

**DEGREE REQUIREMENTS FOR B.S. IN COMPUTER SCIENCE (as of FALL 2019)**

Updated April 2019

Name \_\_\_\_\_

Class of \_\_\_\_\_

CPSC GPA \_\_\_\_\_ (from Transcript)

|  |       |  |                                      |   |  |
|--|-------|--|--------------------------------------|---|--|
| <b>Required Math courses</b>   |       |  |                                      |   |  |
| Sem  | Grade | Course                                     |                                      |   |  |
| _____  | _____ | MATH 131                                   | Calculus I                           |   |  |
| _____  | _____ | MATH 132                                   | Calculus II                          |   |  |
| <b>Required Foundation course:</b>   |       |  |                                      |   |  |
| Sem  | Grade | Course                                     | Sem                                  | Grade                                       | Course                                   |
| _____  | _____ | CPSC 115L                                  | Intro to Computing                   | _____                                       | CPSC 203                                 |
|  |       |  |                                      |   | Math Found. of Computing                 |
| _____  | _____ | CPSC 215L                                  | Data Structures and Algorithms       | _____                                       | CPSC 275L                                |
|  |       |  |                                      |   | Introduction to Computer Systems         |
| <b>Required Theory courses - 1 needed</b>  |       | <b>Required Systems courses - 1 needed</b> |                                      | <b>Required Software courses - 1 needed</b> |  |
| Sem  | Grade | Course                                     | Sem                                  | Grade                                       | Course                                   |
| _____  | _____ | CPSC 219                                   | Theory of Computation                | _____                                       | _____                                    |
|  |       |  |                                      |   | CPSC 315                                 |
| _____  | _____ | CPSC 320                                   | Analysis of Algorithms               | _____                                       | CPSC 333                                 |
|  |       |  |                                      |   | Computer Networks                        |
|  |       |  |                                      | _____                                       | CPSC 375                                 |
|  |       |  |                                      |   | High-Performance Computing               |
|  |       |  |                                      | _____                                       | CPSC 385                                 |
|  |       |  |                                      |   | Computer Security                        |
|  |       |  |                                      | _____                                       | _____                                    |
|  |       |  |                                      |   | CPSC 304                                 |
|  |       |  |                                      |   | Computer Graphics                        |
|  |       |  |                                      | _____                                       | CPSC 310                                 |
|  |       |  |                                      |   | Software Design                          |
|  |       |  |                                      | _____                                       | CPSC 316                                 |
|  |       |  |                                      |   | Found. of Programming Languages          |
|  |       |  |                                      | _____                                       | CPSC 340                                 |
|  |       |  |                                      |   | Principles of Software Engineering       |
|  |       |  |                                      | _____                                       | CPSC 352                                 |
|  |       |  |                                      |   | Artificial Intelligence                  |
| <b>Elective courses - 3 needed (only 1 can be CPSC 110)</b>                        |       |  |                                      |   |  |
| Sem  | Grade | Course                                     | Sem                                  | Grade                                       | Course                                   |
| _____  | _____ | CPSC 110                                   | Computers, Information, and Society  | _____                                       | _____                                    |
| _____  | _____ | CPSC 110                                   | Visual Computing                     | _____                                       | _____                                    |
| _____  | _____ | CPSC 110                                   | Computing with Mobile Phones         | _____                                       | _____                                    |
| _____  | _____ | CPSC 219                                   | Theory of Computation                | _____                                       | _____                                    |
| _____  | _____ | CPSC 225                                   | Topics in Application Programming    | _____                                       | _____                                    |
| _____  | _____ | CPSC 304                                   | Computer Graphics                    | _____                                       | _____                                    |
| _____  | _____ | CPSC 310                                   | Software Design                      | _____                                       | _____                                    |
