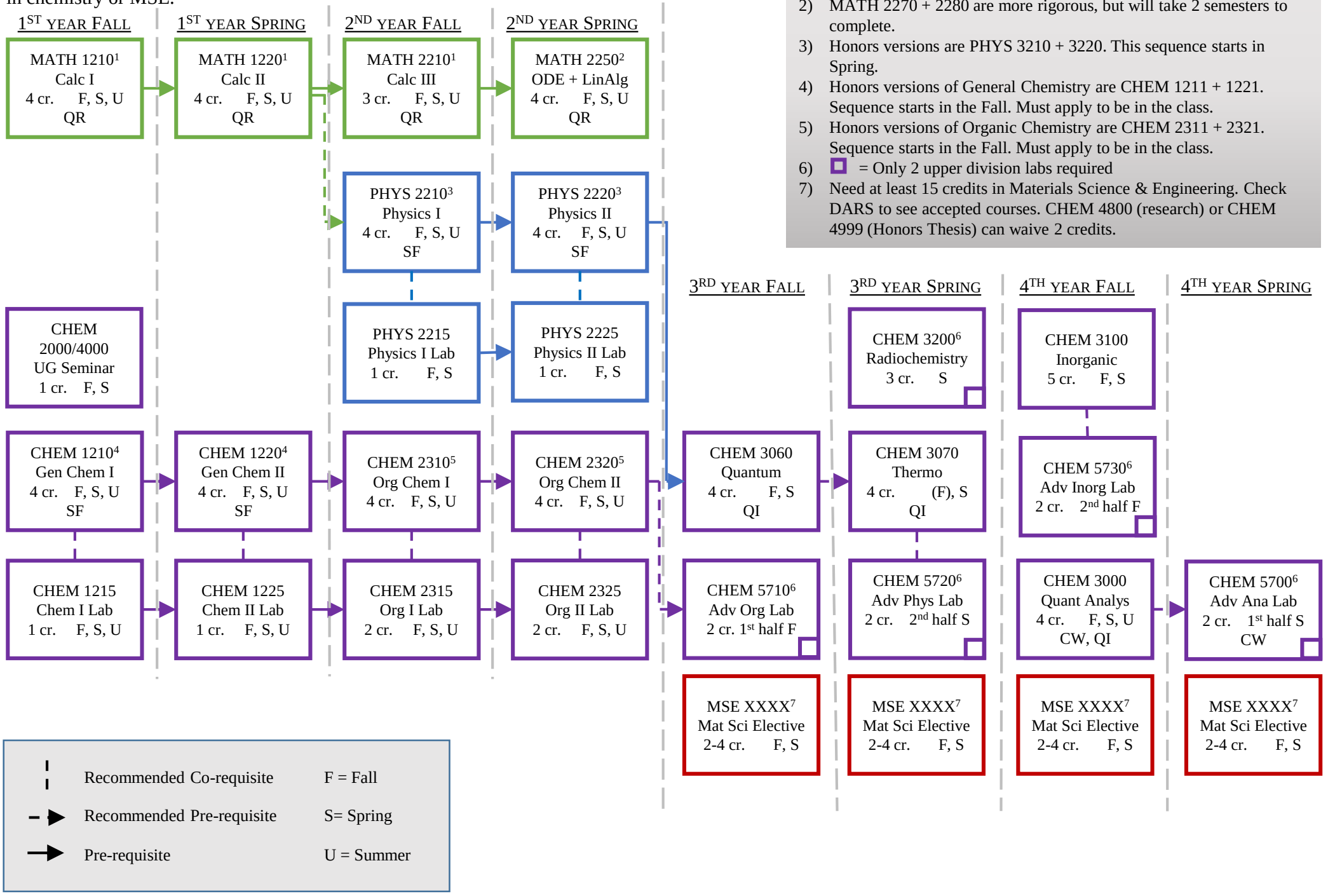
Chemistry Course Requirements – Materials Science & Engineering Emphasis (2016-17)

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.

