Life Cycle Assessment as a Tool for Green Chemistry (*Faculty Mentor:* Ghasideh Pourhashem)

In Pourhashem's group, students first will be introduced to the concept of sustainability assessment in green chemistry. They will then be trained in Life Cycle Assessment (LCA) modeling in four main steps: defining the goal and scope of the project, creating the life cycle inventory, life cycle impact assessment, and interpreting the results. They will learn how to use LCA to implement Green Chemistry Principles in their synthesis: This training will specifically focus on strategies for waste prevention, solvent and catalyst recovery and reuse, design for energy efficiency, and use of renewable feedstocks. Students will be provided with a range of possible monomers and polymeric materials to choose from for their investigation as they build their models throughout the training period. LCA can help students quantitatively measure the environmental impact of a green chemistry practice.