

CSLO	Learning	Improvement	Implement Improvement
CSLOs Assessed	Answer the following question for each CSLO: What did we learn from the assessment?	For at least 1 CSLO identify one strategy to try that may improve student learning. Answer the following question: What do we plan next to improve student learning?	Identify the term and year the improvement will be implemented (i.e. Fall 11)
CSLO #1: At the completion of this course the student should be able to: Understand and apply common safety practices used in an industrial lab.	# High Proficiency __16__ # Meets Proficiency __0__ # Below Proficiency __0__ In all PTEC courses, the mantra is "safety comes first". The first lab activity in PTEC 27 is a safety orientation & survey (a lab safety equipment "treasure hunt" followed by a whole-class oral quiz). The excellent results for this assessment reflect two facts: every student in PTEC 27 was required to have already completed a similar exercise in their chemistry prerequisite courses (CHEM 6 or 7); and all but one of the students surveyed this term also completed PTEC 12, which covers Safety, Health, and the Environment.		
CSLO #2: At the completion of this course the student should be able to: Outline the operation and the theory that relates to the operation of analytical equipment.	# High Proficiency __5__ # Meets Proficiency __10__ # Below Proficiency __1__ This CSLO was assessed by combining scores from three questions on the Final Exam that covered general concepts of solid/liquid phase chromatography & HPLC, theories of distillation & Gas Chromatography, and Infra-Red Spectroscopy. The class actually did well, considering that these are fairly sophisticated topics, that are traditionally not even taught to chemistry majors until they are enrolled in Organic Chemistry (following a full year of General Chemistry).	PTEC 27 is a tricky course to teach, because there is NO COMMERCIAL TEXTBOOK PUBLISHED that covers this unusual course material at the appropriate level. Every Analytical Instrumentation chemistry text available assumes the students have already completed a full year of General Chemistry, a full year of organic Chemistry, and that their math preparation has included calculus and statistics. So, we are stuck using a "home-made" compilation of readings, with original material mixed in with internet resources, descriptions from instrument operators' manuals, and so on. Every term we revise this "text", and we shall do so again.	Spring 2014
CSLO #3: At the completion of this course the student should be able to: Demonstrate knowledge of basic laboratory equipment operation such as chromatography, titration, pH analysis, and balances.	# High Proficiency __13__ # Meets Proficiency __3__ # Below Proficiency __0__ This CSLO was assessed using a series of lab exercises that focused on: solution preparations and spectrometric verification of concentrations; pH, salinity, and conductivity measurements; comprehensive water quality analysis using spectrometers, titration, and electrochemical probes. These labs are actually a lot of fun, as well as being practical, and quite a bit of lecture time is used to prepare the class for these hands-on activities.		

