



***COURSE OF STUDY
FOR
DRF. 202***

COMPUTER AIDED DRAFTING AND DESIGN II

Spring 2009

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Tidewater Community College
Virginia Beach Campus

I. GENERAL INFORMATION

COURSE TITLE:	DRF. 202 Computer Aided Drafting And Design II
COURSE CREDIT:	4 Semester Hours
COURSE LENGTH:	2.25 Hours per meeting 4.5 Hours per week
TEXTBOOK:	S. Tickoo, AutoCad 2009: <u>A Problem Solving Approach</u> , Delmar, Cengage Learning, Clifton Park, New York, 2009 ISBN 10: 1-4354-0257-X ISBN 13: 978-1-4354-0257-7
REFERENCES:	A list provided by your instructor
COURSE MATERIALS:	Text, Notebook, 3 Ring Binders, 2- 3.5" HD. Disks, and 1G Flash Drive
OFF- HOUR PRACTICE:	If you want to make up class time, you are welcome to attend another section of the class providing seating is available, and instructor has been notified.
OPEN LAB	The computer lab upstairs in the ATC., H-208 has 16 computers available for AutoCad use. The hours are : Mondays through Fridays 8:00AM to 10:30PM, Saturdays 9:00AM to 5:00 PM and Sundays 1:00PM to 5:00PM. Please make sure that your student ID is current. It will be necessary for access to

II. INTRODUCTION

DRF. 202, Computer Aided Drafting sign II. Is the second of the two-semester sequence of Computer Aided Drafting and Design Instruction. In the first phase of the course, DRF.202 will start with general review of skills learned in DRF. 201 Computer Aided Drafting and Design I. Students will be expected to have a working knowledge of the general commands covered in the review phase of this course. Also, new features in AutoCAD 2009 will be covered to bring student that were trained in previous versions up to date.

After the 3rd week, phase two will start. Topics covered in this phase will deal with Customizing AutoCAD 2009's menu structure. The student upon completing this phase of the course will go beyond being a CAD Operator. The skills learned will allow the designer to produce a drawing in less time with minimum effort.

By the 7th week of the course this instructor will start the third phase of the course. This phase will deal with 2 ½ D drawings, 3D Wire frames, 3D Surfaced Wire frames, and Solid Modeling. This experience will allow the student to produce true 3D shapes that can be view from all angles.

III. COURSE OBJECTIVES

Upon successful completion of this course, the student will be able to:

1. Demonstrate how to customize AutoCad's Menu Structure.
2. Utilize Script and Attribute Commands inside AutoCad
3. Create drawings by using Elevation and Thickness.
4. Effectively demonstrate the use of the User Coordinate System.
5. Create 3D Wireframe Drawings
6. Surface and Render Wireframe drawing.
7. Build solid models from primitives and regions.
8. Apply Boolean Operations on solid models.
9. Edit and dynamic view 3D Solids.

IV. METHODS OF EVALUATION

ATTENDANCE and QUIZES	5%
PROBLEM #1 (PRETEST)	10%
PROBLEM #2 (PHASES 1 AND 2)	10%
PROBLEM #2 (PHASES 3 AND 4)	10%
DRAWING SETUP and SLIDESHOW	10%
PROBLEM #3 ATTEXT	10%
PROBLEM #4 ELEVATION and THICKNESS	5%
PROBLEM #5 3D WIREFRAMES	10%
PROBLEM #6 SURFACING & RENDERING	10%
PROBLEM #7 SOLID MODELING	10%
EXAM SOLID MODELING	10%
TOTAL:	<hr/> 100%

V. GRADING

A	90 – 100
B	80 – 89
C	70 – 79
D	60 – 69
F	0 - 59

VI. ATTENDANCE POLICY

Students will get the most out of a course, only if they attend the class. Signing up for a class is the same as signing a contract that states the student is going to be present for the class the appropriate date and time. If extenuating circumstances occur, the student is responsible for notifying the instructor of the circumstances promptly. The student is responsible for making up all class assignments and maintaining class notes. Failure to follow the above procedures will result in the student earning an unexcused absence. Each unexcused absence is a deduction of 3 1/3 points off of the final class grade.

VII. FACULTY DELETE FORM

Delete forms are to be used to delete a student who has never attended a traditional class nor participated in an online class **prior to the last day to drop with a tuition refund**. This form must be received by Enrollment Services Office by 5:00 p.m. on January 23th, for a Spring 2009, 16 week class. A copy of this form is attached. It can be faxed to the Enrollment Services Office if you are off-campus, ATTN: Vanessa Wirtanen, FAX number: 822-7325.

