

**Spring 2020**  
**Bachelor of Science in Computer Science**  
**Specialization in Computational Data Science**

**BG Perspective (BGP) Requirements**

**Must complete at least 1 course in each of the following:**

English Composition and Oral Communication Course	Credits
_____	_____
Quantitative Literacy	
_____	_____

**Must Complete at least 2 courses in each of the following:**

Humanities and the Arts	
_____	_____
_____	_____
Natural Sciences - at least one Lab Science required	
_____	_____
_____	_____
Social and Behavioral Sciences	
_____	_____
_____	_____

**Complete total required BGP credit hours by selecting courses from any of the above categories:**

_____	_____
_____	_____
_____	_____

**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	_____

**Arts & Sciences Requirements**

**Foreign Language** (\_\_\_\_ yrs of HS\_\_\_\_)

_____	1010	_____
_____	1020	_____
_____	2010	_____
_____	2020/2120	_____

**Lab Science**

\_\_\_\_\_

**Quantitative Literacy**

\_\_\_\_\_ EITHER MATH 1310 OR MATH 1340 & MATH 1350

**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.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**Major Requirements (52 Hrs.)**

**CS Core Requirements (34 hrs.)**

Hrs	Grade	
3	_____	CS 2010 Programming Fundamentals
3	_____	CS 2020 Intermediate Programming
3	_____	CS 2190 Computer Organization
1	_____	CS 2900 Internship (Co-Op) Preparation
3	_____	CS 3000 Professional & Societal Issues in Computing
3	_____	CS 3060 Programming Languages
3	_____	CS 3080 Operating Systems
3	_____	CS 3350 Data Structures
3	_____	CS 3540 Introduction to Software Engineering
3	_____	CS 3900 Internship in Computer Science or 3 cr hrs of CS 3901 Internship in Computer Science
3	_____	CS 4120 Design and Analysis of Algorithms
3	_____	CS 4390 Network Architecture and Application

**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 Systems
3	_____	MATH 3320 Elementary Linear Algebra
3	_____	Choose <b>one</b> from
		CS 4200 Artificial Intelligence
		CS 4250 Computer Graphics
		CS 4420 Techniques of Simulation
		MATH 3430 Computing with Data

**Additional Requirements (at least 30 hours):**

Mathematics and Science

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
8-10	_____	A&S Lab Science Sequence
_____	_____	Choose from A&S approved Natural Science and Math Courses

\*Recommended Math Courses:

- MATH 2332 Calculus and Analytic Geometry III
- MATH 4410 Probability and Statistics I

**Electives and Non-Credit Courses**

_____	_____	_____
_____	_____	_____
_____	_____	_____

\_\_\_\_\_  
Name (Print First & Last Name)

\_\_\_\_\_  
BGSU ID#

\_\_\_\_\_  
Phone (Cell or Local Number)

**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.