



**JORDAN UNIVERSITY of SCIENCE &
TECHNOLOGY**

FACULTY OF ENGINEERING

**CURRICULUM FOR THE BACHELOR'S
DEGREE**

IN

AIRCRAFT MAINTENANCE TECHNOLOGY

2026

About the Program

Aircraft Maintenance Technology (AMT) B.Sc. is an undergraduate program related to Aircraft Maintenance. In this program, the students will learn about the aircraft and its components. They deal with maintenance, repair, and troubleshooting issues in an aircraft on the ground. AMT is responsible for keeping the aircraft in airworthy condition. This allows dealing with the well-being and protection of aircraft and its passengers.

The Aircraft Maintenance Technology B.Sc. syllabus comprises approximately 8 semesters in 4 years. The B.Sc. in AMT syllabus consists of the subjects that help the student maintain, repair, and solve the issues faced in an aircraft.

The program provides the graduates with excellent knowledge and skills to work effectively and professionally in the aviation community. Furthermore, it has the important element of broad education and continuous lifelong learning abilities.

Graduates can take positions in the aviation industry and can work individually or in teams to practically apply Aviation Maintenance skills and solutions with consideration of the industry regulations and ethics. Students will graduate with a bachelor's degree and after a further two years of industry experience and meeting the Civil Aviation Authority requirements, they will have a license of category ?B1.1? (Airframe and Aeroengines) or ?B2? (Avionics). Employment opportunities for aviation graduates within Jordan, and worldwide are abundant and expanding. Employment opportunities include military operations, state commercial operations, private aviation operations, and aviation-supporting industries and logistics.

The program curriculum covers all aviation maintenance training modules required by the Jordanian Civil Aviation Regulatory Commission (CARC) and is compatible with the European Aviation Safety Agency (EASA). The program also has the main and important Technology courses and the General Studies courses which will prepare the students to be competent technicians and productive educated professionals, in addition to Campus Training, Job Training, and a Capstone project. Graduates will be ready for positions as aviation technicians with the technical and managerial skills necessary to enter careers in aviation maintenance, management, and operations. Students will gain practical knowledge and skills through labs, practical assignments, and work placements.

Vision

To be a leading training and educational center for aircraft maintenance technology.

Mission

To provide professionals with the knowledge and skills necessary to accept careers as capable Aircraft Maintenance professionals in the aviation field.

Objectives

The educational objectives of the Aircraft Maintenance Technology Program at JUST are to produce outstanding Aircraft Maintenance Technology graduates who are capable of:

1. Applying their knowledge and skills to solve technology problems that are relevant to Aircraft Maintenance.
2. Meeting the industry demand for maintaining both commercial and military aircraft fleets while adhering to the regulations set forth by airworthiness authorities.
3. Exploring creative approaches to the development and implementation of new technologies in the field of Aircraft Maintenance.
4. Maintaining professional competence, communicating effectively, working successfully in teams, and comprehending the implications of technological solutions.

Outcomes

By the time of graduation, our graduates should be able to have:



1. Demonstrate the ability to apply industry-standard tools and techniques to perform maintenance, inspections, and repairs on various aircraft systems.
2. Understand and interpret aviation regulations and manufacturer guidelines to ensure compliance during all maintenance procedures.
3. Identify and analyze complex engineering problems in aircraft maintenance, using appropriate methodologies to formulate effective solutions.
4. Implement safety protocols and best practices to maintain a safe working environment and minimize risks associated with aircraft maintenance.
5. Effectively communicate technical information and maintenance procedures to team members and stakeholders, both verbally and in writing.
6. Work collaboratively in diverse teams, demonstrating leadership and cooperation while managing maintenance projects and tasks.
7. Engage in lifelong learning and professional development to stay current with advancements in aircraft technology and maintenance practices.



The University Codes are as follows:

Code	Department
AMT	Aircraft Maintenance Technology
ME	MECHANICAL ENGINEERING
PHY	PHYSICS
MATH	Mathematics
CHEM	CHEMISTRY
CI	COMPUTER INFORMATION SYSTEMS

Study Plan of The Bachelor's Degree in Aircraft Maintenance Technology

The Bachelor's Degree in Aircraft Maintenance Technology is awarded from Aeronautical Engineering at the FACULTY OF ENGINEERING in Jordan University of Science & Technology (JUST) after the successful completion of 133 credit hours distributed as shown in the following table:

Requirements	Credit Hours		
	Compulsory Hours	Elective Hours	Total
University Requirements	16	9	25
Faculty Requirements	20	0	20
Department Requirements	88	0	88
Total	124	9	133

After fulfilling the requirements stipulated in the instructions for granting a Bachelor's degree (revised edition) at the Jordan university of Science and Technology issued by the Dean's Council abiding by the regulation concerned with issuing scientific degrees and diplomas at the Jordan university of Science and Technology for 1987.



