Student Learning Outcomes for CH 362

- Students will demonstrate mastery of basic organic chemistry laboratory techniques, including distillation, recrystallization, melting point determination, liquid-liquid extraction, gravity and liquid filtration, refractometry, IR and NMR spectroscopy, distillation and chromatography.
- Students will demonstrate the ability to safely and effectively perform synthetic organic reactions, using proper glassware set-up, handling of hazardous chemicals, and following the prescribed experimental procedures
- Students will demonstrate safe laboratory practices through the use of appropriate personal protective equipment and appropriate handling of all chemicals, including proper disposal of waste.
- Students will critically assess the progress and success of their experiments, and be able to adjust experimental procedures when necessary.
- Students will demonstrate the ability to maintain a proper laboratory notebook, which includes clear descriptions of original data, observations and experimental procedures.
- Students will demonstrate their ability to effectively communicate scientific results by writing three formal written laboratory reports and one oral presentation. They will demonstrate understanding of expectations in the profession by performing peer review of one of these.
- Students will interpret analytical data and will make scientific claims that are supported by their data and other observations.
- In performing lab operations and in communicating observations and results, students will recognize and apply principles of organic reactions and mechanisms, interpret spectroscopic data and convey an understanding of chemical thermodynamics based on both experimental measurement and computational modeling.