College of Computer, Mathematical and Natural Sciences

Comp. Sci. - Data Science Track Effective Fall 2022   *This is a curriculum tracking sheet, not an official audit*

Name_____   UID_____

Date Entered Major_____   Second degree/major_____   Is CMNS first major? Y   N

General Education Requirements

Fundamental Studies

	Requirement	Course	Credits	Completed?
AW	Academic Writing (before 30 credits)		3	
PW	Professional Writing (after 60 credits)		3	
OC	Oral Communication		3	

Distributive Studies

	Requirement	Course	Credits	Completed?
NL	Natural Science with Lab		4	
NS	Natural Science		3 or 4	
HS	History and Social Sciences		3	
HS	History and Social Sciences		3	
HU	Humanities		3	
HU	Humanities		3	
SP	Scholarship in Practice (non-major)		3	
SP	Scholarship in Practice (non-major)		3	

I-Series

Overlap with Distributive Studies and/or I-Series

	Requirement	Course	Credits	Completed?
IS	I-Series			
IS	I-Series			

Diversity

Can overlap with Distributive Studies or I-Series

	Requirement	Course	Credits	Completed?
UP	Understanding Plural Societies			
UP or CC	Understanding Plural Societies or Cultural Competence			

Gen Ed Mathematics (MA) and Analytic Reasoning (AR) are satisfied by major requirements.

Upper Level Concentration

Students must complete a minimum of 12 credit hours of 300 - 400 level courses in one discipline outside of Computer Science. No course that is in, or cross-listed as, CMSC may be counted in this requirement. Only 1 independent study or experiential learning course may be used. Students who are pursuing a minor or a second major can use those credits in this area. Consult with your academic advisor to ensure each course you plan to take will satisfy this area.

Course	Credits	Completed?

Elective Credits

Students must take enough elective courses in any discipline(s) they choose to reach the total number of 120 credits required for graduation. Students who are pursuing a minor or a second major can use those credits in this area.

Course	Credits	Completed?

Major Requirements

Lower Level Requirements (Must pass with a grade of C- or higher)

Title	Course	Credits	Completed?
Calculus I	MATH 140	4	
Calculus II	MATH 141	4	
Object-Oriented Programming I	CMSC 131 or CMSC 141	4	
Programming with Purpose I: Data-Centric Computing			
Object-Oriented Programming II	CMSC 132 or CMSC 142	4	
Programming with Purpose II: Data Structures and Algorithms			
Introduction to Computer Systems	CMSC 216	4	
Discrete Structures	CMSC 250	4	
Organization of Programming Languages	CMSC 330	3	
Algorithms	CMSC 351	3	
Applied Probability and Statistics I	STAT 400	3	
Linear Algebra course	MATH 240 or MATH 341 or MATH 461	4	

Upper Level Courses (Must pass with a grade of C- or higher)

Students must fulfill their computer science upper level course requirements from at least 3 areas

Required:	Course	Credits	Completed?
Introduction to Data Science	CMSC 320	3	
Introduction to Machine Learning *	CMSC 422	3	
Database Design	CMSC 424	3	

Choose one course from:	Course	Credits	Completed?
Data Structures	CMSC 420	3	
Introduction to Artificial Intelligence	CMSC 421	3	
Bioinformatic Algorithms, Databases and Tools	CMSC 423	3	
Game Programming *	CMSC 425	3	
Computer Vision	CMSC 426	3	
Computer Graphics *	CMSC 427	3	
Natural Language Processing *	CMSC 470	3	

Choose one course from:	Course	Credits	Completed?
Design and Analysis of Computer Algorithms	CMSC 451	3	
Algorithms for Data Science	CMSC 454	3	
Computational Methods *	CMSC 460	3	

Choose two courses from:	Course	Credits	Completed?
Computer Systems Architecture	CMSC 411	3	
Operating Systems *	CMSC 412	4	
Computer and Network Security	CMSC 414	3	
Computer Networks	CMSC 417	3	
Introduction to Compilers	CMSC 430	3	
Programming Language Technologies and Paradigms	CMSC 433	3	
Introduction to Human-Computer Interaction	CMSC 434	3	
Software Engineering *	CMSC 435	3	

* Indicates the course has unique prerequisites