# **Biology**

Bachelor of Science (BS.BIOL)

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

Major Requirements	Credits	Major Requirements	Credits	Electives <sup>3</sup> / Other Requirements	Credits
BIOL 113 <sup>2</sup>	3	CHEM 113 <sup>2</sup>	3	HCE 101 Holy Cross Exp.	1
BIOL 113L	1	CHEM 113L	1	Free Elective	3
BIOL 210 <sup>PR</sup>	3	CHEM 114 <sup>PR</sup>	3	Free Elective	3
BIOL 210L	1	CHEM 114L	1	Free Elective	3
BIOL 213PR	3	CHEM 241 <sup>PR</sup>	3	Free Elective	3
BIOL 213L	1	CHEM 241L	1	Free Elective	2-3
BIOL 270 <sup>4,PR</sup> (spring)	1	CHEM 242 <sup>PR</sup>	3		
BIOL 370 <sup>5,PR</sup>	2	CHEM 242L	1		
BIOL 470 <sup>6,PR</sup> (spring)	2	MATH 125	4		
BIOL Elective*	4	MATH 128	4		
BIOL Elective*	4	PHYS 111	3		
BIOL Elective*	3	PHYS 111L	1		
BIOL Elective*	3	PHYS 112 <sup>PR</sup>	3		
BIOL 490 / RIC <sup>7</sup>	4	PHYS 112L	1		
Total Major Credits	35	Total Major Credits	32	Total Elective / Other Credits	14-15

### **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 <sup>PR</sup>					
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 401 Special Topics in Env. Science	BIOL 450 Molecular Genetics: DNA Science			
BIOL 336 Cell Biology					