Firstly: University Requirements

Allocated to it (25 CHs) as stipulated in the instructions for granting a bachelor's degree, distributed as follows:

- a. Compulsory Requirements (16 CHs)
- b. Elective Requirements (9 CHs)

Secondly: Faculty Requirements

Allocated to it (20 CHs) Compulsory as shown in the following table:

Course Number	Course Title	Credit Hours	Hrs Distribution		Prerequisite/Concurrent
			Theoritic	Lab	
AMT102	Aviation Terminologies	3	3	0	
AMT442	Non-Destructive Testing and Composite Technologies in Aircraft Structures	3	3	0	AMT231 AND AMT233.
HSS100ME	Engineering Workshops	1	0	3	
HSS101MATH	Calculus I	3	3	0	
HSS101CHEM	General Chemistry (I)	3	3	0	
HSS101PHY	General Physics (I)	3	3	0	
HSS114CIS	Programming for Artificial Intelligence	2	2	0	
HSS115CIS	Programming for Artificial Intelligence Lab	1	0	2	Concurrent with HSS114CIS.
HSS201ME	Engineering Drawing (B)	1	0	3	



Thirdly: Department Requirements

Allocated to it (88 CHs) Compulsory as shown in the following table:

Course Number	Course Title	Credit Hours	Hrs Distribution		Prerequisite/Concurrent
			Theoritic	Lab	
AMT122	Fundamentals of Dc Power Sources and Circuits	3	3	0	HSS101MATH.
AMT124	Fundamentals of Ac Theory and Dc Motor-Generator	3	3	0	Concurrent with AMT122.
AMT126	Fundamentals of Electrical and Electronic Systems	3	0	9	Concurrent with AMT124.
AMT128	Digital Techniques Electronic Instrument Systems	3	0	9	Concurrent with AMT124.
AMT231	Aircraft Materials Hardware (1)	3	3	0	HSS101CHEM AND HSS101PHY.
AMT233	Aircraft Materials Hardware (2)	3	0	9	Concurrent with AMT231.
AMT242	Air Law & Aviation Safety	1	0	3	AMT102.
AMT244	Applied Maintenance Practices (1)	3	0	9	AMT231 AND AMT233.
AMT246	Applied Maintenance Practices (2)	3	0	9	Concurrent with AMT244.
AMT252	Aircraft Fundamentals and Basic Aerodynamics	3	3	0	HSS101MATH.
AMT261	Human Factors	3	3	0	
AMT262	Commercial and Aviation Law	3	3	0	AMT261.
AMT263	Aviation Legislation	3	3	0	Concurrent with AMT261.
AMT322	Turbine Aeroplane Electrical Systems	3	3	0	AMT122 AND AMT124 AND AMT126 AND AMT128.
AMT324	Turbine Aeroplane Electromechanical Systems	3	0	9	Concurrent with AMT322.
AMT326	Turbine Aeroplane Electronic Systems	3	0	9	Concurrent with AMT322.
AMT328	Turbine Aeroplane Mechanical Systems and Basic Aerodynamics - Practical	3	0	9	AMT252. Concurrent with AMT324.
AMT341	Maintenance Practices Planning and Documentation (1)	1	0	3	AMT244 AND AMT246.
AMT343	Maintenance Practices Planning and Documentation (2)	2	0	6	Concurrent with AMT341.
AMT351	Turbine Aeroplane Structure	3	3	0	AMT231 AND AMT233.
AMT372	Basics of Turbine Engine	3	3	0	AMT252.
AMT381	Turbine Aeroplane Flight Theory & Pressurization	3	3	0	AMT252.
AMT383	Turbine Aeroplane Mechanical Systems	3	0	9	AMT252.
AMT423	Turbine Engine Electronic and Control Systems	3	3	0	AMT326.
AMT441	Turbine Engine Maintenance Operations-Practical	3	0	9	AMT372 AND AMT341 AND AMT343.
AMT471	Turbine Engine Mechanical Systems	4	4	0	AMT372.
AMT473	Turbine Engine Maintenance Operations	3	3	0	Concurrent with AMT471.



