

**Oklahoma State University Institute of Technology**  
**Face to Face Common Syllabus**  
 Summer 2017

**ETDG 2293 – MECHANICAL DESIGN**

This course focuses on the design of machine systems using the principles of mechanical design ergonomics, economics and production processes. Students increase their drafting and design competency through development of detail and assembly drawings and associated technical documents.

**Type of course:** Theory/Lab

**Credit Hours:** 3; Total hours of theory per semester: 30;

Total hours of lab for the semester: 45; Total hours of clinical per semester: N/A.

**Class length -** Full Semester

**Class days and times:** MWF 10:00-11:25AM

**Prerequisites:** ETDG 1192, ETDG 1253 & ETDG 2423

**Instructor Name:** Michael Freeman

**Instructor Phone:** (918) 293-5052

**Office:** DWRTC Room #115

**Instructor email:** [michael.freeman@okstate.edu](mailto:michael.freeman@okstate.edu)

**Contact:** My preferred method of contact is E-mail. Please allow 24-48 hours to return your correspondence during the normal work week.

**Instructor's Office Hours:** Classroom 150 MWF 11:25 – 11:45AM and TR 11:00 – 11:45AM

**Division Name:** Engineering Technologies

**Division's Main Phone:** 918-293-5150

**REQUIRED TEXT, REFERENCES, AND MATERIALS**

**Texts:** *Modern Graphics Communication*, Giesecke, Prentice Hall, ISBN #0135151031

**References:** *Engineering Drawing and Design, 7<sup>th</sup> edition*, Jensen/Helsel/Short, from Glencoe/McGraw Hill ISBN#9780073521510

**Materials:**

**Uniform/Tools:** None

**Estimated Cost for Materials:** \$ Amount based on current bookstore cost

**Estimated Cost for Uniform/Tools:** None

**Upon completion of the course, students should:**

<b>COURSE OBJECTIVES</b>	<b>ASSESSMENT OF COMPETENCY</b>
*Calculate fits and tolerances.	Problems 19, 20 & 21 and Test #1
*Draw using fits and tolerances.	Problem 24 and Test #1
*Select the best fastener to use on the current project.	List of Questions and Test #2
*Create assemblies with BOM and callouts.	Assembly Project.

*Develop a GD&T feature control frame to meet project requirements based on industry standards.	Test #3
*Design parts using industry standard design criteria.	Connector Caster Frame
*Determine the material and forming process based on quantity needed and cost to manufacturing.	Final Project
Define the term gear and describe the four major families of gears.	Gear worksheet

Aspects of the course objective assessments may be used in the university's assessment of student learning. If applicable, an asterisk (\*) above indicates this course is used in the university assessment program.

**COURSE ACTIVITIES**

In this course students will:

- Participate in class discussions and activities.
- Take examinations.
- May be required to do quizzes.

**EVALUATION - GRADES WILL BE BASED ON THE QUALITY AND COMPLETION OF THESE TASKS:**

Projects/Assignments .... 70%  
  \*Problem 24  
  \*Assembly Project 10%  
  \*Final Project (2) 20%  
Unit Exams (3)..... 30%

<b>OSUIT</b> <b>Grading Scale</b>  A = 90-100 B = 80-89 C = 70-79 D = 60-69 F = 59 & below
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\*The student's grade for these projects will be used in the university's assessment of student learning. A 70% competency or higher receives a Pass rating. This Pass/Fail rating is independent of the student's course grade.

**Remember!** All technical classes require a 70% or better for graduation

Daily and/or weekly quizzes, small weekly assignments and similar type projects: Normal return time to student by next class meeting or no later than one (1) week.

Extensive assignments, large lab projects, extensive quizzes, exams and similar type projects: Normal return time to students in one (1) to two (2) weeks.

**AUTHORIZED TOOLS** Students may use any/all course materials, including books and notes, while participating in classroom activities.

### **LATE WORK**

All assignments will have specific due dates and are expected to be completed by that date. However, a one (1) day grace period will be given with a 10% penalty applied to the graded work. If a test is missed it is up to the student to work out a time when it can be made up. The penalty will be the same as late work if done in an orderly manner.

**TESTING** All quizzes and tests are to be completed independently; no collaboration with classmates is permitted and any instance of such will be considered academic dishonesty.

### **UNIVERSITY & COURSE EXPECTATIONS**

As a student of OSUIT, I understand that it is my responsibility to read, abide by and maintain a copy of the syllabi for this course. Syllabi are also available on the OSUIT website.

