Standard graduation plan

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Fall – Year 1** | **CR** |  | **Winter** | **CR** |  | **Spring** | **CR** |
| UNIV 101 | 1 |  | ENG 102 | 5 |  | World Cultures | 5 |
| Literature | 5 |  | Philosophies | 5 |  | Human Behavior | 5 |
| Aesthetic | 5 |  | US Cultures | 5 |  | Physical Sciences | 5 |
| ENG 101 | 5 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Total | 16 |  | Total | 15 |  | Total | 15 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Fall – Year 2** | **CR** |  | **Winter** | **CR** |  | **Spring** | **CR** |
| Natural World | 5 |  | Gen Ed \* | 5 |  | Reasoning | 4 |
| Gen Ed \* | 5 |  | Natural Sciences | 5 |  | MATH 172 | 5 |
| Computer Fund. | 5 |  | CS 110 | 4 |  | CS 111 | 4 |
|  |  |  |  |  |  |  |  |
| Total | 14 |  | Total | 14 |  | Total | 13 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Fall – Year 3** | **CR** |  | **Winter** | **CR** |  | **Spring** | **CR** |
| CS 112 | 4 |  | CS 312 | 4 |  | CS 380 | 4 |
| CS 301 | 4 |  | CS 302 | 4 |  | CS 446 | 4 |
| CS 311 | 4 |  | CS 325 | 4 |  | MATH 330 | 5 |
| Elective 1 | 4 |  | MATH 260 | 5 |  | Elective 2 | 4 |
|  |  |  |  |  |  |  |  |
| Total | 16 |  | Total | 17 |  | Total | 17 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Fall – Year 4** | **CR** |  | **Winter** | **CR** |  | **Spring** | **CR** |
| CS 480 | 4 |  | CS 481 | 4 |  | CS 489 | 1 |
| CS 427 | 4 |  | CS 470 | 4 |  | CS 492 | 1 |
| Elective 3 | 4 |  | CS 362 | 4 |  | CS 420 | 4 |
| CS 361 | 4 |  | CS 392 | 1 |  | Elective 4 | 4 |
|  |  |  |  |  |  | Elective 5 | 4 |
| Total | 16 |  | Total | 13 |  | Total | 14 |

Total Credits: 180

\* Denotes classes that are not used for specific degree requirements, other than meeting the minimum credits required to graduate. Can be used for foreign language requirement or for math prerequisites if needed.

Graduation Requirements:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Gen Ed Requirements** | **CR** | **CS Pre-Major** | **CR** | **CS Major** | **CR** | **CS Elective** | **CR** |
| UNIV 101 | 1 | ENG 101 | 5 | CS 112 | 4 | Elective 1 | 4 |
| Literature | 5 | ENG 102 | 5 | CS 302 | 4 | Elective 2 | 4 |
| Aesthetic | 5 | CS 110 | 4 | CS 311 | 4 | Elective 3 | 4 |
| Philosophies | 5 | CS 111 | 4 | CS 312 | 4 | Elective 4 | 4 |
| United States Cultures | 5 | CS 301 | 4 | CS 325 | 4 | Elective 5 | 4 |
| World Cultures | 5 | MATH 172 | 5 | CS 361 | 4 |  |  |
| Human Behavior | 5 |  |  | CS 362 | 4 |  |  |
| Natural World | 5 |  |  | CS 380 | 4 |  |  |
| Natural Sciences | 5 |  |  | CS 392 | 1 |  |  |
| Physical Sciences | 5 |  |  | CS 420 | 4 |  |  |
| Computer Fundamentals | 4 |  |  | CS 427 | 4 |  |  |
| Reasoning | 4 |  |  | CS 446 | 4 |  |  |
| Gen Ed 1 | 5 |  |  | CS 470 | 4 |  |  |
| Gen Ed 2 | 5 |  |  | CS 480 | 4 |  |  |
|  |  |  |  | CS 481 | 4 |  |  |
|  |  |  |  | CS 489 | 1 |  |  |
|  |  |  |  | CS 492 | 1 |  |  |
|  |  |  |  | MATH 260 | 5 |  |  |
|  |  |  |  | MATH 330 | 5 |  |  |
|  |  |  |  |  |  |  |  |
| **Total** | 64 | **Total** | 27 | **Total** | 69 | **Total** | 20 |

Assumptions:

* High School foreign language requirement completed.
* Gen-Ed classes are offered every quarter
* Gen-Ed classes meet writing and lab graduation requirements.
* Gen-Ed and elective categories represent the minimum number of credits that can be used to fulfill that requirement.
* CS Pre-admission requirements are taken with at least a B- Minimum
* CS Electives consist of at least 12 credits from the CS department and at least 20 credits total.
* Prerequisites for MATH 172 are met before last quarter of second year.