Course Number	Course Title	Credit Hours	Hrs Distribution		Prerequisite/Concurrent
			Theoritic	Lab	
AMT475	Propellers	3	3	0	AMT252.
AMT477	Propellers - Practical	1	0	3	Concurrent with AMT475.
AMT490	Real Maintenance Environment Practical Training	7	0	21	

*Will be completed in “Jordan Aeronautical-systems Company [JAC]” which is a CARC 145 approved maintenance organization



Guidance Plan

First Year

First Semester

Course Number & Title	Credit Hours	Prerequisite/Concurrent
Arb102 Communication Skills in Arabic	3	
Hss101chem General Chemistry (I)	3	
Hss101math Calculus I	3	
Hss101phy General Physics (1)	3	
Hss119 Entrepreneurship and Innovation	2	
Lg101 Communication Skills in English	3	Passing LG099 OR Passing ENG099. OR Passing the Placement Test with a mark of 50 or above.
Total Hours	17	

Second Semester

Course Number & Title	Credit Hours	Prerequisite/Concurrent
Amt102 Aviation Terminologies	3	
Amt122 Fundamentals of Dc Power Sources and Circuits	3	HSS101MATH.
Amt124 Fundamentals of Ac Theory and Dc Motor-Generator	3	Concurrent with AMT122.
Amt126 Fundamentals of Electrical and Electronic Systems	3	Concurrent with AMT124.
Amt128 Digital Techniques Electronic Instrument Systems	3	Concurrent with AMT124.
Ms100 Military Sciences	3	
Total Hours	18	



Second Year

First Semester

Course Number & Title	Credit Hours	Prerequisite/Concurrent
Amt231 Aircraft Materials Hardware (1)	3	HSS101CHEM AND HSS101PHY.
Amt233 Aircraft Materials Hardware (2)	3	Concurrent with AMT231.
Amt261 Human Factors	3	
Amt263 Aviation Legislation	3	Concurrent with AMT261.
Hss100me Engineering Workshops	1	
Hss201me Engineering Drawing (B)	1	
University Elective Requisite	3	
Total Hours	17	

Second Semester

Course Number & Title	Credit Hours	Prerequisite/Concurrent
Amt242 Air Law & Aviation Safety	1	AMT102.
Amt244 Applied Maintenance Practices (1)	3	AMT231 AND AMT233.
Amt246 Applied Maintenance Practices (2)	3	Concurrent with AMT244.
Amt252 Aircraft Fundamentals and Basic Aerodynamics	3	HSS101MATH.
Amt262 Commercial and Aviation Law	3	AMT261.
Lg103 Life Skills	2	
University Elective Requisite	3	
Total Hours	18	



Third Year

First Semester

Course Number & Title	Credit Hours	Prerequisite/Concurrent
Amt341 Maintenance Practices Planning and Documentation (1)	1	AMT244 AND AMT246.
Amt343 Maintenance Practices Planning and Documentation (2)	2	Concurrent with AMT341.
Amt351 Turbine Aeroplane Structure	3	AMT231 AND AMT233.
Amt381 Turbine Aeroplane Flight Theory & Pressurization	3	AMT252.
Amt383 Turbine Aeroplane Mechanical Systems	3	AMT252.
Hss114cis Programming for Artificial Intelligence	2	
Hss115cis Programming for Artificial Intelligence Lab	1	Concurrent with HSS114CIS.
University Elective Requisite	3	
Total Hours	18	

Second Semester

Course Number & Title	Credit Hours	Prerequisite/Concurrent
Amt322 Turbine Aeroplane Electrical Systems	3	AMT122 AND AMT124 AND AMT126 AND AMT128.
Amt324 Turbine Aeroplane Electromechanical Systems	3	Concurrent with AMT322.
Amt326 Turbine Aeroplane Electronic Systems	3	Concurrent with AMT322.
Amt328 Turbine Aeroplane Mechanical Systems and Basic Aerodynamics - Practical	3	AMT252. Concurrent with AMT324.
Amt372 Basics of Turbine Engine	3	AMT252.
Hss110 Leader and Social Responsibility	3	
Total Hours	18	



