

## Curriculum Map Computer Science, Bachelor of Science Data Science

You may be required to complete college readiness courses (ENG 100E, MATH 152E, FYS 101E). This is an **unofficial** document; the student's program evaluation is the official document for viewing the requirements needed to complete the chosen bachelor's degree. Please consult with your advisor before registering for classes. This curriculum map assumes that you have not transferred in any previously completed college level courses. All students must have 36 hours of general education courses. The approved course list is located in the MSU Catalog, <http://www.moreheadstate.edu/catalog>. If an "f" or "s" is listed beside the course, this indicates the class is normally offered only in the fall semester (f) or spring semester (s).

FIRST YEAR COURSE SCHEDULE								
✓	Course	Fall Semester	Credits		✓	Course	Spring Semester	Credits
	FYS 101	First Year Seminar	3			ENG 200	Writing II	3
	MATH 175	Calculus I	4			COMS 108	Fund. Of Speech Communication	3
	ENG 100	Writing I	3			General Education	HUM II	3
	General Education	HUM I	3			MATH 275	Calculus II	4
	CS 170/170L	Introduction to Computer Science	4			CIS 205 (s)	Introduction to Programming C++	3
<b>Total Credit Hours</b>			<b>17</b>	<b>Total Credit Hours</b>			<b>16</b>	

SECOND YEAR COURSE SCHEDULE								
✓	Course	Fall Semester	Credits		✓	Course	Spring Semester	Credits
	General Education	NSC I	3			General Education	NSC II	3
	CS 303 (f)	Data Structures	3			General Education	SBS II	3
	PHYS 201/201L or CHEM 111/111L	Elementary Physics I/Lab or Prin of Chem I/Lab	4			PHYS 202/202L or CHEM 112/112L or BIOL 171	Elementary Physics II/Lab or Prin of Chem II/Lab or Principles of Biology	4
	CS 285	Programming in C#	3			CS 310 (s)	Algorithms & Advanced Data Structures	3
	General Education	SBS I	3			MATH 353 or 365	Statistics or Intro to Math Statistics	3
<b>Total Credit Hours</b>			<b>16</b>	<b>Total Credit Hours</b>			<b>16</b>	

THIRD YEAR COURSE SCHEDULE								
✓	Course	Fall Semester	Credits		✓	Course	Spring Semester	Credits
	MATH 308 (f)	Discrete Mathematics	3			CS 360	Operating Systems	3
	CS 372	Math for Gaming & Comp Sci App	3			CS 380	Software Engineering	3
	CS 335 (f)	Theory Programming Lang	3			CS 340	Computer Architecture & Org	3
	CS 385	Adv Programming Methods	3			CS 420	Data Mining Concepts	3
	Free Elective	Choose any course where you meet the prerequisite/s	3					
<b>Total Credit Hours</b>			<b>15</b>	<b>Total Credit Hours</b>			<b>12</b>	

FOURTH YEAR COURSE SCHEDULE								
✓	Course	Fall Semester	Credits		✓	Course	Spring Semester	Credits
	CS 499C	Capstone & Senior Thesis I	2			CS 499D	Capstone & Senior Thesis II	1
	CS 480	Computer Security	3			CS 470	Artificial Intelligence	3
	CS 430	Machine Learning	3			CS 440	Parallel & Distributed Systems	3
	CS Elective	Refer to Program Evaluation	3			CS Elective	Refer to Program Evaluation	3
	CS Elective	Refer to Program Evaluation	3			Free Elective	Choose any course where you meet the prerequisite/s	3
<b>Total Credit Hours</b>			<b>14</b>	<b>Total Credit Hours</b>			<b>14</b>	

I have reviewed the curriculum and course sequence for this Bachelor's degree and understand I have to follow this map with my advisor's guidance. I understand that I need an advisor to approve my schedule prior to registration each semester.

Student's Signature \_\_\_\_\_

May 2020

## CS Elective Courses

CS 172	Computer Games Concepts
CS 312	Game Prototype Design and Implementation
CS 412	Software Engineering for Computer Games
CS 420	Data Mining Concepts
CS 430	Machine Learning
CS 450	Computer Graphics
CS 460	Scientific and Parallel Computing
CS 470	Artificial Intelligence
CS 472	Multiplayer Networking Game Programming
CS 476	Special Problems
CS 485	Networking Security
CS 482	Digital Forensics
CIS 314	Advanced Programming-Java
CIS 322	Systems Security and Information Assurance
CIS 326	Introduction to Databases
CIS 405	Web Development Strategies and E-commerce
CIS 441	Network Administration
EEC 345	Microprocessor Electronics
EEC 480	Digital Communication and Networking
MATH 320	Codes and Cryptography