

Proposed Chemical Physics Major at LMU

The purpose of this brief document is to set forth a proposed sequence of courses at LMU that would allow students the option of a major in chemical physics. This major would consist of two tracks. One track allowing for certification in physics and chemistry teaching at the secondary level. This track would follow the guidelines for achieving initial teacher licensure in Tennessee through a cross-disciplinary program in the fields of chemistry and physics. The second track would lead to work in industry or further study at the graduate level.

The course requirements for each of the tracks in the proposed chemical physics major are given below. Course descriptions for the newly proposed courses are given later in this document.

Chemical Physics Track 1 major requirements: Credit Hours

Chemistry and Physics Courses

CHEM 111, 111L	4
CHEM 112, 112L	4
PHYS 211, 211L, 215	5
PHYS 212, 212L, 216	5
PHYS 320 Modern Physics	3
CHEM 331, 331L	4
PHYS 350 Electronics	3
CHEM 397	1
CHEM 221, 221L	4
CHEM 222, 222L	4
CHEM 497	1
Total Hours	38

Education and Related Courses

EDUC 210	3
EDUC 290	3
PSYC 221	3
EDUC 320	3
PSYC 370	3
SPED 270	2
EDUC 360	2
EDUC 370	3
EDUC 390	2
STEM 460	3
EDUC 480	2
EDUC 497	12
Total Hours	41

<u>Chemical Physics Track 2 major requirements:</u>	<u>Credit Hours</u>
CHEM 111, 111L	4
CHEM 112, 112L	4
PHYS 211, 211L, 215	5
PHYS 212, 212L, 216	5
CHEM 221, 221L	4
CHEM 222, 222L	4
PHYS 320 Modern Physics	3
MATH/CHEM/PHYS 310	3
CHEM 331, 331L	4
CHEM 332, 332L	4
PHYS 350 Electronics	3
CHEM 397	1
CHEM 451, 451L	4
CHEM 452, 452L	4
CHEM 460 Inorganic	3
CHEM 497	1
Total Hours	56

Proposed Course Sequence

Chemical Physics Major Track 1 (Secondary Education Track)

Freshman Year

Fall	Credit Hrs.	Spring	Credit Hrs.
CHEM 111, 111L	4	CHEM 112, 112L	4
MATH 150	4	MATH 250	4
PHYS 211, 211L, 215	5	PHYS 212, 212L, 216	5
LNCN 100	1	ENGL 110	3
EDUC 210	3		
Total	17		16

Sophomore Year

Fall	Credit Hrs.	Spring	Credit Hrs.
MATH 350	3	MATH 255	4
PHYS 320	3	SPED 270	2
EDUC 290	3	ENGL 210	3
HIST 121 or 131	3	HIST 122 or 132	3
CHEM 221, 221L	4	CHEM 222, 222L	4
Total	16		16

Junior Year

Fall	Credit Hrs.	Spring	Credit Hrs.
CHEM 331, 331L	4	CHEM 397	1
EDUC 320	3	COMM 200	3
ENGL 310	3	PSYC 221	3
PSYC 370	3	EDUC 360	2
Soc./Beh.Sci. Req.	3	EDUC 370	3
LNCN 300	1	EDUC 390	2
		BIO 111, 111L	4
Total	17		17

Senior Year

Fall	Credit Hrs.	Spring	Credit Hrs.
PHYS 350	3	CHEM 497	1
STEM 460	3	EDUC 497	12
EDUC 480	2		
Fine Art Req.	3		
Fine Art/Human/Ethics Req.	3		
Soc./Beh.Sci. Req.	3		
Total	17		13
Overall Total	130		

Draft v. 2

Prepared by Kevin W. Cooper and Ashleigh Prince

14-Sep-15

Chemical Physics Major Track 2 (Industry/Graduate Track)**Freshman Year**

Fall	Credit Hrs.	Spring	Credit Hrs.
CHEM 111, 111L	4	CHEM 112, 112L	4
MATH 150	4	MATH 250	4
PHYS 211, 211L, 215	5	PHYS 212, 212L, 216	5
LNCN 100	1	ENGL 110	3
EDUC 210	3		
Total	17		16

Sophomore Year

Fall	Credit Hrs.	Spring	Credit Hrs.
MATH 350	3	MATH 255	4
PHYS 320	3	COSC 160	3
CHEM 221, 221L	4	ENGL 210	3
HIST 121 or 131	3	HIST 122 or 132	3
Soc. Beh. Sci. Req.	3	CHEM 222, 222L	4
Total	16		17

Junior Year

Fall	Credit Hrs.	Spring	Credit Hrs.
CHEM 331, 331L	4	CHEM 397	1
MATH 300	3	MATH/CHEM 310	3
ENGL 310	3	CHEM 332, 332L	4
BIO 111, 111L	4	MATH 360	3
Fine Art Req.	3	BIO 112, 112L	4
		LNCN 300	1
Total	17		16

Senior Year

Fall	Credit Hrs.	Spring	Credit Hrs.
PHYS 350	3	CHEM 497	1
COMM 200	3	CHEM 460	3
CHEM 451, 451L	4	CHEM 452, 452L	4
MATH 270 Prob./Stat.	3	Soc. Beh. Sci. Req.	3
Fine Art/Human/Ethics Req.	3	Electives (1 or 2)	3-6
Total	16		14-17

Overall Total 129-132