

SAMPLE 4-YEAR PLAN: CHEMISTRY B.S.

Northern Kentucky University

This is one way a student can complete this program in four years if they require no developmental courses (Mathematics ACT \geq 25, English ACT \geq 18, and Reading ACT \geq 20 or their equivalences). Should a student not meet these requirements, additional developmental courses not listed here will be necessary.

MAJOR: Chemistry

FIRST YEAR	Fall Semester		Spring Semester	
	<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, coop options. Join student clubs. 	CHE 120 General Chemistry I	3	CHE 121 General Chemistry II
CHE 120L General Chemistry I Laboratory		1	CHE 121L General Chemistry II Laboratory	1
MAT 129 Calculus I ^a		4	MAT 229 Calculus II ^a	5
Gen Ed: Communication; Written		3	Gen Ed: Communication; Oral	3
Gen Ed		3	Gen Ed	3
CHE 125 Intro to Chemistry and Biochemistry		1	CHE 292 Introductory Chemical Research	0
TOTAL		15	TOTAL	15
SECOND YEAR		Fall Semester		Spring Semester
<ul style="list-style-type: none"> Meet with your new area-specific advisor. Join research group. Investigate summer research, coop or internship opportunities. Begin to gain career experience appropriate for goals. 	CHE 310 Organic Chemistry I	3	CHE 311 Organic Chemistry II	3
	CHE 310L Organic Chemistry I Laboratory	1	CHE 311L Organic Chemistry II Laboratory	1
	CHE 340 Analytical Chemistry	3	PHY 220 University Physics I with Laboratory ^b	4
	CHE 340L Analytical Chemistry Laboratory	2	CHE 391W Chemical Information and Writing	3
	Gen Ed (two courses)	6	CHE 350 Instrumental Analysis	3
	CHE 492 Research: Chemistry	1	CHE 350L Instrumental Analysis Laboratory	2
	TOTAL	16	TOTAL	16
	THIRD YEAR	Fall Semester		Spring Semester
<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 coops. Meet with pre-med board, if you are pre-med. 	CHE 482 Biochemistry I	3	Gen Ed	3
	CHE 492 Research: Chemistry	1	CHE 492 Research: Chemistry	1
	PHY 222 University Physics with Laboratory II ^b	4	CHE 320 Inorganic Chemistry	3
	Elective 300 level or above	3	CHE 320L Inorganic Chemistry Laboratory	2
	Gen Ed	3	Electives	5
			CHE 396 Practicum: Chemistry Laboratory ^c	1
	TOTAL	14	TOTAL	15
	FOURTH YEAR	Fall Semester		Spring Semester
<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! 	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 (Advanced Content Coursework)	3	Chemistry elective (Advanced Research Methods Coursework)	3
	Electives	6	Electives	6
	CHE 492 Research Chemistry	1	CHE 492 Research: Chemistry	1
	TOTAL	14	TOTAL	15
	GRAND TOTAL OF CREDITS			

Notes:

a Alternatively, the calculus requirement can be met by taking calculus A, B, and C (MAT 128, MAT 227, and MAT 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 120 and CHE 120L, PHY 211 or PHY 220) and mathematics (MAT 128 or MAT 129).