Roadmap: Applied Mathematics -
Probability and Statistics - Bachelor of Science
AS-BS-AMTH-PSTT
College of Arts and Sciences
Department of Mathematical Sciences
Catalog Year: 2015-2016

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
Semester One [15 Credits]						
!	**MATH 12002 Analytic Geometry and Calculus I**	**5**	**C**	■	KMC	
	US 10097 Destination Kent State: First Year Experience [1]	1				
	Kent Core Requirement	3				
	Kent Core Requirement	3				
	Kent Core Requirement	3				
Semester Two [16 Credits]						
!	**MATH 12003 Analytic Geometry and Calculus II**	**5**	**C**	■		
	CS 13001 Computer Science I-Programming and Problem Solving or CS 13011 Computer Science IA-Procedural Programming (2) and CS 13012 Computer Science IB-Object Oriented Programming (2)	4	C C	■		
	Kent Core Requirement	3				
	Kent Core Requirement	3				
Semester Three [15 Credits]						
!	**MATH 22005 Analytic Geometry and Calculus III**	**4**	**C**	■		
	PHY 23101 General University Physics I	5		■	KBS	
	Foreign Language [2]	4 - 5				
	Kent Core Requirement	3				
Semester Four [15 Credits]						
!	**MATH 21001 Linear Algebra With Applications**	**3**	**C**	■		
!	**PHY 23102 General University Physics II**	**5**		■	KBS	
	Foreign Language [2]	4 - 5				
	Kent Core Requirement	3				
Semester Five [15 Credits]						
!	**MATH 32044 Introduction to Ordinary Differential Equations**	**3**		■		
!	**MATH 40011 Introduction to Probability Theory and Applications**	**3**		■		
!	**MATH 42031 Mathematical Models and Dynamical Systems** *or MATH 42201 Introduction to Numerical Computing I*	**3**	**C**	■		
	Kent Core Requirement	3				
	Kent Core Requirement	3				
Semester Six [15 Credits]						
!	**MATH 40012 Introduction to Statistical Concepts**	**3**		■		
!	**MATH 42039 Modeling Projects** *or MATH 42202 Introduction to Numerical Computing II*	**3**	**C** [3]	■	WIC/ELR	
	Allied Area Electives [4]	3		■		
	General Electives [5]	6				
Semester Seven [14 Credits]						
!	**MATH 40051 Topics in Probability Theory and Stochastic Processes**	**3**		■		
!	**MATH 42031 Mathematical Models and Dynamical Systems** *or MATH 42201 Introduction to Numerical Computing I*	**3**	**C**	■		
	General Electives [5]	8				
Semester Eight [15 Credits]						
!	**MATH 41021 Theory of Matrices**	**3**		■		
!	**MATH 42039 Modeling Projects** *or MATH 42202 Introduction to Numerical Computing II*	**3**	**C** [3]	■	WIC/ELR	
	Allied Area Electives [4]	6		■		
	General Electives [5]	3				

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

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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. Fulfills College General Requirement
3. A minimum C (2.000) grade must be earned in MATH 42039 to fulfill the writing-intensive requirement.
4. Allied Area Electives (9 credits)

Choose from the following:	
BSCI 3/4xxxx Biological Science upper-division courses (1 - 9)	CHEM 3/4xxxx Chemistry upper-division courses (1 - 9)
CS 3/4xxxx Computer Science upper-division courses (1 - 9)	MATH 3/4xxxx Mathematics upper-division courses (1 - 9)
PHY 3/4xxxx Physics upper-division courses (1 - 9)	

5. Minimum 6 upper-division credit hours. Credits required depend on meeting minimum 120 credit hours and minimum 42 upper-division credit hours.

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; Diversity Course Requirement – www.kent.edu/catalog/diversity; Writing-Intensive Course Requirement – www.kent.edu/catalog/wic; Experiential Learning Requirement – 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