Forth Year

First Semester

Course Number & Title	Credit Hours	Prerequisite/Concurrent
Amt423 Turbine Engine Electronic and Control Systems	3	AMT326.
Amt441 Turbine Engine Maintenance Operations- Practical	3	AMT372 AND AMT341 AND AMT343.
Amt471 Turbine Engine Mechanical Systems	4	AMT372.
Amt473 Turbine Engine Maintenance Operations	3	Concurrent with AMT471.
Amt475 Propellers	3	AMT252.
Amt477 Propellers - Practical	1	Concurrent with AMT475.
Total Hours	17	

Second Semester

Course Number & Title	Credit Hours	Prerequisite/Concurrent
Amt442 Non-Destructive Testing and Composite Technologies in Aircraft Structures	3	AMT231 AND AMT233.
Amt490 Real Maintenance Environment Practical Training	7	
Total Hours	10	



Description of Courses

AMT102: Aviation Terminologies (3 CHs)

Prerequisite: None

This course introduces fundamental aviation terminology used in aircraft maintenance, engineering, and operations. It familiarizes students with standard technical language related to aircraft structures, systems, tools, documentation, and maintenance procedures. Emphasis is placed on understanding commonly used terms, abbreviations, symbols, and units within aviation contexts. The course also develops students ability to interpret technical manuals, maintenance documents, and engineering drawings, ensuring clear communication and comprehension in professional environments. This foundational knowledge supports subsequent technical courses and aligns with the basic scientific and technical concepts required in EASA Part-66

AMT122: Fundamentals of Dc Power Sources and Circuits (3 CHs)

Prerequisite: HSS101MATH.

Module Alignment: EASA Part-66 Module 3 (Electrical Fundamentals)

This course provides a comprehensive foundation in direct current (DC) electrical theory and its applications in aircraft systems. It introduces fundamental electrical quantities such as voltage, current, resistance, and power, and develops analytical skills through the application of Ohms Law and Kirchhoffs Laws in series, parallel, and combined circuits. Students explore energy sources including batteries and DC generators, examining their construction, operation, and performance characteristics within aviation systems. The course integrates practical elements through circuit assembly, measurement using multimeters, and systematic troubleshooting of faults, enabling students to interpret circuit behavior and apply safe maintenance practices in accordance with EASA Part-66 Module 3 requirements.

AMT124: Fundamentals of Ac Theory and Dc Motor-Generator (3 CHs)

Prerequisite: Concurrent with AMT122.

Module Alignment: EASA Part-66 Module 3 (Electrical Fundamentals)

This course introduces alternating current (AC) theory and expands into the principles and operation of DC motors and generators used in aircraft systems. It covers waveform characteristics, sinusoidal behavior, and the effects of resistance, capacitance, and inductance on circuit performance. Students examine impedance, phase relationships, and power factor, as well as power calculations in AC circuits. The course also addresses the construction, operation, and performance of electrical machines. Practical components are integrated through AC measurements, circuit analysis, and testing of motor-generator systems, ensuring a strong alignment with EASA Module 3 standards.

AMT126: Fundamentals of Electrical and Electronic Systems (3 CHs)

Prerequisite: Concurrent with AMT124.

Module Alignment: EASA Part-66 Modules 3 & 4 (Electrical & Electronic Fundamentals)

This course introduces the fundamental concepts of electronic systems used in aircraft, building on prior knowledge of electrical circuits to include semiconductor physics and electronic device behavior. Students study diodes, rectifiers, transistors, and basic amplification circuits, along with their applications in aviation systems. The course also addresses power supply configurations and introduces basic signal processing concepts. Practical learning is embedded through circuit assembly, measurement of electrical and electronic signals, and troubleshooting of components, enabling students to understand system functionality and limitations in alignment with EASA Modules 3 and 4.



AMT128: Digital Techniques Electronic Instrument Systems (3 CHs)

Prerequisite: Concurrent with AMT124.

Module Alignment: EASA Part-66 Module 5 (Digital Techniques / Electronic Instrument Systems)

This course provides an introduction to digital electronics and electronic instrument systems used in modern aircraft. It covers number systems including binary, octal, and hexadecimal, as well as Boolean algebra and logic gate operations. Students study combinational and sequential logic circuits, data processing, and digital communication concepts relevant to avionics systems. The course also introduces electronic instrument systems and their integration within aircraft platforms. Practical exposure is incorporated through the implementation and testing of logic circuits and the basic diagnosis of avionics-related systems, ensuring alignment with EASA Module 5 requirements.