VIII. FACULTY WITHDRAWAL GRADE REPORT

A grade of "W" is awarded to students who withdraw or are withdrawn from a course after the add/drop period but prior to the completion of 60% of the session. After that time, the student will receive a grade of F except when making satisfactory progress and under mitigating circumstances, which must be approved by the course instructor and the appropriate academic dean. A copy of a Withdrawal Form and any supporting documentation must be placed in the student's academic file. **Last day of attendance for the student is required on the form.**

VIV. INCOMPLETE GRADE FORM:

An "I" (Incomplete) grade is used for unavoidable **verifiable** reasons. Since the "incomplete" extends the enrollment in the course, requirements for satisfactory completion will be established through student/faculty consultation. The "I" grade may be assigned only in the case of mitigating circumstances, beyond the student's control, such as illness, and only after at least 75% of the course has been satisfactorily completed. It is the student's responsibility to notify the instructor of the student's desire for a grade of "I". Incomplete grades assigned for the fall semester must be converted by the last day of instruction in the following spring semester. Incomplete grades assigned for the spring semester and summer term must be converted by the last day of instruction in the following fall semester unless the faculty member establishes an earlier deadline. In exceptional cases, extensions of time needed to complete course work for Incomplete grades may be granted beyond the subsequent semester, with the written approval of the chief academic officer on the campus (provost). If the work is not completed in time, another grade (B, C, D, F, R, U, or W) must be assigned based on the course work already completed. The "W" grade will be awarded only

under mitigating circumstances, documented by the student and approved by the course instructor and the appropriate academic officer on the campus. A copy of a Withdrawal Form and any supporting documentation must be placed in the student's academic file. Last day of attendance for the student is required on the form

X. OFFICIAL GRADE CHANGE:

This form completes the incomplete grade process for a student. It is also used to change the student's final grade in the event that an error has occurred. Examples include the miscalculation of the grade, mis-marking of the grade roster, and class work turned in after the grades have been submitted.

XI. GENERAL INFORMATION

Make sure that you label your disks with your name, the semester and year (**Spring 2009**), and indicate the class (DRF. 202), and your instructor.

Make sure that you record your class user's name and password in several places for use during the semester.

Do not make any alterations to the computer default settings. You may call up standard AutoCAD menus and toolbars.

No drinks and foods are allowed at the computer and Drafting Labs. Instructor will allow a break during class.

XII. ACADEMIC MISCONDUCT

Faculty members who have reliable evidence of academic misconduct will:

- a. Investigate the matter
- b. Review the facts of the matter and propose a penalty with the appropriate division dean.

The following actions may be taken:

1. Require the work to be accomplished again.
2. Give no credit for test, paper, or exercise.
3. Assign a grade of **W** or **F** for the course.
4. Refer the matter to the Campus Dean for Student Services.

For a list of actions that constitutes academic misconduct, see TCC's 2008- 2009 College Catalog PP. 50 –53.

XIII. DISABILITY STATEMENT

Students, who have physical disabilities, learning disabilities, or chronic health problems, and need assistance, academic accommodations, or program modifications, please notify your instructor, or contact: Beth Callahan, Counselor, Disability Services.

XIV. DRF. 202

COURSE OUTLINE

REVIEW

WEEK	MEETING	LECTURE	TEXT	ASSIGNMENTS	DUE DATE
1	1	Introduction/ organization of DRF. 202 New features in AutoCad 2009 Menu Browser Quick access tool Bar Ribbon Menus Ribbon Menu Panel structure	Read and Review Ch#1	Have a notebook and a Minimum of two 3.5" HD disks and one Flash 1 G drive Problem#1 (Pretest)	
		Review of operating system Workspace switching ribbon Menu structure to AutoCad Classic	“	Assign login and password for Class	
2	2	Review of interface with Software Review of Blocks, Wblocks, Insert, and Xrefs	Read Ch#14		
	3	Plotting and Printing Procedures	Read Ch#12	Continue Pretest	
2	4	Model Space and Paper Space Layout Viewports and controls	Read Ch#11 Model Space and Paper Space “	Wrap up of review	
	NEW MATERIAL				
3	5	Customizing AutoCad New features in AutoCad 2009 CUI Pull Down Menus	Instructor's Handout Author's Ch#32 (On Line) AutoCad	Phase 1 (POP Menus)	