As a student of OSUIT, I understand that excerpts of portions of my work may be utilized for institutional assessment purposes. The purpose of institutional assessment is for verification of student learning and program improvement. I recognize that every effort will be made to keep this information confidential.

### **AMERICANS WITH DISABILITIES ACT (ADA)**

According to the Americans with Disabilities Act, each student with a disability is responsible for notifying the University of his/her disability and requesting accommodations. If you think you have a qualified disability and need special accommodations, you should notify the instructor and request verification of eligibility for accommodations from the Office of Academic Accommodations/LASSO Center. Please advise the instructor of your disability as soon as possible, and contact The LASSO Center, located in the Noble Center for Advancing Technology – NCAT, top floor, and 918-293-4855 to ensure timely implementation of appropriate accommodations. Faculty have an obligation to respond when they receive official notice of a disability but are under no obligation to provide retroactive accommodations. To receive services, you must submit appropriate documentation and complete an intake process during which the existence of a qualified disability is verified and reasonable accommodations are identified. (Fall 2013)

### **ACADEMIC DISHONESTY**

Academic dishonesty or misconduct is neither condoned nor tolerated at OSUIT. Any student found guilty of academic dishonesty or misconduct shall be subject to disciplinary action. Academic dishonesty and/or misconduct includes, but is not limited to, the following actions: (1) Plagiarism: the representation of previously written, published, or creative work as one's own; (2) Unauthorized collaboration on projects; (3) Cheating on examinations; (4) Unauthorized advance access to exams; (5) Fraudulent alteration of academic materials; (6) Knowing cooperation with another person in an academically dishonest undertaking. Students are required to actively protect their work against misuse by others. For details, refer to The OSUIT Student Handbook (Student Rights and Responsibilities Governing Student Behavior) available online at [http://www.osuit.edu/academics/forms/student\\_rights\\_responsibility.pdf](http://www.osuit.edu/academics/forms/student_rights_responsibility.pdf).

## **ATTENDANCE POLICY FOR FACE TO FACE COURSES**

A primary component of OSUIT's Mission is "to prepare and sustain a diverse student body as competitive members of a world-class workforce." Regular and consistent attendance not only aids in academic success, dependable attendance is a requirement in today's real-world employment; therefore, regular and consistent attendance is a requirement in all OSUIT courses.

**Definitions:** Absent: Failing to attend all or a significant portion of a class or lab session.

A. Students may not be marked as absent if missing class for situations such as, but not limited to

1. participating in a required university activity such as a field trip;
2. fulfilling a military obligation;
3. a mandatory court appearance;
4. death in the immediate family;
5. extreme illness or accident to oneself or immediate family. Instructors, at their discretion, may require proof of such events.

B. It is the responsibility of the student to contact and inform the instructor and/or department in advance of such excused absences whenever possible.

Tardy: Arriving late to class as defined by the individual class instructor. Faculty, at their discretion, may equate three tardies to equal one absence.

### **Procedures:**

#### Early Intervention

A. Any student who misses 10% of an individual course (or earlier at faculty discretion) during a regular fifteen-week semester, or the equivalent portion of time in a shorter session, will have their name submitted by that course instructor to the OSUIT Early Alert System for retention intervention.

B. At the point the Early Alert is issued, the student *must* meet with their assigned faculty advisor or designated faculty/staff member within seven (7) academic calendar days for counseling on how to improve their attendance and academic success.

#### Excessive Absences

A. The University reserves the right to administratively withdraw any student from an individual course who misses 20% of that course, whether excused or unexcused, and, in the opinion of the instructor, the student does not have a reasonable opportunity to be successful in the course.

B. Students should be aware any of the following may impact their financial aid:

1. being administratively withdrawn from a course
2. dropping a course
3. their last date of attendance in a course

Please see OSUIT Policy 2-021 for full details and procedures.

