1. Course Number and Name
   a. MENG 4091: Mechanical Engineering Honors Research, Fall 2021
   b. Section 010, MWF 12:00 – 12:50 am

2. Credits and Contact Hours
   a. Credits: 3
   b. Contact Hours: 3 hours/week (Online/Face to face if needed)

3. Instructor Information
   a. Course Coordinator: Mohammad Shafinul Haque, PhD
   b. Instructor: Mohammad Shafinul Haque, 325-486-5509, mohammad.haque@angelo.edu.
      Office: VIN 281. For office hours see faculty homepage.

4. Course Materials
   a. Reference book:
      • No textbook
   b. Other Supplemental Materials: Will be posted on Blackboard.

5. Technology Requirements
   To successfully complete this course, you need to regularly check emails, and may need a computer
   with webcam for online meetings as needed. Software’s that are needed for the project may be
   requested to ASU IT service for installation.

6. Specific Course Information
   a. Catalog Description: Independent study or individual research problems in Mechanical
      Engineering. May be repeated for a total of 12 credits.
   b. Prerequisites and Corequisites: Prerequisites: Mechanical Engineering Majors only with
      Junior or Senior standing. Departmental permission.

7. Specific Goals for the Course
   A. Course Goals:
      In these honors research a suitable project will be given to the student with mutual agreement
      between the instructor and the student. The student is required to report weekly progress,
      maintain a logbook, and finally submit a detail project report.
   B. Course Learning Outcome:
      1. Apply the knowledge and skills acquired in their undergraduate curriculum to the project.
      2. Be able to identify problem and specify project requirements applicable to realistic constraints.
      3. Be able to systematically develop a design/solution from the problem statement to a detailed,
         completion of project meeting all of the specifications.
C. Course Learning Outcome Mapping to ABET Criterion 3 Student Outcomes:

Table 1: Course Learning Outcomes mapped to ABET Student Outcomes

<table>
<thead>
<tr>
<th>ABET Student Outcomes</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Solve Problems</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2. Design</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>3. Communication</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Ethics &amp; Professionalism</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5. Teamwork</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Experimentation</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>7. Acquire New Knowledge</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. Topics Covered

1. Literature review
2. Project planning, completion, and delivery
3. Writing report in ASME format
4. Professional graph using Sigma-plot.
9. Course Delivery and Communications

9.1 Delivery Method

This course has one significant component: One hour review/feedback sessions per week. On-time attendance of sessions is REQUIRED. This is a blended course with combination of face-to-face and online as needed.

For each session, you are expected to have completed your assigned milestone and come prepared to present your weekly progress towards completion of the project. You will be given feedback on your progress and next week plan.

A student’s responsibility includes but not limited to 1) plan your individual contribution, 2) clearly set your own goals and share with team, 3) monitor and assess your own progress, and evaluate/compare with your peers, 4) work alone, as a team, collaborate and support your team members as appropriate. 5) communicate with the instructor scheduling weekly meeting, the performance will be assessed based on your individual contribution and overall team achievements.

The value of the course to you will be highly dependent upon your preparation for class. We will be using both Blackboard, and email to communicate during this course.

9.2 Delivery Method

Faculty will respond to email within 24 hours during working hours Monday through Friday. Weekend messages may not be returned until Monday.

Written communication via email: All private communication will be done exclusively through your ASU email address. Check frequently for announcements and policy changes. In your emails to faculty, include the course name and section number in your subject line.

Virtual communication: Office hours and/or advising may be done with the assistance of the telephone, Collaborate, Skype, etc.

10. Professionalism

Professional engineering standards apply in this class. You are expected to demonstrate a behavior consistent with the conduct of an individual practicing in the engineering profession. You are expected to: (1) come prepared for class; (2) respect faculty and peers; (3) demonstrate responsibility and accountability for your own actions; (4) demonstrate sensitivity and appreciation for diverse cultures, backgrounds, and life experiences; (5) offer and accept constructive criticism in a productive manner; (6) demonstrate an attitude that fosters professional behavior among peers and faculty; (7) be punctual to class meetings; (8) maintain a good work ethic and integrity; and (9) recognize the classroom as a professional workplace.

10.1 Punctuality

As a professional engineer you are expected to arrive at every class meeting on time and prepared. Attendance will be taken. Arriving late or leaving early will be counted as an absence. Should you find it necessary to miss a class for any reason, you are expected to notify your instructor as early as the absence is known—preferably before the absence.
10.2 Journal

You are expected to keep a written journal for this course. Your weekly presentation will represent the summary of your journal. These weekly individual and team presentations will be assessed for your performance, will be archived and may be carried on to your Capstone Design II course.

