

Course ID	Course Name	Course SLO	Reporting Period	Number of Sections Assessed	Number of Students Assessed	Result	% of Students Who Met the SLO	Areas of Outstanding Student Performance	Areas of Student Performance in Need of Improvement	SLO Identified Resource Needs (See Instructions)	Explanation of Resources Needed
CHEM 305	Introduction to Chemistry	Apply basic chemical principles to predict experimental outcomes.	2017 - 2018: Spring 2018	2	44	60	60	60 percent of the students met this SLO	Students need to be more engaged and inquisitive in the laboratory.	None	N/A
		Apply the basic terminology and nomenclature of introductory inorganic chemistry, and name the elements and compounds relevant to the human body and metabolism.	2017 - 2018: Spring 2018	2	44	61% of the students met this critieria	30	This particular class was sub par in mastering chemical nomenclature.	Students need to recognize the importance of learning the language of chemistry.	None	no resources are needed.
		Assemble molecules demonstrating an understanding of chemical bonding and molecular structure to predict their chemical behavior.	2017 - 2018: Spring 2018	2	44	67 percent	67	Students seemed to have a reasonable grasp of molecular structure and affiliated concepts.	Poor performing students fall behind, so many concepts are unattainable because of their lack of preparation on earlier foundational material.	None	N/A
		Conduct a variety of qualitative and quantitative inorganic laboratory experiments that may include proposing hypotheses for these outcomes prior to performing the experiment.	2017 - 2018: Spring 2018	2	44	78	78	Most students were able to complete the labs and follow the instructions.	Students need to be more engaged in lab. If we had more space, students could work individually which would give more accurate data. Students working in pairs allows weak students to perform at a higher level than if they were forced to work alone.	Facilities	We need more facilities and more FTE to teach more sections. Right now we are forced to double up students in lockers and work in pairs. This is not optimal to their learning the skills needed for mastery in the course as the weaker students can rely too heavily on their lab partner's understanding of the concepts.
		Demonstrate critical thinking skills in solving quantitative problems.	2017 - 2018: Spring 2018	2	44	60%	60	40% of the students in this course were sub par in meeting this SLO	Students need to be more proficient in their math skills.	None	N/A
		Demonstrate safe laboratory practices and proper materials handling.	2017 - 2018: Fall 2017	2	44	94%	100	43/44 students easily met this SLO with a score of 80% or higher. 1 Student met this SLO with a score of 60%, which is still passing according to the rubric I use for this course.	N/A	Facilities	I over enroll my course because I generally have a high attrition rate, but I also want students to make progress in their academic pursuits (this class is required for them to continue on in their science curriculum). We need more more chemistry lab teaching facilities and more FTE to offer more sections with lower caps.

		Evaluate macroscopic observations and apply fundamental properties and theories of matter.	2017 - 2018: Spring 2018	2	44	62%	62	38 percent of the students need to improve in their understanding of the fundamental principles of matter.	Students need to conceptualize the macroscopic effects and apply them.	None	N/A
CHEM 421	Organic Chemistry II	Apply organic functional group knowledge to biological molecules such as amino acids and proteins, lipids, and carbohydrates.	2017 - 2018: Spring 2018	2	26	70 percent	70	Most of our organic chemistry students are biology students, so they really enjoy learning about biomolecules.	Students who fall behind need access to tutors.	Tutors	Organic chemistry students could benefit from access to more qualified organic chemistry tutors to help them master this very complex subject.
		Apply the rules of nomenclature for organic compounds.	2017 - 2018: Spring 2018	2	26	65 percent	65	Faculty do not have the luxury to spend a lot of time on organic nomenclature because there is so much material to cover. The results here show students are motivated to learn nomenclature on their own after the basic rules have been covered. Students are assessed on mid-term, exams,	Students who are not self-motivated have a hard time in all aspects of organic chemistry, nomenclature being just one of the many topics covered in this 1 year long course.	Tutors	Qualified tutors to help students master nomenclature outside of class would be helpful.
		Perform basic organic chemistry laboratory techniques, operate a variety of modern chemical instruments including GC, NMR, IR, GC/MS, and polarimetry. Accurately interpret NMR, IR, mass spectral and chromatographic data.	2017 - 2018: Spring 2018	2	26	69 percent	69	Students must obtain spectral data of all their products and interpret the data. They get constant ongoing practice using instrumentation and interpretation.	Some students do not devote the same amount of effort in learning spectral interpretation.	Equipment	Organic Chemistry is reliant on modern analytical instrumentation. This equipment is expensive to purchase and expensive to maintain. A proper education in organic chemistry is not possible without this training/equipment as it is considered integral to the curriculum.
		Propose multi-step synthesis based on common, simpler reactions learned in Chemistry 420 and this course.	2017 - 2018: Spring 2018	2	26	63 percent	63	This skill requires students fully understand the myriad of organic chemical reactions studied over both semesters. They seem to have a good grasp of this concept.	Mastery of organic chemistry requires a lot of time and devotion, even for the best students. Our top students spend over 35 hours per week studying this subject. Students unable to dedicate this level of attention and focus can and do fall behind.	Tutors	Our students could benefit from having qualified tutors in this field, and with generous contact hours. This is a challenge because nearly all of our organic chemistry students transfer to a university right after completing this course.
		Understand and apply the theories of structure and reactivity to the important functional groups. Conceive mechanistic pathways illustrating a reaction process.	2017 - 2018: Spring 2018	2	26	69 percent	69	Students are grasping reactions and mechanisms.	Some students struggle with step-by-step mechanistic descriptions of reactions. They don't devote enough time to mastering that skill early on in chem 420, then they fall behind.	None	N/A

		Utilize and apply the fundamental concepts of general chemistry and introductory organic chemistry to second semester organic chemistry.	2017 - 2018: Spring 2018	2	26	63 percent	63	Students struggle at first transitioning between general and organic chemistry. General chemistry is mostly math-centric, while organic chemistry is logical.	Students need better preparation in learning independently (not working with partners or groups). This isn't currently feasible with only two teaching labs and large class caps. All general chem students work in pairs because of equipment and space issues, so they come into organic chemistry not fully prepared to work and think on their own.	Facilities	We need more lab space and FTE so student can work independently and learn independently (not from relying on their lab partners).
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