University of Management and Technology

Course Outline

Course code: ET 337 Course title: Workshop Practices

Program	BSc Aircraft Maintenance Engineering Technology
Credit Hours	02
Duration	16 weeks
Prerequisites	ET233
Resource Person	Nadir Munir
Counseling Timing (Room#)	Monday 10:00 to 13:00 Wednesday 11:00 to 16:00 Friday 10:00 to 14:00
Contact	nadir.munir@umt.edu.pk

Faculty Signature ……. **Date…….**

Chairman/Director signature…….

Dean's signature…… **Date…….**

Learning Objective:

The course is aimed to impart the students with an in-depth understanding of safety and maintenance practices on aircraft and in workshops. The course introduces the safety and preventive workshop practices; use of hand and measurement tools and general test equipment; calibration of tools and calibration standards.

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

CLO No	CLO Statement	PLO	Learning Domain and level
1.	***Define*** and analyze the concepts of aircraft maintenance.	1	C1
2.	***Explain*** the use of maintenance tools and their associated safeties.	5	C2
3	***Demonstrate*** *the ability to prepare maintenance and inspections instructions for a maintenance task*	3	C3

1. CLO – PLO MAPPING:

CLOs	PLOs											
	Engineering Technology 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	Life long Learning
	1	2	3	4	5	6	7	8	9	10	11	12
1	**C1**											
2					**C2**							
3			**C3**									

Learning Methodology:

- The course will be delivered via class lectures mainly consisting of theory, tutorials, and worked examples

- Workshop practice is also included to ensure student's acquaintance with procedures and tools used in aviation hardware technology

- Assessment criteria is based on Assignments, Lab tasks, and quizzes (***both announced and unannounced***) during the semester along with final assessments.

Recommended Text Books:

"Maintenance Practices, Cat B1, Module 7" by AeroBildung, 2014

Reference Books:

"Aviation Maintenance Technician Handbook" by U.S. Department of Transportation, Federal Aviation Administration, 2008.

Grade Evaluation Criteria

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

Theory:

Marks Evaluation	**Marks in percentage**
Quizzes (x6)	15%
Assignments (x2)	10%
Presentation	5%
Term Project *	5%
Mid Term Examination	25%
End Term Examination	40%
Total	100%

* Term Project will focus on **"Broadly Defined Aircraft Maintenance Engineering Technology"** problems

Calendar of Course contents to be covered during semester

Course code: ET 337 **Course title: Workshop Practices**

Week	Course Contents	Reference Chapter(s)	Quizzes	Assignments	CLO No
1	Safety Precautions At workshop At aircraft	7.1	1		1,2
2	Tools and test equipment Measuring systems Fits and tolerances Calibration of tools and equipment	7.2			
3-4	Description and usage of hand and power tools used in maintenance engineering Tools and equipment lubrication methods Introduction and usage of measurement tools Operation, function, and usage of Electrical Test Equipment	7.3			
5	Description and usage of general Avionics Test Equipment Fundamentals of Engineering Drawing Introduction to Scales, Size, and Standards Style, type, and dimensioning of lettering	7.4 7.5			

6-7	Geometrical tolerances (form and position) Normal and special projections Prismatic work pieces	7.5 Additional Work Problems	1		1,2
7	Basic rules and standards of dimensioning Indicating surface texture and tolerances	7.5 Additional Work Problems	1		1,2
8	Mid Term Examination				
9	Air engineering drawings and standards Standards of maintenance documentation Aircraft zoning General units, standards, and definitions fundamentals of power circuits wiring diagrams	7.5 Additional Work Problems	2	1	1,2
10	Introduction to Fits and Clearances Standards of fits and clearances Inspection tools Aircraft parts' inspection methods	7.6			
11	Maintenance practices on Electrical cables and connectors	7.7	1		2

	Introduction to riveting tools and techniques	7.8			
13-14	Introduction to pies, hoses, installation techniques, and testing equipment and techniques for pies and hoses	7.9			
15	Inspection, testing, and maintenance of springs	7.10			

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

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.