

### **ME 4400: Directed Study**

#### **1-4 Credit Hours**

*Prerequisite: Approval of instructor and department chair*

This course covers special topics and seminars of an advanced nature, external to regular course offerings that allow a student to work individually with an instructor. A Directed Study may include original research projects and/or practicum experiences.

### **ME 4403: Heat Transfer and Thermodynamics Lab**

#### **1 Credit Hours**

*Prerequisite: ME 3440 and Engineering Standing*

This is a laboratory course designed to complement the thermodynamics and heat transfer lecture courses. The lab experiments are set up to provide practical experience in thermal sciences area including heat transfer modes, thermodynamics power and refrigeration cycles. Emphasis will also be placed on thermal measurements, data interpretation and report writing.

### **ME 4490: Special Topics in Mechanical Engineering**

#### **1-4 Credit Hours**

*Prerequisite: Engineering Standing and approval of the instructor and department chair. Non-Engineering majors: Permission of instructor and the department chair.*

This course covers advanced level special topics of interest to faculty and students that are not in the regular course offerings. This course may be taken more than once.

### **ME 4501: Vibrations & Controls Lab**

#### **1 Credit Hours**

*Prerequisite: ENGR 3125 and ME 3501 (can be taken concurrently) and Engineering Standing*

This is a laboratory course designed to complement the vibrations and controls topics also covered in lecture courses. Experimental study of one, two, and more degrees of freedom vibration, including effects of damping, free and forced vibrations, translational and torsional vibrations. Implementation of proportional, integral, and/or derivative control of dynamic systems.