Data Science Major with Economics Cognate Requirements
Catalog Year: 2015-16
Degree: Bachelor of Science
Credit Hours: 69+

“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](http://registrar.cofc.edu/general-edu) for more information.

### Required Courses
- **DATA 101 Introduction to Data Science (3)**
  - PR: None
- **DATA 210 Dataset Organization and Management (3)**
  - PR: None
- **DATA 495 Data Science Capstone (3)**
  - PR: DATA 210, CSCI 470, and MATH 441

### Math Requirement
- **MATH 120 Introductory Calculus (4)**
  - PR: Placement or C- or better in MATH 111
- **MATH 203 Linear Algebra (3)**
  - PR: MATH 120 or instructor permission
- **MATH 207 Discrete Structures I (3)**
  - PR: MATH 105, MATH 111, or MATH 120
- **MATH 220 Calculus II (4)**
  - PR: MATH 120 or HONS 115
- **MATH 250 Statistical Methods I (3)**
  - PR: MATH 111 or MATH 120 or instructor permission
- **MATH 250 Statistical Methods II (3)**
  - PR: MATH 120, MATH 250
- **MATH 350 Statistical Methods II (3)**
  - PR: MATH 203, MATH 220, MATH 350
- **MATH 441 Statistical Learning II (3)**
  - PR: MATH 440

### Computer Science Requirement
- **CSCI 220 Computer Programming I (3)**
  - PR: CSCI 120 or CSCI 180 or MATH 111 or higher or department permission; CO: CSCI 220L
- **CSCI 220L Computer Programming Lab I (1)**
  - CO: CSCI 220
- **CSCI 221 Computer Programming II (3)**
  - PR: CSCI 220 with a C- or better, CSCI 220L with a C- or better; CO or PR: MATH 207
- **CSCI 230 Data Structures and Algorithms (3)**
  - PR: CSCI 221 with a C- or better, MATH 207
- **CSCI 310 Advanced Algorithms (3)**
  - PR: CSCI 230 with a C- or better, MATH 207
- **CSCI 334 Data Mining (3)**
  - PR: CSCI 221 with a C- or better, MATH 207, MATH 250
- **CSCI 470 Principles of Artificial Intelligence (3)**
  - PR: CSCI 230 with a C- or better

*Select a cognate from the following: Accounting, Biomechanics, Customer Relationship Management, e-Commerce, Economics, Exercise Physiology, Finance, Geoinformatics, Molecular Biology, Organismal Biology, Physics and Astronomy, Psychology, Sociology or Supply Chain Management.*

### Economics Cognate Requirements (15 credit hours)
- **ECON 200 Principles of Microeconomics (3)**
  - PR: None
- **ECON 201 Principles of Macroeconomics (3)**
  - PR: ECON 200
- **ECON 317 Microeconomics Analysis (3)**
  - PR: Junior standing, ECON 200, ECON 201; MATH 120
- **ECON 318 Macroeconomic Analysis (3)**
  - PR: Junior standing, ECON 200, ECON 201; MATH 120
Introduction to Econometrics (3) PR: Senior standing, ECON 200, 201, 317, 318, MATH 350 or DSCI 232; MATH 120, 250; or instructor permission