

CURRICULUM GUIDE
Biomedical Sciences, B.S. (Biomedical Research Concentration)
2017-2018

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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	
Freshman Year	SCO 100B	1	BIO 112	4
	BIO 111	4	CHE 112	3
	⁶ CHE 111 (fulfills Gen. Ed. 4)	3	CHE 112L	1
	CHE 111L	1	MAT 234 <i>or</i> 234H	4
	⁶ STA 270 <i>or</i> STA 215 (fulfills Gen. Ed. 2)	3-4	Gen. Ed. 1B (ENG 102)	3
	Gen. Ed. 1A (ENG 101)	3		
	TOTAL	15-16	TOTAL	15
Sophomore Year	BIO 331	3	BIO 332	1
	CHE 361	3	BIO 320 (ACCT)	4
	CHE 361L	1	CHE 362	3
	⁶ PHY 131 <i>or</i> PHY 201 (fulfills Gen. Ed. 4)	5	CHE 362L	1
	Gen Ed. 6 (Diversity)	3	INF 104	3
			Gen. Ed. 1C (CMS 100 <i>or</i> 210)	3
	TOTAL	15	TOTAL	15
Junior Year	CHE 430 <i>or</i> 431	3	BIO 315	4
	BIO 319 <i>or</i> 318	4	CHE 432	1
	BIO 348	3	† Restricted Elective	3-4
	PHI 383 <i>or</i> 383W	3	Gen. Ed. 5A (History)	3
	Gen. Ed. 5B (PSY 200 <i>or</i> 200W recommended)	3	Free Elective	3
			Free Elective*	0-1
	TOTAL	16	TOTAL	14
Senior Year	BIO 531	4	BIO 495	1
	† Restricted Elective	3-4	† Restricted Elective	3-4
	Gen Ed. 3A (Arts)	3	Gen Ed. 3B (Humanities)	3
	Free Elective	3	Gen. Ed. 6 (Diversity)	3
	Free Elective*	0-2	Free Elective	3
			Free Elective*	0-1
	TOTAL	14-15	TOTAL	14
		TOTAL HOURS TO DEGREE COMPLETION	120	

Course Number	Course Name
GENERAL EDUCATION & UNIVERSITY REQUIREMENTS (37)	
SCO 100B	Student Success Seminar for Biology (1)
CORE COURSE REQUIREMENTS (28)	
BIO 111	Cell and Molecular Biology (4)
BIO 112	Ecology and Evolution (4)
BIO 315	Genetics (4)
BIO 318 <i>or</i>	Botany (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)
BIOMEDICAL RESEARCH CONCENTRATION REQUIREMENTS (25-28)	
BIO 531	Principles of Molecular Biology I (4)
*CHE 362	Organic Chemistry II (3)
*CHE 362L	Organic Chemistry Lab II (1)
§*CHE 430 <i>or</i>	Biochemistry of Macromolecules (3)
§*CHE 431	Metabolic Biochemistry (3)
*CHE 432	Biochemistry Laboratory (1) (sping only)
*MAT 234 <i>or</i>	Calculus I (4)
*MAT 234H	Honor Calculus I (4)
† PLUS NINE (9) HOURS	selected from the following (restricted elective):
BIO 342	Comparative Vertebrate Anatomy (4)
BIO 527	Immunology (3)
BIO 528	Virology (3)
BIO 533	Mammalogy (3)
BIO 535	Pathogenic Microbiology (4)
BIO 546	Histology (4)
BIO 547	Comparative Vert. Embryology (4)
BIO 598	Special Problems (1-3)
§*CHE 430	Biochemistry of Macromolecules (3)
§*CHE 431	Metabolic Biochemistry (3)
§ Cannot be used for credit in both concentration requirement and restricted electives categories above.	
SUPPORTING COURSE REQUIREMENTS (17-18)	
{ ⁶ 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 <i>or</i>	Health & Biomedical Ethics (3)
PHI 383W	Health & Biomedical Ethics (writing intensive) (3)
⁶ *PHY 131 <i>or</i>	College Physics I (5)
⁶ *PHY 201	University Physics I (5)
⁶ STA 215 <i>or</i>	Intro. to Statistical Reasoning (3)
⁶ *STA 270	Applied Statistics I (4)
Bracketed items must be taken concurrently.	
FREE ELECTIVES (9-13)	

⁶ 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.

♣ Due to variable course hour choices in the concentration requirements, marked free electives may also be variable. Consult with your advisor to ensure you have a minimum of 12 hours per semester to maintain full-time standing and 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.)