



**BAKER COLLEGE**  
**STUDENT LEARNING OUTCOMES**

**ME 4350 Thermal Systems Lab**  
**1 Semester Hours**

---

**Student Learning Outcomes & Enabling Objectives**

1. Analyze experimental results obtained in thermodynamics lab experiments:
    - a. Interpret results from First Law of Thermodynamics experiment.
    - b. Interpret results from Boyle's Law experiment.
    - c. Interpret results from Charles' Law experiment.
    - d. Interpret results from the Expansion Process of a Perfect Gas experiment.
  2. Analyze experimental results obtained in fluid mechanics lab experiments:
    - a. Interpret results from the Pressure Variation with Elevation and Viscosity experiments.
    - b. Interpret results from the Osborne-Reynolds experiment.
    - c. Interpret results from the Energy Losses in Pipes experiment.
  3. Analyze experimental results obtained in heat transfer lab experiments:
    - a. Interpret results from the Linear Heat Conduction experiment.
    - b. Interpret results from the Radial Heat Conduction experiment.
    - c. Interpret results from the Combined Conduction and Convection experiment.
    - d. Interpret results from the Convection with Extended Sources experiment.
    - e. Interpret results from the Radiation experiment.
  4. Analyze the performance of a heat exchanger:
    - a. Build a heat exchanger based on required specifications, in a team setting.
    - b. Test performance of heat exchanger.
    - c. Interpret experimental results through comparison with expected theoretical performance.
    - d. Create engineering report describing heat exchanger.
    - e. Deliver professional presentation of the report.
  5. Write professional laboratory reports using quality technical writing skills:
    - a. Create well-formatted and -labelled graphs and diagrams.
    - b. Compose clear, technically sound reports using conventional engineering nomenclature.
- 

These SLOs are not approved for experiential credit.

**Effective: Fall 2017**