

BE 1250

Introduction to Engineering Methods

Fall 2015

Credit hours: 2 (6 hours of lab per week)

Course Description: Fundamentals of engineering design; presentation of an engineering design; graphical expression of engineering design using computer-aided drafting.

Objectives:

1. To learn and apply the engineering design process to a design problem.
2. To become proficient in the use of computer-aided drafting.
3. To make an engineering design report.
4. To gain competency in written and technical communication.
5. To effectively use spreadsheets to solve engineering problems.

Instructor:

Ms. Anna Charron Dugas
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Office hours: TBA or by appointment

Text:

Technical Drawing 101 with AutoCAD 2016: A Multidisciplinary Guide to Drafting Theory and Practice with Video Instruction by Smith, Ramirez, and Schmidt, SDC Publications, 2015. ISBN: 978-1-58503-963-0

Recommended source: <http://knowledge.autodesk.com/support>

Criteria for determining grade:

Homework and Quizzes	45%	(180pts)
Design Project	30%	(120pts)
Midterm Exam	20%	(80pts)
Participation	5%	(20pts)

Final course grade will be determined from the following scale:

A+	=	100	≥	96%	,	A	=	96	≥	92%	,	A-	=	92	≥	90%
B+	=	90	≥	86%	,	B	=	86	≥	82%	,	B-	=	82	≥	80%
C+	=	80	≥	76%	,	C	=	76	≥	72%	,	C-	=	72	≥	70%
D+	=	70	≥	66%	,	C	=	66	≥	62%	,	C-	=	62	≥	60%
F	=	less than 60%														

Regulations and Procedures

Class attendance and participation is required and will be recorded.

Homework assignments will be given daily. Assignments turned in after the due date will receive no credit unless permission is obtained from a physician or certified therapist or previously approved by the instructor. The exams will not be made up unless prior approval is obtained from the instructor in advance or in the case of extremely mitigating circumstances.

C-I course:

This is a certified Communication-Intensive (C-I) course which meets all of the requirements set forth by LSU's Communication across the Curriculum program, including

- instruction and assignments emphasizing informal and formal visual and technical;
- teaching of discipline-specific communication techniques;
- use of draft-feedback-revision process for learning;
- practice of ethical and professional work standards;
- 40% of the course grade rooted in communication-based work; and
- a student/faculty ratio no greater than 35:1

Students interested in pursuing the LSU Distinguished Communicators certification may use this C-I course for credit. For more information about this student recognition program, visit www.cxc.lsu.edu.

Academic Misconduct:

Academic Misconduct, as defined in the Code of Student Conduct, will not be tolerated in this course. It is our responsibility as the instructors to report such incidents to the Department of Judicial Affairs. It is your responsibility to understand the Code of Student Conduct and make sure your actions and perceived actions are not considered as misconduct. Ignorance of these rules will not be an adequate defense in such cases. Go to <http://saa.lsu.edu/code-student-conduct> for a copy of the current Code of Student Conduct.

Office Hours:

I am available for in-person questions on by appointment or at any time via email. If we make an appointment and you cannot attend, please call and cancel as soon as you can.

Schedule of classes (subject to change)

<u>Day of</u>	<u>Topic</u>	<u>Assignment</u>	
25-Aug	Introduction to course, scheduling	1	Business letter
27-Aug	Excel Spreadsheet, advanced functions	2	Spreadsheet exercise
01-Sep	Engineering design method		
03-Sep	Orthographic Projections and Drawings	3/4	Quiz / Worksheet
08-Sep	Introduction to Autodesk Pro Inventor, Part	5	Hand Gripper Base
10-Sep	Autodesk Inventor Sketches and Parts	6	Hand Gripper Cam
15-Sep	Autodesk Inventor Drawings	7	Base drawing
17-Sep	Finish Parts and Part Drawings	8	Ortho. Part drawings (all)

22-Sep	Inventor Assemblies / Animations	9/11 Assembly
24-Sep	Assembly / Exploded Drawings	10/12 Assembly.idw's
29-Sep	Advanced Inventor drawing / Work day	13 Spline widget
01-Oct	Introduction to AutoCAD	14 Cottage Floor Plan
06-Oct	Arrays, Circles	15 Cam
08-Oct	Scaling / raster & Excel with AutoCAD	16/17 LSU lake / Excel
13-Oct	Midterm Exam	
15-Oct	no class	
20-Oct	Stereolithography, 3-D printing	
22-Oct	Project Intro, CxC Engineering Studio, Groups	Team exercise
27-Oct	Group Projects	Project design
29-Oct	FALL BREAK – no class	
03-Nov	Group Projects	Project design
05-Nov	Group Projects– Inventor Studio	Project display
10-Nov	Group Projects	Drawings due
12-Nov	Group Projects– build day	Report draft due
17-Nov	Group Projects – build day	
19-Nov	Group Projects – build day	
24-Nov	Group Projects – build day	
26-Nov	THANKSGIVING - no class	
01-Dec	Test of Design Day	
03-Dec	Clean-up and Reflection – <u>Required attendance!!</u>	
11-Dec	Final Report and Drawings Due by 10 pm	