

Program learning outcomes	Courses/Requirements related to these learning outcomes	Assessment method	Measures/Criteria, Rubric	Data collection	Assessment cycle
PhD Chemistry					
Demonstrate advanced level knowledge in both (i) synthesis and materials chemistry and (ii) analytical and physical chemistry methods, with a higher level of CHEM 5560 - Solid State Chemistry		<p>a) For all, final score in class.</p> <p>b) Rubric being developed</p> <p>c) Score on each section</p> <p>d) Rubric being developed</p> <p>e) Rubric being developed</p>	<p>a)</p> <p>>90% Exceeds expectations 70 - 89% Meets expectations 65 - 69% Approaching expectations <65% Not meeting expectations</p> <p>b, d, e) Rubric</p> <p>c) >70% on each section meets or exceeds expectations</p>	Every offering	<p>a) 1 course from each area will be assessed in Year 1 of a 3 year cycle</p> <p>b) Year 2</p> <p>c) Year 1</p> <p>d) Year 2</p> <p>e) Year 3</p>
Analytical and Physical Methods Courses: CHEM 5230 - Mass Spectrometry CHEM 5250 - Bioanalytical Methods CHEM 5260 - Analytical Separations CHEM 5270 - Electroanalytical Chemistry CHEM 5330 - Advanced Physical Chemistry CHEM 5340 - Advanced Thermodynamics CHEM 5620 - Biophysical Chemistry CHEM 5630 - Chemical Biology and Biotechnology					
b) 2nd year research update	<p>a) Final defense</p> <p>a) Courses CHEM 5470 CHEM 5200 CHEM 5270 CHEM 5630</p> <p>b) Research proposal</p> <p>c) Dissertation a) Courses CHEM 5620 CHEM 5470 CHEM 5270 CHEM 5630</p>	<p>a)</p> <p>CHEM 5470 - Rubric is being developed CHEM 5200 - Rubric CHEM 5270 - Scoring system CHEM 5630 - Scoring system</p> <p>b) Rubric being developed</p> <p>c) Rubric being developed</p> <p>a) CHEM 5620 - Rubric CHEM 5470 - Rubric is being developed CHEM 5270 - Rubric to be developed CHEM 5630 - Scoring system</p>	a, b, c) Scores on rubric	Every offering	<p>a) 1 course will be assessed in Year 2 of a 3 year cycle</p> <p>b) Year 3</p> <p>c) Year 1</p>
c) Comprehensive exams Use standard search tools and retrieval methods to obtain information about a topic, substance, technique, or an issue relating to chemistry and assess relevant studies from the chemical literature.					
Communicate scientific findings from literature and original findings from the student's own independent research in written publications and oral presentations.	<p>b) 2nd year research update</p> <p>c) Research proposal and defense</p> <p>d) 4th year seminar</p> <p>e) Dissertation and Final defense</p>	<p>b) Rubric being developed</p>			

