ENGR 2201: Computer Aided Design and Prototype Design (CRN 30256)
Section 010 Monday & Wednesday 8:00—9:50 pm, Summer 2019

Lab 01Z Tuesday and Thursday (CRN 30257) 8:00—9.50 pm, Summer 2019

1: Instructors
Mohammad Shafinul Haque, PhD Phone: 325-486-5509 Email: mohammad.haque@angelo.edu
Office: Vincent Building-281 Hours: See Engineering Homepage

2: Required materials
- Optional textbook: Solidworks 2018 for Designers by Sham Tickoo; Edition: 16th, Publisher: CADCIM
- USB drive.

3: Prerequisites
1. ENGR 1304 Engineering Graphics

4: Course Description
Use of solid modeling platforms to address the design of common machine and structural elements. You will receive a hands-on introduction to the computer aided design (CAD) techniques for engineering design process. You will learn the ASME Engineering Drawing Practice standard for drawing and documentation. Create geometric models and dimensioned engineering drawings using the SolidWorks (SW) commercial software. The concepts and practice of 3D printing, and sample rapid prototyping parts will be printed. (2 credit hours with 1 Lecture hours and 2 Lab hours per week)

5: Student Learning Outcomes
When you complete this class you should be able to:
1. Construct two-dimensional sketches, and three-dimensional objects;
2. Editing and Modifying an existing drawing;
3. Construct assemblies of objects;
4. Apply proper relations and dimensions to sketches;
5. Prepare multiple drawing views;
6. Perform a rapid prototyping (3D printing) of a final project using 3D printers.
6: Course outcome mapping

The mapping of the course outcomes to the ABET Criterion 3 student outcomes is shown in Table 1.

Table 1: Course Outcome Mapping

Student Outcomes from ABET Criterion 3

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7: Course structure and communication

This course has two significant components: one 1-hour lectures per week and one 2-hour lab session per week. On-time attendance of lab sessions is REQUIRED.

For each lecture, you are expected to have practiced the assigned task ahead of time, and to be ready to engage with the lesson materials (through in-class exercises, discussions, and activities).

For each lab, you are expected: 1) to have read the lab exercise ahead of time, 2) to be attentive of the practice at hand, 3) and to be respectful of laboratory equipment and laboratory space.

As your instructor, you can expect from me: 1) to be prepared with lecture and lab materials in a timely fashion, 2) to value your time by ending lectures as scheduled, 3) to ensure your safety in lab by having prepared materials and equipment beforehand, 4) to provide constructive feedback on your homework and lab report/project submissions, and 5) to be adaptive and responsive should scheduling challenges arise.

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. Lesson materials will be delivered via Blackboard.

8: 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.

9: Graded Material

9.1: Class Attendance, Participation, Timeliness and Teamwork

The number one complaint of engineering clients is the timeliness of deliverables (reports, drawings, specifications, etc.). As a professional engineer you will be expected to arrive at scheduled meetings on time.
time and prepared. Late proposals are not generally accepted. Late specifications or drawings may cost the engineer a monetary penalty. Professional engineering standards apply in this course.

You are expected to meet every class meeting on time and prepared. Attendance will be taken. 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. It’s important that you communicate clearly your instructors.

Your online assignments will be due at the time specified on Blackboard. Any assignments submitted in hard copy are due at the beginning of class on the due date. Your instructor may assess penalties for late work.

9.2: Reading Assignments and Homework

You will be given reading and homework assignments nearly every lesson. Reading assignments will come from the assigned textbooks or other materials provided or available via the web. The homework assignments will consist of questions to be answered during your reading and preparation for class. Reading and homework assignments will be distributed via the Blackboard.

9.3: Quizzes

Instructors may give in-class quizzes. The quizzes will be unannounced and unscheduled. The quizzes are intended to determine whether or not you have completed the pre-class work and are prepared for class.

9.4: Exams

This course will have two exams of drawing 3D objects.

9.5: 9.5 Projects

This course will have two individual project and a final group project.

9.6: Grades: Weighting and Letter Grades

The weighting system shown in Table 2 will be used in determining final grade for the course

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<thead>
<tr>
<th>Item</th>
<th>Percent</th>
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<tr>
<td>Attendance &amp; participation</td>
<td>10%</td>
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<tr>
<td>Homework</td>
<td>15%</td>
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<tr>
<td>Exam 01</td>
<td>15%</td>
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<tr>
<td>Exam 02</td>
<td>15%</td>
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<tr>
<td>Project 01</td>
<td>10%</td>
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<td>Project 02</td>
<td>10%</td>
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<tr>
<td>Final Project</td>
<td>25%</td>
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<tr>
<td>Total</td>
<td>100%</td>
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</table>

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

10: Classroom and University Policies and Student Support

10.1: 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.

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10.2: **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.

The Office of Student Affairs is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability, and it is the student’s responsibility to initiate such a request by contacting Ms. Dallas Swafford, Director of Student Disability Services, at 325-942-2047 or Dallas.Swafford@angelo.edu, or visit the Student Disabilities Services website.

10.3: **Title IX Statement**

Angelo State University is committed to the safety and security of all students. If you or someone you know experience sexual harassment, sexual assault, domestic or dating violence, stalking, or discrimination, you may contact ASU’s Title IX Coordinator: Ms. Michelle Boone, Director of Title IX Compliance, at 325-486-6357, or Michelle.Boone@Angelo.Edu.

10.4: **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.

10.5: **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.

10.6: **Student Conduct Policies**

**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 Statement of Academic Integrity.

**Plagiarism**

Plagiarism is a serious topic covered in ASU’s Academic Integrity policy 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.

**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.
11: Instructor Prerogative
This class does not operate under democratic principles. Your instructor may change policies, procedures, of this course when he deems it necessary. You will be notified of any such changes.
End Notes

1 http://www.angelo.edu/student-handbook/
2 http://www.angelo.edu/catalogs/
3 http://www.angelo.edu/services/disability-services/
4 http://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of
5 http://www.angelo.edu/content/files/14197-op-1011-grading-procedures
6 http://www.angelo.edu/student-handbook/community-policies/academic-integrity.php
7 http://www.angelo.edu/dept/writing_center/academic_honesty.php