
KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
Department of Mechanical Engineering
ME 480: Plastics Materials and Processing
First Semester 2014- 2015 (141)

Instructor: Dr. Khaled Mezghani

Room # 22-221

Phone: 4498

email: mezghani@kfupm.edu.sa

WebCT ME-480: <http://blackboard.kfupm.edu.sa>

Office Hours: Sun., Tue. & Thu.: 11:00-11:50 AM

Sun., Tue. & Thu.: 12:15-12:45 PM, any change will be posted.

Textbook: R.J. Crawford: **Plastics Engineering**. Butterworth Heinemann, **1998**.

Course Objectives:

1. To broaden the knowledge of students about polymers, their applications, and their processes.
2. To teach students the chemical and physical structures of polymers.
3. To teach students different polymer processing methods and equipment.
4. To teach students how to select plastics for different applications.

Lecture Topics:

- 1) Introduction to Polymers (Chapter 1, Callister Chapters 15 & 16).
- 2) Chemical and Physical Structures of Polymers (Chapter 1, Appendices A & F).
- 3) Mechanical, Chemical, and Physical Properties of Polymers (Chapter 2).
- 4) Fiber-Polymer Composites (Chapter 3).
- 5) Polymer Processing Methods and Equipment (Chapter 4).
- 6) Fluid Flow and Heat Transfer in Melt Processes (Chapter 5).
- 7) Interaction between Processes and Properties (Chapter 5).
- 8) Design and Selection of Plastics for Applications (Chapter 2).
- 9) Environmental Aspects of Plastics.
- 10) Special Topics in Polymer Processing.

Grading Policy:

1) Homeworks	.....	5%
2) Quizzes	.....	10%
3) Term Project	.....	25%
4) Midterm Exam	.....	25%
5) Final Exam	.....	35%

NOTE: Attendance in the class will be strictly observed starting first day of classes. **IN CASE OF AN UNEXCUSED ABSENCE 0.5 POINT WILL BE DEDUCTED FROM FINAL GRADE.** A DN grade will be immediately reported for **NINE (9)** unexcused absences.