INSTRUCTOR
Dr. Reza Mirshams
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Meeting Time and Place: Tuesdays and Thursdays 4:00 – 5:20 PM in classroom B140-Discovery Park.
Email Subject Line: MSET 5030
Office hours: Wednesdays 10:30 – 11:30 AM and in the afternoon with appointment. I can meet with you in other times with appointment.

CATALOG COURSE DESCRIPTION
3 credit hours
Formal development of the process of designing a product, including ideas generation, engineering development, modeling and analysis, and project planning and management.

COURSE LEARNING OUTCOMES:
1. Demonstrate the importance of making good decisions at the design stages of part and device development so that desired functionality, manufacturability, time to market, cost, quality, robustness and durability are emphasized.
2. Demonstrate the ability to state materials properties and apply these properties to manufacturing processes and design.
3. Demonstrate the ability to interpret product requirements, manufacturing process capability data and apply them to select and/or synthesize suitable manufacturing process(es).
4. Demonstrate the ability to use a systematic product development process in designing a product or system.
5. Demonstrate the ability to practice skills in the areas of teamwork, oral presentations, and technical writing.

YOU ARE EXPECTED TO KNOW:
Since this is a capstone design course, you are expected to have mastered fundamentals of core engineering concepts and basic knowledge in your engineering discipline, quality, and reliability products assurance analysis.

COURSE MATERIALS AND RESOURCES
Textbook:
Electronic online and print versions should be available from the UNT Bookstore (unt.bncollege.com), Course Smart (www.cousesmart.com), or publisher (www.mhhe.com).

Supplemental Textbook:

Supplemental References:

Course Website: The course will use UNT Blackboard Learn at https://learn.unt.edu environment for providing supplemental materials.

COURSE INSTRUCTION AND ASSIGNMENTS
1. This course is made up of a series of assignments and assessments to assist you in achieving the course learning objectives/outcomes. Each week you will work on various combinations of assignments, activities, discussions, readings, research, etc. which will be made available to you by each Monday and close on the following Sunday.

2. Throughout the semester, the activities will include participation of students on a product design or redesign team and demonstration of production process; prepare formal technical reports; and present information before an audience. Students may obtain access to the Engineering Graphics and Manufacturing Laboratories for development of their projects and a prototype of the product.

3. Attendance is required for all class hours; however the course grade is based on performance and effort in submission of the required work and assignments. As a professional manner, it is expected to inform the instructor for not presenting during the scheduled class hours.

4. UNT Backboard will be used for posting the course materials and instructions, assignments, submission of assignments, email communications about the course, and the course grade-book. Be sure to check UNT Blackboard and the course email at least every other day, if not daily.

5. Late submission of an assignment will not be accepted, except with an acceptable excuse by the instructor.

6. All works submitted for credit must be original works created by the scholar uniquely for the class. It is considered inappropriate and unethical, particularly at the graduate level, to make duplicate submissions of a single work for credit in multiple classes, unless specifically requested by the instructor. Work submitted at the graduate level is expected to demonstrate higher-order thinking skills and be of significantly higher quality than work produced at the undergraduate level.

ASSESSMENT METHODOLOGY AND DISTRIBUTION

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework Assignments (individual effort)</td>
<td>15%</td>
</tr>
<tr>
<td>Class Participation and Engagement (individual effort)</td>
<td>15%</td>
</tr>
<tr>
<td>Team Project (group efforts)</td>
<td>70%</td>
</tr>
<tr>
<td>Interim Project Reports (at least 3 reports)</td>
<td>15%</td>
</tr>
<tr>
<td>Presentations</td>
<td>10%</td>
</tr>
<tr>
<td>Final Project Report and Presentation</td>
<td>35%</td>
</tr>
<tr>
<td>Semester-end peer evaluation (by team members)</td>
<td>10%</td>
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TOTAL   100

Letter Grade Assignment
A ≥ 90%; B ≥ 75%; C ≥ 60%; D ≥ 50%

CLASS PARTICIPATION AND ENGAGEMENT (REEF at UNT-Denton are provided for students use at no cost)

REEF Polling: Engagement, participation, and interaction are important elements of the learning process. To that end, we will be using REEF polling, so each student must be registered to REEF and have a device (computer, smartphone or tablet) for polling responses for this course.

Because REEF is flexible across devices, you may participate by choosing one of the two options below:

- **Sign in REEF Polling on Blackboard:** Self-enroll by clicking the icon in the Course Content. You need only to do it once on Blackboard to enable your score to synchronize to Blackboard gradebook.
- **REEF Polling app:** You may use your own smartphone or tablet by downloading the REEF app – available for iOS and Android.
- Select University of North Texas as your institution, and search for Engineering Materials, ENGR 3450.