### **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.

	Credits	Spring	Credits
BIOL 113 <sup>2</sup> Evolution & Diversity	3	BIOL 210 <sup>PR</sup> Organisms & Their Ecosystems	3
BIOL 113L Evolution & Diversity Lab	1	BIOL 210L Organisms & Their Ecosystems Lab	1
CHEM 113 <sup>2</sup> General Chemistry I	3	CHEM 114PR General Chemistry II	3
CHEM 113L General Chemistry I Lab	1	CHEM 114L General Chemistry II Lab	1
Core Course <sup>1</sup>	3	MATH 125 <sup>2</sup> Calculus	4
Core Course <sup>1</sup>	3	Core Course <sup>1</sup>	3
HCE 101 Holy Cross Experience	1	<del></del>	
	15**		15**
Summer	Credits		
Fall	Credits	Spring	Credits
BIOL 213 <sup>PR</sup> Cell & Molecular Biology	3	BIOL Elective*	3
BIOL 213L Cell & Molecular Biology Lab	1	BIOL 270 <sup>4,PR</sup> Sophomore Seminar	1
CHEM 241 <sup>PR</sup> Organic Chemistry I	3	CHEM 242 <sup>PR</sup> Organic Chemistry II	3
CHEM 241L Organic Chemistry I Lab	1	CHEM 242L Organic Chemistry II Lab	1
MATH 128 Intro. to Statistics & Data Analysis	4	Core Course <sup>1</sup>	3
Core Course <sup>1</sup>	3	Core Course <sup>1</sup>	3
	15		14**
Summer	Credits		
Fall	Credits	Spring	Credits
PHYS 111 Physics for the Life Sciences I	3	PHYS 112 <sup>PR</sup> Physics for the Life Sciences II	2
FITTS III FITYSICS FOR the Life Sciences i		•	3
PHYS 111L Physics for the Life Sciences I Lab	1	PHYS 112L Physics for the Life Sciences II Lab	1
PHYS 111L Physics for the Life Sciences I Lab BIOL Elective*	1 3	PHYS 112L Physics for the Life Sciences II Lab BIOL Elective*	1 3
PHYS 111L Physics for the Life Sciences I Lab BIOL Elective* BIOL 370 <sup>5,PR</sup> Junior Seminar	1 3 2	PHYS 112L Physics for the Life Sciences II Lab BIOL Elective* BIOL Elective Lab*	1 3 1
PHYS 111L Physics for the Life Sciences I Lab BIOL Elective* BIOL 370 <sup>5,PR</sup> Junior Seminar Core Course <sup>1</sup>	1 3 2 3	PHYS 112L Physics for the Life Sciences II Lab BIOL Elective* BIOL Elective Lab* Core Course¹	1 3 1 3
PHYS 111L Physics for the Life Sciences I Lab BIOL Elective* BIOL 370 <sup>5,PR</sup> Junior Seminar	1 3 2	PHYS 112L Physics for the Life Sciences II Lab BIOL Elective* BIOL Elective Lab* Core Course¹ Free Elective³	1 3 1 3 3
PHYS 111L Physics for the Life Sciences I Lab BIOL Elective* BIOL 370 <sup>5,PR</sup> Junior Seminar Core Course <sup>1</sup>	1 3 2 3	PHYS 112L Physics for the Life Sciences II Lab BIOL Elective* BIOL Elective Lab* Core Course¹	1 3 1 3
PHYS 111L Physics for the Life Sciences I Lab BIOL Elective* BIOL 370 <sup>5,PR</sup> Junior Seminar Core Course <sup>1</sup>	1 3 2 3	PHYS 112L Physics for the Life Sciences II Lab BIOL Elective* BIOL Elective Lab* Core Course¹ Free Elective³	1 3 1 3 3
PHYS 111L Physics for the Life Sciences I Lab BIOL Elective* BIOL 370 <sup>5,PR</sup> Junior Seminar Core Course <sup>1</sup>	1 3 2 3 3	PHYS 112L Physics for the Life Sciences II Lab BIOL Elective* BIOL Elective Lab* Core Course¹ Free Elective³	1 3 1 3 3 2-3
PHYS 111L Physics for the Life Sciences I Lab BIOL Elective* BIOL 370 <sup>5,PR</sup> Junior Seminar Core Course <sup>1</sup> Core Course <sup>1</sup>	1 3 2 3 3	PHYS 112L Physics for the Life Sciences II Lab BIOL Elective* BIOL Elective Lab* Core Course¹ Free Elective³	1 3 1 3 3 2-3
PHYS 111L Physics for the Life Sciences I Lab BIOL Elective* BIOL 370 <sup>5,PR</sup> Junior Seminar Core Course¹ Core Course¹ Summer	1 3 2 3 3 3 15 Credits	PHYS 112L Physics for the Life Sciences II Lab BIOL Elective* BIOL Elective Lab* Core Course¹ Free Elective³ Free Elective³,**  Spring	1 3 1 3 3 2-3 16-17
PHYS 111L Physics for the Life Sciences I Lab BIOL Elective* BIOL 370 <sup>5,PR</sup> Junior Seminar Core Course¹ Core Course¹  Summer  Fall BIOL 490 or RIC <sup>7</sup> Elective with lab*	1 3 2 3 3 3 15 Credits	PHYS 112L Physics for the Life Sciences II Lab BIOL Elective* BIOL Elective Lab* Core Course¹ Free Elective³ Free Elective³,**  Spring BIOL 470 <sup>6,PR</sup> Senior Seminar	1 3 1 3 3 2-3 16-17
