SYLLABUS - CADD 45

COURSE: CADD 45 --- "Dimensioning and Tolerancing"
section: CADD-45-7341-FA

UNITS: 3

HOURS: 6-9 pm, Thursdays, 15 Weeks
27 Aug 2015 - 10 Dec 2015

TEXT: "GD&T: Application and Interpretation" - B. Wilson – 6th Edition
Both: Textbook & Study Guide

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DESCRIPTION: CADD 45 is a lecture course which covers application and interpretation of geometric dimensioning and tolerancing (GD&T) as defined by the ANSI/ASME Y14.5 2009 standard.

GD&T is a symbolic language used for specifying functionally realistic limits to the variation of mechanical characteristics on manufactured items. This language is defined in and controlled by the ANSI/ASME Y14.5 standard. GD&T is widely used in commercial U.S. industry and is mandatory on most military programs.

Subjects covered in the course include:

- Basic Dimensions
- Datums
- Form Controls
- Orientation Controls
- Runout Controls
- Profile Controls
- Positional Controls
- Composite Tolerances
- Tolerance Calculations
- Inspection Methods
- Paper Gaging

The course consists of lecture, discussion, in-class and take-home exercises, exams, and a design project.

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GRADING:

In-Class Exercises	= 100
Take-Home Exercises	= 200
Design Project	= 200
Tests:	
Definitions and Symbology	= 100
Applications	= 100
Midterm Examination	= 150
Final Examination	= 150
Total Points	= 1000

Bonus Points: If you score higher on the Final Exam than you scored on the Midterm Exam, you will receive bonus points equal to the difference in scores. This could equal as much as 150 points.

To earn an "A", you must have at least 900 points.

To earn a "B", you must have at least 800 points.

To earn a "C", you must have at least 700 points.

To earn a "D", you must have at least 600 points.

You will receive an "F" if you earn less than 600 points.

All graded materials will be returned.
Unclaimed materials will be discarded.

Exercises may be turned-in no later than the next test.

Make-up exams must be arranged immediately upon your return to class.

Student Learning Outcomes:

Detecting Errors and Omissions:

Given sample engineering drawing whose dimensioning and tolerancing is done with Geometric Dimensioning and Tolerancing, the student will be able to point out errors and omissions in the application of dimensions and tolerances.

Revising Incomplete Drawings:

Given an incomplete sample engineering drawing, the student will be able to revise the drawing to completely specify desired geometry and permissible variation of geometric characteristics utilizing appropriate symbology per the ASME Y14.5 Standard.

Applying Geometric Controls:

Given a sample engineering drawing of a machined part without dimensioning and tolerancing and a description of the part's function, the student will be able to correctly apply dimensions, tolerances and datum identifiers.

DISABILITY STATEMENT:

Students with disabilities who believe they may need accommodations in this class are encouraged to contact the Special Resources Center on campus as soon as possible to ensure such accommodations are implemented in a timely fashion

Please contact me privately to discuss your specific needs.

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CLASS #	DATE	MATERIAL COVERED	READ BEFORE CLASS	IN-CLASS EXERCISES	TURN IN TAKE-HOME EXERCISE (FROM STUDY GUIDE)
1	8/27/2015	CHAPTER 1 Tolerances (Overview) History of GD&T Nature of Course Introductions		Ques 1-15, Pg 22	
2	9/3/2015	CHAPTER 2 Symbology	CHAPTER 1 CHAPTER 2	Ques 1-11, Pg 39 Ques 29-37, Pg 40-41	Ques 1-23, Pg 5-8
3	9/10/2015	CHAPTER 3 General Requirements **Take Home Test:** Definitions and Symbology	CHAPTER 3	Ques 48-50, Pg 76	Ques 1-18, Pg 9-11 Ques 34-40, Pg 13-15
4	9/17/2015	CHAPTER 4 Size Limits	CHAPTER 4	Ques 46-49, Pg 124-125	Ques 46-58, Pg 23-30 **Take Home Test:** Definitions and Symbology
5	9/24/2015	CHAPTER 5 Form Controls	CHAPTER 5	Ques 1-9, Pg 155 Ques 39-46, Pg 157	Ques 51-65, Pg 37-43
6	10/1/2015	CHAPTER 6 Datums	CHAPTER 6	Ques 9-32, Pg 207 Ques 41-49, Pg 208-209	Ques 61-81, Pg 51-59
7	10/8/2015	CHAPTER 7 Orientation	CHAPTER 7	Ques 1-11, Pg 237 Ques 35-46, Pg 239	Ques 68-84, Pg 69-79
8	10/15/2015	CHAPTER 8 Position - Fundamentals	CHAPTER 8	Ques 36-46, Pg 270	Ques 36-53, Pg 85-92
9	10/22/2015	**Midterm Exam**			Ques 50-62, Pg 99-106
10	10/29/2015	CHAPTER 9 Position - Extended Principles Design Project	CHAPTER 9	Ques 1-35, Pg 301-303	
11	11/5/2015	CHAPTERS 10 & 11 Runout and Profile Design Project - Drawing Check #1	CHAPTERS 10 & 11	Ques 3-24, Pg 318 Ques 8-28, Pg 342-343	Ques 45-56, Pg 112-121
12	11/12/2015	CHAPTER 12 Applications Worst-Case Combined Controls Design Project - Drawing Check #2	CHAPTER 12	Ques 12-32, Pg 376	Ques 25-31, Pg 126-130 Ques 34-43, Pg 135-140
13	11/19/2015	**Test: Applications** Design Project - Last Drawing Check			Ques 40-47, Pg 146-152
-	11/26/2015	**Thanksgiving Day** 		NO CLASS	
14	12/3/2015	Requirements For Documentation Interpretation Paper Gaging		Paper Gaging Worksheet	
15	12/10/2015	**Final Exam**			Design Project