AMT231: Aircraft Materials Hardware (1) (3 CHs)

Prerequisite: HSS101CHEM AND HSS101PHY.

Module Alignment: EASA Part-66 Module 6 (Materials & Hardware)

This course introduces the fundamental principles of materials science as applied to aircraft structures, focusing on both metallic and non-metallic materials commonly used in aviation. Students examine the physical and mechanical properties of materials, including strength, hardness, elasticity, and fatigue behavior. The course also covers corrosion mechanisms, prevention techniques, and material identification methods used in maintenance environments. Emphasis is placed on understanding standard aircraft hardware such as fasteners, bearings, and locking devices, along with proper installation and removal techniques. Practical exposure is integrated through inspection activities and handling of materials and hardware components in accordance with EASA Module 6 requirements.

AMT233: Aircraft Materials Hardware (2) (3 CHs)

Prerequisite: Concurrent with AMT231.

Module Alignment: EASA Part-66 Module 6 (Materials & Hardware)

This course builds upon the foundational knowledge of aircraft materials and hardware, extending into advanced applications and maintenance considerations. Students explore specialized materials, bonding techniques, and the behaviour of materials under operational stresses such as temperature variation and cyclic loading. The course also addresses inspection procedures, defect detection, and repair practices for damaged components. Through practical applications, students gain experience in evaluating material condition, selecting appropriate hardware, and applying maintenance standards in alignment with EASA guidelines.

AMT242: Air Law & Aviation Safety (1 CHs)

Prerequisite: AMT102.

Module Alignment: EASA Part-66 Module 7 (Air Law & Aviation Safety)

This course introduces the legal and regulatory framework governing civil aviation, with emphasis on aircraft maintenance operations. It covers the roles of key aviation authorities such as the International Civil Aviation Organization (ICAO) and the European Union Aviation Safety Agency (EASA), along with core regulations related to airworthiness, licensing (Part-66), maintenance organizations (Part-145), and continuing airworthiness. The course also addresses essential aviation safety concepts, including Safety Management Systems (SMS), human factors, risk assessment, and incident reporting. Students analyze real-world cases and regulatory requirements to develop an understanding of compliance and safe maintenance practices in accordance with EASA Module 7 standards.



AMT244: Applied Maintenance Practices (1) (3 CHs)

Prerequisite: AMT231 AND AMT233.

Module Alignment: EASA Part-66 Module 7 (Maintenance Practices)

This course introduces essential aircraft maintenance practices, focusing on the correct use of tools, equipment, and safety procedures in workshop environments. Students learn about precision measurement, fitting techniques, and basic repair methods used in aircraft maintenance. The course integrates practical training to develop hands-on skills in performing maintenance tasks, interpreting technical documentation, and adhering to standard operating procedures. Emphasis is placed on safe working practices and compliance with EASA Module 7 requirements.

AMT246: Applied Maintenance Practices (2) (3 CHs)

Prerequisite: Concurrent with AMT244.

Module Alignment: EASA Part-66 Module 7 (Maintenance Practices)

This course advances the study of aircraft maintenance practices by focusing on inspection, servicing, and troubleshooting procedures. Students develop the ability to diagnose faults, perform corrective maintenance, and document maintenance activities accurately. The course includes practical applications involving aircraft systems and components, reinforcing technical skills and ensuring alignment with industry standards and EASA requirements for maintenance operations.

AMT252: Aircraft Fundamentals and Basic Aerodynamics (3 CHs)

Prerequisite: HSS101MATH.

Learn aircraft anatomy and study the theory of objects moving through the air. Understand the physics of the atmosphere. Aerodynamics examines the aircraft, and the relative wind, and supports an understanding of aircraft systems involved in lift, thrust, drag, and weight coupled with the theory of flight and flight stability. The science of flight forms a major study and research project based on the application and fundamentals of the equation of flight. This course underpins courses taught later in the system's subjects.

