

## Additional Coursework

Course Number and Title	Prerequisites	Semester(s) Offered
<b>Area 1: Organic and Inorganic</b>		
CHEM 20273 - "Organic reactions and applications" CHEM 20283 - "Organic reactions and applications"	CHEM 10172 or 10176, or 10182	Fall (Spring)
CHEM 40443 - "Inorganic chemistry"	CHEM 20274 or 20284	Fall
CHEM 40610 - "Organometallic chemistry"	CHEM 20273 or 20283	Fall
CHEM 40616 - "Solid state and materials chemistry"	CHEM 20274 or 20284	Fall
CHEM 40614 - "Advanced inorganic chemistry"	CHEM 20274 or 20284, cannot have taken CHEM 40443	Spring
CHEM 40630 - "Intermediate organic chemistry"	CHEM 20273 or 20283	Fall
CHEM 40631 - "Advanced organic chemistry"	CHEM 20273 or 20283	Fall
CHEM 40632 - "Advanced organic chemistry II"	CHEM 20273 or 20283 required; CHEM 40630 or 40631 beneficial	Spring
CHEM 40634 - "Structure Elucidation"	CHEM 20273 or 20283	Spring
CHEM 40438 - "Polymer: Principle to Practice"	CHEM 10172 or 10176 or 10182; and CHEM 30321 or 30324	Fall
CHEM 60635 - "Heterocyclic chemistry"	CHEM 20273 or 20283	Fall
CHEM 40618 - "Chemical crystallography"	CHEM 40443	Spring
CHEM 60535 - "Medicinal Chemistry"	CHEM 20273 or 20283; and BIOS 10172	Variable
CHEM 40650 - "Computational Chemistry I"	Some Organic and Physical Chemistry; no specific MATH or CSE requirements	variable
<b>Area 2: Biochemistry</b>		
CHEM 30341 - "Fundamentals of biochemistry"	CHEM 20273 or 20283	Fall
CHEM 30342 - "Intermediary metabolism"	CHEM 30341	Spring
CHEM 40420 - "Principles of biochemistry"	CHEM 10172 or 10182 or 10176	Fall/Spring

CHEM 40560 - "Chemical Biology"	CHEM 20273 or 20283; and CHEM 40420 or 30341	Fall
CHEM 50531 - "Molecular Biology"	BIOS 10172	Fall
<b>Area 3: Physical and Analytical</b>		
CHEM 30333 - "Analytical chemistry"	CHEM 10172 or 10182 or 10176	Fall/Spring
CHEM 30321 - "Physical chemistry 1"	Calc I-II and Intro Lin. Alg/Diff. Eq; and Physics I/II	Fall
CHEM 30322 - "Physical chemistry 2"	CHEM 30321	Spring
CHEM 30324 - "Physical chemistry for engineers"	CHEM 10171 or 10181 or 10097; PHYS 10320 or 10094	Spring
CHEM 30338 - "Physical biochemistry"	Calc I-II and Intro Lin. Alg/Diff. Eq; and Physics I/II	Spring
CHEM 40435 - "Electrochemistry/Echemical engineering"	CHEM 30324; CHEM 30333 or 40436 (beneficial); or CBE 20260 or 20261	
CHEM 40436 - "Instrumental methods/analysis"	CHEM 20274 or 20284	Spring
CHEM 40541 - "Genomics and Proteomics"	CHEM 20273 or 20283; CHEM 30333 (beneficial)	Spring
CHEM 40533 - "Advanced Analytical"	CHEM 20274 or 20284, 30333 (Cannot have taken 40436)	Fall
<b>Area 4: Special Electives</b>		
CHEM 20204 - "Environmental chemistry"	CHEM 10171 or 10181 or 10097	Spring
CHEM 30301 - "Molecular neuroscience"	CHEM 10172 or 10182 or 10176; NSBH 20450; BIOS 10172	Spring
CHEM 30331 - "Chemistry in service of the community"	CHEM 10171 or 10181 w/lab; and CHEM 10172 or 10182 w/lab	Fall
CHEM 40426 - "Chemistry of fermentation and distillation"	CHEM 10122 or 10172 or 10182 or 10176	Fall/Spring