10.3 Grades

Table 2 presents the grade weighting

<table>
<thead>
<tr>
<th>Item</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance, Participation &amp;</td>
<td>20%</td>
</tr>
<tr>
<td>Professionalism</td>
<td></td>
</tr>
<tr>
<td>Weekly progress</td>
<td>20%</td>
</tr>
<tr>
<td>Mid term presentation</td>
<td>20%</td>
</tr>
<tr>
<td>Final project report</td>
<td>40%</td>
</tr>
</tbody>
</table>

| Total                               | 100%    |

The instructor will determine letter grades for the course using his professional judgment, and the following standards as described in the University Catalog:

A = excellent work,  B = good work,  C = average work,  D = poor work,  F = failing work

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Number Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≥ 90</td>
</tr>
<tr>
<td>B</td>
<td>(80 – 90)</td>
</tr>
<tr>
<td>C</td>
<td>(70 – 80)</td>
</tr>
<tr>
<td>D</td>
<td>(60 – 70)</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 60</td>
</tr>
</tbody>
</table>

11. Classroom and University Policies and Student Support

11.1 General Policies

All students are required to follow the policies and procedures presented in the Angelo State University Student Handbook¹ and Angelo State University Catalog².

11.2 Student Disability Services

ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student’s responsibility to initiate such a request by

¹ Angelo State University Student Handbook
² Angelo State University Catalog
contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the Student Disability Services website. The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dallas Swafford  
Director of Student Disability Services  
Office of Student Affairs  
325-942-2047  
dallas.swafford@angelo.edu  
Houston Harte University Center, Room 112

11.3 Title IX at Angelo State University

The University prohibits discrimination based on sex, which includes pregnancy, sexual orientation, gender identity, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination including: sexual assault, sex-based discrimination, sexual exploitation, sexual harassment, public indecency, interpersonal violence (domestic violence and/or dating violence), and stalking. As a faculty member, I am a Responsible Employee meaning that I am obligated by law and ASU policy to report any allegations I am notified of to the Office of Title IX Compliance.

Students are encouraged to report any incidents of sexual misconduct directly to ASU’s Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator at:

Michelle Boone, J.D.  
Director of Title IX Compliance/Title IX Coordinator  
Face to face: Mayer Administration Building, Room 210  
325-942-2022, michelle.boone@angelo.edu

You may also file a report online 24/7 at www.angelo.edu/incident-form.

If you are wishing to speak to someone about an incident in confidence you may contact the University Health Clinic and Counseling Center at 325-942-2173 or the ASU Crisis Helpline at 325-486-6345.

For more information about Title IX in general you may visit www.angelo.edu/title-ix.

11.4 Observance of Religious Holy Day

A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for Observance of Religious Holy Day for more information.

11.5 Incomplete Grade Policy

It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 Grading Procedures for more information.
11.6  **Student Conduct Policies**

11.6.1  **Academic Integrity**

Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

The College of Science and Engineering adheres to the university’s [Statement of Academic Integrity](http://www.angelo.edu/student-handbook/community-policies/academic-integrity.php).

11.6.2  **Plagiarism**

Plagiarism is a serious topic covered in ASU’s [Academic Integrity policy](http://www.angelo.edu/student-handbook/community-policies/academic-integrity.php) in the Student Handbook. Plagiarism is the action or practice of taking someone else’s work, idea, etc., and passing it off as one’s own. Plagiarism is literary theft.

In your discussions and/or your papers, it is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list.

Papers are subject to be evaluated for originality via Turnitin. Resources to help you understand this policy better are available at the [ASU Writing Center](http://www.angelo.edu/dept/writing_center/academic_honesty.php).

11.6.3  **Copyright Policy**

Students officially enrolled in this course should make only one printed copy of the given articles and/or chapters. You are expressly prohibited from distributing or reproducing any portion of course readings in printed or electronic form without written permission from the copyright holders or publishers.

End Notes

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2. [http://www.angelo.edu/catalogs/](http://www.angelo.edu/catalogs/)
3. [http://www.angelo.edu/services/disability-services/](http://www.angelo.edu/services/disability-services/)
4. [http://www.angelo.edu/incident-form](http://www.angelo.edu/incident-form)
5. [http://www.angelo.edu/title-ix](http://www.angelo.edu/title-ix)
6. [http://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of](http://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of)