

Chemistry & Biochemistry PhD Degree Requirements

	Biochemistry/Molecular Biophysics	Computational Chemistry	Materials Chemistry	Organic/Organometallic/Inorganic Chemistry	Physical Chemistry
THREE CORE COURSES	<p>QSB 202 <i>Biochemistry</i></p> <p>OR</p> <p>QSB 200 <i>Molecular & Cell Biology</i></p> <p>CHOOSE ONE:</p> <p>CHEM 202 <i>Bioorganic Chemistry</i></p> <p>CHEM 205 <i>Principles of NMR Spectroscopy</i></p> <p>BIOE 205/CHEM 206 <i>Molecular & Cell Biophysics</i></p> <p>CHEM 214 <i>Statistical Thermodynamics</i></p> <p>BIOE 215/CHEM 216 <i>Biological Imaging & Spectroscopy</i></p> <p>CHOOSE ONE:</p> <p>CHEM 260 <i>Introduction to Scientific Computing</i></p> <p>CHEM 281 <i>Introduction to Molecular Dynamics</i></p> <p>QSB 282 <i>Bioinformatics</i></p> <p>PHYS 230 <i>Computation & Modeling for Biological Sciences</i></p>	<p>CHEM 212 <i>Quantum Chemistry</i></p> <p>CHEM 214 <i>Statistical Thermodynamics</i></p> <p>CHEM 281 <i>Introduction to Molecular Dynamics</i></p> <p>OR</p> <p>CHEM 225 <i>Molecular Electronic Structure</i></p>	<p>CHEM 214 <i>Statistical Thermodynamics</i></p> <p>CHOOSE TWO:</p> <p>CHEM 240 <i>Nanoscience</i></p> <p>CHEM 250 <i>Chemistry of Surfaces & Interfaces</i></p> <p>CHEM 2XX <i>Supramolecular Materials Chemistry</i></p> <p>MBSE 210 <i>Structure & Properties of Materials</i></p> <p>MBSE 211 <i>Materials Properties</i></p> <p>MBSE 224 <i>Polymeric Materials</i></p> <p>PHYS 209 <i>Soft Matter Physics</i></p> <p>PHYS 241 <i>Condensed Matter Physics</i></p>	<p>CHOOSE THREE:</p> <p>CHEM 200 <i>Advanced Organic Synthesis</i></p> <p>CHEM 201 <i>Organic & Organometallic Reaction Mechanisms</i></p> <p>CHEM 210 <i>Reactions & Reactivity of Organometallic Chemistry</i></p> <p>CHEM 220 <i>Advanced Inorganic Chemistry</i></p>	<p>CHOOSE THREE:</p> <p>CHEM 212 <i>Quantum Chemistry</i></p> <p>CHEM 214 <i>Statistical Thermodynamics</i></p> <p>CHEM 215 <i>Chemical Kinetics</i></p> <p>CHEM 231 <i>Molecular Spectroscopy</i></p>
ELECTIVES	<p>One Grad Course Elective *Numbered 2xx, with at least 3 units</p>				
ETHICS REQUIREMENT	<p>Course Addressing Scientific Ethics QSB 294 (1 unit)</p>				
SEMINARS	<p>Four Semesters of CHEM 291 (1 unit each) Chemistry Seminars</p>				
RESEARCH	<p>Each Semester CHEM 295 (1-12 units) Graduate Research</p>				
ADDITIONAL REQUIREMENTS	<p>Select Faculty Advisor</p> <p>Assemble Faculty Advisory Committee & Have Annual Committee Meetings</p> <p>Pass Proficiency Exam</p> <p>Pass Qualifying Exam & Advance to Candidacy</p> <p>At Least One Semester TA Assignment</p> <p>Present Annual Open Technical Seminar</p> <p>PhD Final Exam (Dissertation Defense)</p> <p>Submit Dissertation Manuscript</p>				