| _____  | _____ | CPSC 315                                   | Systems Software                     | _____                                       | _____                                    |
| _____  | _____ | CPSC 316                                   | Foundations of Programming Languages | _____                                       | _____                                    |
| _____  | _____ | CPSC 320                                   | Analysis of Algorithms               | _____                                       | _____                                    |
| _____  | _____ | CPSC 333                                   | Computer Networks                    | _____                                       | _____                                    |
| _____  | _____ | CPSC 340                                   | Principles of Software Engineering   | _____                                       | _____                                    |
| _____  | _____ | CPSC 352                                   | Artificial Intelligence              | _____                                       | _____                                    |
| _____  | _____ | CPSC 372                                   | Database Fundamentals                | _____                                       | _____                                    |
| _____  | _____ | CPSC 375                                   | High-Performance Computing           | _____                                       | _____                                    |
| _____  | _____ | CPSC 385                                   | Computer Security                    | _____                                       | _____                                    |
| _____  | _____ | CPSC 415                                   | Special Topics in Computing          | _____                                       | _____                                    |
|  |       |  |                                      | _____                                       | _____                                    |
|  |       |  |                                      |   | ENGR 221L                                |
|  |       |  |                                      |   | Digital Circuits and Systems             |
|  |       |  |                                      | _____                                       | ENGR 323L                                |
|  |       |  |                                      |   | Microprocessor Systems                   |
|  |       |  |                                      | _____                                       | MATH 228                                 |
|  |       |  |                                      |   | Linear Algebra                           |
|  |       |  |                                      | _____                                       | MATH 252                                 |
|  |       |  |                                      |   | Introduction to Mathematical Modeling I  |
|  |       |  |                                      | _____                                       | MATH 254                                 |
|  |       |  |                                      |   | Introduction to Mathematical Modeling II |
|  |       |  |                                      | _____                                       | MATH 305                                 |
|  |       |  |                                      |   | Probability                              |
|  |       |  |                                      | _____                                       | MATH 309                                 |
|  |       |  |                                      |   | Numerical Analysis                       |
|  |       |  |                                      | _____                                       | MATH 314                                 |
|  |       |  |                                      |   | Combinatorics and Computing              |
|  |       |  |                                      | _____                                       | _____                                    |
| <b>Senior Exercise (Seminar + Project)</b>   |       |  |                                      |   |  |
|  | Sem   | Grade                                      | Course                               | Sem   | Grade                                    |
|  | _____ | _____                                      | CPSC 403                             | _____                                       | _____                                    |
|  | _____ | _____                                      | CPSC 404                             | _____                                       | _____                                    |
|  |       |  |                                      | _____                                       | _____                                    |
|  |       |  |                                      |   | CPSC 498                                 |
|  |       |  |                                      | _____                                       | CPSC 499                                 |
|  |       |  |                                      |   |  |
| Students must register for all four separately. They also receive separate grades. |       |  |                                      |   |  |

# B.S. IN COMPUTER SCIENCE

## Recommended Course Load

|          | <b>FALL</b>   | <b>SPRING</b>  |
|----------|---|--|
| 1st year | Freshman Seminar<br>CPSC 115L    Intro to Computing<br>MATH 131    Calculus I<br>_____<br>_____   | CPSC 215L    Data Structures and Algorithms<br>CPSC 203    Math Found. of Computing<br>MATH 132    Calculus II<br>_____<br>_____ |
| 2nd year | Theory Course<br>CPSC 275L    Intro. To Computer Systems<br>_____<br>_____<br>_____               | Systems Course<br>_____<br>_____<br>_____  |
| 3rd year | Software Course<br>Elective 1<br>_____<br>_____<br>_____  | Elective 2<br>_____<br>_____<br>_____  |
| 4th year | CPSC 403    Senior Seminar<br>CPSC 498    Senior Project<br>Elective 3<br>_____<br>_____<br>_____ | CPSC 404    Senior Seminar<br>CPSC 499    Senior Project<br>Elective 4<br>_____<br>_____<br>_____                                |