

**University of Management and Technology****Course Outline**

Course code: ET 444

Course title: Aircraft Structures &amp; Interior

Program	BSc Aircraft Maintenance Engineering Technology	
Credit Hours	03	
Duration	15 weeks	
Prerequisites	Nil	
Resource Person	Fatima Najeeb Khan	
Counseling Timing (Room# )	Tuesday	10:00 to 12:00
	Thursday	10:00 to 12:00
	Friday	10:00 to 12:00
Contact	fatima.najeeb@umt.edu.pk	

Faculty Signature .....

Date.....

Chairman/Director signature.....

Date.....

Dean's signature.....

Date.....

**Learning Objective:**

The aim of this course is to give learners knowledge and understanding of how aircraft cabin interior systems designed and maintained to meet industry safety and standards. The course covers the ATA chapters related to equipment and furnishing, fire protection, air conditioning and cabin pressurization. Students will be equipped with relevant knowledge for the maintenance and repair of aircraft especially related to ice and rain protection, lights and cabin systems. An insight to the latest trends in cabin interior systems will also form an integral part of the course.

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

S No	CLO Statement	PLO	Learning Domain and level
1.	<b>Explain</b> the design process and considerations for cabin interior systems	1	C2
2.	<b>Describe</b> the appropriate regulatory requirements relating to Aircraft Cabin Interior Systems	7	C1
3.	<b>Outline and Analyze</b> the operation of the constructions, systems layout and components of ATA 21, ATA 25, ATA 44, ATA 26, ATA 30, ATA 33 and ATA 35 using appropriate drawings, schematic diagrams and examples.	2	C4

**1. CLO – PLO MAPPING:**

CLOs	PLOs											
	Engineering Technology	Problem Analysis	Design / Development of	Investigation	Modern Tool Usage	The Engineering	Environment and	Ethics	Individual and Team Work	Communication	Project Management	Lifelong Learning
	1	2	3	4	5	6	7	8	9	10	11	12
1	<b>C2</b>											
2							<b>C1</b>					
3		<b>C4</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 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. "Aeroplane Aerodynamics, Structures and Systems" by AERO-Bildung, Germany [2015]

**Reference Books:**

1. "Introduction to Aircraft Interiors" by B.Spicer [2008]

## Grade Evaluation Criteria

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

### Theory

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

\* Term Project will focus on “**Broadly Defined Aircraft Maintenance Engineering Technology**” problems

**Calendar of Course contents to be covered during semester**

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Week	Course Contents	Reference Chapter(s)	Quiz	Assignments	CLOs
1	The Aircraft Interior <ul style="list-style-type: none"> <li>• Design-Roles and Responsibilities</li> <li>• Interior Space Arrangements</li> <li>• Aircraft Coordinate System</li> <li>• Human factors</li> <li>• Passenger Safety</li> </ul>	Chapter 1	1	1	1,2
2	Aircraft Interior Design Practice <ul style="list-style-type: none"> <li>• Design Process</li> <li>• Aircraft Certification</li> <li>• Free Hand Drawing</li> <li>• Orthographic Drawing</li> <li>• Presentations</li> </ul>	Chapter 2			
3-5	Air Conditioning and Cabin Pressurization (ATA 21) <ul style="list-style-type: none"> <li>• EASA Requirements</li> <li>• Air Supply</li> <li>• Air Conditioning and Distribution Systems</li> <li>• Temperature, Flow and Humidity Control System</li> <li>• Pressurization</li> <li>• Safety and Warning Devices</li> </ul>	11.4	2	1	1,2,3
6	Equipment and Furnishing (ATA 25) <ul style="list-style-type: none"> <li>• Emergency Furnishings</li> <li>• Emergency Equipment</li> <li>• Cargo Compartments</li> </ul>	11.7	2		1,2,3

7	Ice and Rain Protection <ul style="list-style-type: none"> <li>• Formation of Ice</li> <li>• Classification and Detection of Ice</li> <li>• Ice Protection Systems</li> </ul>	11.12		1	1,2,3
8	Mid Term Examination				
9-10	Lights	11.14		3	1,2,3
11	Cabin Systems (ATA 44) <ul style="list-style-type: none"> <li>• Cabin Intercommunication Data System</li> <li>• Components of CIDS</li> <li>• Inflight Entertainment</li> </ul>	11.20		2	
12-13	Oxygen <ul style="list-style-type: none"> <li>• Oxygen Systems and Regulations</li> <li>• Maintenance</li> </ul>	11.15		4	1,2,3
14-15	<ul style="list-style-type: none"> <li>• Fire Protection</li> </ul>	11.8		2	1,2,3

## 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.