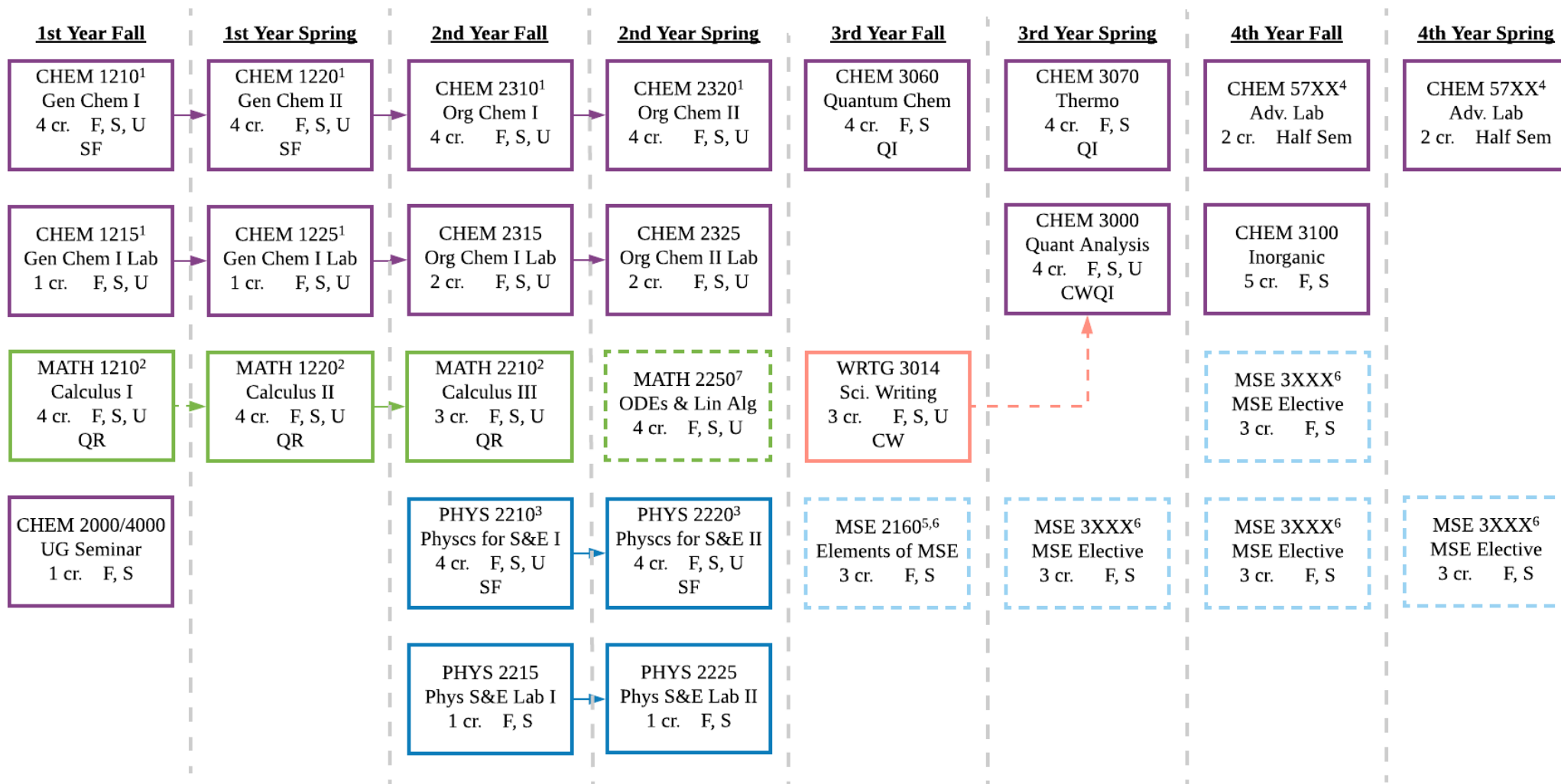


Chemistry Course Requirements - Material Science & Engineering Emphasis (2018-2019)

The Materials Science & Engineering emphasis is for students who are interested in learning how to develop new materials in chemistry, and explore the MSE department. Students who choose this emphasis may work for a company to design new products or go to graduate school in chemistry or MSE.



- Honors versions of available. Sequence starts in the Fall. Must apply to be in the class.
- Talk with advisors to see how other calculus sequences could fulfill the calculus requirement.
- Honors versions are PHYS 3210 + 3220.
- 2 upper division labs required. Fall options: CHEM 5710 (org) 1st half, CHEM 5730 (inorg) 2nd half. Spring options: CHEM 5700 (ana) 1st half, CHEM 5720 (phys) 2nd half, CHEM 3200 (radiochem) + NUCL 4000 Spring + Fall.
- MSE 2010 can be taken instead, but it is reserved for MSE majors.
- Need at least 15 credits in Materials Science & Engineering, including MSE 2160 or MSE 2010. Check DARS to see accepted courses. CHEM 4800 (research), CHEM 4999 (Honors Thesis), or CHEM 4965 (internship) can waive 2 credits.
- MATH 2270 + 2280 are more rigorous, and will take 2 semesters to complete.

