



SYLLABUS TEMPLATE

Course Number Course Name	ES 201 ENVIRONMENTAL PHYSICAL AND CHEMICAL PROCESSES
Credit Value (Breakdown of theory and lab credits)	3 Theory
Catalog Course Description	You will study basic general, analytical, organic, and polymer chemistry from an environmental perspective: the pollutants of air, water, and land; the rudiments of toxicology, and an introduction to green chemistry. You will learn about chemical processes in industry and nature, physical transport, risk, and aspects of human impacts and policy.
Student Learning Outcomes/Objectives /Competencies of the Course	<ol style="list-style-type: none"> 1. Understand chemical reactions and pathways occurring at the soil-water interface. 2. Knowledge of interfacial phenomena that are important for environmental chemical processes, whether they involve sorption of ions to flocculates during water treatment or soil weathering processes. 3. Literacy in geochemical theory, with emphasis on reactions at the molecular-scale. 4. Familiarity with chemical equilibria and kinetics to quantitatively assess reactivity and chemical speciation in soils and at the particle-water interface.
College-Wide Student Learning Outcomes	<ol style="list-style-type: none"> 1. <i>Critical Thought</i> <i>Critical Thought will be assessed by testing of concepts related to Environmental Physical and Chemical Processes.</i>