

**CURRICULUM GUIDE**  
**Chemistry, B.A. (Pre-Professional Concentration)**

*(includes Pre-Pharmacy, Pre-Dental, Pre-Optometry, Pre-Pathology Assistant, Pre-Physician Assistant, or Pre-Medical)*

**2016-2017**

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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.

Students in Pre-Professional programs are encouraged to see the Pre-Professional program advisor in NSB Lobby, Rm. 2108, for help with scheduling.

	Fall Semester	Spring Semester
<b>Freshman Year</b>	ASO 100C 1 <sup>6</sup> BIO 111 (fulfills Gen. Ed. 4) 4 CHE 111 3 CHE 111L 1 <sup>§</sup> <sup>6</sup> MAT 124 (fulfills Gen. Ed. 2) 4 Gen. Ed. 1A (ENG 101) 3 <b>TOTAL 16</b>	BIO 112 4 CHE 112 3 CHE 112L 1 Gen. Ed. 1B (ENG 102) 3 Gen. Ed. 1C (Oral Comm.) 3 <b>TOTAL 14</b>
<b>Sophomore Year</b>	BIO 171 3 CHE 361 3 CHE 361L 1 CHE 385 2 <sup>6</sup> PHY 131 <u>or</u> 201 (fulfills Gen. Ed. 4) 5 <b>TOTAL 14</b>	CHE 362 3 CHE 362L 1 <sup>†</sup> ECO 230 (pre-pharm.) <u>or</u> <sup>‡</sup> SOC 131 (all others) 3 PHY 132 <u>or</u> 202 5 STA 270 4 <b>TOTAL 16</b>
<b>Junior Year</b>	<sup>†</sup> BIO 301 (pre-pharm.) <u>or</u> <sup>‡</sup> 348 (all others) 3 <sup>†</sup> BIO 378 (pre-pharm only) (1) CHE 325 3 CHE 325L 2 CHE 430 3 <sup>6</sup> PSY 200 (fulfills Gen. Ed. 5B) 3 <b>TOTAL 14-(15)</b>	<sup>†</sup> BIO 273 <u>or</u> 320 (pre-pharm) <u>or</u> <sup>‡</sup> BIO 320 (all others) 4 CHE 425 3 CHE 425L 1 CHE 431 3 CHE 432 3 PHI 383 3 <b>TOTAL 15</b>
<b>Senior Year</b>	CHE 349A <u>or</u> CHE 495A (ACCT) 1 CHE 484 1 CHE 570 4 Gen. Ed. 3A (Arts) 3 Gen. Ed. 6 (Diversity) 3 <sup>‡</sup> Free Elective 2-3 <b>TOTAL 14-15</b>	CHE 349A <u>or</u> CHE 495B (ACCT) 2 Gen. Ed. 3B (Humanities) 3 Gen. Ed. 5A (History) 3 Gen. Ed. 6 (Diversity) 3 Wellness 3 Free Elective 2 <b>TOTAL 16</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 courses. BIO 111, 112, 171, and/or 301; 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.catalogs.uky.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, FRT 349, 349 A-N, 495 and/or FRT 549 for 3 credit hours, HON 20, CHE 515, or CED 499. (Credit hours are incorporated into program requirements.)

Course Number	Course Name
<b>GENERAL EDUCATION &amp; UNIVERSITY REQUIREMENTS (40)</b>	
ASO 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 385	Chemical Literature (2)
CHE 570	Biophysical Chemistry I (4)
<i>Bracketed items must be taken concurrently.</i>	
<b>PRE-PROFESSIONAL REQUIREMENTS (15)</b>	
[ CHE 425	Instrumental Analysis (3)
[ CHE 425L	Instrumental Analysis Lab (1)
CHE 430	Biochemistry of Macromolecules (3)
CHE 431	Metabolic Biochemistry (3)
CHE 432	Biochemistry Laboratory (1)
CHE 484	Chemistry Colloquium (1)
<b>PLUS THREE (3) HOURS selected from a combination of:</b>	
CHE 349	Applied Learning in Chemistry (.5-8)
CHE349A-N	Cooperative Study: Chemistry (.5-8)
CHE 495A <u>and/or</u>	Independent Chemical Research (1)
CHE 495B <u>or</u>	Chemistry Lab. Independent Res. (1-3)
HON 420	Thesis Project and Seminar (3-6)
<b>SUPPORTING COURSE REQUIREMENTS (for all pre-professional programs) (23)</b>	
<sup>6</sup> BIO 111	Cell and Molecular Biology (4)
BIO 112	Ecology and Evolution (4)
BIO 171	Human Anatomy (3)
* <sup>6</sup> MAT 234 <u>or</u>	Calculus I (4)
* <sup>6</sup> MAT 234H	Honors Calculus I (4)
* <sup>6</sup> PHY 131 <u>or</u>	College Physics I (5)
* PHY 201	University Physics I (5)
* PHY 132 <u>or</u>	College Physics II (5)
* PHY 202	University Physics II (5)
STA 270	Applied Statistics I (4)
<sup>6</sup> PSY 200	Intro. to Psychology (3)
PHI 383	Health and Biomedical Ethics (3)
<b>† PRE-PHARMACY SUPPORTING COURSE REQUIREMENTS (11)</b>	
BIO 301	Human Physiology (3)
BIO 273 <u>or</u>	Clinical Microbiology (4)
BIO 320	Principles of Microbiology (4)
BIO 378	Human Physiology Laboratory (1)
ECO 230	Principles of Microeconomics (3)
<b>‡ PRE-DENTAL, PRE-OPTOMETRY, PRE-PATHOLOGY ASSISTANT PRE-PHYSICIAN ASSISTANT AND PRE-MEDICAL SUPPORTING COURSE REQUIREMENTS (10)</b>	
BIO 320	Principles of Microbiology (4)
BIO 348	Vertebrate Physiology (3)
SOC 131	Introductory Sociology (3)
<i>Students in pre-professional options need to work closely with advisors in coursework planning to ensure all guidelines for pre-professional programs are met.</i>	
<b>FREE ELECTIVES (4-5)</b>	

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