

General Education Requirements (See Degreeworks for Prerequisites)

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|-----|--------------------------|---|--|
| A-1 | ENGL 1101 Composition I | 3 | |
| | ENGL 1102 Composition II | 3 | |
| A-2 | MATH 1190 Calculus I | 4 | |

Area A: Essential Skills (10 credit hours)

All Area A courses must be completed within the first 30 credit hours with a grade of C or higher.

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| B-1 | ECON 1000 Contemporary Economic Issues | 2 | |
| B-2 | AADS 1102, AMST 1102, ASIA 1102, GWST 1102, LALS 1102, PAX 1102, RELS 1102, COM 1100, FL 1002, LDRS 2300, PERS 2700, or POLS 2401 | 3 | |

Area B: Institutional Options (5 credit hours)

Choose 1 course from B-2. COM 1100 is recommended.

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| C-1 | ENGL 2110, 2120, 2130, 2300, or PHIL 2010 | 3 | |
| C-2 | ART 1107, MUSI 1107, DANC 1107, or TPS 1107 | 3 | |

Area C: Humanities, Fine Arts, and Ethics (6 cr hrs)

Choose one course from each area.

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| D-1 | MATH 2202 Calculus II | 4 | |
| D-2 | BIOL 1107/L, BIOL 1108/L, CHEM 1211/L, CHEM 1212/L, PHYS 1111/L, PHYS 1112/L, PHYS 2211/L, PHYS 2212/L | 4 | |
| | | 4 | |

Area D: Science, Math, and Technology (12 cr hrs)

Choose any two 4 credit hour science courses. A sequence is not necessary. "L" denotes the corresponding Lab course. Students may not take both PHYS 1111/L & PHYS 2211/L nor PHYS 1112/L & PHYS 2212/L. PHYS 2211/L and 2212/L are recommended.

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|-----|---|---|--|
| E-1 | POLS 1101 American Government | 3 | |
| E-2 | HIST 2111 or 2112 US History | 3 | |
| E-3 | HIST 1100, 1111, or 1112 World History | 3 | |
| E-4 | CRJU 1101, GEOG 1101, PSYC 1101, SOCI 1101, STS 1101, ANTH 1102, or ECON 2100 | 3 | |

Online SWE Majors: You can take CHEM 2211K, CHEM 2212K, PHYS 2211K & PHYS 2212K through eCore. These are the only courses that you can use to satisfy Area D & the Math/Science Electives in the Major Requirements that are online.

Area E: Social Sciences (12 credit hours)

Choose one course from each area for E-2, E-3, & E-4.

Area F Lower Division Major Requirements

Prerequisites

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|--|---|---|--|
| CSE 1321/L Programming & Problem Solving I | Lecture and Lab must be taken together | 4 | |
| CSE 1322/L Programming & Problem Solving II | Minimum grade of 'B' in CSE 1321/L & (MATH 1113 or 1190 or 2202)* | 4 | |
| MATH 2345 Discrete Mathematics or CSE 2300 Discrete Structures for Computing | MATH 1113 or 1190 (MATH 1113 or 1190) & Minimum grade of 'B' in CSE 1321/L | 3 | |
| TCOM 2010 Technical Writing | ENGL 1102 | 3 | |
| STAT 2332 Probability and Data Analysis | MATH 1190 | 3 | |
| Carryover credit hour from MATH 1190 | MATH 1113 | 1 | |

CSE 1321/L and CSE 1322/L must have a minimum grade of 'B.'

* - can be taken before or at the same time

Free Electives (5 credit hours)

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CSE 1300 is highly recommended for students who are new to programming and have available free elective credits to complete.

