

CURRICULUM GUIDE
Biomedical Sciences, B.S. (Pre-Dental Concentration)
2019-2020

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 1 | BIO 112 4 |
| | BIO 111 4 | CHE 112 3 |
| | ⁶ CHE 111 (fulfills Gen. Ed. 4) 3 | CHE 112L 1 |
| | CHE 111L 1 | ⁹ STA 215 <u>or</u> STA 270 (fulfills Gen. Ed. 2) 3-4 |
| | MAT 120 or higher (MAT 234 recommended) 3-5 (4) | Gen. Ed. 1B (ENG 102) 3 |
| | Gen. Ed. 1A (ENG 101) 3 | |
| TOTAL | 15-17 | TOTAL 14-15 |
| Sophomore Year | BIO 319 4 | BIO 320 (ACCT) 4 |
| | CHE 361 3 | BIO 332 1 |
| | CHE 361L 1 | CHE 362 3 |
| | ⁹ PHY 131 <u>or</u> PHY 201 (fulfills Gen. Ed. 4) 5 | CHE 362L 1 |
| | Gen. Ed. 3A (Arts) 3 | Gen. Ed. 3B (Humanities) 3 |
| | | Gen. Ed. 5B (ECO 230 recommended) 3 |
| TOTAL | 16 | TOTAL 15 |
| Junior Year | BIO 331 3 | BIO 348 3 |
| | BIO 315 4 | INF 104 3 |
| | CHE 430 <u>or</u> CHE 431 3 | † Restricted Elective 3-4 |
| | PHI 383 <u>or</u> 383W 3 | Gen. Ed. 1C (CMS 100 <u>or</u> 210) 3 |
| | Gen. Ed. 5A (History) 3 | Free Elective 2 |
| | | |
| TOTAL | 16 | TOTAL 14-15 |
| Senior Year | BIO 342 <u>or</u> Free Elective 4 | BIO 546 (spring only) <u>or</u> Free Elective 4 |
| | † Restricted Elective 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 |
| | | |
| TOTAL | 13-16 | TOTAL 13-16 |
| 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-DENTAL CONCENTRATION REQUIREMENTS (23-25) | |
| BIO 342 <u>or</u> | Comparative Vertebrate Anatomy (4) |
| BIO 546 | Histology (4) |
| *CHE 362 | Organic Chemistry II (3) |
| *CHE 362L | Organic Chemistry Lab II (1) |
| *CHE 430 <u>or</u> | 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 elective): | |
| § 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. | |
| 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 <u>or</u> | Health & Biomedical Ethics (3) |
| PHI 383W | Health & Biomedical Ethics (writing intensive) (3) |
| ⁶ * PHY 131 <u>or</u> | College Physics I (5) |
| ⁶ * PHY 201 | University Physics I (5) |
| ⁶ STA 215 <u>or</u> | Intro. to Statistical Reasoning (3) |
| * STA 270 | Applied Statistics I (4) |
| Bracketed items must be taken concurrently. | |
| FREE ELECTIVES (12-15) | |

* **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.

⁶ 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.)