Computer Science Major Requirements  
Catalog Year: 2015-16  
Degree: Bachelor of Arts  
Credit Hours: 47+  

“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  

- **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 250**  
  Introduction to Computer Organization and Assembly Language Programming (3)  
  PR: CSCI 220 with a C- or better, CSCI 220L with a C- or better; CO or PR: MATH 207  

- **CSCI 320**  
  Programming Language Concepts (3)  
  PR: CSCI 230 with a C- or better, MATH 207  

- **CSCI 340**  
  Operating Systems (3)  
  PR: CSCI 230 with a C- or better, CSCI 250 with a C- or better, and MATH 207  

- **CSCI 360**  
  Software Architecture and Design (3)  
  PR: CSCI 230 with a C- or better; CO or PR: COMM 104  

- **CSCI 462**  
  Software Engineering Practicum (3)  
  PR: Senior standing, COMM 104, CSCI 230 with a C- or better; CSCI 360 or CSCI 362  

Elective Requirements: 9 credit hours from the following:  

- **CSCI 310**  
  Advanced Algorithms (3)  
  PR: CSCI 230 with a C- or better, MATH 207  

- **CSCI 315**  
  Service-Side Web Programming (3)  
  PR: CSCI 215, CSCI 221  

- **CSCI 325**  
  Functional and Logic Programming (3)  
  PR: CSCI 221 with a C- or better, MATH 207  

- **CSCI 332**  
  Database Concepts (3)  
  PR: CSCI 221 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 350**  
  Digital Logic and Computer Organization (3)  
  PR: CSCI 250 with a C- or better; PR or CO: MATH 307  

- **CSCI 362**  
  Software Engineering (3)  
  PR: CSCI 221 with a C- or better, MATH 207; CO or PR: COMM 104  

- **CSCI 380**  
  User Interface Development (3)  
  PR: CSCI 221 with a C- or better, MATH 307  

- **CSCI 392**  
  Seminar on Computing and Society (3)  
  PR: CSCI 221 with a C- or better  

- **CSCI 399**  
  Tutorial (3, Repeatable up to 12)  
  PR: Junior standing, tutor permission, department chair permission  

- **CSCI 410**  
  Automata and Formal Language (3)  
  PR: MATH 207  

- **CSCI 420**  
  Principles of Compiler Design (3)  
  PR: CSCI 320, MATH 307  

- **CSCI 432**  
  Concepts of Database Implementation (3)  
  PR: CSCI 332, MATH 307  

- **CSCI 440**  
  Computer Networks (3)  
  PR: CSCI 340, MATH 250, MATH 307
CSCI 450  Architecture of Advanced Computer Systems (3) PR: CSCI 340 or CSCI 350
CSCI 459  Service-Oriented Programming (3) PR: CSCI 221; CSCI 230 or CSCI 315
CSCI 470  Principles of Artificial Intelligence (3) PR: CSCI 230 with a C- or better
CSCI 480  Principles of Computer Graphics (3) PR: CSCI 230 with a C- or better, MATH105 or MATH 120
CSCI 490  Special Topics (3) PR: Instructor permission
CSCI 499  Bachelor's Essay (6) PR: A project proposal must be submitted in writing and approved by the department prior to registration for the course.

Math Requirement
- MATH 120  Introductory Calculus (4) PR: Placement or C- or better in MATH 111
- MATH 207  Discrete Structures I (3) PR: MATH 105, MATH 111, or MATH 120
- MATH 307  Discrete Structures II (3) PR: MATH 207 or MATH 295 or instructor permission

Communication Requirement
- COMM 104  Public Speaking (3) PR: None