

Department of Chemistry & Biochemistry, Northern Kentucky University

MAJOR: Bachelor of Science in Chemistry, Biochemistry Track

FIRST YEAR <ul style="list-style-type: none"> Meet with freshman specialist; map personal four-year plan. Make use of student support: tutoring, SI, writing center, mathematics lab. Investigate undergraduate research, co-op option. Join student clubs. 	Fall Semester		Spring Semester	
		CHE 120/L General Chemistry I with Lab	4	CHE 121/L General Chemistry II with Lab
	MAT 129 Calculus I ^a	4	MAT 229 Calculus II ^a	5
	Gen Ed: Written Communication	3	Gen Ed: Oral Communication	3
	BIO 150/L Introductory Biology I with Lab	4	BIO 151/L Introductory Biology II with Lab	4
	CHE 125 Intro to Chem and Biochem	1		
	TOTAL	16	TOTAL	16
SECOND YEAR <ul style="list-style-type: none"> Meet with your new area-specific advisor. Join research group. Investigate summer research, co-op or internship opportunities. Begin to gain career experience appropriate for goals. 	Fall Semester		Spring Semester	
		CHE 310/L Organic Chemistry I with Lab	4	CHE 311/L Organic Chemistry II with Lab
	PHY 211 General Physics I with Lab ^b	4	PHY 213 General Physics II with Lab ^b	4
	BIO 349/L (Genetics)	4	CHE 391W Chemical Information and Writing	3
	Gen Ed Course	3	Biochemistry track elective and/or elective(s)	5
	Elective	1		
	TOTAL	16	TOTAL	16
THIRD YEAR <ul style="list-style-type: none"> Work closely with advisor to fine tune career plans. Begin to investigate graduate/professional programs. Register for entrance exams (GRE, MCAT, PCAT). Work with Career Services to polish resume, apply for co-ops. Meet with pre-med board, if appropriate. 	Fall Semester		Spring Semester	
		CHE 300 Careers in Chemistry	1	CHE 483/L Biochemistry II with lab
	CHE 482/L Biochemistry I with lab	4	CHE 492 Research: Chemistry	1
	CHE 340/L Analytical Chemistry with Lab	5	Biochemistry track elective and/or elective(s)	4
	Biochemistry track elective or elective	3	Gen Ed Courses (2)	6
	Gen Ed Course	3		
	TOTAL	16	TOTAL	15
FOURTH YEAR <ul style="list-style-type: none"> Attend job fairs, conduct mock interviews with Career Services. Contact professors for letters of recommendation. Gather application materials, apply early to desired programs. Plan and complete senior seminar, honors thesis. Celebrate your graduation! 	Fall Semester		Spring Semester	
		CHE 360 Physical Chemistry I	3	CHE 361 Physical Chemistry II
	CHE 400 Chemistry Seminar	1	CHE 362L Physical Chemistry Laboratory	2
	Practicum: Chemistry Lab ^c	1	CHE 492 Research: Chemistry	1
	CHE 492 Research: Chem	1	Elective (>300 level)	3
	Electives	4	Gen Ed course	3
	Gen Ed course	3		
	TOTAL	13	TOTAL	12
GRAND TOTAL OF CREDITS				120

Notes:

^aAlternatively, the calculus requirement can be met by taking Calculus A, B, and C (MAT 128, 227, and 228).

^bAlternatively, University Physics I and II (PHY 220 and PHY 222) may be taken. If these courses are chosen, they can be taken spring/fall or fall/fall; PHY 222 is only offered in the fall, but PHY 220 is offered fall and spring.

^cStudents considering graduate school, professional school or high school teaching should strongly consider taking chemistry practicum, especially in General Chemistry. This course allows the student to gain valuable teaching experience (for students who will teach at the high school or college level) and it provides an excellent opportunity to continue to keep general chemistry skills sharpened (for students planning to take entrance exams such as the MCAT, PCAT, and DAT).

All majors should begin their mathematics sequence in order to complete calculus II as soon as possible. All majors should also take the chemistry writing course (CHE 391W) as soon as they complete their first 300 level or above chemistry course (usually CHE 310 or CHE 340), as this course is a prerequisite for many other 300- and 400- level lab courses. Secondary education majors also completing the B.S. in chemistry degree need to take the physical chemistry sequence (CHE 360, CHE 361, and CHE 362L) during their junior year in order to accommodate their student teaching responsibilities during their senior year.

Pre-pharmacy students benefit from taking biochemistry and physical chemistry in their junior years so that they can more easily matriculate pharmacy courses back to NKU to complete a bachelor's degree in chemistry should they enter pharmacy school a year early.

Pre-professional majors should work closely with their advisors to ensure that electives are chosen to meet the entrance requirements of their particular postbaccalaureate programs.

In completing the requirements for the B.S. chemistry-biochemistry track degree, students also satisfy general education requirements in communication-written II (CHE 391W), natural sciences (CHE 120 and CHE 120L, PHY 211 or PHY 220) and mathematics (MAT 128 or MAT 129).