

### **ME 3398: Internship**

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

*Prerequisite: 90 credit hours and permission of the instructor*

A structured out of the classroom experience in a supervised setting that is related to the student's major and career interests. Practical experience is combined with scholarly research under the guidance of faculty and the internship supervisor. Internship sites must be secured in advance of the semester of the placement and must be approved by the student's advisor and internship coordinator. Note: Students may enroll multiple times in this course for a total of four credit hours.

### **ME 3410: Thermodynamics**

#### **3 Credit Hours**

*Prerequisite: ENGR 2214 and Engineering Standing*

Fundamentals of Thermodynamics including the concept of energy and the laws governing the transfers and transformations of energy. Emphasis on thermodynamic properties and the first and second law analysis of systems and control volumes. Integration of these concepts into the analysis of basic power cycles is introduced.

### **ME 3440: Heat Transfer**

#### **3 Credit Hours**

*Prerequisite: ME 3410 and ENGR 3343 and Engineering Standing*

Fundamentals and applications of heat transfer including conduction, convection and radiation. Steady state and transient conduction in one and multi dimensions. Forced and free convection with boundary layer theory. Radiation properties and radiative heat transfer among black and non-black bodies. Calculation of heat transfer rates, heating/cooling times and design of heat exchangers.