AMT261: Human Factors (3 CHs)

Prerequisite: None

Module Alignment: EASA Part-66 Module 9 (Human Factors)

This course examines the role of human performance in aviation maintenance and its direct impact on safety and reliability. It explores human capabilities and limitations, including cognitive processes, fatigue, stress, communication, and teamwork within maintenance environments. The course emphasizes error management, situational awareness, and the development of a strong safety culture. Students analyze real-world case studies to understand how human factors contribute to incidents and how such risks can be mitigated through proper procedures and organizational practices in accordance with EASA Module 9.



AMT262: Commercial and Aviation Law (3 CHs)

Prerequisite: AMT261.

Module Alignment: EASA Part-66 Module 7 (Air Law & Aviation Safety)

This course provides an overview of commercial and aviation legal frameworks relevant to aircraft operations and maintenance. It covers international conventions, regulatory requirements, and the roles of key aviation authorities such as the International Civil Aviation Organization (ICAO) and the European Union Aviation Safety Agency (EASA). Students examine legal aspects of airworthiness, certification, liability, contracts, and airline operations. The course also emphasizes regulatory compliance in maintenance activities, including licensing requirements, organizational approvals, and documentation standards. Through practical examples, students develop an understanding of legal responsibilities and safe practices in accordance with EASA Part-66 Module 7.

AMT263: Aviation Legislation (3 CHs)

Prerequisite: Concurrent with AMT261.

Module Alignment: EASA Part-66 Module 10 (Aviation Legislation)

This course provides a comprehensive understanding of aviation regulatory frameworks governing aircraft maintenance and operations. It covers international and regional regulations, with particular emphasis on EASA requirements, certification processes, and airworthiness standards. Students learn about the responsibilities of maintenance organizations, licensing requirements, and documentation practices. The course also addresses the legal and ethical aspects of aviation maintenance, ensuring that students understand compliance obligations and regulatory oversight within the aviation industry.

AMT322: Turbine Aeroplane Electrical Systems (3 CHs)

Prerequisite: AMT122 AND AMT124 AND AMT126 AND AMT128.

Module Alignment: EASA Part-66 Module 11 (Turbine Aeroplane Aerodynamics, Structures and Systems)

This course provides an in-depth study of electrical systems used in turbine-powered aircraft. It covers aircraft electrical power generation, distribution systems, and key components such as generators, alternators, transformers, and electrical control units. Students examine AC and DC systems integration, load management, and protection devices within modern aircraft. The course also addresses system operation, monitoring, and troubleshooting of electrical systems in turbine aeroplanes. Emphasis is placed on understanding system architecture, interpreting technical documentation, and applying safe maintenance practices, ensuring alignment with EASA Part-66 Module 11 standards.

AMT324: Turbine Aeroplane Electromechanical Systems (3 CHs)

Prerequisite: Concurrent with AMT322.

Module Alignment: EASA Part-66 Module 11 (Turbine Aeroplane Aerodynamics, Structures and Systems)

This course focuses on electromechanical systems used in turbine-powered aircraft, including actuators, motors, relays, and control mechanisms. It examines the integration of electrical and mechanical components in systems such as flight controls, landing gear, braking, and environmental control systems. Students develop an understanding of system operation, control logic, and fault diagnosis. Emphasis is placed on interpreting technical documentation, performing system analysis, and applying safe and compliant maintenance practices, ensuring alignment with EASA Part-66 Module 11 standards.



AMT326: Turbine Aeroplane Electronic Systems (3 CHs)

Prerequisite: Concurrent with AMT322.

Module Alignment: EASA Part-66 Module 11 (Turbine Aeroplane Aerodynamics, Structures and Systems)
This course covers electronic systems used in turbine-powered aircraft, including avionics, communication, navigation, and flight control electronics. It introduces system architecture, signal processing, and electronic control units used in modern aircraft systems. Students examine system operation, monitoring, and troubleshooting, with emphasis on interpreting technical documentation and ensuring proper system integration. The course reinforces safe and compliant maintenance practices in accordance with EASA Part-66 Module 11 standards.

AMT328: Turbine Aeroplane Mechanical Systems and Basic Aerodynamics - Practical

Prerequisite: AMT252.

Concurrent with AMT324.

Module Alignment: EASA Part-66 Module 11 (Turbine Aeroplane Aerodynamics, Structures and Systems)
This practical course provides hands-on experience in turbine aeroplane mechanical systems and applied aerodynamics. Students perform practical tasks related to aircraft mechanical components such as landing gear, braking systems, flight control mechanisms, and environmental systems, while reinforcing key aerodynamic principles in real maintenance contexts. Emphasis is placed on the use of tools, inspection techniques, system testing, and fault identification under workshop conditions. Students develop practical skills in accordance with maintenance procedures and safety standards, ensuring alignment with EASA Part-66 Module 11 requirements.

