

This roadmap is a recommended semester-by-semester plan of study for this major. However, courses and milestones designed as critical (!) must be completed in the semester listed to ensure a timely graduation.

Critical	Course Subject and Title	Credit Hours	Min. Grade	Major GPA	Attribute	Notes
<b>Semester One [16 Credits]</b>						
	CS 13001 Computer Science I-Programming and Problem Solving (4) or CS 13011 Computer Science IA-Procedural Programming (2) and CS 13012 Computer Science IB-Object Oriented Programming (2)	4	C	■		
	MATH 12002 Analytic Geometry and Calculus I	5		■	KMC	
	US 10097 Destination Kent State: First Year Experience <sup>1</sup>	1				
	Kent Core Requirement	3				
	General Electives <sup>2</sup>	3				
<b>Semester Two [15 Credits]</b>						
!	<b>CS 23001 Computer Science II-Data Structures and Abstraction</b>	4	C	■		
!	<b>CS 23022 Discrete Structures for Computer Science</b>	3		■		
!	<b>MATH 12003 Analytic Geometry and Calculus II</b>	5		■		
	Kent Core Requirement	3				
<b>Semester Three [13 Credits]</b>						
!	<b>CS 33211 Operating Systems</b>	3		■		
!	<b>CS 35101 Computer Architecture</b>	3		■		
!	MATH 21001 Linear Algebra With Applications (3) or MATH 22005 Analytic Geometry and Calculus III (4)	3 - 4		■		
	Foreign Language <sup>3</sup>	4 - 5				
<b>Semester Four [16 Credits]</b>						
!	<b>CS 33007 Introduction to Database System Design</b>	3		■		
!	<b>CS 35201 Computer Communication Networks</b>	3		■		
	Foreign Language <sup>3</sup>	4 - 5				
	Kent Core Requirement	3				
	Kent Core Requirement	3				
<b>Semester Five [15 Credits]</b>						
!	<b>CS 33901 Software Engineering</b>	3		■		
!	<b>CS 46101 Design and Analysis of Algorithms</b>	3		■		
!	<b>CS 47205 Information Security</b>	3		■		
	Kent Core Requirement	3				
	General Electives <sup>2</sup>	3				
<b>Semester Six [15 Credits]</b>						
!	<b>CS 33101 Structure of Programming Languages</b>	3		■		
!	<b>CS 43401 Secure Programming</b>	3		■		
	Computer Science Electives <sup>4</sup>	3		■		
	Kent Core Requirement	3				
	Kent Core Requirement	3				
<b>Semester Seven [16 Credits]</b>						
!	<b>CS 49901 Capstone Project</b>	4	C <sup>5</sup>	■	ELR/WIC	
!	<b>CS 45203 Computer Network Security or CS 47221 Introduction to Cryptology</b>	3		■		
	Computer Science Electives <sup>4</sup>	3		■		
	Kent Core Requirement	3				
	Kent Core Requirement	3				
<b>Semester Eight [14 Credits]</b>						
	Computer Science Electives <sup>4</sup>	6		■		
	Kent Core Requirement	3				
	Kent Core Requirement	3				
	General Electives <sup>2</sup>	2				

### Graduation Requirements Summary

Minimum Total Hours	Minimum Upper-Division Hours 30000 – 40000 level course	Minimum Kent Core Hours	Minimum	
			Major GPA	Overall GPA
120	42	36	2.000	2.000

1. US 10097 is not required of transfer students with 25 credits (excluding College Credit Plus and dual-enrollment) or students age 21+ at time of admission.
2. Credits required depend on meeting minimum 120 credit hours and minimum 42 upper-division credit hours. Recommended: MATH 11022. Enrollment based on placement tests; prerequisites: MATH 11010 and 11022 may be bypassed with sufficient background. Otherwise, MATH 11022 Trigonometry is recommended as it is a prerequisite for MATH 12002.
3. Fulfills College General Requirement
4. 9 credit hours must come from a 40000-level course, concentration requirements, if chosen, fulfill 9 of the 21 total required hours  
Any CS 3/40000-level elective course, along with one or more of the following courses can be taken to satisfy this requirement:  
MATH 22005 Analytic Geometry and Calculus III  
MATH 40011 Introduction to Probability  
Additionally, with the CS undergraduate advisor's prior permission, other select courses from outside the department may be counted. These courses must be computer science-related and/or integrate into the students program of study. Students may only apply three (3) credit hours of CS 33192 Internship in Computer Science to the CS Upper-Division Elective requirement.
5. A minimum C (2.000) grade must be earned in CS 49901 to fulfill the writing-intensive requirement.

**University Requirements:** Bachelor's degree-seeking students must meet Kent Core (general education requirements), diversity, writing-intensive and experiential learning requirements. For more information about these requirements, please read the following sections in the University Catalog: Kent Core – [www.kent.edu/catalog/kent-core](http://www.kent.edu/catalog/kent-core); Diversity Course Requirement – [www.kent.edu/catalog/diversity](http://www.kent.edu/catalog/diversity); Writing-Intensive Course Requirement – [www.kent.edu/catalog/wic](http://www.kent.edu/catalog/wic); Experiential Learning Requirement – [www.kent.edu/catalog/elr](http://www.kent.edu/catalog/elr).

**Attribute Legend:** **DD** Diversity–Domestic; **DG** Diversity–Global; **ELR** Experiential Learning; **KAD** Kent Core Additional; **KBS** Kent Core Basic Sciences; **KCM** Kent Core Composition; **KFA** Kent Core Fine Arts; **KHU** Kent Core Humanities; **KMC** Kent Core Mathematics and Critical Reasoning; **KSS** Kent Core Social Sciences; **WIC** Writing Intensive