

Roadmap: Biology - Molecular and Cellular Biology - Bachelor of Science

AS-BS-BSCI-MCBI College of Arts and Sciences Department of Biological 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
Semeste	r One [16 Credits]	Hours	Grado	0.71		
Note: Stu	udents not placed into MATH 12002 (required in semester 3) sl	hould take MAT	H 11010 (Kent Cor	e course) ir	first year of study
!	BSCI 10110 Biological Diversity	4			KBS	
!	CHEM 10060 General Chemistry I	4			KBS	
!	CHEM 10062 General Chemistry I Laboratory	1			KBS	
	US 10097 Destination Kent State: First Year Experience ¹	1				
	Kent Core Requirement	3				
	Kent Core Requirement	3				
	r Two [15 Credits]					
!	BSCI 10120 Biological Foundations	4			KBS	
!	CHEM 10061 General Chemistry II	4			KBS	
!	CHEM 10063 General Chemistry II Laboratory	1			KBS	
	Kent Core Requirement	3				
	Kent Core Requirement	3				
	r Three [15 Credits]					
!	BSCI 30140 Cell Biology	4				
!	CHEM 20481 Basic Organic Chemistry I (4) or CHEM 30481 Organic Chemistry I (3)	3-4		-		
!	MATH 12002 Analytic Geometry and Calculus I	5			KMC	
!	Biology, Chemistry, Physics Electives ²	3				
!	Organic Chemistry Option ³	0-1				
Semeste	r Four [14 Credits]					
!	BSCI 30156 Elements of Genetics	3				
!	MATH 12003 Analytic Geometry and Calculus II (5) or MATH 30011 Basic Probability and Statistics (3)	3-5				
!	Organic Chemistry Option ³	0-3				
	Kent Core Requirement	3				
	Kent Core Requirement	3				
	General Electives ⁴	2				
emeste	r Five [16 Credits]					
	Biology, Chemistry, Physics Electives ²	9				
	Foreign Language ⁵	4-5				
	Kent Core Requirement	3				
emeste	r Six [15 Credits]					
	BSCI 40158 Molecular Biology	3				
	Biology, Chemistry, Physics Electives ²	8				
	Foreign Language ⁵	4-5				
emeste	r Seven [14 Credits]					
	BSCI 40163 Evolution	3	. 6		14// 5	
	BSCI 40600 Writing in the Biological Sciences	1	C ⁶		WIC	
	Biology, Chemistry, Physics Electives ²	8				
	General Electives ⁴	2				
emeste	r Eight [14 Credits]					
	Biology, Chemistry, Physics Electives ²	3				
	General Electives ⁴	11		1		

Graduation Requirements Summary

	Minimum Total Hours	Minimum Upper-Division Hours	Minimum Kent Core Hours	Minimum	
Minimum Total Hours		30000 - 40000 level course	Millimum Rent Core nours	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.



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2. Biology, Chemistry, Physics Electives (31 credits)

Choose from the following:	
BSCI Biology courses * (in consultation with advisor) (16-31)	PHY 13001 General College Physics I (4) (KBS) and
CHEM 20482 Basic Organic Chemistry II (2)	PHY 13021 General College Physics Laboratory I (1) (KBS)
or CHEM 30482 Organic Chemistry II (3)	or PHY 23101 General University Physics I (5) (KBS)
CHEM 30475 Organic Chemistry Laboratory I (1) (ELR)	PHY 13002 General College Physics II (4) (KBS) and
CHEM 30476 Organic Chemistry Laboratory II (1)	PHY 13022 General College Physics Laboratory II (1) (KBS)
	or PHY 23102 General University Physics II (5) (KBS)
* Students MUST choose one or more courses (maximum 6 cred	lit hours of any combination) from the following as part of the 31-credit electives
(enrollment in these course must be determined with a faculty ad	visor). No more than 4 credit hours may be S/U graded.
BSCI 30005 Career Pathways in Biology (1)	BSCI 40192 Internship in Biological Sciences (3-12) (ELR)
BSCI 40099 Senior Honors Thesis (1-10) (ELR)	BSCI 40196 Individual Investigation (1-3) (ELR)
BSCI 40191 Senior Seminar (1)	

3. Organic Chemistry Option (1-3 credits) - If CHEM 30475 is chosen, must be taken in Semester Three. If CHEM 20482 is chosen, must be taken in Semester Four.

Choose from the following:	
CHEM 20482 Basic Organic Chemistry II (2) *	CHEM 30475 Organic Chemistry Laboratory I (1) (ELR)
CHEM 30482 Organic Chemistry II (3) *	*CHEM 20482 may be substituted with CHEM 30284 Introductory.

Biological Chemistry with faculty advisor approval

- 4. Number of general elective credits required depends on meeting minimum 120 credit hours and 42 upper-division hours.
- 5. Fulfills College General Requirement
- 6. A minimum C (2.000) grade must be earned to fulfill the writing-intensive requirement.

The following courses may NOT be used in the elective category for majors or minors in the Department of Biological Sciences:

BSCI 10001 Human Biology	BSCI 10002 Life on Planet Earth
BSCI 10003 Laboratory Experience in Biology	BSCI 10100 Anatomy for Veterinary Technicians
BSCI 11001 Anatomy for Physical and Occupational Therapy	BSCI 11010 Foundational Anatomy and Physiology I
BSCI 11020 Foundational Anatomy and Physiology II	BSCI 16001 Horticultural Botany
BSCI 20020 Biological Structure and Function	BSCI 20021 Basic Microbiology
BSCI 20022 Basic Microbiology Laboratory	BSCI 21010 Anatomy and Physiology I
BSCI 21020 Anatomy and Physiology II	BSCI 26002 Ecological Principles of Pest Management
BSCI 26003 Plant Identification and Selection I	BSCI 26004 Plant Identification and Selection II
BSCI 30050 Human Genetics	BSCI 40020 Biology of Aging

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 $-\underline{www.kent.edu/catalog/wic}; Experiential\ Learning\ Requirement-\underline{www.kent.edu/catalog/elr.}$

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