Department of Chemistry
Northern Kentucky University

MAJOR: Bachelor of Science in Chemistry, General Chemistry Track (ACS Certified)

	Fall Semester		Spring Semester	
FIRST YEAR • *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 options.* • *Join student clubs.*	CHE 120/L General Chemistry I with Lab	4	CHE 121/L General Chemistry II with Lab	4
	MAT 129 Calculus I[a]	4	MAT 229 Calculus II[a]	5
	Gen Ed: Written Communication	3	Gen Ed: Oral Communication	3
	Gen Ed Course	3	Gen Ed Course	3
	CHE 125 Intro to Chem and Biochem	1	CHE 292 Intro Chemical Research	0
	TOTAL	15	**TOTAL**	15
SECOND YEAR • *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	4
	CHE 340/L Analytical Chemistry with Lab	5	PHY 220 University Physics I with lab[b]	4
	Two Gen Ed Courses	6	CHE 391W Chemical Information and Writing	3
	CHE 492 Research: Chemistry	1	CHE 350/L Instrumental Analysis with Lab	5
	TOTAL	16	**TOTAL**	16
THIRD YEAR • *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 you are pre-med.*	Fall Semester		Spring Semester	
	CHE 300 Careers in Chemistry	1	CHE 320/L Inorganic Chemistry with Lab	5
	CHE 482 Biochemistry I	3	CHE 396 Practicum: Chemistry Lab[c]	1
	CHE 492 Research: Chemistry	1	CHE 492 Research: Chemistry	1
	PHY 222 University Physics with Laboratory II[b]	4	Gen Ed Course	3
	Elective (>300 level)	3	Electives	5
	Gen Ed Course	3		
	TOTAL	15	**TOTAL**	15
FOURTH YEAR • *Attend job fairs, conduct mock interviews with Career Services.* • *Contact professors for letters of recommendation.* • *Gather application materials, apply early to desired programs.*	Fall Semester		Spring Semester	
	CHE 360 Physical Chemistry I	3	CHE 361 Physical Chemistry II	3
	CHE 400 Chemistry Seminar	1	CHE 362L Physical Chemistry Laboratory	2
	Chemistry Elective (400+ from select group)	3	Chemistry Elective (400+, from select group)	3
	Electives	6	Electives	5
	CHE 492 Research: Chemistry	1	CHE 492 Research: Chemistry	1

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• *Plan and complete senior seminar, honors thesis.* • *Celebrate your graduation!*	**TOTAL**	14	**TOTAL**	14
			GRAND TOTAL OF CREDITS	**120**

Notes:

[a]*Alternatively, the calculus requirement can be met by taking Calculus A, B, and C (MAT 128, 227, and 228).*

[b]*Alternatively, General Physics I and II (PHY 211 and PHY 213) may be taken. If these courses are chosen, they can be taken fall/spring or spring/fall; PHY 222 is only offered in the fall, but PHY 220 is offered fall or spring.*

[c]*Students considering graduate school, professional school or high school teaching should strongly consider taking chemistry practicum. 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 sharpen introductory chemistry skills (for students planning to take entrance exams such as the GRE, 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 year 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 (pre-med, pre-pharm, etc.) should use their electives to add one year of biology (BIO 150 and BIO 150L and BIO 151) and possibly other courses, depending on the entrance requirements of their intended post baccalaureate programs. These students should work closely with their advisors.

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