Quarterly Course Offerings - Based off of tentative course offerings for 2017-2018 academic year

|  |  |  |  |
| --- | --- | --- | --- |
| **Course** | **Fall** | **Winter** | **Spring** |
| CS 110 | X | X | X |
| CS 111 |  | X | X |
| CS 112 | X | X | X |
| CS 301 | X |  | X |
| CS 302 | X | X |  |
| CS 311 | X |  | X |
| CS 312 | X | X |  |
| CS 325 | X | X | X |
| CS 351\* |  | X |  |
| CS 361 | X |  |  |
| CS 362 |  | X |  |
| CS 367\* |  |  | X |
| CS 370\* |  |  | X |
| CS 380 |  |  | X |
| CS 392 | X | X | X |
| CS 420 |  | X | X |
| CS 427 | X | X |  |
| CS 440\* | X |  |  |
| CS 445\* |  | X |  |
| CS 446 |  |  | X |
| CS 450\* |  |  | X |
| CS 455\* |  | X |  |
| CS 460\* | X |  |  |
| CS 470 |  | X |  |
| CS 471 |  |  | X |
| CS 473\* |  | X |  |
| CS 480 | X |  |  |
| CS 481 |  | X |  |
| CS 489 |  | X | X |
| CS 492 | X | X | X |
| MATH 260 | X | X | X |
| MATH 330 | X |  | X |

\* denotes elective classes

Computer Science Core Course Prerequisites

|  |  |
| --- | --- |
| CS 110 - Programming Fundamentals I |  |
| CS 111 - Programming Fundamentals II | CS 110 and MATH 153 |
| CS 112 - Foundations of Computer Science |  |
| CS 301 - Data Structures | CS 111 and MATH 154 |
| CS 302 - Advanced Data Structures and File Processing | CS 301 and MATH 172 |
| CS 311 - Computer Architecture I | CS 110 |
| CS 312 - Computer Architecture II | CS 301 and CS 311 |
| CS 325 - Technical Writing in Computer Science | ENG 102 and CS 301 |
| CS 361 - Principles of Language Design I | CS 302 and admission to CS Major |
| CS 362 - Principles of Language Design II | CS 361 and MATH 260 and admission to CS Major |
| CS 380 - Introduction to Software Engineering | CS 302 and admission to CS Major |
| CS 392 - Lab Experience in Teaching Computer Science |  |
| CS 420 - Database Management Systems | CS 302, CS 325, and MATH 330 and admission to CS Major |
| CS 427 - Algorithm Analysis | CS 302, CS 325, and MATH 330 and admission to CS Major |
| CS 446 - User Interface Design and Development | CS 302 and admission to CS Major |
| CS 470 - Operating Systems | CS 302 and CS 312 and CS 325 and admission to CS Major |
| CS 480 - Advanced Software Engineering | CS 325 and CS 380 and admission to CS Major |
| CS 481 - Software Engineering Project | CS 325 and CS 480 and admission to CS Major |
| CS 489 - Senior Colloquium | CS 325 and admission to CS Major |
| CS 492 - Lab Experience in Teaching Computer Science |  |
| MATH 172 - Calculus I | MATH 154 with a grade of C or higher, a score of 19 on the Advanced Math Placement Test |
| MATH 260 - Sets and Logic | MATH 173 with a grade of C or higher or MATH 172 and CS 301 with grades of C or higher |
| MATH 330 - Discrete Mathematics | MATH 260 with a grade of C or higher |

Computer Science Elective Prerequisites

|  |  |
| --- | --- |
| CS 351 - Web Development Technologies II | CS 250 |
| CS 367 - Advanced Visual Basic Programming | CS 105 and CS 110 |
| CS 370 - Introduction to the UNIX Operating System | CS 301 and CS 311 |
| CS 430 - Introduction to Computer Security | CS 312 |
| CS 440 - Computer Graphics | CS 302 and CS 325 |
| CS 441 - Computer Graphics II | CS 440 |
| CS 442 - Computer Vision | CS 302 |
| CS 445 - Data and Information Visualization | CS 302 |
| CS 450 - Computer Network and Data Communications | CS 301, CS 311, and CS 325 |
| CS 455 - Artificial Intelligence | CS 302, CS 325, CS 362, and MATH 330 |
| CS 456 - Data Mining | CS 420 and either  MATH 311 or BUS 221 |
| CS 460 - Software Engineering for Mobile Devices | CS 301 |
| CS 471 - Optimization | CS 302 and CS 325 and MATH 330 |
| CS 473 -  Parallel Computing | CS 325 and CS 470 |
| CS 475 - Distributed Systems | CS 302 |
| CS 476 - Social Informatics | CS 301 |
| CS 530 - High-performance Computing | CS 528 |