AMT341: Maintenance Practices Planning and Documentation (1) (1 CHs)

Prerequisite: AMT244 AND AMT246.

Module Alignment: EASA Part-66 Module 7 (Maintenance Practices)
This course introduces the principles of aircraft maintenance planning and documentation in accordance with aviation regulatory requirements. It covers maintenance scheduling, task planning, work packages, and the use of technical documentation such as maintenance manuals, service bulletins, and airworthiness directives. Emphasis is placed on regulatory compliance, record-keeping, and documentation control within approved maintenance organizations. Students develop the ability to interpret maintenance data, ensure traceability, and apply proper documentation practices to support safe and compliant maintenance operations, in alignment with EASA Part-66 Module 7 standards

AMT343: Maintenance Practices Planning and Documentation (2) (2 CHs)

Prerequisite: Concurrent with AMT341.

Module Alignment: EASA Part-66 Module 7 (Maintenance Practices)
This course builds on maintenance planning and documentation principles, with advanced focus on regulatory compliance and maintenance management within approved organizations. It covers maintenance programs, reliability concepts, quality assurance, and control of maintenance records in accordance with aviation regulations. Students develop skills in preparing and managing work packages, ensuring compliance with airworthiness directives and regulatory requirements, and applying documentation procedures within Part-145 and continuing airworthiness frameworks. Emphasis is placed on accuracy, traceability, and adherence to EASA Part-66 Module 7 standards in real maintenance environments.



AMT351: Turbine Aeroplane Structure (3 CHs)

Prerequisite: AMT231 AND AMT233.

Module Alignment: EASA Part-66 Module 11 (Turbine Aeroplane)

This course covers the structural design and construction of turbine-powered aircraft, including fuselage, wings, control surfaces, and landing gear systems. Students study load distribution, stress analysis, and structural integrity considerations in aircraft design. The course also includes inspection techniques, damage assessment, and repair methods for structural components. Practical elements are incorporated to familiarize students with real aircraft structures and maintenance practices aligned with EASA Module 11.

AMT372: Basics of Turbine Engine (3 CHs)

Prerequisite: AMT252.

Module Alignment: EASA Part-66 Module 15 (Gas Turbine Engine)

This course introduces the fundamental principles of gas turbine engines used in modern aircraft. It covers engine components, airflow processes, thermodynamic cycles, and engine performance characteristics. Students develop an understanding of engine operation, starting systems, and basic maintenance considerations. Practical exposure includes engine identification, system analysis, and operational evaluation consistent with EASA Module 15 requirements.

AMT381: Turbine Aeroplane Flight Theory & Pressurization (3 CHs)

Prerequisite: AMT252.

Module Alignment: EASA Part-66 Module 11 (Turbine Aeroplane Aerodynamics, Structures and Systems)

This course covers advanced flight theory for turbine aeroplanes and the principles of cabin pressurization systems. It examines aircraft performance, stability, and control in various flight conditions, along with the effects of altitude, temperature, and pressure on aircraft operation. Students study the design and operation of pressurization and environmental control systems, including air conditioning, airflow management, and safety features. Emphasis is placed on system functionality, monitoring, and maintenance considerations, ensuring alignment with EASA Part-66 Module 11 standards.

AMT383: Turbine Aeroplane Mechanical Systems (3 CHs)

Prerequisite: AMT252.

Module Alignment: EASA Part-66 Module 11 (Turbine Aeroplane Aerodynamics, Structures and Systems)

This course provides a comprehensive study of mechanical systems used in turbine-powered aircraft. It covers systems such as flight controls, landing gear, braking, hydraulic and pneumatic systems, and environmental control systems, with emphasis on their design, operation, and integration. Students develop an understanding of system functionality, performance, and typical failure modes, as well as maintenance and troubleshooting procedures. The course emphasizes the interpretation of technical documentation and adherence to safe maintenance practices, ensuring alignment with EASA Part-66 Module 11 standards.



AMT423: Turbine Engine Electronic and Control Systems (3 CHs)

Prerequisite: AMT326.

