The map below identifies in which courses students will gain proficiency in the specified DLGs and SLOs.
Legend: I = Introduced, D = Developed, M = Mastered, R = Reinforced.

		First Year		Second Year				Third Year						Fourth Year					
B.S. Chemistry Degrees		Fall	Spring	Fall	Spring	Spring	Spring	Fall	Fall	Fall	Fall	Spring	Spring	Fall	Fall	Fall	Fall	Spring	Spring
Degree Learning Goals	**Student Learning Outcome**	200	201	-	232	232L	251	410A	432	432L	560	410B	417	457	498	520A	550	427	520B
DLG 1: Establish a Foundation and Depth of Knowledge Pertaining to Fundamental Chemical Principles	**SLO 1.1: Describe, recognize, draw, and name, important classes of atoms, functional groups, and molecules. (Nomenclature & Structure)**	D	D		D	D	D	-	D	M	M	-	-	R	-	M	-	M	M
	SLO 1.2 Describe the atomic and subatomic structure and properties of matter. (Atomic Structure)	D	-		R	R	-	D	M	R	-	-	-	R	-	R	R	R	R
	SLO 1.3 Describe the origin and properties of chemical bonding and the influence on structure and properties of the molecules. (Molecular structure)	D	D		D	D	-	M	D	D	M	R	-	R	-	R	M	M	M
	SLO 1.4 Describe how the macromolecular properties of matter are determined by the molecular characteristics. (molecules to macro)	D	-		M	-	-	D	R	-	M	M	-	R	-	M	-	I	R
	SLO 1.5 Predict the outcome of, and describe the mechanisms for, various chemical reactions. (Reactions)	D	I		D	R	D	-	M	M	M	M	-	R	-	R	R	R	M
DLG 2: Demonstrate Competency in Problem Solving and Quantitative Reasoning	**SLO 2.1: Demonstrate the ability to quantify and interpret the reliability of measured physical and chemical properties of molecules and mixtures employing dimensional and appropriate statistical analysis. (Calculations)**	D	D		D	M	M	R	R	R	M	-	M	M	-	R	M	R	R
	SLO 2.2: Demonstrate knowledge of the important techniques employed to synthesize, separate, purify, identify, and quantitate chemical compounds. (Exp Techniques)	-	I		D	I	D	D	D	I	M	-	R	M	-	M	R	M	R
	SLO 2.3 Develop knowledge of how to apply the scientific method in exploring chemical phenomena (scientific method)	I	-		-	-	-	-	R	R	R	-	R	R	-	D	R	D	-

		First Year		Second Year				Third Year						Fourth Year					
B.S. Chemistry Degrees		Fall	Spring	Fall	Spring	Spring	Spring	Fall	Fall	Fall	Fall	Spring	Spring	Fall	Fall	Fall	Fall	Spring	Spring
Degree Learning Goals	**Student Learning Outcome**	200	201	-	232	232L	251	410A	432	432L	560	410B	417	457	498	520A	550	427	520B
DLG 3: Develop Skills Used in Professional Chemistry Settings	**SLO 3.1: Develop proficiency with modern instrumentation and techniques used in chemical laboratories (Lab Technique)**	I	D		-	-	D	D	-	D	R	-	M	M	-	M	-	M	R
	SLO 3.2: Demonstrate the ability to read and comprehend a Standard Operating Procedure (SOP)	I	D		-	-	D	D	-	D	-	-	M	R	-	-	-	-	-
	SLO 3.3: Maintain clear and legible record of lab work. (Notebook)	I	D		-	-	D	-	-	D	-	-	M	R	-	-	-	-	-
	SLO 3.4: Develop knowledge of proper and safe chemical use, storage and disposal. (Safety)	I	D		-	-	D	-	-	M	-	-	R	R	-	-	-	-	-
	SLO 3.5: Exhibit effective oral and written communication skills (Communication)	-	I		-	-	D	D	-	D	-	-	M	M	-	-	-	-	-
Should this SLO include ability to work independently in addition to collaborate? (Diane)	**SLO 3.6: Develop the skills to effectively collaborate on complex projects. (Collaboration)**	-	-		-	-	D	-	D	D	D	-	M	M	-	-	-	D	D
	SLO 3.7: Exhibit knowedge of scientific ethics relating to treament of data, prpper citation of others' work, plagiarism, and publication of scientific results. (Scientific Ethics)	-	-		-	-	I	-	-	D	-	-	M	R	-	-	-	-	-
DLG 4: Effectively Employ Chemical Literature and Information Management Systems	**SLO 4.1: Retrieve information efficiently and effectively by searching the chemical literature. (Literature Search)**	-	-		-	-	I	-	D	D	-	-	R	-	-	-	-	-	-
	SLO 4.2: Develop the capability to evaluate technical articles critically. (Literature Crit)	-	-		-	-	I	-	-	-	-	-	-	-	-	-	-	-	-
	SLO 4.3: Develop and maintain a personal database of relevant chemical literature. (Literature Database)	-	-		-	-	I	-	-	-	-	-	-	-	-	-	-	-	-

Chem 498 is the capstone of the B.S. degree program - laboratory research on a project of current interest in chemistry, allowing the student to see firsthand the application of the concepts described in the lecture courses, and the SLO depends on the specific mentor's lab where the students gain hands-on research experience. The SLOs commonly met by CHEM 498 are currently under review by the Department Curriculum Committee and will be updated shortly