

# University of Management and Technology

## Course Outline

Course code: ET 107

Course title: Engineering Drawing and Graphics

Program	BSc Aircraft Maintenance Engineering Technology	
Credit Hours	01+02	
Duration	15 weeks	
Prerequisites	Nil	
Resource Person	Beenish Batul	
Counseling Timing (Room# )	Tuesday	14:00 to 17:00
	Thursday	14:00 to 17:00
	Friday	14:00 to 17:00
Contact	beenish.batul@umt.edu.pk	

Chairman/Director signature.....

Dean's signature.....

Date.....

## **Learning Objective:**

The objective of the course is to familiarize the students with drawing of geometrical shapes and drawing standards.

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

<b>S No</b>	<b>CLO Statement</b>	<b>PLO</b>	<b>Learning Domain and level</b>
1.	Comprehend the science of Engineering Drawing, so that they are able to convey their creative ideas effectively and make them familiarize with various machine components used.	1	C2
2.	To effectively read , understand and reproduce engineering drawing	1	P3
3.	To design and construct the individual ideas of products in the form of a complete engineering drawing.	3	P4

## 1. CLO – PLO MAPPING:

CLOs	PLOs											
	Engineering Knowledge	Problem Analysis	Design / Development of Solutions	Investigation	Modern Tool Usage	The Engineering Technologist and Society	Environment and Sustainability	Ethics	Individual and Team Work	Communication	Project Management	Lifelong Learning
	1	2	3	4	5	6	7	8	9	10	11	12
1	C2											
2	P3											
3			P4									

### 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 5-6 class activities during the semester which will form the basis for evaluation (viva). 2 assignments, individual/group presentations and quizzes. These activities will be complemented with discussions and analysis to strengthen the learning.

### Recommended Text Books:

1. "First Year Engineering Drawing" by A.C. Parkinson
2. "Geometrical Drawing" by N.D. Bhatt
3. "Maintenance Practices, Module 7" by AERO-Bildung, Germany

### Reference Books:

1. "Engineering Graphics" by Craft Meyer and Boyer
2. "Engineering Drawing and Design" by Cecil Jensen and Jay D.Helsel

## Grade Evaluation Criteria

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

### **Marks Evaluation**

### **Marks in percentage**

#### Theory:

<b>Marks Evaluation</b>	<b>Marks in percentage</b>
Quizzes (x6)	15%
Assignments (x2)	10%
Evaluation(Viva)	5%
Presentation	5%
Mid Term Examination	25%
End Term Examination	40%
<b>Total</b>	<b>100 %</b>

#### Practical:

<b>Marks Evaluation</b>	<b>Marks Percentage</b>
<b>Class activity</b>	5%
<b>Team work</b>	5%
<b>Quizzes</b>	15%
<b>Viva</b>	5%
<b>Lab Report</b>	10%
<b>Final Evaluation</b>	60%
<b>Total</b>	<b>100%</b>

## Calendar of Course contents to be covered during semester

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Course title: Engineering Drawing and Graphics

Week	Course Contents	Reference Chapter(s)	Quiz	Assignments	CLO No
1	Technical Drawing Fundamentals, Standards, Drawing Instruments, Scales, Sheet Sizes, Title Block and Parts List	7.5.1	1	1	1
2	Lettering Lines in Technical Drawings	7.5.2 7.5.3			
3	Dimensioning Drawings	7.5.4			
4-5	Indicating surface Texture and Tolerances	7.5.5	2	1	1
6-7	Geometrical Tolerance (According to DIN ISO 1101) Normal and Special Projection	7.5.6 7.5.7			

8	Mid Term Examination				
9	Prismatic Work pieces Air Engineering Drawings and Standards	7.5.8 7.5.9	2	1	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			

## Engineering Drawing and Graphics Lab Outline

SR No.	Experiment Title.	CLOs
1	Lettering	3
2	To draw orthographic views of I-Section Beam	
3	To draw orthographic views of U-Block	
4	To draw the half sectional front view, side view and plan of Gland for stuffing box	
5	To draw orthographic views of a Pair of Brasses	
6	To draw the orthographic views from isometric view of Crankshaft	
7	To draw orthographic views of Monkey for Scribing Block	
8	To draw three views of a Whitworth Nut given its diameter	
9	To draw Single start square threads	
10	To draw Whitworth thread	
11	To draw three views of 2 inches diameter hexagon headed bolt and nut	
12	Rivet Heads	
13	To draw the single riveted Lap Joint	
14	To draw the single riveted Butt Joint	
15	Coupler Square thread Exercise	
16	CUP Head Bolt Exercise	
17	To draw a 2 inches CASTLE Nut	
18	Ring or Grooved Nuts Exercise	
19	SET- Screws and CAP-Screws	

20	Studs (Square headed bolt with a square neck carrying a plate)	3
21	To draw Miscellaneous Screwed Pieces	
22	To draw the orthographic projections of Shackle Bolt, given its isometric view	
23	To draw GIB and COTTER Joint for Square Rods	
24	To draw the orthographic projections of Knuckle Joint, given its isometric view	
25	To draw orthographic views of Simple Journal Bearing, given its isometric view	
26	Orthographic views of an Open Bearing	
27	Draw four views in correct projection of the adjustable dog for a lathe face plate	
28	Draw two views of lathe catch plate or driving plate	
29	Draw broached holes for splined shafts	



## 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.

**Faculty Signature .....**

**Date.....**