WEEK	MEETING	LECTURE	TEXT	ASSIGNMENTS	DUE DATE
	6	Customizing user interface Demonstration by instructor	Read Ch#32	Phase 1 Continued	Problem #1 due
4	7	Adding nonstandard commands To menus	Handout Read Ch#32	(Phase 1) cont.	
	8	Creating a MNS file from a MNU Creating Symbol Libraries		“	Phase 1 Due
5	9	Ribbon Menus Dashboard Menus	Information Sheet #1 Information Sheet #2	(Phase 2) Ribbon Menus	
	10	“	“	(Phase 3) Image Tile Menu	Phase 2 Due
6	11	Image Tile Menu	Information Sheet #3	“	
	12	Image Tile Menu Continued	“	“	Phase 3 Due
7	13	Toolbar Menu	Ch#32 Handout PP.32-22 – 32-30	(Phase 4) Toolbar Menu	
	14	Scripts Files	Ch#31 PP. 31-2 – 31-4 PP. 31-22 – 31-32	Create a Slide Show	Phase 4 Due
8	15	Scripts Continued	Ch#31	Automated Drawing Setup routine	Slide Show to Be ready for Check-off by Instructor
	16	Defining Block Attributes Attdef Attdisp Attedit	Read Ch#15 PP. 15-2 – 15-7 PP. 15-40– 15-41 PP. 15-41 – 15-52		
9	17	Extracting Attributes Attext Eattext	Read Ch#15 PP. 15-34 – 15-39 PP. 15-19 – 15-34	Nesting Attributes in automated drawing setup routine	Attext output File is due

3D DRAWING

WEEK	MEETING	LECTURE	TEXT	ASSIGNMENTS	DUE DATE
9	18	Working in 3D AutoCad (AutoCad 2009)	Ch# 1 Ch#23		
10	19	Coordinate System Elevation Thickness	Demo by Instructor P. 23-25	Coordinate system drill Problem #3	
	20	3D Objects built by User Coordinate System User Coordinate System Continued Viewing 3D Objects Viewpoint Command View Toolbar View Cube	Ch#22 Ch#23 PP. 23-7– 23-25 P. 23-14 P. 23-15 – 23-16	Problem #4	Problem #3 Due
11	21	Drawing Standard Surface Primitives 3D Surface Meshes Creating 3D Polylines Creating 3D Faces Creating PolyFace Meshes Revsurf Edgesurf Tabsurf Rulesurf Surface Primitives	Ch#23 P. 23-27 P. 23-28 PP. 23-29 – 23-32 PP. 23-37 2349	Problem #5 Surfacing	Problem #4 Due
	22	3D AutoCad Dashboard Menus 3D Rendering and Animating Using the Materials Tool Palettes Selecting Materials Rendering Adding lights to the design	Ch#27 PP. 27-2– 27-11 PP. 27-11– 26-32	Problem #6 Rendering	Problem #5 Due

WEEK	MEETING	LECTURE	TEXT	ASSIGNMENTS	DUE DATE
12	23	3D Rendering Continued Attaching materials Creating materials Backgrounds and Landscaping objects	PP. 27-2 – 27-7 PP. 27-33– 27-47 PP. 27-48– 27-58		
		Saving a rendered Image	PP. 27-58– 27-58		Problem #6 Due
		Plotting a rendered Image Creating Animations	PP. 27-59 PP. 27-60 – 27-66		
	24	Introduction to Solid Modeling Solid Primitives Region Command Extrude Command Boolean Operations	Ch#24 PP. 24-2 – 24-17 PP. 24-20 PP. 24-28 PP. 24-20	Solid Modeling Drill / Exercise Problem #7 Solid Modeling	Solid Modeling Exercise due
13	25	Introduction to Solid Modeling Cont.	Ch# 24		
		Revolve Command Solid Modify Operations	PP. 24-30 – 24-31 PP. 24-31– 24-41	Problem #7 Continued	
	26	Solid Modeling Continued Swept solids Lofted solids Presspull solids Slice Command Section Command	PP. 25-26 – 25-30 PP. 25-30 – 25-34	Problem #8 Advance Solid Modeling (EXAM Assigned)	Problem #7 Due
14	27	Modifying 3D Objects Editing Solids Arrays in 3D Space 3D Polar Array Converting Objects to Surfaces and Solids	Ch#25 PP. 26-1 – 26-29 PP. 25-17 – 25-18 PP. 25-17 – 25-18 PP. 25-24 – 25-25		
		Solview Command Soldraw Command Solprof Command	PP. 26-19 P. 26-22 P. 26-22		
	28	Calculating Mass Properties	PP. 26-26 - 26-27	Continue to	Work on Problem #8

WEEK	MEETING	LECTURE	TEXT	ASSIGNMENTS	DUE DATE
15	29	Dynamic viewing of 3D Objects <i>(Using the Steering Wheel)</i> 3D Orbit 3D Continuous Orbit 3D Zoom 3D Clip Dview	PP. 26-28 – 26-36		
15	30	“	“		
16		EXAM		Problem #8 to be printed And handed into instructor in proper format.	