



Computer Science Program: Standard Option

Curriculum Requirements

Catalog Year 2020-21 to present

FRESHMAN YEAR

| <u>First Semester</u> | | | <u>R</u> | <u>L</u> | <u>C</u> | <u>Second Semester</u> | | | <u>R</u> | <u>L</u> | <u>C</u> |
|-----------------------|-----|-------------------------------------|----------|----------|----------|------------------------|-----|--------------------------------------|----------|----------|----------|
| ENL | 101 | Critical Writing & Reading I | 3 | 0 | 3 | ENL | 102 | Critical Writing & Reading II | 3 | 0 | 3 |
| CIS | 180 | Object-Oriented Programming I | 3 | 2 | 4 | CIS | 181 | Object-Oriented Programming II | 3 | 2 | 4 |
| EGR | 111 | Intro to Engineer & Computing | 3 | 2 | 3 | | | University Studies ¹ | 3 | 0 | 3 |
| MTH | 153 | Calc for Appl Science Engineering I | 4 | 0 | 4 | MTH | 154 | Calc for Appl Science Engineering II | 4 | 0 | 4 |
| 14 | | | | | | 14 | | | | | |

SOPHOMORE YEAR

| <u>First Semester</u> | | | <u>R</u> | <u>L</u> | <u>C</u> | <u>Second Semester</u> | | | <u>R</u> | <u>L</u> | <u>C</u> |
|-----------------------|-----|-------------------------------------|----------|----------|----------|------------------------|-----|--------------------------------------|----------|----------|----------|
| MTH | 181 | Discrete Structures I | 3 | 0 | 3 | MTH | 182 | Discrete Structures II | 3 | 0 | 3 |
| CIS | 190 | Intro. To Procedural Programming | 3 | 2 | 4 | CIS | 273 | Computer Organization & Design | 3 | 0 | 3 |
| CIS | 272 | Introduction to Computing Systems | 3 | 2 | 4 | CIS | 280 | Software Specification & Design | 3 | 2 | 4 |
| | | Laboratory Science I ^{2,4} | 3 | 3 | 4 | | | Laboratory Science II ^{3,4} | 3 | 3 | 4 |
| 15 | | | | | | 14 | | | | | |

JUNIOR YEAR

| <u>First Semester</u> | | | <u>R</u> | <u>L</u> | <u>C</u> | <u>Second Semester</u> | | | <u>R</u> | <u>L</u> | <u>C</u> |
|-----------------------|-----|---|----------|----------|----------|------------------------|-----|---------------------------------|----------|----------|----------|
| CIS | 360 | Algorithms and Data Structures | 3 | 2 | 4 | CIS | 361 | Models of Computation | 3 | 0 | 3 |
| CIS | 381 | Social & Ethical Aspects of CS ⁵ | 3 | 0 | 3 | CIS | 362 | Empirical Methods for CS | 3 | 0 | 3 |
| MTH | 331 | Probability | 3 | 0 | 3 | CIS | 370 | Design of Operating Systems | 3 | 2 | 4 |
| ENL | 266 | Technical Communications | 3 | 0 | 3 | | | Science Elective ^{4,6} | 3 | 0 | 3 |
| | | University Studies ¹ | 3 | 0 | 3 | | | University Studies ¹ | 3 | 0 | 3 |
| 16 | | | | | | 16 | | | | | |

SENIOR YEAR

| <u>First Semester</u> | | | <u>R</u> | <u>L</u> | <u>C</u> | <u>Second Semester</u> | | | <u>R</u> | <u>L</u> | <u>C</u> |
|-----------------------|-----|-------------------------------------|----------|----------|----------|------------------------|-----|-------------------------------------|----------|----------|----------|
| CIS | 498 | Software Engineering Project I | 3 | 2 | 4 | CIS | 499 | Software Engineering Project II | 2 | 2 | 3 |
| CIS | | CIS Technical Elective ⁷ | 3 | 0 | 3 | CIS | 481 | Parallel & Distributed Computing | 3 | 0 | 3 |
| CIS | | CIS Technical Elective ⁷ | 3 | 0 | 3 | CIS | | CIS Technical Elective ⁷ | 3 | 0 | 3 |
| | | University Studies ¹ | 3 | 0 | 3 | CIS | | CIS Technical Elective ⁷ | 3 | 0 | 3 |
| | | Free Elective | 3 | 0 | 3 | | | University Studies ¹ | 3 | 0 | 3 |
| 16 | | | | | | 15 | | | | | |

Total Credits = 120

R = Recitation & Lecture (hours) L = Laboratory (hours)

C = Number of Credits

¹See University Studies requirements for Clusters 3 and 4.²Must be either PHY 113 or CHM 151/161 or BIO 121/131.³Must be a continuation of Laboratory Science I (PHY 114 or CHM 152/162 or BIO 122/132).⁴Ideally one of these courses should also meet University Studies Cluster 2A⁵This course meets the University Studies Cluster 2B requirement.⁶Any course in BIO, CHM, MAR, MLS, or PHY.⁷Must be taken from approved list of courses.