

## Math Major with Statistics Track Requirements

Catalog Year: 2013-14

Degree: Bachelor of Science

Credit Hours: 46+

"PR" indicates a pre-requisite. "CO" indicates a co-requisite.

Courses within this major may also satisfy general education requirements. Please consult <http://registrar.cofc.edu/general-edu> for more information.

### Required Courses

- MATH 120 Introductory Calculus (4) PR: Placement or C- or better in MATH 111
- MATH 220 Calculus II (4) PR: MATH 120 or HONS 115
- MATH 203 Linear Algebra (3) PR: MATH 220
- MATH 221 Calculus III (4) PR: MATH 220

Select one of the following tracks (**Actuarial**, **Applied**, **Pure**, **Statistics** or **Teacher Education**):

### Statistics Track

- MATH 295 Introduction to Abstract Mathematics (3) PR: MATH 203 or MATH 221
- MATH 311 Advanced Calculus I (3) PR: MATH 221 and MATH 295
- MATH 250 Statistical Methods I (3) PR: MATH 111 or MATH 120 or instructor permission
- MATH 350 Statistical Methods II (3) PR: MATH 120 and MATH 250
- MATH 430 Mathematical Statistics I (3) PR: MATH 221
- MATH 431 Mathematical Statistics II (3) PR: MATH 430

Select one of the following course/lab pairings:

- \_\_\_\_\_  \_\_\_\_\_ lab

CSCI 220 Computer Programming I (3) PR: CSCI 120 or CSCI 180 or CSCI 210 or MATH 111 or department permission  
CSCI 220L Computer Programming I Lab (1) PR or CO: CSCI 220

### OR

MATH 245 Numerical Methods and Mathematical Computing (3) PR: MATH 203 or MATH 220 or instructor permission; CO: MATH 246  
MATH 246 Mathematical Computing and Programming Lab (1) PR: MATH 220 or instructor permission

Select 9 additional credit hours from the following:

- \_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_

CSCI 334 Data Mining (3) PR: CSCI 221 and MATH 207 and MATH 250

MATH 440 Statistical Learning I (3) PR: MATH 203 and MATH 220 and MATH 350

MATH 441 Statistical Learning II (3) PR: MATH 440

MATH 451 Linear Programming and Optimization (3) PR: MATH 203 and MATH 221, and CSCI 220 or MATH 245, or instructor permission

MATH 452 Operations Research (3) PR: MATH 203 and MATH 530, and CSCI 220 or MATH 245

MATH 455 Bayesian Statistical Methods (3) PR: MATH 430

MATH 475\* Statistical Consulting (3) PR: MATH 350 and one of MATH 440 or MATH 441 or MATH 451 or MATH 452 or CSCI 334

**Note:** \*MATH 475 Statistical Consulting is the recommended capstone for this track.