

List of Computer Science Major Requirements

(54-60 credits)

1) Either CISC 1115 or CISC 1170

- **CISC 1115: Introduction to Computing Using Java**

Prerequisite: None

Notes: Not open to students who are enrolled in or have completed CISC 1110

- **CISC 1170: Java for Programmers**

Prerequisite: an introductory programming course in a language other than Java, and permission of the chair

Note: Not open to students who are in enrolled in or have completed CISC 1115 or 3115

2) All of the following:

- **CISC 2210: Introduction to Discrete Structures**

Prerequisite: CIS 1.10 or 1.20 or 1110 or 1115; and MATH 1011 or 2.92 or assignment to MATH 3.20 or 1201 or 4.10 by the Department of Mathematics

- **CISC 3115: Introduction to Modern Programming Techniques**

Prerequisite: CISC 1115 or 1170

- **CISC 3130: Data Structures**

Prerequisite: CISC 3115; or CISC 3110 and 1170

- **CISC 3140: Design and Implementation of Large-Scale Web Applications**

Prerequisite: CISC 3130; and either 1115, 1117, or 1170.

- **CISC 3142: Programming Paradigms in C++**

Prerequisite: CISC 3115, 3130, and either 3310 or permission of the chair

- **CISC 3150: Object-Oriented Programming**

Prerequisite: CISC 3130

- **CISC 3310: Principles of Computer Architecture**

Prerequisite: CISC 1110 or 1115 or 1170 or 1180; and CISC 2210

- **CISC 3320: Operating Systems**

Prerequisite: CIS 21 or CISC 3130; and CISC 3305, 3310, or 3315

Notes: Recommended to have an experience on two platforms

4) Either CISC 3220 or 3230

- **CISC 3220: Analysis of Algorithms**

Prerequisite: CISC 2210; CIS 21 or CISC 3130; MATH 3.20 or 1201 or 4.10

- **CISC 3230: Theoretical Computer Science**

Prerequisite: CISC 2210; CIS 21 or CISC 3130; MATH 3.20 or 1201 or 4.10

5) Either CISC 4900 or 5001

- **CISC 4900: Independent and Group Project I**

Prerequisite: CISC 3110 or 3115 and permission of the chairperson

- **CISC 5001: Independent Study and Research I, II, III, IV**

Prerequisite: CISC 3130, a minimum GPA of 3.0 overall and in CIS courses, and permission of the chairperson

6) Either CISC 2820W or PHIL 3318W: Computers and Ethics

- **Prerequisite:** CORC 1312 or Core Studies 5.1 or CIS 1000 or 1110 or 1115, and ENGL 1012

7) Either MATH 1201 and 1206; or 3.20 and 4.20 and 1211

- **Math 1201: Calculus I**

Prerequisite: All students must have met one of the following conditions: earned a grade of C- or higher in Mathematics 1011, 1012 or 1026; achieved minimum scores on the COMPASS test of s1 = 70, s2 = 70, s3 = 70, and s5 = 70; achieved a minimum score of 105 on the ACCUPLACER College-Level Math test; or obtained departmental permission

- **Math 1206: Calculus II**

Prerequisite: a grade of C- or higher in Mathematics 3.20 or 1201 [3.3]

- **Math 1211: Infinite Series**

Prerequisite: Mathematics 4.20 with a grade of C- or higher; or permission of the chairperson

8) Either MATH 2501 or 3501

- **MATH 2501: Elementary Probability and Statistics**

Prerequisite: Mathematics 4.20 with a grade of C- or higher; or permission of the chairperson

- **MATH 3501: Probability and Statistics I**

Prerequisite: Math 2201

9) Three additional courses in CISC numbered between 3000 and 4899