

Syllabus **Metallurgy and Materials Design** **MME 4419**

Course Description:

This course is an introduction to creative industrial problem solving and the design process in materials engineering. Topics include material and process selection, project planning and resource management, economic decision making in terms of cost evaluation and profitability, and optimization methods. Weekly discussions explore issues of professionalism including engineering ethics, public safety and environmental concerns in design, codes, and standards, etc. Student design teams define and investigate problems in metallurgical processing, materials selection and evaluation, quality control, etc. Design project teams make written and oral progress reports, as well as a final written report and presentation. Laboratory time is devoted to design projects.

Prerequisites: MME 3407 with a grade of "C" or better; MME 4303 and IE 3326.

NOTE: Students must enroll in both the Lecture (CRN 21197) & Lab (CRN 25465) sections of MME 4419.

Measurable Student Learning Outcomes:

At the completion of this course, students will have a thorough understanding of how to write a technical report, plan and execute a technical project and communicate deliverables to peers and supervisors.

Professor:

Dr. Shalayna Smith, PE

Office: M-201H Metallurgy, Engineering-Science Complex

E-mail: shalaynal@utep.edu

Phone: 747-6904

Office Hours:

Monday and Wednesday before or after class. Feel free to speak with me during office hours, in the class or email me with any questions or to schedule an appointment.

Meeting Times and Places:

Class: Monday and Wednesday, 9:00 to 10:20 pm, Room 210, Liberal Arts

Lab: Wednesday, 12:00 to 3:20 pm, Room 201, Cotton Memorial Building

Lab time is devoted to design projects. Cotton Room 201 may be used as a meeting location for your group.

Deliverables and Grading:

10%	Status Reports
30%	Critical Design Review Presentation
40%	Final Design Presentation
20%	Report

Course Outline of Subject Matter:

Engineering Design
Project Management – Cost and Scheduling
Critical Design Review
Engineering Ethics and Professional Engineers
Technical Report Writing
Technical Presentations

Textbook and Other Readings:

Various resources will be provided as necessary.

Group Work and Quality:

If there is a problem within your group, I encourage you to try to address it as a group before bringing it to me. If the issue persists, I will help your group resolve the situation in a professional manner.

All work should be of a professional quality.

Cheating/Plagiarism:

Cheating is unethical and not acceptable. Plagiarism is using information or original wording in a paper or reference without giving credit to the source of that information or wording: it is also not acceptable. You may not submit work for this class that you did for another class. If you are found to be cheating or plagiarizing, you will be subject to disciplinary action, per UTEP catalog policy. Refer to <http://www.utep.edu/dos/acadintg.htm> for further information.

Disabilities:

If you have a disability and need 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.

Schedule:

Schedule of speakers to be provided throughout semester.

Critical Design Review Presentations will occur on February 15th during class and lab time.

Final Design Presentation times will be determined based on room availability. The presentations will occur either the last week of classes or during final exams week.