



# College of Computer, Mathematical and Natural Sciences

## Computer Science - Machine Learning

Effective Fall 2024    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?
<b>AW</b> Academic Writing (before 30 credits)		3	
<b>PW</b> Professional Writing (after 60 credits)		3	
<b>OC</b> Oral Communication		3	
Distributive Studies			
Requirement	Course	Credits	Completed?
<b>NL</b> Natural Science with Lab		4	
<b>NS</b> Natural Science		3 or 4	
<b>HS</b> History and Social Sciences		3	
<b>HS</b> History and Social Sciences		3	
<b>HU</b> Humanities		3	
<b>HU</b> Humanities		3	
<b>SP</b> Scholarship in Practice (non-major)		3	
<b>SP</b> Scholarship in Practice (non-major)		3	
Big Question			
Overlap with Distributive Studies and/or Big Question			
Requirement	Course	Credits	Completed?
<b>IS</b> Big Question			
<b>IS</b> Big Question			
Diversity			
Can overlap with Distributive Studies or Big Question			
Requirement	Course	Credits	Completed?
<b>UP</b> Understanding Plural Societies			
<b>UP or CC</b> 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	
STAT 4xx with MATH 141 prerequisite	STAT 4XX	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 Artificial Intelligence	CMSC 421	3	
Introduction to Machine Learning *	CMSC 422	3	

Select Two of the Following:	Course	Credits	Completed?
Computer Vision	CMSC 426	3	
Computation Methods *	CMSC 460 or CMSC466 or MATH 401	3	
Introduction to Numerical Analysis *			
Applications of Linear Algebra *			
Introduction to Natural Language Processing *	CMSC 470	3	
Introduction to Deep Learning * (formerly CMSC 498L)	CMSC 472	3	
Capstone in Machine Learning * (formerly CMSC 498P)	CMSC 473	3	
Introduction to Computational Game Theory	CMSC 474	3	
Introduction to Robotics with Perception * (formerly CMSC 498F)	CMSC 476	3	

\* Indicates the course has unique prerequisites

Upper Level Elective Courses (Must pass with a grade of C- or higher)			
Select 6 credits from CMSC 300- or 400-level courses (not eligible CMSC330 & CMSC351)			
Title	Course	Credits	Completed?
		3	

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Computer Science - Machine Learning Track Effective Fall 2024

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Year 1	Fall		
Gateway & Benchmark 1 Requirements: CMSC131, CMSC132, and MATH140 must be completed with a C- or higher by 45 credits (AP/IB credits excluded)	Course	Credit	Grade
	CMSC131 or CMSC141	4	
	MATH140 (FSMA, FSAR)	4	
	ENGL101 (FSAW)	3	
	Oral Comm (FSOC)	3	
	CMSC100	1	
	Total	15	

Spring		
Course	Credit	Grade
CMSC132 or CMSC142	4	
MATH141	4	
Natural Science w/ Lab (DSNL)	4	
History & Social Science (DSHS)*	3	
Total	15	

Year 2	Fall		
Benchmark 2 Requirements: CMSC330, CMSC351, and MATH or STAT must be completed with a C- or higher by 75 credits (AP/IB credits excluded)	Course	Credit	Grade
	CMSC216	4	
	CMSC250	4	
	MATH240 or MATH341 or MATH461	3 or 4	
	Scholarship in Practice (DSSP)*	3	
	Total	14 or 15	

Spring		
Course	Credit	Grade
CMSC330	3	
CMSC351	3	
STAT4XX	3	
Natural Science (DSNS)	3	
Humanities (DSHU)*	3	
Total	15	

Year 3	Fall		
	Course	Credit	Grade
	CMSC320	3	
	CMSC421	3	
	History & Social Sciences (DSHS)*	3	
	Humanities (DSHU)*	3	
	Big Question (SCIS)	3	
	Total	15	

Spring		
Course	Credit	Grade
CMSC422	3	
CMSC4XX	3	
ENGL39X (FSPW)**	3	
Scholarship in Practice (DSSP)*	3	
Big Question (SCIS)	3	
Total	15	

Year 4	Fall		
	Course	Credit	Grade
	CMSC4XX	3	
	CMSC Elective	3	
	UL Concentration	3	
	UL Concentration	3	
	Plural Societies (DVUP)*	3	
	Total	15	

Spring		
Course	Credit	Grade
CMSC Elective	3	
UL Concentration	3	
UL Concentration	3	
Plural Societies (DVUP) or Cultural Competence (DVCC)*	3	
Elective	3 or 4	
Total	15 or 16	

\*All students must complete two Distributive Studies courses that are approved for Big Question courses. The Understanding Plural Societies (UP) and Cultural Competence (CC) courses may also fulfill Distributive Studies categories.

\*\*Students may take any Professional Writing course to fulfill this requirement.