COURSE: MENG 1201 – Mechanical Engineering I

Credits: 1 hour lecture, 3 hours laboratory per week.


SOFTWARE: AutoCad and Creo

INSTRUCTOR: Dr. Syed Abraruddin Hasan
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COURSE INFORMATION:

CATALOG DESCRIPTION: An introduction to CAD-based engineering design graphics, including spatial visualization, projection theory and parametric, feature-based solid modeling techniques. Both skill development and project oriented laboratory sessions. Team based semester-long mechanical engineering design project.

PRE-REQUISITES: None

COURSE SYLLABUS & TOPICS COVERED:

The following syllabus describes the course contents in general terms. A flexible lecture schedule will be used to adjust the material covered to suit the background, interest and response of the students in order to maximize the overall benefits. All the sections shown below are from the textbook – Principles and Practice: An Integrated Approach to Engineering Graphics and AutoCAD 2015 by Randy H. Shih, SDC Publications

1. Theory of Engineering Graphics and Spatial Visualization;
2. 2-D and 3-D Projections (Ch. 4, 5);
3. Dimensioning (Ch. 6);
   Quiz 1 on February 16, 2015 in class
4. Tolerances and Fits (Ch. 7);
5. Auxiliary Views (Ch. 9);
6. Section Views (Ch. 10);
   Quiz 2 on March 23, 2015 in class
7. 2-D CAD Drawing and Editing (Ch. 1 - 10);
8. Working Drawing Layout and CAD Practice (Ch. 12);
9. Feature-based Solid Modeling (Notes)
ATTENDANCE:
Mechanical Engineering I is one of the challenging practical courses in engineering. Regular attendance is imperative if you want to do well in this course. Therefore, regular attendance is highly recommended. In case you have to miss a class, it is your responsibility to keep up with the class work and be informed of all announcements made in the class on home works, tests etc.

ASSESSMENT:

HOMEWORK:
Home works are considered very important. Students are required to submit homework in printed form only. The students have to submit their work completed independently. Assignment will be given at the end of each lab class, which may include theory questions / Drawings on AutoCAD or other software.

Home work will not be accepted after the due date.

CLASS TESTS / QUIZ:
A quiz will be conducted on the mentioned dates during the class. About 10 questions will be asked within 15 minutes at the end of the class. Review questions may be referred at Blackboard before the quiz.

CLASS EXERCISES:
Students are required to submit the class room exercise (print) at the end of each class for evaluation.

Project work:
A separate sheet will be posted for the project work details at the blackboard. The project work includes assessment of abilities including design, drafting, and presentation (written and oral skills). A team of 3 to four members will work together for the project work. The team will be required to work together and present their work in the class as per the pre-decided schedule towards the end of their work.

FINAL GRADES:
Final grades are based on:

- 3 Quiz Exams 15%
- Assignments 30%
- Class room exercises 25%
- Project work (100 points) 30%
- Total 100%

However there will be no final examination.

NOTE:
Course syllabus, course material such as handouts will be posted on Blackboard. Please review all the material posted on blackboard on a regular basis. I will use Blackboard to post announcements and contacting students by e-mail.

If you intend to be absent for a university-sponsored event or activity, you (or the event
sponsor) must notify me at least two weeks prior to the date of the planned absence.

Academic policies regarding withdrawal from the course, state-mandated course drop rule, grade forgiveness, student rights, absence for religious observance, grade replacement, social security and privacy, learning disability, academic dishonesty and others can be found at http://www.uttyler.edu/wellness/rightsresponsibilities.php. Some of the policies are reproduced below for your information.

**Grade Replacement/Forgiveness**
If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to do so will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates will receive grade forgiveness (grade replacement) for only three course repeats; graduates, for two course repeats during his/her career at UT Tyler.

**State-Mandated Course Drop Policy**
Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the 12th day of class (See Schedule of Classes for the specific date). Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Registrar’s Office and must be accompanied by documentation of the extenuating circumstance. Please contact the Registrar’s Office if you have any questions.

**Disability Services**
If you have a disability, including a learning disability, for which you request disability support services/accommodation(s), please contact Ida MacDonald in the Disability Services office so that the appropriate arrangements may be made. In accordance with federal law, a student requesting disability services/accommodation(s) must provide appropriate documentation of his/her disability to the Disability Services counselor. In order to assure approved services the first week of class, diagnostic, prognostic, and prescriptive information should be received 30 days prior to the beginning of the semester services are requested. For more information, call or visit Disability Services located in the University Center, Room 3150. The telephone number is (903) 566-7079. Additional information may also be obtained at the following UT Tyler Web address: http://www.uttyler.edu/disabilityservices.

**Student Absence for University-Sponsored Events and Activities**
If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

**Social Security and FERPA Statement**
It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.
COURSE OBJECTIVES:

Instructional Outcomes:
By the end of this course students will be able to:

1. Have the basic skills needed to interpret and create engineering drawings following the standard conventions of engineering graphical communication.

2. Quickly generate multiview and pictorial sketches to aid in the ideation phase of the design process.

3. Be proficient in the use of CAD software for generating 2-D and 3-D working drawings and solid model drawings for use in other programs.

4. Use sketches and CAD software as an integral tool in the design process and be able to persuasively present a design using generated drawings and computer models in a comprehensive design presentation.

5. Apply team organizational and operational skills.

6. Apply written and verbal communication skills.

Relationship to Student Outcomes:
This course supports the following Mechanical Engineering Program Student Outcomes, which state that students will:

1. be able to apply science, mathematics, and modern engineering tools and techniques to identify, formulate, and solve engineering problems.

2. be able to design thermal/fluid, mechanical, and electro-mechanical components or systems, individually or on interdisciplinary teams, and effectively communicate those designs in both technical and non-technical forums.

Prepared By: Dr. Syed Abraruddin Hasan Date: 01/10/2015