

CURRICULUM GUIDE

Chemistry, B.S. (Pre-Health Concentration including Pre-Dental, Pre-Medical, Pre-Optometry, and Pre-Physician Assistant)

2021-2022

Website: www.chemistry.eku.edu

Email Contact: chemistry@eku.edu

Department of Chemistry
521 Lancaster Ave.
4126 New Science Bldg.
Richmond, KY 40475
859-622-1456

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.

Students in Pre-Professional programs are encouraged to see the Pre-Professional program advisor in Science 1234, for help with scheduling.

| | Fall Semester | | Spring Semester | | Course Number | Course Name |
|---|--|-----------|--------------------------------|------------|---|---|
| Freshman Year | SCO 100C | 1 | BIO 112 | 4 | GENERAL EDUCATION & UNIVERSITY REQUIREMENTS (37) | |
| | ° BIO 111 (fulfills Gen. Ed. 4) | 4 | CHE 112 | 3 | SCO 100C | Student Success Seminar for Chemistry (1) |
| | CHE 111 | 3 | CHE 112L | 3 | CORE COURSE REQUIREMENTS (26) | |
| | CHE 111L | 1 | Gen. Ed. 1B (ENG 102) | 1 | [CHE 111 | General Chemistry I (3) |
| | § ° MAT 234 (fulfills Gen. Ed. 2) | 4 | Gen. Ed. 1C (Oral Comm.) | 3 | [CHE 111L | General Chemistry Lab I (1) |
| | Gen. Ed. 1A (ENG 101) | 3 | Gen. Ed. 3A (Arts) | 3 | [CHE 112 | General Chemistry II (3) |
| | TOTAL | 16 | TOTAL | 17 | [CHE 112L | General Chemistry Lab II (1) |
| Sophomore Year | BIO 307 | 3 | CHE 325 | 3 | CHE 250 | Descriptive Inorganic Chemistry (2) |
| | CHE 250 | 2 | CHE 325L | 2 | [CHE 325 | Analytical Chemistry (3) |
| | CHE 361 | 3 | CHE 362 | 3 | [CHE 325L | Analytical Chemistry Lab (2) |
| | CHE 361L | 1 | CHE 362L | 1 | [CHE 361 | Organic Chemistry I (3) |
| | ° PHY 131 or ‡ 201 (fulfills Gen. Ed. 4) | 5 | PHY 132 or ‡ 202 | 5 | [CHE 361L | Organic Chemistry Lab I (1) |
| | TOTAL | 14 | TOTAL | 14 | [CHE 362 | Organic Chemistry II (3) |
| | | | | | [CHE 362L | Organic Chemistry Lab II (1) |
| Junior Year | BIO 331 | 3 | BIO 348 | 3 | CHE 430 | Biochemistry of Macromolecules (3) |
| | CHE 385W | 3 | CHE 431 | 1 | Bracketed items must be taken concurrently. | |
| | CHE 411 (ACCT), 495A/B (ACCT), or 501L | 1 | CHE 432 | 3 | PREHEALTH CONCENTRATION REQUIREMENTS (27) | |
| | CHE 425 | 3 | 400/500-level CHE/FOR elective | 2 | CHE 385W | Chemical Literature (writing intensive) (3) |
| | CHE 425L | 1 | Gen. Ed. 3B (Humanities) | 3 | [CHE 425 | Instrumental Analysis (3) |
| | CHE 430 | 3 | Gen. Ed. 6 (Diversity) | 3 | [CHE 425L | Instrumental Analysis Lab (1) |
| | TOTAL | 14 | TOTAL | 15 | CHE 431 | Metabolic Biochemistry (3) |
| Senior Year | CHE 450 | 3 | CHE 485 | 1 | CHE 432 | Biochemistry Laboratory (1) |
| | CHE 502 | 1 | 400/500-level CHE/FOR elective | 3 | CHE 450 | Inorganic Chemistry (3) |
| | ° PSY 200 (fulfills Gen. Ed. 5B) | 3 | PHI 383 | 3 | CHE 485 | Chemistry Seminar (1) |
| | SOC 131 | 3 | Gen. Ed. 5A (History) | 3 | CHE 502 | Polymers and Particles (1) |
| | CHE 570 | 4 | Gen. Ed. 6 (Diversity) | 3 | CHE 570 | Biophysical Chemistry (4) |
| | | | Free Elective | 3 | † PLUS ONE (1) HOUR selected from the following: | |
| | TOTAL | 14 | TOTAL | 16 | CHE 411 | Practicum (1) |
| TOTAL HOURS TO DEGREE COMPLETION | | | | 120 | CHE 495A | Independent Chemical Research (1) |
| | | | | | CHE 495B | Chemistry Lab Independent Res. (1-3) |
| | | | | | CHE 501L | Chemtopics Lab (1) |
| | | | | | PLUS SIX (6) HOURS 400 or 500-level CHE or FOR electives | |
| | | | | | PRE-HEALTH CONCENTRATION SUPPORTING COURSE REQUIREMENTS (28) | |
| | | | | | ° BIO 111 | Cell and Molecular Biology (4) |
| | | | | | BIO 112 | Ecology and Evolution (4) |
| | | | | | BIO 307 | Human Anatomy & Physiology (3) |
| | | | | | BIO 331 | Cell Biology (3) |
| | | | | | BIO 348 | Vertebrate Physiology (3) |
| | | | | | § ° MAT 234 | Calculus I (4) |
| | | | | | PHI 383 or PHI 383W | Health and Biomedical Ethics (3) (writing intensive) |
| | | | | | ° PHY 131 or ‡ PHY 201 | University Physics I (5) |
| | | | | | PHY 132 or ‡ PHY 202 | College Physics I (5) |
| | | | | | ° PSY 200 | University Physics II (5) |
| | | | | | ° SOC 131 | College Physics II (5) |
| | | | | | | Introduction to Psychology (3) |
| | | | | | | Introductory Sociology (3) |
| | | | | | | ‡ Calculus based Physics (PHY 201 and 202) is recommended by the ACS and ASBMB. |
| | | | | | FREE ELECTIVES (3) | |

* **PREREQUISITES:** Consult with your advisor and/or the University catalog regarding prerequisites for upper division CHE courses. MAT 122 (see § below); PHY 131 and/or 201.

§ A preparatory course in mathematics (MAT 122) may be required before admission to MAT 234.

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: Chemistry majors will fulfill ACCT with CHE 411, 495A, 495B, 515/515L, or CED 499. (Credit hours are incorporated into program requirements.)

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