Grading: You will receive 2 points for each answer recorded (participation) and an additional 1 point for each correct answer for a total of 3 points per question. Responses to questions posed for which there is no right or wrong answer will receive 0.5 points for participation. Therefore, you are receiving credit for participating and additional credit for answering correctly. The total number of points that you can earn during the semester is capped at 100. Since you will have the opportunity to answer more questions than are required to reach 100, you can still build 100 points even if you miss a couple of classes or answer some questions incorrectly. Further,
because will be given more than 100 points worth of polling questions throughout the semester, you may not make up missed questions, regardless whether you have forgotten to bring a response device, you are late to class, or you miss class. Again, there is no makeup for missed questions. (If you have extenuating circumstances, please notify me so that we may work together to ensure your success in learning the material.)

**Academic Integrity:** *Please note that the misuse of REEF will be considered a violation of proper student conduct and will be treated as cheating. For this class, REEF is to be used as a learning tool by you in the classroom. Misuse would include submitting answers for a friend who is not in attendance in class, submitting answers when you are absent, having someone else submit answers for you when you are absent, or any other use of REEF by which you are not submitting your own work in class.

For additional information on REEF, please check the information below:

[https://learn.unt.edu/webapps/blackboard/content/listContent.jsp?course_id=_28719_1&content_id=_974623_1&mode=reset](https://learn.unt.edu/webapps/blackboard/content/listContent.jsp?course_id=_28719_1&content_id=_974623_1&mode=reset)

**TEAM PROJECT**

Teams will be formed in the first week of class. Each team will work by the 2nd week of the class to prepare a one-page concept paper for the topic of your project for submission by following Friday September 9th at 12:00 PM on Blackboard. I will provide some topics for the projects. Deadlines for submission of interim reports and presentations will be announced during the class hours. Grading rubric and format for written the interim and final reports will be posted on Blackboard.

**Project Schedule**

- **Week 1:** Form Teams
- **Week 2:** Approve Team Project Topics
- **Week 6:** Interim Report 1
  Project Proposal and Early Concepts with rough prototype of major functionality
- **Week 12:** Interim Report 2
  Concept Selection and Detail Design of Major Subsystem
- **Week 15:** Final Report
  Written Report and Oral Presentation

Guidelines for the project reports writing and rubrics for evaluation will be posted on UNT Blackboard course website. Team members will score other team members in the final examination on their participations and contributions.

**ADDITIONAL POLICIES AND INFORMATION**

1. **Class Attendance:** Attendance is required for the class hours.
2. **Syllabus updates:** This syllabus is subject to change at any time during the semester with changes to be announced during the class hours.
3. **Classroom Use of Communication Devices:** Cell phones, iPhones, iPods, iPads, laptops, and tablets must be turned off or in silent mode before the start of the class.
4. **Dishonesty:** The UNT Catalog procedures on cheating and plagiarism will be vigorously enforced. It is the duty of each student to protect their work so it is not available to others for submission as their efforts. This is especially true of files that are generated on the computer. Students that knowingly allow others to use their work are partners in this unethical behavior. All rules relating to academic dishonesty will be enforced in accordance with University policies. Use of cell phones, iPhones, iPods, iPads, laptops, and tablets are prohibited during the class exams and quizzes.

The Instructor also has the discretion to assign a failing grade to portions of an assessment, a whole assessment, or the whole course depending on the severity of the event. Plagiarism and academic dishonesty absolutely will
5. **Distribution of Course materials**: State common law and federal copyright laws protect this course lectures and materials. They have my own original expression and revisions to the textbook author(s) and I record them while I deliver them in order. Whereas you are authorized to take notes in class, thereby creating a derivative work from my lecture, and/or make a print of my lecture notes/slides. The authorization extends only to making one set of notes for your own personal use and no other use. You are not authorized to record my lectures, to provide your notes to anyone else or to make any commercial use of them without express prior permission from me.

6. **End of Semester Course Evaluations**: Students course evaluations are a requirement for all organized courses at UNT. This survey will be made available at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback from students, as I work to continually improve this course and my teaching. I consider this evaluation to be an important part of your input to this class.

7. **Disabilities Accommodation**: The University of North Texas complies with Section 504 of the 1973 Rehabilitation Act and with the Americans with Disabilities Act of 1990. The University of North Texas provides academic adjustments and auxiliary aids to individuals with disabilities, as defined under the law. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring accommodation, please see the instructor and/or contact the Office of Disability Accommodation at 940-565-4323 during the first week of class.

8. **Campus Resources for Student Success**: To learn more about campus resources and information on how you can achieve success, go to https://success.unt.edu.

9. **Exam and Assignments**: (a) Requests for review of graded work must be submitted during the lecture in which such work is returned to the students. Once class is dismissed, regrade requests will not be accepted; (b) Late submission of assignments will not be accepted.

10. **Email Communications**: All email communications must be through your UNT assigned email address. You should write **MSET 5030 -Fall 2016** in the subject line. I will not reply emails from yahoo, gmail, outlook, Hotmail, etc.