Module Alignment: EASA Part-66 Module 15 (Gas Turbine Engine)

This course focuses on electronic control systems used in turbine engines, including Full Authority Digital Engine Control (FADEC) and associated sensors, actuators, and control units. It covers engine monitoring, control logic, and system integration to ensure efficient and safe engine operation. Students examine system functionality, signal processing, and fault diagnosis, with emphasis on interpreting technical documentation and performing maintenance procedures. The course reinforces safe and compliant practices in accordance with EASA Part-66 Module 15 standards.

AMT441: Turbine Engine Maintenance Operations- Practical (3 CHs)

Prerequisite: AMT372 AND AMT341 AND AMT343.

Module Alignment: EASA Part-66 Module 15 (Gas Turbine Engine)

This practical course provides hands-on training in turbine engine maintenance operations. Students perform maintenance tasks related to inspection, servicing, and basic troubleshooting of turbine engine components in accordance with approved procedures and documentation. Emphasis is placed on the use of tools and equipment, adherence to safety practices, and proper completion of maintenance records. Students develop practical skills in real or simulated workshop environments, ensuring compliance with EASA Part-66 Module 15 requirements and industry standards.

AMT442: Non-Destructive Testing and Composite Technologies in Aircraft Structures

Prerequisite: AMT231 AND AMT233.

Module Alignment: EASA Part-66 Module 6 & 11

This course explores Non-Destructive Testing (NDT) techniques and composite material technologies as they apply to aircraft structures. The course equips students with the knowledge and skills needed to inspect, evaluate, and maintain modern aircraft components effectively. The course will cover a range of NDT methods including ultrasonic testing, radiographic inspection, eddy current testing, and acoustic emission. The course emphasizes practical applications, helping students understand the strengths and limitations of each technique and how to select the appropriate method based on material properties and structural requirements. In addition to NDT, the course covers the latest advancements in composite materials used in aircraft manufacturing. Topics include the properties and behavior of composite materials, damage mechanisms, repair techniques, and the integration of composites into structural design. Case studies and hands-on exercises will be used to illustrate real-world challenges and solutions.

AMT471: Turbine Engine Mechanical Systems (4 CHs)

Prerequisite: AMT372.

Module Alignment: EASA Part-66 Module 15 (Gas Turbine Engine)

This course provides an in-depth study of mechanical systems within turbine engines, including compressors, combustion chambers, turbines, and lubrication systems. Students examine system functionality, component interaction, and performance optimization. The course integrates practical inspection and analysis activities to enhance understanding of engine maintenance and troubleshooting in accordance with EASA standards.



AMT473: Turbine Engine Maintenance Operations (3 CHs)

Prerequisite: Concurrent with AMT471.

Module Alignment: EASA Part-66 Module 15 (Gas Turbine Engine)

This course focuses on maintenance procedures and operational practices for turbine engines. Students learn inspection techniques, fault diagnosis, and maintenance planning for engine systems. Emphasis is placed on compliance with maintenance documentation, safety standards, and operational requirements, supported by practical exercises aligned with EASA guidelines.

AMT475: Propellers (3 CHs)

Prerequisite: AMT252.

Module Alignment: EASA Part-66 Module 17 (Propellers)

This course introduces the principles of propeller operation, design, and control systems in aircraft. Students study propeller aerodynamics, pitch control mechanisms, and performance characteristics. The course also addresses maintenance procedures, inspection techniques, and system troubleshooting, ensuring alignment with EASA Module 17 requirements.

AMT477: Propellers - Practical (1 CHs)

Prerequisite: Concurrent with AMT475.

Module Alignment: EASA Part-66 Module 17 (Propellers)

This course provides hands-on training in propeller maintenance, including inspection, adjustment, and troubleshooting procedures. Students apply theoretical knowledge in practical settings, reinforcing understanding of propeller systems and maintenance requirements in accordance with industry standards.

AMT490: Real Maintenance Environment Practical Training (7 CHs)

Prerequisite: None

Module Alignment: EASA Practical Training

This course provides structured on-the-job training within real aircraft maintenance environments. Students are exposed to actual maintenance operations, allowing them to apply theoretical knowledge and practical skills acquired throughout the program. The training includes supervised tasks, safety procedures, and compliance with industry regulations. This course plays a critical role in developing professional competency and readiness for certification in alignment with EASA training requirements.