1) Can take whichever calculus sequence is appropriate, including AP Calculus (MATH 1250 & 1260) or Engineering Calculus (MATH 1310 &1320) Must finish the sequence that was started.
2) MATH 2270 + 2280 are more rigorous, but will take 2 semesters to complete.
3) Honors versions are PHYS 3210 + 3220. This sequence starts in Spring.
4) Honors versions of General Chemistry are CHEM 1211 + 1221. Sequence starts in the Fall. Must apply to be in the class.
5) Honors versions of Organic Chemistry are CHEM 2311 + 2321. Sequence starts in the Fall. Must apply to be in the class.
6) ☐ = Only 2 upper division labs required
7) Need at least 15 credits in Materials Science & Engineering. Check DARS to see accepted courses. CHEM 4800 (research) or CHEM 4999 (Honors Thesis) can waive 2 credits.



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Material Science & Engineering Emphasis

Done?	Depart.	Number	Course Name	Credit Hours	Gen Ed/ Bach Req	Prerequsites		Taught		
						Chemistry	Math/Other	F	S	U
MATH CLASSES										
□	MATH	1210	Calculus I◊	4	QR		MATH 1060 or 1080	x	x	x
□	MATH	1220	Calculus II◊	4	QR		MATH 1210	x	x	x
□	MATH	2210	Calculus III◊	4	QR		MATH 1220	x	x	x
□	MATH	2250	ODE's and Linear Algebra□	4	QR		MATH 2250	x	x	x
PHYSICS CLASSES										
□	PHYS	2210	Physics for Sci & Eng I⌂	4	SF		MATH 1210	x	x	x
□	PHYS	2215	Physics Lab for Sci & Eng I	1			MATH 1210	x	x	
□	PHYS	2220	Physics for Sci & Eng II⌂	4	SF		MATH 1220 + PHYS 2210	x	x	x
□	PHYS	2225	Physics Lab for Sci & Eng II	1			MATH 1220 + PHYS 2210	x	x	
CHEMISTRY CLASSES										
□	CHEM	2000/4000	Undergrad Seminar	1				x	x	
□	CHEM	1210 + 1215	General Chemistry I○ + Lab	4 + 1	SF		MATH 1050	x	x	x
□	CHEM	1220 + 1225	General Chemistry II○ + Lab	4 + 1	SF	CHEM 1210 + 1215		x	x	x
□	CHEM	2310 + 2315	Organic Chemistry IΔ + Lab	4 + 2		CHEM 1220 + 1225		x	x	x
□	CHEM	2320 + 2325	Organic Chemistry IIΔ + Lab	4 + 2		CHEM 2310 + 2315		x	x	x
□	CHEM	3000	Quantitative Analysis	4	QI, CW	CHEM 1220	MATH 1220 + 1250	x	x	x
□	CHEM	3060	Quantum Chemistry & Spect	4	QI	CHEM 1220	MATH 2210 + PHYS 2220	x	x	
□	CHEM	3070	Thermodynamics & Kinetics	4	QI	CHEM 1220	MATH 2210 + PHYS 2220	(x)	x	
□	CHEM	3100	Inorganic Chemistry	5		CHEM 1220 CHEM 2320 + 3060		x	x	
ADVANCED LABS - Choose 2										
□	CHEM	5700	Analytical Chemistry Lab	2	CW	CHEM 3000			1st	
□	CHEM	5710	Organic Chemistry Lab	2		CHEM 2320		1st		
□	CHEM	5720	Physical Chemistry Lab	2		CHEM 3060, 3070			2nd	
□	CHEM	5730	Inorganic Chemistry Lab	2		CHEM 3100		2nd		
□	CHEM	3200	Radiochemistry	3					x	
MSE ELECTIVES∓: Need 15 credit hours of approved electives (see list of approved courses and DARS)[1]										
□	MSE									
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1: Visit material science & engineering website to get permission code for these classes.