

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

Website: www.biology.eku.edu
 Email Contact: biology@eku.edu

Department of Biological Sciences
 521 Lancaster Ave.
 3238 Science Building
 Richmond, KY 40475
 859-622-1531

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	BIO 112
	BIO 111	CHE 112
	⁶ CHE 111 (fulfills Gen. Ed. 4)	CHE 112L
	CHE 111L	Gen. Ed. 1B (ENG 102)
	⁶ PSY 200 <i>or</i> 200W (fulfills Gen. Ed. 5B)	Gen. Ed. 6 (Diversity)
	Gen. Ed. 1A (ENG 101)	Free Elective
	TOTAL	TOTAL
Sophomore Year	BIO 319	BIO 320 (ACCT)
	CHE 361	BIO 332
	CHE 361L	PHY 132 <i>or</i> PHY 202
	MAT 234	Gen Ed. 3B (Humanities)
	⁶ PHY 131 <i>or</i> PHY 201 (fulfills Gen. Ed. 4)	
	TOTAL	TOTAL
Junior Year	BIO 331	BIO 315
	CHE 362	BIO 348
	CHE 362L	INF 104
	PHI 383 <i>or</i> 383W	Gen. Ed. 1C (CMS 100 <i>or</i> 210)
	⁶ STA 215 <i>or</i> STA 270 (fulfills Gen. Ed. 2)	Free Elective
	† Restricted Elective	
	TOTAL	TOTAL
Senior Year	‡ BIO/CHE Elective	BIO 495
	CHE 430 <i>or</i> 431	‡ BIO/CHE Elective
	Gen. Ed. 3A (Arts)	† Restricted Elective
	Gen Ed. 6 (Diversity)	Gen Ed. 5A (History)
	♣ Free Elective	Free Elective
TOTAL	TOTAL	
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 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)
PRE-OPTOMETRY CONCENTRATION REQUIREMENTS (22-24)	
⁶ 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)
MAT 234	Calculus I (4)
PHY 132 <i>or</i>	College Physics II (5)
PHY 202	University Physics II (5)
‡ 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	Histology (4)
BIO 547	Comparative Vert. Embryology (4)
BIO 549	Neurobiology (4)
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.	
PRE-OPTOMETRY SUPPORTING COURSE REQUIREMENTS (23-24)	
⁶ CHE 111	General Chemistry I (3)
⁶ CHE 111L	General Chemistry Lab I (1)
⁶ CHE 112	General Chemistry II (3)
⁶ CHE 112L	General Chemistry Lab II (1)
⁶ CHE 361	Organic Chemistry I (3)
⁶ 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 PSY 200 <i>or</i>	Introduction to Psychology (3)
⁶ PSY 200W	Introduction to Psychology (writing intensive) (3)
⁶ STA 215 <i>or</i>	Intro. to Statistical Reasoning (3)
*STA 270	Applied Statistics I (4)
Bracketed items must be taken concurrently.	
† 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)
FREE ELECTIVES (7-10)	

* **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 for 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.)

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