



<b>Course Number</b> <b>Course Name</b>	<b>CHEM 221L QUANTITATIVE &amp; ANALYTICAL CHEMISTRY LAB</b>
<b>Credit Value</b> <b>(Breakdown of theory and lab credits)</b>	1 Laboratory
<b>Catalog Course Description</b>	Laboratory experiments involving instrumentation emphasis on sampling, statistical, measurement, and separation techniques. You will focus on proper documentation and data analysis.
<b>Student Learning Outcomes/Objectives /Competencies of the Course</b>	<p>Understand and practice the technique, knowledge, and methods allowing students to:</p> <ul style="list-style-type: none"> <li>(1) prepare histograms and estimate and interpret confidence intervals for a given set of experimental results,</li> <li>(2) to use optical spectroscopy, titrations and least squares regression to measure how much of a given chemical is present in a solution,</li> <li>(3) draw up a recipe for preparing a buffered solution at any specified pH, predict chemical concentrations in and pH of acid/base buffering systems, and</li> <li>(4) isolate individual components from complex samples via chromatography.</li> </ul> <p>This course is accompanied by a four-hour laboratory that focuses on implementing the concepts being covered in lecture, developing good analytical technique, developing basic data analysis &amp; reporting skills.</p>
<b>College-Wide Student Learning Outcomes</b>	<i>This lab will be assessed in conjunction with the associated lecture/theory course which is a co-requisite..</i>