MECH 4395 Nuclear Engineering
Course Syllabus
Fall 2016

Time and Location: MW 16:30-17:50, CRBL C305

Instructor: Dr. Omar Cedillos
E-mail: ocedillos@gmail.com
Office hours: MW 09:00 am – 10:00 am
Office location: Engineering Bldg., A-114
Office phone: 747-5863


Reference books:

Course Objectives
The course covers the basic principles of nuclear engineering. After successful completion of this class, students will be able to:

- Identify and understand different nuclear reactor systems and their operation.
- Understand the physics of nuclear decay and the radiation damage on materials (fuel, cladding and reactor). Selection criteria (mechanical properties, corrosion resistance, heat transfer properties, radiation stability) of materials for fuel, cladding and reactor components.
- Understand the basic principles of nuclear waste immobilization. Identify the different types of nuclear waste, regulation and safety principles and disposal.

Course Content
- Overview of nuclear reactor systems and fundamentals
- Nuclear decay
- Radiation damage and effects on materials
- Nuclear fuels and cladding
- Challenges of nuclear waste
- Introduction to immobilization
- Nuclear waste regulation, types and sources and disposal

Exams: There are three exams. Makeup exams are not given.

Project/Report: The will be final project/report at the end of the semester.
Grading
Your final grade for this course will be based on the following activities

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<tr>
<th>Assignments</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Exam 1</td>
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<td>Exam 2</td>
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<td>Exam 3</td>
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<td>Final Project</td>
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<td>Total</td>
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Grade Scale

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<tr>
<th>Percentage</th>
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<tr>
<td>100-90%</td>
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<td>89-80%</td>
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<td>79-70%</td>
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<td>69-60%</td>
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The instructor reserves the right to revise the grading plan.

Reasonable Accommodation Policy: If you have a disability and need classroom accommodations, please contact the Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass.

COURSE CALENDAR May be updated throughout the semester. Always see the current version of the syllabus on Blackboard.

Department of Mechanical Engineering Safety Statement
The Department of Mechanical Engineering at the University of Texas at El Paso is committed to a model of excellence in education that includes providing a safe and healthy environment for its students, staff, faculty and the general public.

Our goal is to maximize education and research training that can only occur if you, the individual, minimize hazards and risks. This can be done by:

- Providing adequate control of the health and safety risks arising from any and all activities;
- Consulting with employees on matters affecting their health and safety
- Providing and maintaining safe laboratories and equipment;
- Ensuring safe handling and use of substance;
- Ensuring all employees are competent to do their task and have adequate training; and
- Maintaining clean, safe and healthy working conditions

The principal investigator or individual in charge of each laboratory is ultimately responsible for safety in that respective lab. This includes training and ultimate release of the
laboratory. Within the Department, we hold every employee (staff, faculty, student) responsible for implementing our safety practices and our departmental safety policy. We hold every employee (staff, faculty, student) responsible for providing leadership within our department to establish effective environmental safety and occupational health standards.