

**CURRICULUM GUIDE**  
**Biomedical Sciences, B.S. (Biomedical Research Concentration)**  
**2022-2023**

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The schedule below is an **EXAMPLE** of how you can arrange your class schedule.  
 Please consult your advisor for specific changes that may need to be made.

	Fall Semester		Spring Semester		Course Number	Course Name
<b>Freshman Year</b>	SCO 100B	1	BIO 112	4	<b>GENERAL EDUCATION &amp; UNIVERSITY REQUIREMENTS (37)</b>	
	BIO 111	4	CHE 112	3	SCO 100B	Student Success Seminar for Biology (1)
	<sup>6</sup> CHE 111 (fulfills Gen. Ed. 4)	3	CHE 112L	1	<b>CORE COURSE REQUIREMENTS (28)</b>	
	CHE 111L	1	MAT 234	4	BIO 111	Cell and Molecular Biology (4)
	<sup>6</sup> STA 270 <b>or</b> STA 215 (fulfills Gen. Ed. 2)	3-4	Gen. Ed. 1B (ENG 102)	3	BIO 112	Ecology and Evolution (4)
	Gen. Ed. 1A (ENG 101)	3			BIO 315	Genetics (4)
	<b>TOTAL</b>	<b>15-16</b>	<b>TOTAL</b>	<b>15</b>	BIO 319	Zoology (4)
<b>Sophomore Year</b>	BIO 319	4	BIO 332	1	BIO 320	Principles of Microbiology (4)
	CHE 361	3	BIO 320 (ACCT)	4	BIO 331	Cell Biology (3)
	CHE 361L	1	CHE 362	3	BIO 332	Careers in Biomedical Sciences (1)
	<sup>6</sup> PHY 131 <b>or</b> PHY 201 (fulfills Gen. Ed. 4)	5	CHE 362L	1	BIO 348	Vertebrate Physiology (3)
	Gen. Ed. 6 (Diversity)	3	INF 104	3	BIO 495	Evolution Theory and Application (1)
			Gen. Ed. 1C (CMS 100 <b>or</b> 210)	3	<b>BIOMEDICAL RESEARCH CONCENTRATION REQUIREMENTS (25)</b>	
	<b>TOTAL</b>	<b>16</b>	<b>TOTAL</b>	<b>15</b>	BIO 531	Principles of Molecular Biology I (4)
<b>Junior Year</b>	BIO 315	4	BIO 348	4	<sup>†</sup> *CHE 362	Organic Chemistry II (3)
	BIO 331	3	CHE 432	1	<sup>†</sup> *CHE 362L	Organic Chemistry Lab II (1)
	CHE 430 <b>or</b> 431	3	<sup>†</sup> Restricted Elective	3-4	<sup>§</sup> *CHE 430 <b>or</b>	Biochemistry of Macromolecules (3)
	PHI 383 <b>or</b> 383W	3	Gen. Ed 5A (History)	3	<sup>§</sup> *CHE 431	Metabolic Biochemistry (3)
	Gen. Ed. 5B (PSY 200 <b>or</b> 200W recommended)	3	Free Elective	3	*CHE 432	Biochemistry Laboratory (1) (spring only)
			<sup>♣</sup> Free Elective	0-1	*MAT 234	Calculus I (4)
	<b>TOTAL</b>	<b>16</b>	<b>TOTAL</b>	<b>15</b>	<sup>†</sup> PLUS NINE (9) HOURS selected from the following (restricted elective):	
<b>Senior Year</b>	BIO 531	4	BIO 495	1	BIO 342	Comparative Vertebrate Anatomy (4)
	<sup>†</sup> Restricted Elective	3-4	<sup>†</sup> Restricted Elective	3-4	BIO 527	Immunology (3)
	Gen Ed. 3A (Arts)	3	Gen Ed. 3B (Humanities)	3	BIO 528	Virology (3)
	Free Elective	3	Gen Ed. 6 (Diversity)	3	BIO 533	Mammalogy (3)
	<sup>♣</sup> Free Elective	0-2	Free Elective	3	BIO 535	Pathogenic Microbiology (4)
			<sup>♣</sup> Free Elective	0-1	BIO 546	Histology (4)
	<b>TOTAL</b>	<b>14-15</b>	<b>TOTAL</b>	<b>14</b>	BIO 547	Comparative Vert. Embryology (4)
<b>TOTAL HOURS TO DEGREE COMPLETION</b>				<b>120</b>	BIO 549	Neurobiology (3)
					BIO 598	Special Problems (1-6)
					<sup>§</sup> * CHE 430	Biochemistry of Macromolecules (3)
					<sup>§</sup> * CHE 431	Metabolic Biochemistry (3)
					<sup>§</sup> Cannot be used for credit in both concentration requirement and restricted electives categories above.	
					<b>SUPPORTING COURSE REQUIREMENTS (17-18)</b>	
					<sup>6</sup> CHE 111	General Chemistry I (3)
					<sup>†</sup> *CHE 111L	General Chemistry Lab I (1)
					<sup>†</sup> * CHE 112	General Chemistry II (3)
					<sup>†</sup> * CHE 112L	General Chemistry Lab II (1)
					<sup>†</sup> * CHE 361	Organic Chemistry I (3)
					<sup>†</sup> * CHE 361L	Organic Chemistry Lab I (1)
					INF 104	Computer Literacy with Software Apps. (3)
					PHI 383 <b>or</b>	Health & Biomedical Ethics (3)
					PHI 383W	Health & Biomedical Ethics (writing intensive) (3)
					<sup>6</sup> * PHY 131 <b>or</b>	College Physics I (5)
					<sup>6</sup> * PHY 201	University Physics I (5)
					<sup>6</sup> STA 215 <b>or</b>	Intro. to Statistical Reasoning (3)
					<sup>6</sup> * STA 270	Applied Statistics I (4)
					Bracketed items must be taken concurrently.	
					<b>FREE ELECTIVES (12-13)</b>	
					<sup>6</sup> Denotes that 3 credit hours from this course are/can be applied to fulfill a Gen. Ed. requirement.	

\* **PREREQUISITES:** Consult with your advisor and/or the University catalog regarding prerequisites for upper division BIO courses. CHE 111/111L, 112/112L, 361/361L, 362/362L, 366, 430, and/or 366; MAT 114 or higher; PHY 131 and/or 201.

<sup>♣</sup> Due to variable course hour choices for MAT requirement and concentration requirements, marked free electives may also be variable. Consult with your advisor to ensure you have a minimum of 120 total credit hours for graduation.

**Upper division courses:** All students are required to have a minimum of 42 hrs. upper division (300-level or above) courses distributed throughout Major/Supporting/Gen Ed/Free Electives categories.

Refer to the University Catalog at <http://www.catalogs.eku.edu/> regarding University and General Education Requirements. All baccalaureate degree seeking students who enter the University are required to successfully complete one writing intensive course following completion of the ENG 102, ENG 105, or HON 102/103. Writing intensive courses are designated with the suffix "W" following the course prefix and number (e.g. HUM 300W).

**Applied Critical & Creative Thinking (ACCT) Requirement:** Biology majors will fulfill ACCT with one of the following: BIO 320, 349, 598, HON 420 with a thesis topic approved by the Biology department, a program-approved leadership experience, or a program-approved study abroad experience. (Credit hours are incorporated into program requirements.)