

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

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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 | | Course Number | Course Name |
|---|--|--------------|--|---|--|---|
| Freshman Year | SCO 100B | 1 | BIO 112 | 4 | GENERAL EDUCATION & UNIVERSITY REQUIREMENTS (37) | |
| | BIO 111 | 4 | CHE 112 | 3 | SCO 100B | Student Success Seminar for Biology (1) |
| | ⁶ CHE 111 (fulfills Gen. Ed. 4) | 3 | CHE 112L | 1 | CORE COURSE REQUIREMENTS (28) | |
| | CHE 111L | 1 | PSY 200, 200W, 280, <u>or</u> 308 | 3 | BIO 111 | Cell and Molecular Biology (4) |
| | MAT 120 or higher (MAT 234 recommended) | 3-5 (4) | ⁶ SOC 131 <u>or</u> HON 312W (fulfills Gen. Ed. 5B) | 3 | BIO 112 | Ecology and Evolution (4) |
| | Gen. Ed. 1a (ENG 101) | 3 | Gen. Ed. 1B (ENG 102) | 3 | BIO 315 | Genetics (4) |
| TOTAL | 15-17 | TOTAL | 17 | BIO 319 | Zoology (4) | |
| Sophomore Year | BIO 319 | 4 | BIO 332 | 1 | BIO 320 | Principles of Microbiology (4) |
| | CHE 361 | 3 | BIO 320 (ACCT) | 4 | BIO 331 | Cell Biology (3) |
| | CHE 361L | 1 | CHE 362 | 3 | BIO 332 | Careers in Biomedical Sciences (1) |
| | ⁶ PHY 131 <u>or</u> PHY 201 (fulfills Gen. Ed. 4) | 5 | CHE 362L | 1 | BIO 348 | Vertebrate Physiology (3) |
| | Gen. Ed. 1C (CMS 100 <u>or</u> 210) | 3 | PHY 132 <u>or</u> PHY 202 | 5 | BIO 495 | Evolution Theory and Application (1) |
| | | | ♣ Free Elective | 0-3 | PRE-MEDICAL RESEARCH CONCENTRATION REQUIREMENTS (24-28) | |
| TOTAL | 16 | TOTAL | 14-17 | *CHE 362 | Organic Chemistry II (3) | |
| Junior Year | BIO 331 | 3 | BIO 315 | 4 | *CHE 362L | Organic Chemistry Lab II (1) |
| | CHE 430 | 3 | BIO 348 | 3 | *CHE 430 | Biochemistry of Macromolecules (3) |
| | ⁶ STA 215 <u>or</u> STA 270 (fulfills Gen. Ed. 2) (STA 270 recommended) | 3-4 | CHE 431 | 3 | *CHE 431 | Metabolic Biochemistry (3) |
| | PHI 383 <u>or</u> PHI 383W | 3 | INF 104 | 3 | *MAT 120 (or higher) | Trigonometry (3) (or higher (3-5)) |
| | | | Gen Ed. 3B (Humanities) | 3 | *PHY 132 <u>or</u> | College Physics II (5) |
| | | | | | *PHY 202 | University Physics II (5) |
| TOTAL | 12-13 | TOTAL | 16 | † PLUS 6 (SIX) HOURS selected from the following (restricted elective): | | |
| Senior Year | †Restricted Elective | 3-4 | BIO 495 | 1 | BIO 342 | Comparative Vertebrate Anatomy (4) |
| | Gen Ed. 3A (Arts) | 3 | †Restricted Elective | 3-4 | BIO 527 | Immunology (3) |
| | Gen. Ed. 6 (Diversity) | 3 | Gen. Ed. 5A (History) | 3 | BIO 528 | Virology (3) |
| | Free Elective | 3 | Gen. Ed. 6 (Diversity) | 3 | BIO 531 | Principles of Molecular Biology I (3) |
| | ♣ Free Elective | 0-3 | Free Elective | 3 | BIO 535 | Pathogenic Microbiology (4) |
| | | | ♣ Free Elective | 0-2 | BIO 546 | Histology (4) |
| TOTAL | 12-16 | TOTAL | 13-16 | BIO 547 | Comparative Vert. Embryology (4) | |
| TOTAL HOURS TO DEGREE COMPLETION | | | | 120 | BIO 549 | Neurobiology (3) |
| | | | | | BIO 598 | Special Problems (1-6) |
| | | | | | *CHE 432 | Biochemistry Laboratory (1) |
| | | | | | SUPPORTING COURSE REQUIREMENTS (20-21) | |
| | | | | | 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) |
| | | | | | PSY 200 <u>or</u> | Introduction to Psychology (3) |
| | | | | | PSY 200W <u>or</u> | Introduction to Psychology (writing intensive) (3) |
| | | | | | PSY 280 <u>or</u> | Lifespan Developmental Psych. (3) |
| | | | | | PSY 308 | Abnormal Psychology (3) |
| | | | | | ⁶ SOC 131 <u>or</u> | Introductory Sociology (3) |
| | | | | | ⁶ *HON 312W | Honors Seminar in the Social and Behavioral Sciences: _____ (3) |
| | | | | | Bracketed items must be taken concurrently. | |
| | | | | | FREE ELECTIVES (6-11) | |

* **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.

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.