

CURRICULUM GUIDE
Chemistry, B.S. (Chemistry Concentration) + Chemistry, M.S.
2021-2022

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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 100C 1 CHE 111 3 CHE 111L 1 § MAT 234 (fulfills Gen. Ed. 2) 4 Gen. Ed. 1A (ENG 101) 3 Gen. Ed. 3A (Arts) 3 Gen. Ed. 5A (History) 3 TOTAL 18	BIO 111 (fulfills Gen. Ed. 4) 4 CHE 112 3 CHE 112L 1 MAT 244 4 Gen. Ed. 1B (ENG 102) 3 Gen. Ed. 1C (Oral Comm.) 3 TOTAL 18
Sophomore Year	CHE 250 2 CHE 361 3 CHE 361L 3 PHY 131 or 201 (fulfills Gen. Ed. 4) 1 Free Elective 2 Free Elective 4 TOTAL 17	CHE 325 3 CHE 325L 2 CHE 362 3 CHE 362L 1 CHE 385W 3 PHY 132 or 202 5 TOTAL 17
Junior Year	CHE 425 3 CHE 425L 1 CHE 430 3 CHE 450 3 Gen. Ed. 3B (Humanities) 3 Free Elective 3 TOTAL 16	CHE 411 (ACCT), 432, 495A/B (ACCT), or 501L 1 CHE 502 1 CHE 715 (ACCT) (also fulfills MS requirement) 3 CHE 715L (ACCT) (also fulfills MS requirement) 2 CHE or FOR (4xx or higher) Elective 3 Gen. Ed. 6 (Diversity) 3 Free Elective 4 TOTAL 17
Senior Year	CHE 485 1 Gen. Ed. 5B (Soc. & Behav. Sci.) 3 Gen. Ed. 6 (Diversity) 3 ^CHE 770 (also fulfills MS requirement) 4 Free Elective 3 Free Elective 3 <u>(Undergraduate Complete = 120 hrs)</u> TOTAL 17	CHE 810 2 CHE 811 (course work or internship tracks) or † 880 (Thesis track) 1 CHE 822, 830, 850, or 860 3 ♦ 7xx Level Elective 3 TOTAL 9
Senior +1	‡ CHE 811 or 895 (or combination) 1-2 CHE 880 1 CHE 822, 830, 850, or 860 3 CHE 811 or 895 (Course Work and Internship tracks) (1) CHE 899 (Thesis track only) (3) ☞ CHE 839 or 700/800 Level CHE course (Internship track only) (3) CHE 7xx/8xx Elective (Course Work track only) (3) TOTAL 9	CHE 822, 830, 850, or 860 3 CHE 899 (Thesis track only) (3) ☞ CHE 839 (Internship track only) (3) CHE 8xx Elective (Course Work track only) (3) GRD 858b (Thesis or Internship tracks only-Exit Requirement) 0 GRD 858c (Course Work track only-Exit Requirement) 0 TOTAL 6
TOTAL HOURS TO DEGREE COMPLETION		144

* **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. See University catalog for details.
 § A preparatory course in mathematics may be required before admission to MAT 234.
 ^ CHE 770 is taken in the undergraduate program, therefore, CHE 774/774L or 775/775L are not required for the Chemistry 3+2 concentration.

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 495A, 495B, 515 or 715. (Credit hours are incorporated into program requirements.)

M.S. Exit Requirements: THESIS/INTERNSHIP OPTION: A thesis/report based upon the original research project in the area of the student's research emphasis must be submitted. A final comprehensive oral examination (GRD 858b) in defense of the thesis/report and related course work is required. **COURSEWORK OPTION:** Candidates must earn a 3.0 GPA (or higher) for all program coursework for the option. In addition, the candidate for the coursework option must pass a final examination (GRD 858c). The committee will decide the format of the examination.

Undergraduate students in the 3+2 who have applied for graduation for their baccalaureate degree, applied for admission to the Graduate School, and are enrolled in at least 3 hours of eligible coursework will be eligible for support as a graduate assistant. GA support is limited to one semester in a 3+2 program and no more than 4 semesters (excluding summers) for the combined 3+2 and master's degree program. In order to qualify, students may not be signed up for more than 15 credit hours combined (graduate and undergraduate).

