Process Heat Transfer

The University of Toledo
Chemical and Environmental Engineering
CHEE 3110

Instructor: Maria Coleman
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Office Hours: TTh 1-2:00, MW 1-2:00
Office Location: NE 2470
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Term: Spring 2016

Class Location: Palmer
Class Day/Time: MW 3:00-4:00 pm
Lab Location: Optional Recitation Palmer
Lab Day/Time: F 3:00 – 4:00 pm
Credit Hours: 2

COURSE/CATALOG DESCRIPTION

Fundamental Equations of heat transfer. Fourier's law. Steady And unsteady thermal conduction. Heat Transfer coefficients. Heat exchangers. Condensation and boiling. Forced and natural convection. Radiation, Kirchoff's Law and view factors.

STUDENT LEARNING OUTCOMES

The students will be able to set up and solve equations related to heat transfer problems with emphasis on (i) Modes of heat transfer, (ii) Design of heat exchangers, and (iii) methods to determine heat transfer coeffiicents.

TEACHING STRATEGIES

The course consists of two primary lecture periods in which a new concepts will be introduced and example problems will be solved during course time. Additional supplemental materials will consist of multimedia examples of operational heat transfer equipment and tour of under graduate lab to demonstrate equipment. In addition an optional problem solving session will be held each week.

PREREQUISITES AND COREQUISITES

CHEE 2110 FOR LEVEL UG WITH MIN. GRADE OF D - (MAY BE TAKEN CONCURRENTLY) AND CHEE 2230 FOR LEVEL UG WITH MIN. GRADE OF D

REQUIRED TEXTS AND ANCILLARY MATERIALS

"Unit Operations of Chemical Engineering", Warren McCabe, Julian Smith, Peter Harriott, McGraw-Hill, Seventh Edition.

TECHNOLOGY REQUIREMENTS

Software - Excel

UNIVERSITY POLICIES

The University is an equal opportunity educational institution. Please read The University's Policy Statement on Nondiscrimination on the Basis of Disability Americans with Disability Act Compliance.)

Academic Accommodations

The University of Toledo is committed to providing equal access to education for all students. If you have a documented disability or you believe you have a disability and would like information regarding academic accommodations/adjustments in this course please contact the Student Disability Services Office.

ACADEMIC POLICIES

The rules of academic dishonesty as described in the University of Toledo General Catalogue will apply to this course. If you are found cheating on an examination, you can be assigned an F in the course. If you are unsure about what constitutes academic dishonesty, consult me.

COURSE EXPECTATIONS

All homeworks are due by 4:00 pm on due date for assignment and should be turned the mailbox for the TA. If the homework is more than one day late, the grade on homework will be a zero. All exams missed without prior notice cannot be made up and will be considered a zero.

GRADING

Grading:

Exam 1		25 %
Exam 2		30 %
Final exam		35 %
Homework/Projects		10%
Grade Scale:	90-100	A
	80-89	B
	70-79	C
	60-69	D
	Below 60	F