

CURRICULUM GUIDE

Biomedical Sciences, B.S. (Pre-Optometry Concentration)

2023-2024

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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 |
| | ⁶ PSY 200 (fulfills Gen. Ed. 5B) | 3 | Gen. Ed. 6 (Diversity) | 3 |
| | Gen. Ed. 1A (ENG 101) | 3 | Free Elective | 1 |
| | TOTAL | 15 | TOTAL | 15 |
| Sophomore Year | BIO 319 | 4 | BIO 320 | 4 |
| | CHE 361 | 3 | BIO 332 | 1 |
| | CHE 361L | 1 | PHY 132 <u>or</u> PHY 202 | 5 |
| | MAT 234 | 4 | Gen Ed. 3B (Humanities) | 3 |
| | ⁶ PHY 131 <u>or</u> PHY 201 (fulfills Gen. Ed. 4) | 5 | | |
| | TOTAL | 17 | TOTAL | 13 |
| Junior Year | BIO 331 | 3 | BIO 315 | 4 |
| | CHE 362 | 3 | BIO 348 | 3 |
| | CHE 362L | 3 | INF 104 | 3 |
| | PHI 383 | 1 | Gen. Ed. 1C (CMS 100 <u>or</u> 210) | 3 |
| | ⁶ STA 215 <u>or</u> STA 270 (fulfills Gen. Ed. 2) | 3-4 | Free Elective | 3 |
| | [†] Restricted Elective | 3 | | |
| | TOTAL | 16-17 | TOTAL | 16 |
| Senior Year | [‡] BIO/CHE Elective | 3-4 | BIO 495 | 1 |
| | CHE 430 <u>or</u> 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 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.

| 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) | |
| [‡] 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 234 | Calculus I (4) |
| PHY 132 <u>or</u> | 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) |
| [‡] 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 | Health & Biomedical Ethics (3) |
| ⁶ *PHY 131 <u>or</u> | College Physics I (5) |
| ⁶ *PHY 201 | University Physics I (5) |
| ⁶ PSY 200 | Introduction to Psychology (3) |
| ⁶ STA 215 <u>or</u> | 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 312 | Special Topics (3) |
| *PSY 308 | Abnormal Psychology (3) |
| SOC 131 | Introductory Sociology (3) |
| FREE ELECTIVES (7-10) | |

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