

**Department: CHEMISTRY****Program: CHEMISTRY - UNDERGRADUATE**

<b>Skill Set</b>	<b>Professional Application</b>	<b>Delivery of Skill Set</b> Courses, extracurricular activities, etc. in which the skill set is introduced (I), reinforced (R), or mastered (M)
Core Skill: Communication and Critical Thinking	Communication scientific content orally, reading and understanding professional reports Assessing content of professional documents Quality insurance	CHEM 1311 (I) CHEM 1312 (I) CHEM 2401 (R) CHEM 3323 (R) CHEM 3325 (R) CHEM 4401 (M) CHEM 4385 (M) CHEM 4181 (M)
Core Skill: Empirical and Quantitative Skills	Set up experiments based on scientific laws. Formulation of working hypotheses. Select analytical methods. Uses statistics and mathematical-physical laws to solve problems	CHEM 1111 (I) CHEM 1112 (I)  CHEM 3123 (R) CHEM 3125 (R)  CHEM 3331 (M) CHEM 3332 (M) CHEM 4421 (M)
Core Skill: Personal Responsibility Social Responsibility	Conscious use of personal protection and safety precaution, knowledge of hazardous materials and waste management. Educate community and risk management.	CHEM 1111 (I) CHEM 1112 (I)  CHEM 3123 (R) CHEM 3125 (R) CHEM 4111 (M)  CHEM 4385 (M)
Core Skill: Team work and Leadership Skills	Working in research and development team Role model, team leader, and laboratory manager. Training employee procedures	CHEM 3385 (I) CHEM 4385 (R/M)
Discipline-related Skills: Technical Skills	Operating, maintaining, and troubleshooting of laboratory equipment. Set up experiments according to technical procedures. Use of science data bases Seeking technical data Application information technology	CHEM 3331 (I) CHEM 3332 (I) CHEM 4421 (R) CHEM 4401 (R) CHEM 3181 (I)

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Discipline-related Skills: Problem solving Decision making	Understanding of causes and ability to apply scientific knowledge Judge situation and uses scientific data to provide solution and formulate recommendation	CHEM 3385 (I) CHEM 4385 (R/M)