

**Institute of Aviation Studies**  
**University of Management and Technology**

**Course Outline**

Course Code: ET – 107

Course Title: Engineering Drawing and CAD

Program	BSc. Aircraft Maintenance Engineering Technology
Credit Hours	1
Duration	16 weeks
Prerequisites	Nil
Resource Person	Engr. Zaid Ahmed Goharvi
Counseling Timing	Tuesday 14:00 – 16:00 Wednesday 14:00 – 17:00
Contact	zaid.goharvi@umt.edu.pk

Faculty Signature \_\_\_\_\_

Date \_\_\_\_\_

Chairman/Director Signature \_\_\_\_\_

Date \_\_\_\_\_

Dean's Signature \_\_\_\_\_

Date \_\_\_\_\_

## Learning Objective

The objective of the course is to help student visualize the basics of engineering design. Emphasis would be on basic drawing concepts, standards, and the classical techniques of manual drawing. It is intended for improving students approach towards conceptual design.

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

CLOs	CLO Statement	PLOs	Learning Domain and Level
1	Be able to read, <i>identify</i> and understand the engineering drawing as a language of technical communication.	1	C1
2	To convey their creative ideas effectively and <i>demonstrate</i> through sketches, simple drawings and schematics, as well as, be able to analyze an engineering drawing.	2	C3

## Course Learning Outcomes (CLOs) and their Mapping to Program Learning Outcomes (PLOs)

CLOs	PLOs											
	En gi ne ri ng Te ch no lo gy Kn ow led ge	Pr ob le m An aly sis	De sig n/ De vel op me nt of So lut io ns	In ve sti gat io n	M od er n Te ch no lo gy /T oo l Us age	The En gi ne eri ng Te ch no lo gis t and So cie ty	En vir on me nt and Su sta ina bil ity	Et hic s	In di vi du al and Te am W ork	Co m m un ica tio n	Pr oje ct M an age ment	Lif elo ng Le ar ni ng
	1	2	3	4	5	6	7	8	9	10	11	12
1	<b>C1</b>											
2		<b>C3</b>										

## Learning Methodology

- The teaching of the course will be via a series of lectures. This will be complemented by the use of textbook, and an extensive range of web resources plus handouts/articles and video clips.
- Participants should expect 2 – 4 class activities during the semester which will form the basis for evaluation through assignments and quizzes. These activities will be complemented with discussions and analysis to strengthen the learning.

### Recommended Text Books

- “Maintenance Practices, Module 7” by AERO-Bildung, Germany
- “First Year Engineering Drawing” by A.C. Parkinson
- “Geometrical Drawing” by N.D. Bhatt

### Reference Text Books

- “Engineering Graphics” by Craft Meyer and Boyer
- “Engineering Drawing and Design” by Cecil Jensen and Jay D. Helsel

### Grade Evaluation Criteria

Following are the criteria for the distribution of marks to evaluate final grade in a semester.

Marks Evaluation	Marks Percentage
Quizzes	10 – 15%
Assignments	10 – 15%
Mid Term Exam	25 – 35%
Final Exam	45 – 55%
<b>Total</b>	<b>100%</b>

### Calendar of Course Contents to be covered during Semester

Week	Course Contents	Reference Chapter(s)	Quiz	Assignment	CLO
1 – 2	Technical Drawing Fundamentals, Standards, Drawing Instruments, Scales, Sheet Sizes, Title Block and Parts List Lettering	7.5.1 7.5.2	1	1	1, 2
3	Lines in Technical Drawings Dimensioning Drawings	7.5.3 7.5.4			
4 – 5	Indicating surface Texture and Tolerances Tolerancing in Drawings Geometrical Tolerance	7.5.5 7.5.6	1		
6 – 7	Normal and Special Projection	7.5.7			
8	<b>Mid Term Exam</b>				
9	Prismatic Work pieces Air Engineering Drawings and Standards	7.5.8 7.5.9	2	1	
10	Standards for Maintenance Documentation	7.5.10			
11	Aircraft Zoning	7.5.11			
12 – 13	General Units, Standards and Definitions Fundamentals of Power Circuits	7.5.12 7.5.13			
14 – 15	Wiring Diagrams	7.5.14			
16	Revision				
<b>Final Exam</b>					

## Class Policy

**STUDENTS ARE REQUIRED TO READ AND UNDERSTAND ALL ITEMS OUTLINED IN THE PARTICIPANT HANDBOOK.**

**Class Attendance:** Students need to be in class at the assigned time. After 10 minutes past the assigned time, the students will be marked absent.

**TURN OFF MOBILE PHONE!** It is unprofessional to be texting or otherwise.

**READ EMAILS!** Participants should regularly check their university emails accounts regularly and respond accordingly. Students would be responsible if they miss a deadline because of not reading the emails.

**Class Attendance Policy:** A minimum of 80% attendance is required for a participant to be eligible to sit in the final examination. Being sick and going to weddings is absence and will not be counted as present. Participants with less than 80% of attendance in a course will not be allowed to take end term exams. International students who will be leaving for visa during semester should not use any days off except for visa trip to avoid reaching short attendance.

**Moodle:** UMT – LMS (Moodle) is an Open Source Course Management System (CMS), also known as a learning Management System (LMS). Participants should regularly visit the course website on MOODLE Course Management system, and fully benefit from its capabilities. In case of any problem while using MOODLE, visit <http://oit.umt.edu.pk/moodle>. For queries, email [moodle@umt.edu.pk](mailto:moodle@umt.edu.pk).

**Harassment Policy:** Sexual or any other harassment is prohibited and is constituted as punishable offence. Sexual or any other harassment of any participant will not be tolerated. All actions categorized as sexual or any other harassment when done physically or verbally would also be considered as sexual harassment when done using electronic media such as computers, mobiles, internet, emails etc.

**Use of Unfair Means/ Honesty Policy:** Any participant found using unfair means or assisting another participant during a class test/quiz, assignments or examination would be liable to disciplinary action.

**Plagiarism Policy:** All students are required to attach a “Turnitin” report on every assignment, big or small. Any student who attempts to bypass “Turnitin” will receive “F” grade which will count towards the CGPA. The participants submit the plagiarism report to the resource person with every assignment, report, project, thesis etc. If student attempts to cheat Turnitin, a second “F” will be awarded that will count towards the CGPA. There are special rules on plagiarism for final reports etc. all outlined in your handbook.

**Course Withdrawal Policy:** Students may withdraw from a course till the end of the 12th week of the semester. Consequently, grade ‘W’ will be awarded to the student which shall have no impact on the calculation of the GPA of the student. A Student withdrawing after the 12th week shall be automatically awarded “F” grade which shall count in the GPA.

**Communication of Results:** The results of quizzes and assignments are communicated to the participants during the semester and answer books are returned. It is the responsibility of the course instructor to keep the participants informed about his/her progress during the semester. The course instructor will inform a participant at least one week before the final examination related to his or her performance in the course.