

ChE 436 Competencies

Level 3

- Students will be able to tune a single feedback control loop.

Level 2

- Students will learn about chemical processes, units, and corresponding equipment related to process control
- Students will demonstrate familiarity with process control terminology and understand the following control strategies: feed-back control, feed-forward control, and cascade control; as well as the difference between linear and nonlinear systems.
- Students will be able to fit data from step or pulse tests to linear models.
- Students will understand and be able to use tuning relationships for PID controllers.
- Demonstrate familiarity with equipment for measurement and control of process variables.
- Students will be able to use a process simulator to conduct process control.
- Students will understand and have a basic knowledge of how safety considerations are incorporated into engineering problem solving.
- Students will understand and have a basic knowledge of how environmental considerations are incorporated into engineering problem solving.
- Students will understand the principles involved in selecting a control valve.
- Students will be able to design a simple feedback loop to control process equipment.
- Students will be able to perform preliminary valve sizing and understand the interaction of the valve with other process components.

Level 1

- Students will demonstrate familiarity and experience with process control equipment.
- Students will demonstrate effective interpretation of graphical data.