Biology

Bachelor of Science (BS.BIOL)

Core Requir	ements		Credits	Notes/Instructions		
College Sem.	Quest for Meaning	CSEM 100	3	†A student may be		
Communication & Creative Expression	Writing Oral Communication Literature The Arts	ENGL 110† COMM 101 ENGL 140-149 ARTS 100-149	3 3 3 3	required to take ENGL 105 and/or MATH 100 based on placement exams administered prior to their first semester at King's		
Citizenship	History Intercultural Global Connections	HIST 100-149 FREN/GERM/SPAN 100-level or Study Abroad ^{††} ECON 150-199; GEOG 150-199; HIST 150-199; PS 150-199; SOC 150-199	3 3 3	 College. ENGL 105 and MATH 100 are 3-credit courses and will count as free electives. ††The Intercultural 		
Quantitative & Scientific Reasoning	SBM Quantitative Reasoning SBM Scientific Endeavor SCIENCE in Context Human Beh. & Soc. Inst	MATH 120 [†] or higher level NSCI 100 NSCI 171-199 ECON 111, 112; GEOG 101, 102; PS 101, PSYC 101, SOC 101	- - - 3	Competence requirement can be satisfied by taking a 100-level language class for 3 credits or participating in an approved Study Abroad experience. SBM = Satisfied By Major requirement(s) and credit(s) listed below.		
Wisdom, Faith, & the Good Life	Introduction to Phil. Phil. Investigations Theology & Wisdom Theology & the Good Life	PHIL 101 PHIL 170-199; MSB 287 THEO 150-159 THEO 160-169	3 3 3 3			
		Total Core Credits	39			

Major Reguirements	Credits	Major Requirements	Credits	Electives ³ / Other Requirements	Credits
BIOL 113 ²	3	CHEM 113 ²	3	HCE 101 Holy Cross Exp.	1
BIOL 113L	1	CHEM 113L	1	Free Elective	3
BIOL 210 ^{PR}	3	CHEM 114 ^{PR}	3	Free Elective	3
BIOL 210L	1	CHEM 114L	1	Free Elective	3
BIOL 213 ^{PR}	3	CHEM 241 ^{PR}	3	Free Elective	3
BIOL 213L	1	CHEM 241L	1	Free Elective	2-3
BIOL 270 ^{4,PR} (spring)	1	CHEM 242 ^{PR}	3		
BIOL 370 ^{5,PR}	2	CHEM 242L	1		
BIOL 470 ^{6,PR} (spring)	1	MATH 125	4		
BIOL Elective*	4	MATH 128	4		
BIOL Elective*	4	PHYS 111	3		
BIOL Elective*	4	PHYS 111L	1		
BIOL Elective*	3	PHYS 112 ^{PR}	3		
BIOL 490 / RIC ⁷	3	PHYS 112L	1		
Total Major Credits	34	Total Major Credits	32	Total Elective / Other Credits	15-16

Total Credits Required for Graduation = 120

*In addition to the Major Sequence requirements, a Biology Major must also complete a minimum of <u>five (5)</u> upper-level courses (minimum of three with lab). In addition, one of these courses must be research intensive (consult with Biology advisor).

Biology Electives ^{PR}				
BIOL 310 Computer Modeling in Biology & Env. Sci	BIOL 349 Animal Behavior	BIOL 416 Parasitology		
BIOL 314 Microbiology	BIOL 350 Developmental Biology	BIOL 420 Botany		
BIOL 323 Genetics	BIOL 353 Biochemistry	BIOL 430 Ecology		
BIOL 326 Immunology	BIOL 355 Comparative Vertebrate Anatomy	BIOL 447 Physiology		
BIOL 330 Introductory Bioinformatics	BIOL 380 Neuroendocrinology	BIOL 450 Molecular Genetics: DNA Science		
BIOL 336 Cell Biology	BIOL 401 Special Topics in Env. Science	BIOL 456 Molecular Mechanism of Brain Disorders		

General Information:

A student must earn a minimum of 120 credit hours to be awarded the baccalaureate degree. The number of credit hours required for graduation may be higher in certain major programs <u>or</u> if the student elects to pursue a second major. Beyond the requirements of the Core Curriculum and of a student's chosen major program, the balances of the credit hours required for graduation are "free electives."

