

MET 4401: Heat Transfer

3 Credit Hours

Prerequisite: MET 3401

This course encompasses the study of Steady-State Conduction (One Dimensional, Multiple Dimensions), Principles of Convection (Forced Convection, Natural Convection), Condensation and Boiling, Radiation Heat Transfer and Heat Exchangers.

MET 4411: Refrigeration

3 Credit Hours

Prerequisite: MET 3402 (or concurrently)

The theory and applications of commercial refrigeration systems are studied. The thermodynamic analysis of the refrigeration cycle, load calculations and selection of components for refrigeration systems are covered.

MET 4431: Plant and Power Applications

3 Credit Hours

Prerequisite: MET 3401 or ME 3410

A study of the applications of fluid mechanics, thermodynamics and heat transfer to industrial process plants. Fundamentals of piping design, selection of fans, heat exchangers and other components commonly used in industrial processes are covered.

MET 4490: Special Topics for MET

1-5 Credit Hours

Prerequisite: Consent of the Department Chair

Special topics selected by the program. Offered on a demand basis.

MET 4501: Machine Design

3 Credit Hours

Prerequisite: MET 3124 or ENGR 3131

The design of machines and machine elements, and cost considerations. The course focuses on power transmission in machines including gears, belts, pulleys, bearings, lubrication, clutches, brakes, chains, power screws, and gear trains. Stress calculations and material selection are discussed. Broad design issues such as safety, ethics, patents, product liability, time value of money, return on investment, and break even analysis are covered.