Course Number	Course Name
GENERAL EDUCATION & UNIVERSITY REQUIREMENTS (37)	
SCO 100C	Student Success Seminar (1)
CORE COURSE REQUIREMENTS (26)	
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 250	Descriptive Inorganic Chemistry (2)
CHE 325	Analytical Chemistry (3)
CHE 325L	Analytical Chemistry Lab (2)
CHE 361	Organic Chemistry I (3)
CHE 361L	Organic Chemistry Lab I (1)
CHE 362	Organic Chemistry II (3)
CHE 362L	Organic Chemistry Lab II (1)
CHE 430	Biochemistry of Macromolecules (3)
<i>Bracketed items must be taken concurrently.</i>	
CHEMISTRY REQUIREMENTS (25)	
CHE 385W	Chemical Literature (writing intensive) (3)
CHE 425	Instrumental Analysis (3)
CHE 425L	Instrumental Analysis Lab (1)
CHE 450	Inorganic Chemistry (3)
CHE 485	Chemistry Seminar (1)
CHE 502	Polymers & Particles (1)
CHE 715	Synthetic & Analytical Methods (3)
CHE 715L	Synthetic & Analytical Methods Lab (2)
CHE 770	Biophysical Chemistry (4)
PLUS ONE (1) HOUR selected from:	
CHE 411	Practicum (1-3)
CHE 432	Biochemistry Laboratory (3)
CHE 495A and/or	Independent Chemical Research (3)
CHE 495B	Chemistry Lab. Independent Research: ____ (3)
CHE 501L	Chemtopics Lab: ____ (3)
PLUS THREE (3) HOURS of 400 or 500 Level CHE or FOR courses (At least 3 hours of CHE 485A or 495B (chemistry research) is recommended.) With all specified courses, this program option produces a degree certified by the American Chemistry Society (ACS).	
CHEMISTRY SUPPORTING COURSE REQUIREMENTS (13)	
° BIO 111	Cell and Molecular Biology (4)
* ° MAT 234	Calculus I (4)
MAT 244	Calculus II (4)
° PHY 131 or	College Physics I (5)
° PHY 201	University Physics I (5)
PHY 132 or	College Physics II (5)
*PHY 202	University Physics II (5)
FREE ELECTIVES (19)	
M.S. CHEMISTRY REQUIREMENTS	
CORE COURSE REQUIREMENTS (24) (33 total; Nine (9) credits from CHE 715/715L (5) and 770 (4) are counted in the undergraduate program)	
CHE 715	Synthetic & Analytical Methods (3)
CHE 715L	Synthetic & Analytical Methods (2)
^ CHE 770	Biophysical Chemistry (4)
CHE 810	Professional Training (3)
‡ CHE 811	Chemistry Practicum (1-2)
CHE 881	Graduate Seminar (1)
‡ Graduate students are required to have a minimum of 2 credit hours from CHE 811, 895, or a combination.	
♦ PLUS THREE (3) HOURS of 700 level CHE, BIO, MAT, or other science course.	
PLUS ONE (1) additional HOUR of:	
‡ CHE 811	Chemistry Practicum (1)
CHE 880	Graduate Seminar (1)
CHE 895	Independent Research in Chemistry (1-3)
PLUS THREE (3) COURSES selected from the following:	
CHE 822	Advanced Analytical Chemistry (3)
CHE 830	Applied Biochemistry (3)
CHE 850	Advanced Inorganic Chemistry (3)
CHE 860	Advanced Organic Chemistry (3)
Graduate Students must also select ONE (1) of the following tracks:	
+ THESIS TRACK: Graduate Research (Written Thesis Required) CHE 899: Thesis (6 hrs.)	
+ INTERNSHIP TRACK: Applied Learning in Chemistry (Written Report Req.) ‡ CHE 839: Applied Learning in Chemistry (6 hrs) OR ☞ CHE 839 (3 hrs.) PLUS THREE (3) hours 700/800 Level Courses	
+ COURSEWORK TRACK THREE (3) HOURS CHE 800 Level courses PLUS THREE (3) HOURS 700/800 Level Courses (6 hrs.)	

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