

**CURRICULUM GUIDE**  
**Biomedical Sciences, B.S. (Pre-Dental Concentration)**  
**2021-2022**

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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		
<b>Freshman Year</b>	SCO 100B	1	BIO 112	4
	BIO 111	4	CHE 112	3
	<sup>6</sup> CHE 111 (fulfills Gen. Ed. 4)	3	CHE 112L	1
	CHE 111L	1	MAT 120 or higher (MAT 234 recommended)	3-5 (4)
	Gen. Ed. 1A (ENG 101)	3	Gen. Ed. 1B (ENG 102)	3
	Gen. Ed. 5A (History)	3		
	<b>TOTAL</b>	<b>15</b>	<b>TOTAL</b>	<b>14-16</b>
<b>Sophomore Year</b>	CHE 361	4	BIO 320 (ACCT)	4
	CHE 361L	1	BIO 332	1
	<sup>6</sup> PHY 131 or PHY 201 (fulfills Gen. Ed. 4)	5	CHE 362	3
	<sup>6</sup> STA 215 or STA 270 (fulfills Gen. Ed. 2)	3-4	CHE 362L	1
	Gen. Ed. 3A (Arts)	3	Gen Ed. 3B (Humanities)	3
			Gen. Ed. 5B (ECO 230 recommended)	3
	<b>TOTAL</b>	<b>16-17</b>	<b>TOTAL</b>	<b>15</b>
<b>Junior Year</b>	BIO 331	3	BIO 348	3
	BIO 315	4	INF 104	3
	BIO 319	4	† Restricted Elective	3-4
	CHE 430 or CHE 431	3	Gen. Ed. 1C (CMS 100 or 210)	3
	BIO 342 or Free Elective	4	Free Elective	2
	<b>TOTAL</b>	<b>18</b>	<b>TOTAL</b>	<b>14-15</b>
<b>Senior Year</b>	† Restricted Elective	4	BIO 546 (spring only) or Free Elective	4
	PHI 383 or 383W	3-4	BIO 495	1
	Gen. Ed. 6 (Diversity)	3	† Restricted Elective	3-4
	Free Elective	3	Gen Ed. 6 (Diversity)	3
	♣ Free Elective	0-3	♣ Free Elective	0-3
	<b>TOTAL</b>	<b>13-16</b>	<b>TOTAL</b>	<b>13-16</b>
<b>TOTAL HOURS TO DEGREE COMPLETION</b>		<b>120</b>		

Course Number	Course Name
<b>GENERAL EDUCATION &amp; UNIVERSITY REQUIREMENTS (37)</b>	
SCO 100B	Student Success Seminar for Biology (1)
<b>CORE COURSE REQUIREMENTS (28)</b>	
BIO 111	Cell and Molecular Biology (4)
BIO 112	Ecology and Evolution (4)
BIO 315	Genetics (4)
BIO 319	Zoology (4)
BIO 320	Principles of Microbiology (4)
BIO 331	Cell Biology (3)
BIO 332	Careers in Biomedical Sciences (1)
BIO 348	Vertebrate Physiology (3)
BIO 495	Evolution Theory and Application (1)
<b>PRE-DENTAL CONCENTRATION REQUIREMENTS (23-25)</b>	
BIO 342 or BIO 546	Comparative Vertebrate Anatomy (4)
† *CHE 362	Organic Chemistry II (3)
† *CHE 362L	Organic Chemistry Lab II (1)
*CHE 430 or *CHE 431	Biochemistry of Macromolecules (3)
*CHE 431	Metabolic Biochemistry (3)
*MAT 120 (or higher)	Trigonometry (3) (or higher (3-5))
† PLUS 9 (NINE) HOURS selected from the following (restricted electives):	
§ BIO 342	Comparative Vertebrate Anatomy (4)
BIO 527	Immunology (3)
BIO 528	Virology (3)
BIO 531	Principles of Molecular Biology I (4)
BIO 535	Pathogenic Microbiology (4)
BIO 546	Histology (4)
§ BIO 547	Comparative Vert. Embryology (4)
BIO 549	Neurobiology (3)
BIO 598	Special Problems (1-6)
§*CHE 430	Biochemistry of Macromolecules (3)
§*CHE 431	Metabolic Biochemistry (3)
*CHE 432	Biochemistry Laboratory (1)
§ 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)
[*CHE 111L	General Chemistry Lab I (1)
[*CHE 112	General Chemistry II (3)
[*CHE 112L	General Chemistry Lab II (1)
[*CHE 361	Organic Chemistry I (3)
[*CHE 361L	Organic Chemistry Lab I (1)
INF 104	Computer Literacy with Software Apps. (3)
PHI 383 or PHI 383W	Health & Biomedical Ethics (3)
PHI 383W	Health & Biomedical Ethics (writing intensive) (3)
<sup>6</sup> *PHY 131 or <sup>6</sup> *PHY 201	College Physics I (5)
<sup>6</sup> *PHY 201	University Physics I (5)
<sup>6</sup> STA 215 or *STA 270	Intro. to Statistical Reasoning (3)
*STA 270	Applied Statistics I (4)
Bracketed items must be taken concurrently.	
<b>FREE ELECTIVES (12-15)</b>	

\* **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 112, 114 or higher; PHY 131 and/or 201.  
 ♣ 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.

<sup>6</sup> Denotes that 3 credit hours from this course are/can be applied to fulfill a Gen. Ed. requirement.

**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.)