

**CURRICULUM GUIDE**  
**Chemistry, B.A. (Fermentation Science Concentration)**  
**2017-2018**

Website: [www.chemistry.eku.edu](http://www.chemistry.eku.edu)  
 Email Contact: [chemistry@eku.edu](mailto: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.

	Fall Semester	Spring Semester			
<b>Freshman Year</b>	SCO 100C (AGR 130 <i>and</i> 131*) <i>or</i> EHS 280*	1 <sup>6</sup> BIO 111 (fulfills Gen. Ed. 4) CHE 112 CHE 112L Gen. Ed. 1B (ENG 102) Gen. Ed. 1C (Oral Comm.) EHS 380* <i>or</i> Gen. Ed. 5A (History)	4 3 1 3 3 3		
	CHE 111	3	3		
	CHE 111L	1	3		
	§ <sup>6</sup> MAT 234 (fulfills Gen. Ed. 2)	4	3		
	Gen. Ed. 1A (ENG 101)	3	3		
	<b>TOTAL</b>	<b>15-16</b>	<b>TOTAL 17</b>		
	<b>Sophomore Year</b>	CHE 361	3	CHE 325	3
		CHE 361L	1	CHE 325L	2
CHE 385W		3	CHE 362	3	
<sup>6</sup> PHY 131 <i>or</i> 201 (fulfills Gen. Ed. 4)		5	CHE 362L	1	
<sup>6</sup> ECO 230 (fulfills Gen. Ed. 5B)		3	PHY 132 <i>or</i> 202	5	
<b>TOTAL</b>		<b>15</b>	<b>TOTAL 14</b>		
<b>Junior Year</b>	BIO 320	4	Entrepreneurial/Marketing <sup>†</sup>	3	
	FMT 340	3	CRJ 410, HEA 595 <i>or</i> LAS 310	3	
	AGR 430* <i>or</i> Gen. Ed. 5A (History)	3	400/500 level CHE <i>or</i> FMT	3	
	Entrepreneurial/Marketing <sup>†</sup>	3	Gen. Ed. 6 (Diversity)	3	
	Gen. Ed. 3B (Humanities)	3	Free Elective	3	
	<b>TOTAL</b>	<b>16</b>	<b>TOTAL 15</b>		
<b>Senior Year</b>	CHE 570	4	FMT 345	2	
	FMT 540	3	FMT 349, 349A-N, 495 <i>or</i> 549 (ACCT) <sup>‡</sup>	2	
	Entrepreneurial/Marketing <sup>†</sup>	3	FMT 545	4	
	Gen. Ed. 6 (Diversity)	3	Free Elective (ACCT) <sup>‡</sup>	3-4	
	Gen. Ed. 3A (Arts)	3			
<b>TOTAL</b>	<b>16</b>	<b>TOTAL 14-15</b>			
<b>TOTAL HOURS TO DEGREE COMPLETION</b>		<b>120</b>			

\* **PREREQUISITES:** Consult with your advisor and/or the University catalog regarding prerequisites for upper division CHE and FMT courses. AGR 130 and 131; CCT 101; EHS 280; MAT 122 (see § below); MGT 300 or 301; MKT 300 or 301; PHY 131 and/or 201; sophomore standing; junior standing.

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

‡ Three hours for ACCT are required, two of which are fulfilled by FMT 349, 349A-N, 495, or 549.

**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. If 300 level classes are taken for Gen. Ed., they can be used to fulfill the 42 hours instead of upper division free electives.

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 Select one of the following (based on specific concentration): combination of CHE 349, 349 A-N, 411, 495A, 495B, FMT 349, 349 A-N, 495 and/or FMT 549 for 3 credit hours, HON 420, CHE 515, or CED 499. (Credit hours are incorporated into program requirements.)

Course Number	Course Name
<b>GENERAL EDUCATION &amp; UNIVERSITY REQUIREMENTS (37)</b>	
SCO 100C	Student Success Seminar for Chemistry (1)
<b>CORE COURSE REQUIREMENTS (28)</b>	
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 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 385W	Chemical Literature (writing intensive) (3)
CHE 570	Biophysical Chemistry I (4)
<i>Bracketed items must be taken concurrently.</i>	
<b>FERMENTATION SCIENCE CONCENTRATION REQUIREMENTS (24)</b>	
BIO 320	Principles of Microbiology (4)
*CRJ 410 <i>or</i> HEA 595 <i>or</i> LAS 310	Alcohol and the Law (3) Alcohol Abuse and Dependency (3) Legal Aspects of Alcohol (3)
FMT 340	Fermentation Chemistry (3)
FMT 345	Sensory Analysis (2)
FMT 540	Fermentation Microbiology (3)
FMT 545	Chemical Analysis & Quality Control (4)
<b>PLUS TWO (2) HOURS selected from:</b>	
FMT 349	Applied Learning in Fermentation (.5-8)
FMT 349 A-N	Cooperative Study: Fermentation (.5-8)
FMT 495	Fermentation Science Research (1-3)
FMT 549	Fermentation Project Lab (2)
† PLUS THREE (3) HOURS of either 400 or 500 level CHE or FRT courses, or departmental approved special topics courses (If CHE or FRT 495A and/or 495B is/are taken, only 3 hours can be applied to the major.)	
<b>FERMENTATION SCIENCE CONCENTRATION SUPPORTING COURSE REQUIREMENTS (24-25)</b>	
<sup>6</sup> BIO 111	Cell and Molecular Biology (4)
<sup>6</sup> ECO 230	Principles of Microeconomics (3)
<sup>6</sup> *MAT 234 <i>or</i> *MAT 234H	Calculus I (4) Honors Calculus I (4)
<sup>6</sup> PHY 131 <i>or</i> <sup>6</sup> 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)
<b>PLUS choose ONE (1) FOCUS AREA: (Agriculture (*) <i>or</i> Environmental Health (†)) and take all classes in that Focus Area as defined below.</b>	
( * [ AGR 130 <i>and</i> AGR 131 <i>and</i> AGR 430 ] )	Principles of Agronomy (3) Agronomy Laboratory (1) Row and Biofuel Crops (3)
( * [ EHS 280 <i>and</i> EHS 380 ] )	Intro. to Environmental Health Science (3) Food Hygiene (3)
<b>‡ PLUS NINE (9) HOURS selected from:</b>	
CCT 270	Entrepreneurship (3)
* CCT 304S	Applied Entrepreneurship & Service Learning (3)
* MGT 301	Principles of Management (3)
* MGT 330	Small Business Management Innovation & Entrepreneurship (3)
* MGT 465	Entrepreneurial Leadership (3)
* MKT 301	Principles of Marketing (3)
* MKT 380	Seminar in Marketing (3)
<b>FREE ELECTIVES (6-7)</b>	

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