

		College of Computer, Mathematical and Natural Sciences							
		Computer Science - General				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?		Yes	No
General Education (40 credits)									
Fundamental Studies					Distributive Studies				
Requirement		Course	Credits	Completed?	Requirement		Course	Credits	Completed?
FSAW	Academic Writing <i>(must be attempted by 30 credits and completed by 60 credits)</i> <i>("C-" or higher required)</i>				DSHU	Humanities			
FSPW	Professional Writing <i>(must have completed 60 credits or more)</i>				DSHU	Humanities			
FSOC	Oral Communication				DSHS	History & Social Science			
FSMA	Mathematics <i>(must be attempted by 30 credits)</i> <i>(FSMA is satisfied by first major math requirement)</i>				DSHS	History & Social Science			
FSAR	Analytic Reasoning <i>(FSAR is satisfied by first major math requirement)</i>				DSNL	Natural Sciences with Lab			
Big Question					DSNS	Natural Sciences <i>(can choose a second DSNL instead)</i>			
Requirement		Course	Credits	Completed?	DSSP	Scholarship in Practice <i>(1 can be used or not used in the major program)</i>			
SCIS	Big Question <i>(effective Fall 2024)</i> I-Series <i>(Summer 2024 and prior)</i>				DSSP	Scholarship in Practice <i>(1 cannot be used in major program at all)</i>			
SCIS	Big Question <i>(effective Fall 2024)</i> I-Series <i>(Summer 2024 and prior)</i>								
Diversity									
Requirement		Course	Credits	Completed?					
DVUP	Understanding Plural Society								
DVCC	Cultural Competence <i>(can choose a second DVUP instead)</i>								
Gateway Requirements									
Requirements if student started at UMD prior to Fall 2024					Requirements if student started at UMD in Fall 2024 or after:				
Matriculated Spring 2024 and prior:					Matriculated Fall 2024 and after:				
1. Pass all Gateway courses with a "C-" or higher 2. Have a cumulative GPA of a 2.7 or higher in all UMD courses to apply for the CMSC LEP 3. Apply to the CMSC LEP 4. Maintain a 2.0 cumulative GPA to remain in CMSC once admitted					1. Pass all Gateway courses with a "B-" or higher 2. Have a cumulative GPA of a 3.0 or higher in all UMD courses to apply to the CMSC LEP 3. Apply to the CMSC LEP 4. Undergo a selective review process 5. Maintain a 2.0 cumulative GPA to remain in CMSC if admitted				
Gateway Requirements (Must pass with a grade of "C-" or higher for students who matriculated to UMD prior to Fall 2024)					Gateway Requirements (Must pass with a grade of "B-" or higher for students who matriculated to UMD in Fall 2024 or after)				
Course Name		Course	Credits	Completed?	Course Name		Course	Credits	Completed?
Calculus I		MATH 140	4		Calculus I		MATH 140	4	
Object-Oriented Programming I		CMSC 131	4		Object-Oriented Programming I		CMSC 131	4	
Programming with Purpose I: Data-Centric Computing		or CMSC 141			Programming with Purpose I: Data-Centric Computing		or CMSC 141		
Object-Oriented Programming II		CMSC 132	4		Object-Oriented Programming II		CMSC 132	4	
Programming with Purpose II: Data Structures and Algorithms		or CMSC 142			Programming with Purpose II: Data Structures and Algorithms		or CMSC 142		

Major Requirements continued				
<div>Lower Level Requirements</div> <div>(Must pass with a grade of "C-" or higher   All courses required)</div>				
Course Name	Course	Credits	Completed?	
Calculus II	MATH 141	4		
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		
MATH/AMSC/STAT xxx with MATH 141 prerequisite		3/4		
<div>Upper Level Concentration (ULC)</div>				
<div>1. Students must complete a minimum of 12 credit hours of 300 - 400 level courses in one discipline outside of Computer Science.</div> <div>2. No course that is in, or cross-listed as, CMSC may be counted in this requirement.</div> <div>3. Only 1 independent study or experiential learning course may be used.</div> <div>4. Students who are pursuing a minor or a second major can use those credits in this area.</div> <div>5. Consult with your academic advisor to ensure each course you plan to take will satisfy this area.</div> <div>6. ULC area requires a 1.7 GPA between all ULC courses</div>				
Course		Credits	Completed?	
<div>Upper Level Elective Courses</div> <div>(Must pass with a grade of "C-" or higher)</div>				
<div>Select 6 credits from CMSC 300- or 400-level courses (not eligible CMSC330 &amp; CMSC351)</div>				
Title	Course	Credits	Completed?	
<div>Elective Credits</div>				
<div>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.</div>				
Course		Credits	Completed?	
<div>Upper Level Courses (Must pass with a grade of C- or higher)</div> <div>Select 5 courses from at least 3 of the following areas with no more than 3 courses in a given area</div>				
Area 1: Systems		Course	Credits	Completed?
Computer Systems Architecture		CMSC 411	3	
Operating Systems *		CMSC 412	4	
Computer and Network Security		CMSC 414	3	
Introduction to Parallel Computing		CMSC 416	3	
Computer Networks		CMSC 417	3	
Area 2: Information Processing		Course	Credits	Completed?
Data Structures		CMSC 420	3	
Introduction to Artificial Intelligence		CMSC 421	3	
Introduction to Machine Learning *		CMSC 422	3	
Bioinformatic Algorithms, Databases and Tools		CMSC 423	3	
Database Design		CMSC 424	3	
Computer Vision *		CMSC 426	3	
Computer Graphics *		CMSC 427	3	
Introduction to Natural Language Processing *		CMSC 470	3	
Introduction to Data Visualization (Area 2 <b>or</b> Area 3)		CMSC 471	3	
Introduction to Deep Learning *		CMSC 472	3	
Area 3: Software Engineering and Programming Languages		Course	Credits	Completed?
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	
Programming Handheld Systems		CMSC 436	3	
Introduction to Data Visualization (Area 2 <b>or</b> Area 3)		CMSC 471	3	
Area 4: Theory		Course	Credits	Completed?
Design and Analysis of Computer Algorithms		CMSC 451	3	
Elementary Theory of Computation		CMSC 452	3	
Algorithms for Data Science		CMSC 454	3	
Cryptology		CMSC 456	3	
Introduction to Quantum Computing		CMSC 457	3	
Introduction to Computational Game Theory		CMSC 474	3	
Area 5: Numerical Analysis		Course	Credits	Completed?
Computational Methods *		CMSC 460	3	
Introduction to Numerical Analysis *		<b>or</b> CMSC 466		
<div>* Indicates the course has unique prerequisites</div>				