Department of Computer Science
UG Roadmap – Fall 2023

The Computer Science Major Constitutes of the following components.

- Colors indicate the specific area.

Computing Core	18 Courses – 58 Credits
Supporting Course	7 Courses – 22 Credits
Major Elective	4 Courses – 12 Credits
General Ed (GE)	Gen Education: 47 Credits & University Electives: 6 Credits
	Total is 132 credits which includes General Education Requirements.

Freshmen

Course	C. Hr	Pre-Req	Course	C. Hr	Pre-req
COMP 102 – Programming 1 (Lab)	4		COMP 111 – Programming II (Lab)	4	COMP102
CSCS 105 – Basic Electronics (Lab) / GE (lab)	4	Inter. Physics OR PHY101	COMP 206 – Digital Logic Design/ CSCS 105 – Basic Electronics	3/ 4	Inter. Math or MATH 101
MATH 111- Calculus & Analytic Geometry/ STAT 115 – Probability & Statistics/ COMP 113 – Discrete Math	3	Inter. Math or MATH 101	MATH 111- Calculus & Analytic Geometry/ STAT 115 – Probability & Statistics/ COMP 113 – Discrete Math	3	Inter. Math or MATH 101
GE: WRCM 101	3		MATH 111- Calculus & Analytic Geometry/ STAT 115 – Probability & Statistics/ COMP 113 – Discrete Math	3	Inter. Math or MATH 101
GE: *UNIV100	3		GE: WRCM 102	3	
Maximum Allowed Credits	18		**Maximum Allowed Credits**	18	
SUMMER (Optional) 2 GE.					

Sophomore

Course	C. Hr	Pre-Req	Course	C. Hr	Pre-req
COMP 200 – Data Structures & Algos (Lab)	4	COMP111, COMP 113	COMP 220 – Software Engineering/ COMP 300 – Computer Organization (Lab)	3	COMP200
COMP 300 – Computer Organization (Lab)/ COMP 206 – Digital Logic Design	3	COMP111, COMP206	COMP 301 – Operating Systems (Lab)	3	COMP200, COMP300
CSCS 201 – Multivariate Calculus	3	MATH 111	COMP 213 – Database Systems (Lab)	3	COMP200
CSCS 202 – Comp. Linear Algebra	3	MATH111	CSCS 203 – Differential Equations	3	MATH111
GE	3		GE	3	
			GE	3	
Maximum Allowed Credits	18		**Maximum Allowed Credits**	18	
SUMMER (Optional) 2 GE.					

Junior

Course	C. Hr	Pre-Req	Course	C. Hr	Pre-req
COMP 360 – Intro to AI (Lab)	3	COMP200	COMP 451 - Compiler Construction (Lab)	3	COMP302
COMP 302 – Theory of Automata	3	COMP200	COMP 303 – D & A of Algorithms	3	COMP200
CSCS 320 – Numerical Computing (Lab)	3	MATH111	Major Elective	3	
Major Elective	3		Major Elective	3	
GE	3		GE	3	
GE	3		GE	3	
Maximum Allowed Credits	18		**Maximum Allowed Credits**	18	
SUMMER (Optional/ If required) - Reserve for Internships, Certifications					

Senior

Course	C. Hr	Pre-Req	Course	C. Hr	Pre-req
COMP 497A – Senior Project	3	COMP213, COMP220	COMP 497B – Senior Project	3	COMP497A
COMP 410 – Parallel & Dist Comp.	3	COMP301	COMP 421 – Information Security	3	COMP311, STAT115
COMP 311 – Computer Networks (Lab)	3	COMP301	COMP 401 – Ethics	1	COMP220
Major Elective	3		GE	3	
GE	3				
GE	3				
Maximum Allowed Credits	18		**Maximum Allowed Credits**	18	

Students must contact Faculty Advisor to adjust their roadmap according to the pre-reqs of their desired Major Electives and keep the following points in view:

- Students who have not studied Mathematics at the intermediate level have to pass deficiency courses of Mathematics (06 credit hours i.e. MATH 101, MATH 102) in the first two semesters. They may avail the Summer Semester to register for MATH 111.
- For CSCS100 – Introduction to Computing to be counted as a general education requirement, it must be studied in the freshmen year only.
- MATH 111- Calculus & Analytic Geometry/ STAT 115 – Probability & Statistics/ COMP 113 – Discrete Math: Will be allocated to the students according to seats availability in the first two semesters.
- The degree will not be conferred before regular 8 semesters, hence COMP 497 (A) – Senior Project A must be registered in the 7th semester only.

Wish you all the best.