Biology

Suggested Sequence

A suggested course sequence of degree requirements is listed below. Refer to the college catalog for course titles, descriptions, and prerequisites. Always consult your Academic Advisor when planning and scheduling your classes.

BIOL 213	Fall 2019	Credits	Spring 2020	Credits
BIOL 113L Evolution & Diversity Lab	BIOL 113 ² Evolution & Diversity	3	BIOL 210 ^{PR} Organisms & Their Ecosystems	3
CHEM 113L General Chemistry Lab	BIOL 113L Evolution & Diversity Lab	1		1
Core Course 3	CHEM 113 ² General Chemistry I	3	CHEM 114 ^{PR} General Chemistry II	3
Core Course 3 Core Course 3 Core Course 3 Core Course 3 Core Course 1 Core Course 3 Core	CHEM 113L General Chemistry I Lab	1	CHEM 114L General Chemistry II Lab	1
HCE 101 Holy Cross Experience	Core Course ¹	3	MATH 125 ² Calculus	4
HCE 101 Holy Cross Experience	Core Course ¹	3	Core Course ¹	3
15" Summer 2020 Credits	HCE 101 Holy Cross Experience			
Fall 2020 Credits Spring 2021 Credits	, '	15**		15**
BIOL 213**Cell & Molecular Biology 3	Summer 2020	Credits		
BIOL 2131** Cell & Molecular Biology 3 BIOL Elective* 3				
BIOL 213L Cell & Molecular Biology Lab	Fall 2020	Credits	Spring 2021	Credits
CHEM 241 ⁷⁸ Organic Chemistry 3	BIOL 213 ^{PR} Cell & Molecular Biology	3	BIOL Elective*	3
CHEM 241L Organic Chemistry Lab	BIOL 213L Cell & Molecular Biology Lab	1	BIOL 270 ^{4,PR} Sophomore Seminar	1
MATH 128 Intro. to Statistics & Data Analysis 4 Core Course¹ 3 Core Course¹ 3 Core Course¹ 3 15 14** Summer 2021 Credits Fall 2021 Credits Fall 2021 Sciences 3 PHYS 1112** Physics for the Life Sciences 3 PHYS 1111 Physics for the Life Sciences 3 PHYS 1112 Physics for the Life Sciences 3 PHYS 1112 Physics for the Life Sciences 4 PHYS 1111 Physics for the Life Sciences 4 PHYS 1112 Physics for the Life Sciences 4 PHYS 112 Physics for the	CHEM 241 ^{PR} Organic Chemistry I	3	CHEM 242 ^{PR} Organic Chemistry II	3
MATH 128 Intro. to Statistics & Data Analysis 4 Core Course¹ 3 Core Course¹ 3 Core Course¹ 3 15 14** Summer 2021 Credits Fall 2021 Credits Fall 2021 Sciences 3 PHYS 1112** Physics for the Life Sciences 3 PHYS 1111 Physics for the Life Sciences 3 PHYS 1112 Physics for the Life Sciences 3 PHYS 1112 Physics for the Life Sciences 4 PHYS 1111 Physics for the Life Sciences 4 PHYS 1112 Physics for the Life Sciences 4 PHYS 112 Physics for the	CHEM 241L Organic Chemistry I Lab	1	CHEM 242L Organic Chemistry II Lab	1
Summer 2021 Credits	MATH 128 Intro. to Statistics & Data Analysis	4	Core Course ¹	3
Fall 2021 Credits Spring 2022 Credits PHYS 111 Physics for the Life Sciences 3	Core Course ¹	3	Core Course ¹	3
Pail 2021 Credits Spring 2022 Credits PHYS 111 Physics for the Life Sciences 3		15		1/1**
Fall 2021 Credits Spring 2022 Credits	Summer 2021			