## **COURSE OUTLINE**

DATE	Mechanical Design
Friday, May 05, 2017	Introductions, Syllabus & Module 1
Monday, May 08, 2017	Module 2
Wednesday, May 10, 2017	Module 2
Friday, May 12, 2017	Module 2 & 3
Monday, May 15, 2017	Module 3
Wednesday, May 17, 2017	Module 3 & Review
Friday, May 19, 2017	Test #1
Monday, May 22, 2017	Module 4
Wednesday, May 24, 2017	Module 4
Friday, May 26, 2017	Module 5 & Review
Monday, May 29, 2017	Test #2
Wednesday, May 31, 2017	Module 5
Friday, June 02, 2017	Module 5
Monday, June 05, 2017	Module 5
Wednesday, June 07, 2017	Module 6
Friday, June 09, 2017	Module 6
Monday, June 12, 2017	Module 6
Wednesday, June 14, 2017	Module 6
Friday, June 16, 2017	Module 6
Monday, June 19, 2017	Module 6
Wednesday, June 21, 2017	Module 6 & Review
Friday, June 23, 2017	Test #3
Monday, June 26, 2017	Summer Break
Wednesday, June 28, 2017	Summer Break
Friday, June 30, 2017	Summer Break
Monday, July 03, 2017	Summer Break
Wednesday, July 05, 2017	Summer Break
Friday, July 07, 2017	Summer Break
Monday, July 10, 2017	Module 7 & 8 & 11
Wednesday, July 12, 2017	Module 8
Friday, July 14, 2017	Module 8
Monday, July 17, 2017	Module 8
Wednesday, July 19, 2017	Module 8
Friday, July 21, 2017	Module 8
Monday, July 24, 2017	Module 8
Wednesday, July 26, 2017	Module 8
Friday, July 28, 2017	Module 8
Monday, July 31, 2017	Module 5
Wednesday, August 02, 2017	Module 5

Friday, August 04, 2017	Module 5 Due - No Late Accepted
Monday, August 07, 2017	Module 9
Wednesday, August 09, 2017	Module 10
Friday, August 11, 2017	Module 10
Monday, August 14, 2017	Module 10
Wednesday, August 16, 2017	Module 10
Friday, August 18, 2017	Module 10
Monday, August 21, 2017	Module 10
Wednesday, August 23, 2017	Module 10 - Presentation
Friday, August 25, 2017	Module 11 Due

\*Schedule subject to change at instructor discretion.

### **INSTRUCTOR'S POLICY ON ABSENCES**

**Class lectures will not be repeated.** However, percentage point can be earned for perfect attendance i.e. 0 absences = 2%, 1 absence = 1%, 2 absences = 0.5% and 3 or more absences = 0%.

### **STUDENT CONDUCT**

Students are expected to cooperate in maintaining a classroom environment conducive to learning. Courteous and respectful behavior will be expected from all students each day. All pagers, cellular phones, and CD and MP3 players should be turned off. The use of tobacco in any form in University buildings is prohibited.

### **INSTRUCTIONS FOR SPECIFIC TASKS AND ASSIGNMENTS**

Drawing Projects:

- A. Drawings will be evaluated according to the following:
  1. Solution to problem
  2. Following of instructions and completeness
  3. Appearance, including neatness, spacing and uniformity
  4. Placement of dimensions
  5. Accuracy
- B. Class time will be allotted to work on drawing projects, but may not be enough to complete assignments. **The student will have to schedule time outside of class to work on assignments.**
- C. Work can be redone if a grade is not desirable but the markup has to be handed in with the corrections and the average of the two grades will be final grade.

### **OTHER LAB AND CLASSROOM POLICIES**

#### ETD LAB RULES

1. **Video Games:** The playing of video games on division computers **at any time is prohibited.** Students found playing video games on division computers will not only be asked to cease playing the game, but also remove any unauthorized software from the computer or network drive.
2. **Music Files:** Downloading of music files from the Internet to **any media is prohibited.** In many cases, this is illegal and may result in liability for the university as well as the individual(s) involved. Listening to music in the computer labs is allowed only if **legal** copies of compact music discs are used. Students must use their own headphones when listening to music. Listening to music during class is at the discretion of the instructor and at **no time** will listening to music be allowed during class discussions or lectures.
3. **Movies:** Downloading and/or playing of movie files from the internet (or any other source) are **prohibited.** In many cases, this is illegal and may result in liability for the university as well as the individual(s) involved.
4. **Pornography:** Downloading and/or display of pornographic materials on division computers and equipment are **prohibited.** Any such material found by faculty or staff will be **immediately** deleted or removed. The use of vulgar or suggestive names for computer files or folders will not be tolerated. Any such material, if found by faculty or staff, will be immediately deleted.

Division computers and equipment are for **educational use only.** It is the intent of the faculty and staff of the ET division to display a positive and professional environment, including the atmosphere of the classroom. It reflects negatively on our division when guests see games, movies, or hear loud or offensive music permeating from our classrooms.

**Final note:** An official copy of the syllabus will be posted on the Online Class Room site and any changes being made to the syllabus in the future will be on this official syllabus. No more paper copies will be passed out after the first couple of class sessions.