

CURRICULUM GUIDE

Forensic Science, B.S. (Forensic Chemistry Concentration) + Chemistry, M.S. 2021-2022

Website: www.forensicscience.eku.edu

Email Contact: forensics@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.

	Fall Semester	Spring Semester	
Freshman Year	SCO 100C CHE 111 CHE 111L FOR 301 § 6 MAT 234 (fulfills Gen. Ed. 2) Gen. Ed. 1A (ENG 101) Gen. Ed. 3A (Arts)	1 3 1 3 4 3 3	6 BIO 111 (fulfills Gen. Ed. 4) CHE 112 CHE 112L STA 215 <i>or</i> STA 270 Gen. Ed. 1B (ENG 102) Gen. Ed. 5A (History)
	TOTAL	18	TOTAL 17-18
Sophomore Year	BIO 112 CHE 361 CHE 361L FOR 401 6 PHY 131 <i>or</i> 201 (fulfills Gen. Ed. 4) Gen. Ed. 5B (Soc. & Behav. Sci.)	4 3 1 1 5 3	CHE 325 CHE 325L CHE 362 CHE 362L PHY 132 <i>or</i> 202 Restricted Elective
	TOTAL	17	TOTAL 17
Junior Year	FOR 411 FOR 411L FOR 451 FOR 451L * Restricted Elective (FOR 310 recommended) Gen. Ed. 1C (Oral Comm.) Gen. Ed. 3B (Humanities) Free Elective	3 1 2 1 1 3 3 3-4	CHE 720 (ACCT) (also fulfills MS requirement) FOR 412 FOR 412L FOR 431 FOR 442 FOR 442L Gen. Ed. 6 (Diversity)
	TOTAL	17-18	TOTAL 17
SUMMER	<p>NOTE: While not required, it is strongly recommended that students complete THREE (3) HOURS of FOR 349: Applied Learning in Forensic Science in a Forensic Laboratory. Students interested in the internship must complete FOR 310 training for Forensic Internship before taking FOR 349.</p>		(3)
Senior Year	CHE 430 CHE 770 (also fulfills MS requirement) FOR 465W FOR 499 (fall only) Gen. Ed. 6 (Diversity) CHE 810 <u>(Undergraduate Complete = 120-121 hrs)</u>	3 4 3 3 3 2	CHE 715 CHE 715L CHE 811 CHE 822, 830, 850, <i>or</i> 860
	TOTAL	16	TOTAL 10
Senior +1	‡ CHE 811 CHE 880 CHE 822, 830, 850, <i>or</i> 860 CHE 811 <i>or</i> 895 (Course Work and Internship tracks) CHE 899 (Thesis track only) ‡ CHE 839 <i>or</i> 700/800 Level CHE course (Internship = track only) CHE 7xx/8xx Elective (Course Work track only)	1-2 1 3 (1) (3) (3) (3)	CHE 822, 830, 850, <i>or</i> 860 CHE 811 (course work or internship tracks) <i>or</i> † 880 (Thesis track) CHE 899 (Thesis track only) ‡ CHE 839 (Internship track only) CHE 8xx Elective (Course Work track only) GRD 858b (Thesis or Internship tracks only- Exit Requirement) GRD 858c (Course Work track only-Exit Requirement)
	TOTAL	9	TOTAL 7
		TOTAL HOURS TO DEGREE COMPLETION	144

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

‡ 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.catalog.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: Forensic Sciences majors will fulfill ACCT with FOR 499. (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 for Chemistry (1)
CORE COURSE REQUIREMENTS (35)	
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)
CHE 362	Organic Chemistry II (3)
CHE 362L	Organic Chemistry Lab II (1)
CHE 430	Biochemistry of Macromolecules (3)
FOR 301	Intro. to Forensic Science (3)
FOR 401	Forensic Professional Practice (1)
FOR 431	DNA Profiling (3) (spring only)
FOR 451	Forensic Microscopic Analysis (2) (fall only)
FOR 451L	Forensic Microscopy Lab (1) (fall only)
FOR 465W	Expert Witness Testimony (3) (fall only)
FOR 499	Forensic Science Capstone (3) (fall only)
Bracketed items must be taken concurrently.	
FORENSIC CHEMISTRY CONCENTRATION REQUIREMENTS (28)	
CHE 325	Analytical Chemistry (3)
CHE 325L	Analytical Chemistry Lab (2)
CHE 425 and CHE 425L <i>OR</i> FOR 411 and FOR 411L	Instrumental Analysis (3) Instrumental Analysis Lab (1) Instrumental Analysis (3) Forensic Instrumental Lab (1)
CHE 720	Mass Spectrometry (3) (spring only)
CHE 770	Biophysical Chemistry I (4)
FOR 412	Forensic Trace Evidence (3) (spring only)
FOR 412L	Forensic Trace Evidence Lab (1) (spring only)
FOR 442	Forensic Toxicology & Drugs (3) (spring only)
FOR 442L	Drugs & Toxicology Lab (1) (spring only)
† PLUS FOUR (4) HOURS selected from the following (restricted elective):	
CHE 349	Applied Learning in Chemistry (0.5-8)
CHE 349-A-N	Cooperative Study: Chemistry (0.5-8)
CHE 432	Biochemistry Laboratory (1) (spring only)
CHE 450	Inorganic Chemistry (3) (fall only)
CHE 501	Chemtopics (1-3)
CHE 501L	Chemtopics Lab (1)
FOR 310	Preparation for Internship (1) (fall only)
FOR 330	Bloodstain Pattern Analysis (1)
FOR 349	Applied Learning in Forensic Science (0.5-8)
FOR 431L	DNA Profiling (3) (spring only)
FOR 460	Special Topics in forensic Science (1-3)
FOR 490	Introduction to Research (1-3)
FSE 350	Fire, Arson and Explosion Investigation (3)
FSE 380	Fire and Explosion Scene Analysis (3)
PLS 316	Criminal Evidence (3)
SUPPORTING COURSE REQUIREMENTS (16-17)	
BIO 111	Cell and Molecular Biology (4)
BIO 112	Ecology and Evolution (4)
MAT 234	Calculus I (4)
* PHY 131 <i>or</i> PHY 201	College Physics I (5) University Physics I (5)
* PHY 132 <i>or</i> PHY 202	College Physics II (5) University Physics II (5)
* STA 215 <i>or</i> STA 270	Introduction to Statistical Reasoning (3) Applied Statistics I (4)
M.S. CHEMISTRY REQUIREMENTS	
CORE COURSE REQUIREMENTS (24) (Nine (9) credits from CHE 720 and 770 are counted in the undergraduate program)	
CHE 715	Synthetic & Analytical Methods (3)
CHE 715L	Synthetic & Analytical Methods Lab (2)
CHE 770	Biophysical Chemistry (4)
CHE 810	Professional Training (2)
‡ CHE 811	Chemistry Practicum (1)
CHE 880	Graduate Seminar (2)
‡ Graduate students are required to have a minimum of 2 credit hours from CHE 811. If CHE 881 is elected for the ‡ PLUS ONE (1) HOUR (see below), you must take 2 hours of 811 as part of the core.	
♦ PLUS THREE (3) HOURS of any 700-level course in chemical/biological science or mathematics.	
PLUS ONE (1) additional HOUR selected from:	
‡ CHE 811 <i>or</i> CHE 895	Chemistry Practicum (1) Chemistry Independent Research (1)
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) <i>OR</i> ‡ 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.)	

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