

**Bachelor of Science in Chemistry
 Four Year Curriculum Plan**

The following is a suggested four year plan of study for freshmen entering LMU during the 2017 academic year. Transfer students should contact the department chair to determine how their credits will apply. This plan is to be used in conjunction with the university catalog & advice of the faculty advisor. Courses on the plan may be taken in semesters other than those listed based upon availability & course placement. This plan meets LMU's Liberal Art Common Core requirements, major requirements & 300/400 level course requirements. For more information refer to the Undergraduate Course Catalog or your advisor.

First Year

Fall

ENGL 101 Composition 1	3
CHEM 111 General Chemistry I & Lab	4
BIOL 111 General Biology I & Lab	4
MATH 150 Calculus I	4
UACT 100 Strategies for College Success	2
TOTAL	17

Spring

ENGL102 Composition 2	3
CHEM 112 General Chemistry II & Lab	4
BIOL 112 General Biology II & Lab	4
MATH 250 Calculus II	5
LNCN 100 Lincoln's Life & Legacy	1
TOTAL	17

Second Year

Fall

PHYS 211 General Physics I & Lab	4
CHEM 221 Organic Chemistry I & Lab	4
History Sequence Req. Part II (121 or 131)	3
Free Elective	4
TOTAL	15

Spring

PHYS 212 General Physics II & Lab	4
CHEM 222 Organic Chemistry II & Lab	4
History Sequence Req. Part II (122 or 132)	3
ISYS 100 Computer Literacy	2
Free Elective	4
TOTAL	17

Third Year

Fall

CHEM 331 Quantitative & Instrumental Analy.	4
CHEM 397 Junior Science Seminar	1
ENGL 240, 250, or 260	3
BIOL 441 Biochemistry I	4
Free Elective 300/400 Level	4
TOTAL	16

Spring

CHEM 332 Quant. & Instrumental Analy. II	4
COMM 200 Fund. of Speech Communication	3
Free Elective 300/400 Level	4
CHEM 310 Math. Methods in Chemistry	3
TOTAL	14

Fourth Year

Fall

CHEM 451 Physical Chemistry I	4
CHEM 497 Senior Science Seminar	1
LNCN 300 American Citizenship	1
Fine Art, Humanities or Ethics Requirement	3
Free Elective	3
Social/Behavioral Science Requirement	3
TOTAL	15

Spring

CHEM 452 Physical Chemistry II	4
CHEM 460 Inorganic Chemistry	3
Fine Arts Requirement	3
Social/Behavioral Science Requirement	3
Free Elective	3
TOTAL	16

Total Hours **127**

CHEM 111 General Chemistry I & Lab (4 cr hrs)

Study of atoms and molecules. Emphasis on the bonding, chemistry, and thermodynamics of relatively simple substances. Prerequisite for CHEM 111 is (1) a Math ACT of 21 or higher or 2 successful (C- or better) grade in Math 105. Co-requisite: CHEM 111 lab 1 credit hour. FALL

CHEM 112 General Chemistry II & Lab (4 cr hrs)

Study of atoms and molecules. Emphasis on the bonding, chemistry, and thermodynamics of relatively simple substances. Prerequisite for CHEM 112 is successful completion of CHEM 111 with C- or better grade. Co-requisite: CHEM 112 lab 1 credit hour. SPRING

CHEM 221 Organic Chemistry I & Lab (4 cr hrs)

Study of the compounds of carbon. The common organic functional groups with emphasis on structure, properties, reactions, synthesis and mechanism. Co-requisite: CHEM 221 lab. One credit hour. FALL

ENGL 101 Composition 1

Study of the compounds of carbon. The common organic functional groups with emphasis on structure, properties, reactions, synthesis and mechanism. Co-requisite: CHEM 222 lab. One credit hour. SPRING

UACT 100 Strategies for College Success

Basic theory of quantitative and instrumental chemical equilibrium. Laboratory work covering gravimetric, instrumental, and volumetric analyses. Two credit hours. FALL ALTERNATE YEARS

CHEM 310 Math. Methods in Chemistry (4 cr hrs)

A course designed to give the student sufficient background in mathematical methods required for completion of the analytical, physical, and inorganic chemistry sequences. Course discussion will History Sequence Req. Part II (121 or 131) linear algebra, differential equations and function of several variables. FALL

CHEM 322 Quant. & Instrumental Analy. II (4 cr hrs)

Basic theory of quantitative and instrumental chemical equilibrium. Laboratory work covering gravimetric, instrumental, and volumetric analyses. SPRING ALTERNATE YEARS

CHEM 397 Junior Science Seminar**ENGL 240, 250, or 260**

elementary chemical kinetics. One credit hour. FALL

CHEM 497 Senior Science Seminar (1 cr hr)

Methods of literature search and sources of information in the sciences. Requires a research paper on a topic in chemical science. SPRING and FALL

CHEM 452 Physical Chemistry II (4 cr hrs)

Energy relationships in chemical reactions; elementary quantum mechanics of chemical systems; elementary chemical kinetics. SPRING ALTERNATE YEARS

CHEM 460 Inorganic Chemistry (3 cr hrs)

Elements studied as families. Properties such as acid-base, redox, and coordination compounds are related to the position of the element in the periodic table. SPRING