Chemistry Course Requirements – Materials Science & Engineering Emphasis (2018-19)

The Materials Science & Engineering emphasis is for students who are interested in learning how to develop new materials in chemistry, and explore the MSE department. Students who choose this emphasis may work for a company to design new products or go to graduate school in chemistry or MSE.

Material Science & Engineering Emphasis											
Done?	Dept.	Number	Course Name	Credit Hours	Gen Ed/ Bach Req	Prerequisites		Taught			
						Chemistry	Math/Other	F	S	U	
MATH CLASSES											
<input type="checkbox"/>	MATH	1210	Calculus I ^o	4	QR		1080		x	x	x
<input type="checkbox"/>	MATH	1220	Calculus II ^o	4	QR		MATH 1210		x	x	x
<input type="checkbox"/>	MATH	2210	Calculus III ^o	4	QR		MATH 1220		x	x	x
<input type="checkbox"/>	MATH	2250	ODE's and Linear Algebra ^o	4	QR		MATH 2250		x	x	x
PHYSICS CLASSES											
<input type="checkbox"/>	PHYS	2210	Physics for Sci & Eng I ^o	4	SF		MATH 1210		x	x	x
<input type="checkbox"/>	PHYS	2215	Physics Lab for Sci & Eng I	1			MATH 1210		x	x	
<input type="checkbox"/>	PHYS	2220	Physics for Sci & Eng II ^o	4	SF		MATH 1220 + PHYS 2210		x	x	x
<input type="checkbox"/>	PHYS	2225	Physics Lab for Sci & Eng II	1			MATH 1220 + PHYS 2210		x	x	x
CHEMISTRY CLASSES											
<input type="checkbox"/>	CHEM	2000/4000	Undergrad Seminar	1					x	x	
<input type="checkbox"/>	CHEM	1210 + 1215	General Chemistry I ^o + Lab	4 + 1	SF		MATH 1050		x	x	x
<input type="checkbox"/>	CHEM	1220 + 1225	General Chemistry II ^o + Lab	4 + 1	SF		CHEM 1210 + 1215		x	x	x
<input type="checkbox"/>	CHEM	2310 + 2315	Organic Chemistry I ^A + Lab	4 + 2			CHEM 1220 + 1225		x	x	x
<input type="checkbox"/>	CHEM	2320 + 2325	Organic Chemistry II ^A + Lab	4 + 2			CHEM 2310 + 2315		x	x	x
<input type="checkbox"/>	CHEM	3000	Quantitative Analysis	4	QI, CW		CHEM 1220		MATH 1220	x	x
<input type="checkbox"/>	CHEM	3060	Quantum Chemistry & Spect	4	QI		CHEM 1220		MATH 2210 + PHYS 2220	x	x
<input type="checkbox"/>	CHEM	3070	Thermodynamics & Kinetics	4	QI		CHEM 1220		MATH 2210 + PHYS 2220	(x)	x
<input type="checkbox"/>	CHEM	3100	Inorganic Chemistry	5			CHEM 1220				
<input type="checkbox"/>	WRTG	3014	Scientific Writing	3			CHEM 2320 + 3060			x	x
ADVANCED LABS - Choose 2											
<input type="checkbox"/>	CHEM	5700	Analytical Chemistry Lab	2	CW		CHEM 3000				1st
<input type="checkbox"/>	CHEM	5710	Organic Chemistry Lab	2			CHEM 2320				1st
<input type="checkbox"/>	CHEM	5720	Physical Chemistry Lab	2			CHEM 3060, 3070				2nd
<input type="checkbox"/>	CHEM	5730	Inorganic Chemistry Lab	2			CHEM 3100				2nd
<input type="checkbox"/>	CHEM	3200	Radiochemistry	3							x
MSE ELECTIVES^F: Need 15 credit hours of approved electives (see list of approved courses and DARS)[†]											
<input type="checkbox"/>	MSE	2160	Elements of Material Science	3			CHEM 1210		MATH 1210	x	x
<input type="checkbox"/>	MSE										
<input type="checkbox"/>	MSE										
<input type="checkbox"/>	MSE										
<input type="checkbox"/>	MSE										

^o: Can take whichever calculus sequence is appropriate, talk to advisor about sequencing.

^c: MATH 2270 + 2280 are more rigorous, but will take 2 semesters to complete.

^d: Honors versions are PHYS 3210 + 3220.

^e: Honors versions of General Chemistry are CHEM 1211 + 1221. Sequence starts in the Fall. Must apply to be in the class.

^A: Honors versions of Organic Chemistry are CHEM 2311 + 2321. Sequence starts in the Fall.

^T: CHEM 4800 (research), CHEM 4965 (internship), or CHEM 4999 (Honors Thesis) can waive 2 credits

^I: Visit material science & engineering website to get permission code for these classes.