College of Computer, Mathematical and Natural Sciences

Computer Science Effective Fall 2021   *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 Understanding Plural Societies			
or **CC** 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	4	
Object-Oriented Programming II	CMSC 132	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	

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

Select 5 courses from at least 3 of the following areas with no more than 3 courses in a given area

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	

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	

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	

Area 5: Numerical Analysis	Course	Credits	Completed?
Computational Methods *	CMSC 460 or CMSC 466	3	
Introduction to Numerical Analysis *			

* 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	

College of Computer, Mathematical and Natural Sciences
Computer Science - General Track Effective Fall 2021
This is a generalized academic plan, not an official audit

Year 1	Fall		
	Course	Credit	Grade
	CMSC131	4	
	MATH140 (FSMA, FSAR)	4	
	ENGL101 (FSAW)	3	
	Oral Comm (FSOC)	3	
	CMSC100	1	
	Total	15	

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

Year 2	Fall		
	Course	Credit	Grade
Gateway & Benchmark 1 Requirements: CMSC131, CMSC132, and MATH140 must be completed with a C- or higher by 45 credits (AP/IB credits excluded)	CMSC216	4	
	CMSC250	4	
	MATH/STAT	4	
	Scholarship in Practice (DSSP)*	3	
	Total	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
Benchmark 2 Requirements: CMSC330, CMSC351, and MATH or STAT must be completed with a C- or higher by 75 credits (AP/IB credits excluded)	CMSC4XX	3	
	CMSC4XX	3	
	History & Social Sciences (DSHS)*	3	
	Humanities (DSHU)*	3	
	Elective	3	
	Total	15	

	Spring		
	Course	Credit	Grade
	CMSC4XX	3	
	CMSC4XX	3	
	ENGL39X (FSPW)**	3	
	UL Concentration	3	
	UL Concentration	3	
	Total	15	

Year 4	Fall		
	Course	Credit	Grade
	CMSC4XX	3	
	CMSC Elective	3	
	UL Concentration	3	
	Scholarship in Practice (DSSP)*	3	
	Elective	3	
	Total	15	

	Spring		
	Course	Credit	Grade
	CMSC Elective	3	
	UL Concentration	3	
	Elective	3	
	Elective	3	
	Elective	3	
	Total	15	

*All students must complete two Distributive Studies courses that are approved for I-series 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.