

CURRICULUM GUIDE
Biomedical Sciences, B.S. (Pre-Optometry 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	Gen. Ed. 1B (ENG 102)	3
	Gen. Ed. 1A (ENG 101)	3	⁶ PSY 200 <i>or</i> 200W (fulfills Gen. Ed. 5B)	3
	Gen Ed. 6 (Diversity)	3	Free Elective	1
	TOTAL	15	TOTAL	15
Sophomore Year	BIO 331	3	BIO 318 <i>or</i> BIO 319	4
	CHE 361	3	BIO 320 (ACCT)	4
	CHE 361L	1	BIO 332	1
	MAT 234 <i>or</i> 234H	4	PHY 132 <i>or</i> PHY 202	5
	⁶ PHY 131 <i>or</i> PHY 201 (fulfills Gen. Ed. 4)	5	Gen. Ed. 1C (CMS 100 <i>or</i> 210)	3
	TOTAL	16	TOTAL	17
	Junior Year	BIO 348	3	BIO 315
CHE 362		3	† Restricted Elective	3
CHE 362L		1	Gen Ed. 3B (Humanities)	3
INF 104		3	Free Elective	3
PHI 383 <i>or</i> 383W		3		
⁶ STA 215 <i>or</i> STA 270 (fulfills Gen. Ed. 2)		3-4		
TOTAL		16-17	TOTAL	13
Senior Year	‡ BIO/CHE Elective	3-4	BIO 495	1
	CHE 430 <i>or</i> 431	3	‡ BIO/CHE Elective	3-4
	Gen. Ed. 3A (Arts)	3	† Restricted Elective	3
	Gen. Ed. 6 (Diversity)	3	Gen Ed. 5A (History)	3
	Free Elective*	0-3	Free Elective	3
	TOTAL	12-16	TOTAL	13-14
TOTAL HOURS TO DEGREE COMPLETION		120		

* **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.)

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> BIO 319	Botany (4)
BIO 320	Zoology (4)
BIO 331	Principles of Microbiology (4)
BIO 332	Cell Biology (3)
BIO 348	Careers in Biomedical Sciences (1)
BIO 495	Vertebrate Physiology (3)
	Evolution Theory and Application (1)
PRE-OPTOMETRY CONCENTRATION REQUIREMENTS (28-30)	
*CHE 362	Organic Chemistry II (3)
‡CHE 362L	Organic Chemistry Lab II (1)
*CHE 430 <i>or</i> *CHE 431	Biochemistry of Macromolecules (3)
MAT 234 <i>or</i> MAT 234H	Metabolic Biochemistry (3)
PHY 132 <i>or</i> PHY 202	Calculus I (4)
	Honors Calculus I (4)
	College Physics II (5)
	University Physics II (5)
† PLUS 6 (SIX) HOURS selected from the following (restricted elective):	
ANT 120	Introduction to Cultural Anthropology (3)
ECO 230	Principles of Microeconomics (3)
HON 312W	Special Topics (3)
*PSY 308	Abnormal Psychology (3)
SOC 131	Introductory Sociology (3)
‡ PLUS 6 (SIX) HOURS selected from the following (BIO/CHE elective):	
BIO 527	Immunology (3)
BIO 528	Virology (3)
BIO 531	Principles of Molecular Biology I (3)
BIO 535	Pathogenic Microbiology (4)
BIO 546	Comparative Vert. Embryology (4)
BIO 547	Histology (4)
BIO 598	Special Problems (1-3)
§*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.	
SUPPORTING COURSE REQUIREMENTS (17-18)	
‡ 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> PHI 383W	Health & Biomedical Ethics (3)
♣*PHY 131 <i>or</i> ♣*PHY 201	Health & Biomedical Ethics (writing intensive) (3)
	College Physics I (5)
	University Physics I (5)
♣PSY 200 <i>or</i> ♣PSY 200W	Introduction to Psychology (3)
	Introduction to Psychology (writing intensive) (3)
♣STA 215 <i>or</i> *STA 270	Intro. to Statistical Reasoning (3)
	Applied Statistics I (4)
Bracketed items must be taken concurrently.	
FREE ELECTIVES (7-10)	
♣ Denotes that 3 credit hours from this course are/can be applied to fulfill a Gen. Ed. requirement.	