PHYS 111L Physics for the Life Sciences I Lab BIOL Elective* BIOL 370 <sup>5,PR</sup> Junior Seminar Core Course¹ Core Course¹  Summer  Fall BIOL 490 or RIC <sup>7</sup> Elective with lab* Core Course¹	1 3 2 3 3 3  15  Credits  Credits  4 3	PHYS 112L Physics for the Life Sciences II Lab BIOL Elective* BIOL Elective Lab* Core Course¹ Free Elective³ Free Elective³,**  Spring BIOL 470 <sup>6,PR</sup> Senior Seminar BIOL Elective*	1 3 1 3 3 2-3 16-17 Credits 2 3
PHYS 111L Physics for the Life Sciences I Lab BIOL Elective* BIOL 370 <sup>5,PR</sup> Junior Seminar Core Course¹ Core Course¹  Summer  Fall BIOL 490 or RIC <sup>7</sup> Elective with lab* Core Course¹ Core Course¹ Core Course¹	1 3 2 3 3 3  15  Credits  Credits  4 3 3	PHYS 112L Physics for the Life Sciences II Lab BIOL Elective* BIOL Elective Lab* Core Course¹ Free Elective³ Free Elective³,**  Spring BIOL 470 <sup>6,PR</sup> Senior Seminar BIOL Elective* BIOL Elective Lab*	1 3 1 3 2-3 16-17 Credits 2 3 1
PHYS 111L Physics for the Life Sciences I Lab BIOL Elective* BIOL 370 <sup>5,PR</sup> Junior Seminar Core Course¹ Core Course¹  Summer  Fall BIOL 490 or RIC <sup>7</sup> Elective with lab* Core Course¹	1 3 2 3 3 3 15 Credits  Credits  4 3 3 3 3	PHYS 112L Physics for the Life Sciences II Lab BIOL Elective* BIOL Elective Lab* Core Course¹ Free Elective³ Free Elective³,**  Spring BIOL 470 <sup>6,PR</sup> Senior Seminar BIOL Elective* BIOL Elective Lab* Core Course¹	1 3 1 3 2-3 16-17 Credits 2 3 1 3
PHYS 111L Physics for the Life Sciences I Lab BIOL Elective* BIOL 370 <sup>5,PR</sup> Junior Seminar Core Course¹ Core Course¹  Summer  Fall BIOL 490 or RIC <sup>7</sup> Elective with lab* Core Course¹ Core Course¹ Core Course¹	1 3 2 3 3 3  15  Credits  Credits  4 3 3	PHYS 112L Physics for the Life Sciences II Lab BIOL Elective* BIOL Elective Lab* Core Course¹ Free Elective³ Free Elective³,**  Spring BIOL 470 <sup>6,PR</sup> Senior Seminar BIOL Elective* BIOL Elective Lab* Core Course¹ Free Elective³	1 3 1 3 2-3 16-17 Credits 2 3 1 3 3
PHYS 111L Physics for the Life Sciences I Lab BIOL Elective* BIOL 370 <sup>5,PR</sup> Junior Seminar Core Course¹ Core Course¹  Summer  Fall BIOL 490 or RIC <sup>7</sup> Elective with lab* Core Course¹	1 3 2 3 3 3 15 Credits  Credits  4 3 3 3 3	PHYS 112L Physics for the Life Sciences II Lab BIOL Elective* BIOL Elective Lab* Core Course¹ Free Elective³ Free Elective³,**  Spring BIOL 470 <sup>6,PR</sup> Senior Seminar BIOL Elective* BIOL Elective Lab* Core Course¹	1 3 1 3 2-3 16-17 Credits 2 3 1 3
PHYS 111L Physics for the Life Sciences I Lab BIOL Elective* BIOL 370 <sup>5,PR</sup> Junior Seminar Core Course¹ Core Course¹  Summer  Fall BIOL 490 or RIC <sup>7</sup> Elective with lab* Core Course¹	1 3 2 3 3 3 15 Credits  Credits  4 3 3 3 3	PHYS 112L Physics for the Life Sciences II Lab BIOL Elective* BIOL Elective Lab* Core Course¹ Free Elective³ Free Elective³,**  Spring BIOL 470 <sup>6,PR</sup> Senior Seminar BIOL Elective* BIOL Elective Lab* Core Course¹ Free Elective³	1 3 1 3 2-3 16-17 Credits 2 3 1 3 3

#### NOTES:

 $<sup>^{1}\</sup>mbox{Choose}$  one course from each of the Core Requirements listed on the reverse side.

<sup>&</sup>lt;sup>2</sup> 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.

<sup>&</sup>lt;sup>3</sup> Students may select "free electives" for personal enrichment <u>OR</u> for Minor and/or Second Major Requirements.

<sup>&</sup>lt;sup>4</sup>Sophomore Seminar – Spring Semester of Sophomore Year

<sup>&</sup>lt;sup>5</sup>Junior Seminar – Fall or Spring Semester of Junior Year

<sup>&</sup>lt;sup>6</sup>Senior Seminar – Spring Semester of Senior Year

<sup>&</sup>lt;sup>7</sup>Research requirement: Biology 490 or Biology Elective that is designated as a Research Intensive Course (RIC)

PR Course has a prerequisite – check college catalog.

<sup>\*\*</sup>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).