DLG 1: Establish a Foundation and Depth of Knowledge Pertaining to Fundamental Chemical Principles

 **SLO 1.1**: Recognize, describe, draw, and name, important classes of atoms, functional groups, and molecules.  
 **SLO 1.2**: Describe the atomic and subatomic structure and properties of matter.  
 **SLO 1.3**: Describe the origin and properties of chemical bonding and the influence on structure and properties of the molecules.  
 **SLO 1.4**: Describe how the macromolecular properties of matter are determined by the molecular characteristics.  
 **SLO 1.5**: Predict the outcome of, and describe the mechanisms for, various chemical reactions.

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.  
 **SLO 2.2**: Demonstrated knowledge of the important techniques employed to synthesize, separate, purify, identify, and quantitate chemical compounds.  
 **SLO 2.3**: Develop knowledge of how to apply the scientific method in exploring chemical phenomena.

DLG 3: Develop Skills used in Professional Chemical Settings

 **SLO 3.1**: Develop proficiency with modern chemical instrumentation and laboratory techniques.  
 **SLO 3.2**: Demonstrate the ability to read and comprehend a Standard Operating Procedure.  
 **SLO 3.3**: Maintain clear and legible record of laboratory work.  
 **SLO 3.4**: Develop knowledge of proper and safe chemical use, storage, and disposal.  
 **SLO 3.5**: Exhibit effective oral and written communication skills.  
 **SLO 3.6**: Develop the skills to effectively collaborate on complex projects.  
 **SLO 3.7**: Exhibit knowledge of scientific ethics relating to treatment of data, proper citation of others’ work, plagiarism, and publication of scientific results.

DLG 4: Effectively Employ Chemical Literature and Information Management Systems.

 **SLO 4.1**: Retrieve information efficiently and effectively by searching the chemical literature.  
 **SLO 4.2**: Develop the capability to evaluate technical articles critically.  
 **SLO 4.3**: Develop and maintain a personal database of relevant chemical literature.