Course Number	MET 105		
COURSE NAME	Applied Computer Aided Design		
Course Structure	1-2-2 (lecture hr/wk - lab hr/wk – course credits)		
Course Coordinator/ Instructor	Dr. J. Sodhi/ Ramy Shamroukh		
Course Description Prerequisite(s)	A second course in Computer Aided Design (CAD), additional AutoCAD topics include blocks, move and copy, array, mirror, text, text styles, 3D and isometric modes. Upon successful completion of this course, students should be able to use advanced AutoCAD commands to quickly and efficiently produce 2D and 3D drawings, and also be able to modify the AutoCAD environment (e.g., menues, macros, etc.) to boost productivity. MET 103		
Corequisite(s)	None		
Required, Elective or Selected Elective	Required		
REQUIRED MATERIALS	Technical Drawing 101 with AutoCAD 2025. Ashleigh Fuller, Antonio Ramirez, Douglas Smith, SDC Publications ISBN: 978-1- 63057-656-1		
COMPUTER USAGE	Software: AutoCAD.		
Course Learning Outcomes (CO)	 By the end of the course students should be able to: Read a blue print. Create standard orthographic views of a three dimensional object by using geometric tools. Create a three dimensional object and standard orthographic views by using AutoCAD software. Show dimensions and tolerances of an object by following the rules. Use AutoCAD to create Sectional, Auxiliary and Detail/Break views of a three dimensional object. 		
CLASS TOPICS	Workspaces, Toolbars, Pallets/Drawing Templates, Command Entry, Point Coordinates Entry, Line Standards & Layers, View Tools, Text Styles/Placement Tools, Arraying & Patterning, Polyline, Spline, Dimension Styles, Tables, Section Views and Graphic Patterns, Blocks Creation and Insertion, Layout Setup		

STUDENT OUTCOMES	 The Course Learning Outcomes support the achievement of the following MET Student Outcomes: Student Outcome (1) an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline; Related CO – 1 thru 5 		
	Student Outcome (2) - an ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline; Related CO – 3 thru 5		
GRADING POLICY	Projects & Homework25 %Tests40 %Final30 %Class Participation5 %		
	Note : There are two exams during the semester. The Final Exam is cumulative.		
Academic Integrity	"Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at: <u>NJIT Academic Integrity Code</u> .		
	Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at <u>dos@njit.edu</u> ."		
GENERATIVE AI	Student use of artificial intelligence (AI) is permitted in this course for certain assignments and activities. It is not permitted to be used in the assignments noted by the instructor, as doing so would undermine student learning and achievement of course learning outcomes. Additionally, if and when students use AI in this course, the AI must be cited as is shown within the <u>NJIT Library AI citation page</u> for AI. If you have any questions or concerns about AI technology use in this class, please reach out to your instructor prior to submitting any		

assignments.

Student Behavior	No eating or drinking is allowed at the lectures, recitations, workshops, and laboratories. Cellular phones must be turned off during the class hours – if you are expecting an emergency call, leave it on vibrate. No headphones can be worn in class, unless allowed by the professor. No video or audio recording of the class or material Unless the professor allows the use during lecture, laptops should be closed during lecture. During laboratory, if you are finished earlier, you must show the professor your work before you leave class Class time should be participative. You should try to be part of a discussion	
Modification to Course	The Course Outline may be modified at the discretion of the instructor or in the event of extenuating circumstances. Students will be notified in class of any changes to the Course outline.	
PREPARED BY Course Coordinated By	Ramy Shamroukh/ Dr. J. Sodhi Dr. J. Sodhi	
CLASS HOURSTuesday6:00 PM to	9 8:50 PM PCMALL40	

OFFICE HOURS

By appointment: E-mail ramy.shamroukh@njit.edu

HOMEWORK & PROJECT - IMPORTANT

- 1. Homework sets are due one week after they are assigned. Late Assignments will not be accepted.
- 2. Projects are due on the dates indicated. No late projects will be accepted.

GRADING LEGEND

GRADE	NUMERIC		
	RANGE		
А	90 to 100		
B+	85 to 89		
В	80 to 84		
C+	75 to 79		
С	70 to 74		

D	60 to 69
F	0 to 59

NJIT ONLINE INFORMATION

The instructor will discuss these requirements on the first day of the course and/or post on their Learning Management System (LMS). Please become familiar

- Canvas: <u>https://canvas.njit.edu/</u>
- Zoom: <u>https://njit-edu.zoom.us/</u>
- Online Proctoring: <u>https://ist.njit.edu/online-course-exam-proctoring</u>

MET 105 - COURSE OUTLINE

Week #	<u>Date</u>	Topic	<u>Book Chapter/</u>
			<u>Exercises</u>
1	Jan 21	Review of Multiview Drawing (Chapter 2)	Ch 2
			HMW #1
2	Jan 28	Introduction to AutoCAD & its user	Ch 4
		interface	Exercise 4-1
		Workspaces, Toolbars, Pallets/Drawing	HMW#2
		Templates (Chapter 4)	
3	Feb 4	Draw, Modify, Text, and Settings Tools	Ch 4
		(Chapter 4)	Exercise 4-2
			HMW#3
4	Feb 11	Object Snaps, Plotting, and Drawing	Ch 4
		Projects (Chapter 4)	HMW#4
5	Feb 18	Dimensioning Mechanical Drawings,	Ch 5
		Tolerance Basics (Chapter 5)	HMW#5 assignment
6	Feb 25	Dimensioning With AutoCAD (Chapter 5)	Ch 5
		Test #1	HMW#6 assignment
7	Mar 4	Dimensioning Architectural Drawings	Ch 6
,		(Chapter 6)	HMW#7 assignment
8	Mar 11	Isometric Drawings (Chapter 7)	Ch 7
-			HMW#8 assignment
9	Mar 25	Sections (Chapter 8)	Ch 8
			HMW#9 assignment
10	Apr 1	Blocks (Chapter 9)	Ch 9
		(HMW#10
		Capstone Project	assignment
11	Apr 8	Test #2	HMW#11
	1 -		assignment
12	Apr 15	3D Modeling Basics (Chapter 10)	Ch 10
	1.121.10		HMW#12
			assignment
13	Apr 22		Annendix E
10	·····	Auxillary Views (Appendix E)	HMW#13
		(assignment
14	Apr 29	GD&T Basics (Appendix D)	Annendix D
	· · · · · · · · · · · · · · · · · · ·	Canstone Project Due	
15	TRD	FINAL FXAM	
1.5			