Upper Division Major Requirements

Prerequisites

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| Math/Science Electives (8 hours total) Make an appointment with a CCSE Academic Advisor to discuss the course options for this requirement | Varies | 4 | |
| | Varies | 4 | |
| CSE 3153 Database Systems | CSE 1322/L | 3 | |
| CSE 3801 Professional Practices and Ethics | CSE 1322/L | 2 | |
| CS 3305 Data Structures | (MATH 2345 or CSE 2300) & (CSE 1322/L or MTRE 2610 or CPE 3000) | 3 | |
| CS 3503 Computer Organization & Architecture | CSE 1322/L | 3 | |
| CS 3502 Operating Systems | CS 3503 & CS 3305 | 3 | |
| SWE 3313 Intro to Software Engineering | CSE 1322/L | 3 | |
| SWE 3623 Software Systems Requirements | CPE 3000 or (SWE 3313 & (MATH 2345 or CSE 2300)) | 3 | |
| SWE 3633 Software Architecture and Design | SWE 3313 or CPE 3000 | 3 | |
| SWE 3643 Software Testing & Quality Assurance | SWE 3313 or CPE 3000 | 3 | |
| SWE 4324 User-Centered Design | SWE 3313 | 3 | |
| SWE 4663 Software Project Management | SWE 3313 & STAT 2332 | 3 | |
| SWE 4713 SWE Application Domain | SWE 3623, SWE 3643© & SWE 4663© | 3 | |
| SWE 4724 Software Engineering Capstone Project | SWE 3623, SWE 3643© & SWE 4663© | 4 | |
| + 1 hour carried over from MATH 2202 | MATH 1190 | 1 | |
| + 1 hour carried over from 2nd science lab in Area D-2 | Varies | 1 | |

All major courses must have a minimum grade of 'C,' except for MTRE 2610, CPE 3000, CSE 1321/L and CSE 1322/L, which must have a minimum grade of 'B.'

(MATH 2345/CSE 2300) denotes either course will complete the 2nd part of the prerequisite requirement.

© = concurrent permitted

Upper Level Electives for On Campus Students (Choose 2 courses, one from List 1 and one from List 1 or 2)

List 1 (Choose 1 or 2 courses)

Prerequisites

| | | | |
|--|-----------------------------------|---|--|
| SWE 3683 Embedded Systems Analysis & Design | CS 3305 | 3 | |
| SWE 4633 Cloud Software Development | CS 3305 | 3 | |
| SWE 4723 Undergraduate Research Methods | SWE 3313 or instructor permission | 3 | |
| SWE 4743 Object-Oriented Development | CS 3305 | 3 | |
| SWE 4783 User Interaction Engineering | SWE 3313 or SWE 4324 | 3 | |
| SWE 4490 Special Topics | Varies | 3 | |
| SWE 4803 Independent Study | Varies | 3 | |
| CS 4720 Internet Programming | CS 3305 & (CS 3410) | 3 | |
| CS 4524 Cloud Computing + | CS 4504 | 3 | |
| CS 4514 Real-Time Systems | CS 3502 | 3 | |
| CS 4612 Software Security | CS 3502 & CS 3626 | 3 | |
| CS 4632 Modeling & Sim. | CS 3305 | 3 | |
| CS 4712 User Interface Engineering | CSE 1322/L | 3 | |
| CS 4308 Concepts of Programming Languages ^ | CS 3305 & CS 3503 | 3 | |
| CSE 4983 CSE Computing Science Internship | Department Permission | 3 | |

^ = Offered Fall and Spring Semesters Online

+ = Offered Summer Semesters Online

List 2 (Choose 0 or 1 courses)

Prerequisites

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| CS 4504 Parallel & Distributed Computing ^ | CS 3305 & 3503, CS 3502 © | 3 | |
| CS 4523 Programming Massively Parallel Processors | CS 3502 & CS 3305 | 3 | |
| CS 4622 Computer Networks + | CS 3503 & CS 3622 | 3 | |
| CS 4722 Computer Graphics and Multimedia | CS 3305 | 3 | |
| CS 4732 Machine Vision + | CS 3642 | 3 | |
| IT 4823 Info Security Admin & Privacy | (CSE 2300 or MATH 2345) and CSE 3153 and (CS 3503 or IT 3123) | 3 | |
| IT, CS, CGDD 4000 level course | Program Coordinator Approval | 3 | |

© = concurrent permitted