Chemical Engineering Student Outcomes

On completion of the chemical engineering program, our graduates demonstrate an ability to

1. (IFSAESM) Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

2. (Design) Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

3. (Communicate) Communicate effectively with a range of audiences.

4. (Prof Eth / Context) Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

5. (Teams) Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

6. (Experiments) Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

7. (Knowledge) Acquire and apply new knowledge as needed, using appropriate learning strategies.

8. Understand the chemical engineering curriculum, including:
    - Chemistry,
    - Material and energy balances,
    - Safety and environmental factors,
    - Thermodynamics of physical and chemical equilibria,
    - Heat, mass, and momentum transfer,
    - Chemical reaction engineering,
    - Continuous and staged separation processes
    - Process dynamics and control,
    - Modern experimental and computing techniques, and
    - Process design.