PHYS 111L Physics for the Life Sciences I Lab BIOL Elective* BIOL S70 ^{5,PP} Junior Seminar Core Course ¹ Core Course ¹ 3 Core Course ¹ 3 Free Elective ³ BIOL 490 or RIC ⁷ Elective with lab* Core Course ¹ BIOL 490 or RIC ⁷ Elective with lab* Core Course ¹ Core Course ¹ BIOL 490 or RIC ⁷ Elective with lab* Core Course ¹ BIOL 490 or RIC ⁷ Elective with lab* Core Course ¹ Core Course ¹ BIOL Elective* BIOL 470 ^{6,PR} Senior Seminar Core Course ¹ Since Elective Ab* 1 Core Course ¹ Since Elective Ab* 1 Core Course ¹ Since Elective Ab* 1 Core Course ¹ Since Elective Ab* A BIOL Elective Lab* A BIOL Elective Lab* A BIOL Elective Lab* A BIOL Elective Lab* A BIOL Elective Ab* A BIOL Elective				Credits
BIOL Elective* 3	•			
BIOL 370 ^{5,PR} Junior Seminar 2 BIOL Elective Lab* 1			·	
Core Course ¹ 3				
Core Course ¹ 3				-
Free Elective ^{3,**} 2-3 16-17 Summer 2022 Credits				
15 Summer 2022 Credits	Core Course ¹	3		
Summer 2022 Credits Spring 2023 Credit BIOL 490 or RIC ⁷ Elective with lab* 4 BIOL 470 ^{6,PR} Senior Seminar 1 Core Course ¹ 3 BIOL Elective* 3 Core Course ¹ 3 BIOL Elective Lab* 1 Core Course ¹ 3 Core Course ¹ 3 Free Elective ³ 3 Free Elective ³ 3 Free Elective ³ 3 Free Elective ³ 3			Free Elective ³	2-3
Fall 2022 Credits Spring 2023 Credit BIOL 490 or RIC ⁷ Elective with lab* 4 BIOL 470 ^{6,PR} Senior Seminar 1 Core Course¹ 3 BIOL Elective* 3 Core Course¹ 3 BIOL Elective Lab* 1 Core Course¹ 3 Core Course¹ 3 Free Elective³ 3 Free Elective³ 3 Free Elective³ 3 Free Elective³ 3				16-17
BIOL 490 or RIC ⁷ Elective with lab* 4 BIOL 470 ^{6,PR} Senior Seminar 1 Core Course¹ 3 BIOL Elective* 3 Core Course¹ 3 BIOL Elective Lab* 1 Core Course¹ 3 Core Course¹ 3 Free Elective³ 3 Free Elective³ 3 Free Elective³ 3 Free Elective³ 3	Summer 2022	Credits		
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Free Elective ³ 3 Free Elective ³ 3 Free Elective ³ 3				
Free Elective ³ 3				
	Free Elective ³	3		
16 14**			Free Elective ³	3
		16		14**

NOTES:

¹Choose one course from each of the Core Requirements listed on the reverse side.

² Course may satisfy both a Major and a Core requirement. BIOL 113 and CHEM 113 satisfy the Scientific Endeavor and Science in Context Core requirement. MATH 125 will satisfy the Quantitative Reasoning Core requirement.

 $^{^3}$ Students may select "free electives" for personal enrichment $\underline{\textbf{OR}}$ for Minor and/or Second Major Requirements.

⁴Sophomore Seminar – Spring Semester of Sophomore Year

⁵Junior Seminar – Fall or Spring Semester of Junior Year

⁶Senior Seminar – Spring Semester of Senior Year

⁷Research requirement: Biology 490 or Biology Elective that is designated as a Research Intensive Course (RIC)

PR Course has a prerequisite – check college catalog.

^{**}The standard semester course load is five courses consisting of 15 – 17 credits. A student may take 18 credits if the science lab puts them over 17 credits (for more information about credit loads, please see the college catalog).