer science concentration - 15 s.h.

Choose a 3 s.h. MATH course numbered above 2999.

Choose 12 s.h. from:

- CSCI electives numbered above 1999
- CSCI 2530 - Algorithms and Data Structures
- CSCI 2540 - Data Abstraction and Object-Oriented Data Structures
- CSCI 3584 - Computational Linear Algebra
- CSCI 3650 - Design and Analysis of Algorithms

Mathematics concentration - 9 s.h.
(Choose 9 s.h. of MATH courses numbered above 2999.)

Science concentration - 3 s.h.

(Choose a 3 s.h. MATH course numbered above 2999.)

Statistics concentration - 12 s.h.

Choose 12 s.h. electives from:

- ECON 4443 - Econometrics
- OMTG 4493 - Quality Management
- MATH courses numbered above 2999

5. Electives to complete requirements for graduation.