Department of Chemistry
Bachelor of Science in Chemistry

			CHM 2045/L General Chemistry I	CHM 2046/L General Chemistry II	CHM 2210/L Organic Chem. I	CHM 2211/L Organic Chem. II	CHM 3120/L Analytical	CHM 3230 Organic III	CHM 3410 P-Chem I	CHM 3411 P-Chem II	CHM 3740 L Advanced Lab Tech	CHM 3741L P-Chem Lab	CHM 4130/L Instrumental Analysis	CHM 4611 Inorganic Chem	CHM 4XX3L Inorganic Synthesis	BCH 3034/L Biochem II	CHM 4414C Materials Chemistry	CHM 4445 Polymer Chem.	CHM 4512 Computational Chemistry	CHM 4xx0 Undergrad. Chem. Research	CHM 4xx1 Seminar: Special Topics in Chemistry
CONTENT	**Recognize, describe, and apply the concepts and principles from the following:**	Analytical chemistry	X	X			X						X				X	X	X	Varies with topic	Varies with topic
		Biological chemistry				X									X	X	X	X	X		
		Inorganic chemistry	X	X							X			X	X		X		X		
		Organic chemistry		X	X	X		X			X						X	X	X		
		Physical chemistry	X	X					X	X		X		X	X		X	X	X		
		Related fields		X				X			X	X			X	X	X	X	X		
	Demonstrate competence in practical aspects of chemistry.	Laboratory Skills	X	X	X	X	X				X	X	X		X		X	X	X	X	
		Selection and proper use of modern instruments		X							X	X	X		X	X	X	X	X	X	
		Computer-based data acquisition	X	X			X				X	X	X		X		X	X	X	X	
		Proper calibration practices					X				X	X	X		X	X	X	X	X	X	
	Understand the language of Chemistry		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

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CRITICAL THINKING	**Solve problems using scientific methods**	Select appropriate method	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	X
		Employ appropriate statistical analysis and instrumentation	X	X			X				X	X	X		X		X	X	X	X	
		Draw reasonable conclusions	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
		Demonstrate basic techniques in on-line searches for specific reference/review articles						X			X	X	X	X	X	X	X	X	X	X	X
	Use chemical literature effectively and efficiently	Complete comprehensive subject/author searches						X			X	X	X	X	X	X		X		X	X
		Describe importance of patents and search for relevant information						X			X				X		X	X	X	X	X
		Select resources based on quality standards and currency						X			X	X	X		X		X	X	X	X	X
COMMUNIC-ATION	**Communicate professionally about chemistry**	In writing	X	X	X	X	X				X	X	X	X	X	X	X	X	X	X	X
		In public speaking									X			X	X	X	X	X	X	X	X
		Read the chemical literature with comprehension						X			X	X	X	X	X	X		X		X	X

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CHARACTER / INTEGRITY/ VALUES	**Exhibit chemistry's professional standards in ethical reasoning**	Identify principles in ACS Ethics Code									X										X
		Recognize ethical components in complex situations	X	X			X	X		X	X		X	X		X	X	X	X		X
		Analyze complex ethical situations and design solutions appropriate to professional standards	X	X										X			X				X
		Articulate the responsibilities of a chemist to society							X	X			X					X	X		X
PROJECT MANAGE-MENT	Exhibit management skills in chemistry projects	Design and execute projects reasonably for available time constraints			X	X	X	X			X	X	X	X		X	X		X	X	X
		Develop back-up planning skills					X	X			X	X	X	X						X	
		Collaborate effectively with team members	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	
HAZARD/ RISK MANAGE-MENT	Practice principles of safety and risk reduction	Demonstrate vigilance about safety			X	X	X				X	X	X	X		X	X	X		X	
		Adopt measures to minimize exposure or reduce risk			X	X	X				X	X	X	X		X		X		X	
		Handle hazardous materials safely	X	X	X	X	X				X	X	X	X		X		X		X	
		Follow correct procedures for the disposal of hazardous waste	X	X	X	X	X				X	X	X	X		X		X		X	