# Lab 3: PID Controller Design (CLO2 Focus)

Objective:

• Design and tune a PID controller using MATLAB tools.  
• Meet given design criteria such as overshoot, rise time, and settling time.

Tasks:

1. Use `pidtune()` or manual tuning to design a PID controller for a given system.  
2. Adjust gains to meet the specification (e.g., <10% overshoot).  
3. Plot before and after response for comparison.  
4. Explain rationale for chosen PID parameters.

Deliverables:

• MATLAB scripts and Simulink model.  
• Annotated plots.  
• Report on tuning process and results.