

**EML 5546 - ENGINEERING DESIGN WITH COMPOSITE MATERIALS
ENGR1-384, 12:00-13:15PM, T& R**

INSTRUCTOR

Dr. Jan Gou, Associate Professor

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Office Hours: T & R, 10:00 am - 12:00 pm; or by appointment

TEXTBOOK

Fiber Reinforced Composites: Materials, Manufacturing, and Design, by P. K. Mallick, 3th Edition, ISBN: 0-8493-4205-8, CRC Press, 2008.

COURSE DESCRIPTION

Understand composite materials including the constitutive materials, manufacturing processes, performances, and design approaches.

COURSE OBJECTIVES

1. To be able to select appropriate constitutive materials for polymer composites manufacturing.
2. To be able to use suitable process methods to manufacture polymer composites.
3. To be able to evaluate the properties of polymer composites.
4. To be able to use failure criteria to design composite structures.

TOPICS COVERED

Glass/Carbon/Organic Reinforcements
Thermoset/Thermoplastic Matrices
Mechanics of Composite Materials
Performance of Composite Materials
Manufacturing Processes for Composite Materials
Failure Modes and Design

GRADING POLICY

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| Class Attendance | 10% |
| Homework | 30% |
| Term Exam | 30% |
| Final Exam | 30% |
| Total | 100% |

COURSE GRADE: A (90-100); B (80-89); C (70-79); D (60-69); F (<60)

CLASSROOM POLICY

1. Homework assignments will be announced in class and they are due at the beginning of the class period on the due day.
2. There will be three term exams plus a comprehensive final exam. Solutions must be shown clearly and neatly in your exam papers. All examinations missed due to illness or emergency require a written, verified excuse or a grade of zero will be assigned.

3. Class attendance is necessary for satisfactory performance. It is student's responsibility to find out about all the assignments and announcements made in class. The student is held responsible for all missed work and classroom information. Class roll will be taken at the beginning of the term to ensure that students are attending the correct class and section. Class rolls will not be taken each time, but may be taken at any time to identify absentees.
4. Cheating and plagiarism are serious academic matters and they will be handled by the following policy and by the University policy. A grade of zero is assigned for the entire assignment. For example, zero is assigned for the entire test and not for individual parts of the test. Automatic failure of the course can result from a zero grade on an individual assignment.
5. In accordance with Americans Disabilities Act, students with bona fide disabilities will be afforded reasonable accommodation. The Office of Student Disability Services will certify a disability and advise faculty members of reasonable accommodations. The Office of Student Disability Services is located in Ferrell Common, FC Room 132, Phone: (407) 823-2371.
6. Since all classes do not progress at the same rate, the instructor may wish to modify the syllabus requirements or their timing as circumstances dictate. For example, the instructor may wish to change the number and frequency of exams, or the number and sequence of assignments. If such a modification is warranted, students will be given adequate notification in writing.