Fall 2022 - current
Bachelor of Science in Computer Science
Specialization in Computational Data Science

### Major Requirements (56 Hrs.)

<table>
<thead>
<tr>
<th>Hrs</th>
<th>Course</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>CS 2010 Programming Fundamentals</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>CS 2020 Intermediate Programming</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>CS 2190 Computer Organization</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>CS 2900 Career Preparation in Computing Fields</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>CS 3000 Professional &amp; Societal Issues in Computing</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>CS 3060 Programming Languages</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>CS 3080 Operating Systems</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>CS 3350 Data Structures</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>SE 3540 Introduction to Software Engineering</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>CS 3900 Internship in Computer Science or 3 cr hrs of CS 3901 Internship in Computer Science</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>CS 4120 Design and Analysis of Algorithms</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>CS 4390 Network Architecture and Application</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>CS 4770 Computer Science Capstone Experience OR SE 4770 Software Engineering Capstone Experience</td>
<td></td>
</tr>
</tbody>
</table>

#### CS Core Requirements (38 hrs.)

- **Quantitative Literacy**
- **Computational Data Science Specialization** (18 hrs.)
  - 3 CS 3200 Introduction to Machine Learning
  - 3 CS 4170 Parallel Computing
  - 3 CS 4620 Database Management Systems
  - 3 CS 4630 Python for Computational & Data Science
  - 3 MATH 3320 Elementary Linear Algebra
  - Choose one from:
    - CS 4200 Artificial Intelligence
    - CS 4250 Computer Graphics
    - CS 4420 Techniques of Simulation
    - MATH 3430 Computing with Data

#### Additional Requirements

- **Mathematics**
  - 5-6 MATH 1310 or both MATH 1340 & 1350
  - 3 MATH 2220 or 3220
  - 3-6 MATH 2470 or MATH 3410 or MATH 4410
  - 5 MATH 2320

- **Science**
  - 8-10 A&S Lab Science Sequence

*Recommended Math Courses:
  - MATH 2332 Calculus and Analytic Geometry III
  - MATH 4410 Probability and Statistics I

### Arts & Sciences Requirements

- **World Languages and Cultures** (____ yrs of HS______)

- **Multidisciplinary Component** Select from approved offerings, in consultation with an advisor and a faculty mentor. Four courses total, each with a different subject prefix. At least two courses at 3000/4000 level. Courses applied to the Arts & Sciences MDC may not be used to fulfill other Arts and Sciences degree requirements, nor may they be used to fulfill major, minor, BGP or other program requirements.

### University Requirements

- Designated courses in Humanities and the Arts and the Social and Behavioral Sciences domains may be used to fulfill both the BGP requirement and one of the following university requirements:

- **Cultural Diversity in the US**
- **International Perspective**

- **Composition Requirement:** WRIT 1120 Research Writing

- **Total BGP Credits: Must be at least 36**

- **Quantitative Literacy**

- **Multidisciplinary Component**

- **Electives and Non-Credit Courses**
For Graduation You Will Need:

1. 122 credit hours minimum.
   
   **In Progress/Completed** ________  **Needed** ________

2. Minimum GPA 2.00.
   
   **Current GPA** ________

3. At least 30 credit hours of BGSU course work.
   
   **In Progress/Completed** ________  **Needed** ________

4. 40 credit hours at the 3000/4000 level.
   
   **In Progress/Completed** ________  **Needed** ________

5. Completion of all degree requirements, including the BG Perspective Core.
   
   **In Progress/Completed** ________  **Needed** ________

6. A major, and if required, a minor, specialization or emphasis.
   
   **Declared with the College Office**  ☐ Yes  ☐ No

Any substitution or waiver of courses required for your major or minor program must originate in the department/school offering the major or minor and must be approved by the College Office.

To ensure a timely graduation, see a College Advisor during the semester prior to your intended graduation.

Remember to complete an Application for Graduation by the end of the second week of classes during the fall semester or spring regular session, or by the end of the first week of the summer semester. For the specific dates, check your DARS. You may log onto MyBGSU to complete the online application. After the deadlines, you will need to complete an application in person in the College Office.