



College: Aviation Sciences
Department: Aircraft Maintenance

B.A Study Plan

Major: Avionics Sciences

Academic Year: 2022-2023

Study Plan Credit hours 137

Type of Program: **Blended/ Online/F2F**

Major Type:

Humanities

Scientific/Technical

Science Medical

Teaching Type	Percentage of study plan hours/number	Actual Ratio
Complete Online E-Learning	20% - 10% Maximum	19.70%
Blended learning (for humanities)	60% - 40% Maximum	---
Blended learning (for scientific majors)	50% - 30% Maximum	45.3%
Face-to-face learning (for humanities)	20% Minimum	---
Face-to-face learning (for scientific majors)	30% Minimum	35%

Note: The learning types of the courses are disseminated at all academic levels in the program



Department Vision

Distinguished professional education and entrepreneurship in community service in the field of aviation sciences.

Department Mission

Preparing distinguished cadres in the field of aircraft maintenance sciences, equipped with the knowledge, skills and ethics of the profession, to meet the needs of the local and regional community, in accordance with local and international quality standards.

Program Mission

Preparing distinguished cadres in the field of aviation electronics sciences, equipped with the knowledge, skills and ethics of the profession, to meet the needs of the local and regional community, in accordance with local and international quality standards.

Educational Program Objectives

1. Recognizing the principles of electrical and electronic systems related to aviation.
2. Understanding the control systems of the aircraft.
3. Identifying and maintaining electrical, electronic and control system malfunctions.
4. Recognizing the most appropriate and best ways to carry out maintenance operations of electronic and electrical systems, according to regulations and instructions.

Educational Program Outcomes

1. Applying and solving mathematical and algorithmic problems in the field of avionics.
2. Understanding and troubleshooting aircraft systems and components.
3. Repairing and manufacturing parts for various airframes.
4. Understanding the theories of operation and construction of an aircraft engine.
5. Exploring problems with turbine engines and their accessories.
6. Understanding written maintenance information and complete required maintenance documents.





7. Acquiring skills to work effectively within groups and work teams.
8. Designing, developing and implementing simulations for problem solutions in aircraft maintenance science.
9. Analyzing, designing, implementing and evaluating the aviation systems in various operational areas
10. Adapting with the growing technological changes, recognizing its impact on organizations and societies, and engaging in lifelong learning.

Plan Contents

The study plan for a bachelor's degree consists of a major in Avionics Sciences Of (137) credit hours disseminated as follows:

Sequence	Classification	Credit Hours	Percent %
1st	University Requirements	27	19.70%
2nd	College Requirements	18	13.15%
3rd	Program Requirements	92	67.15%
Total		137	100%

Coding System Approved by the University

8	02	0	1	1	1	0	1
College Code	Major Code	Knowledge domain		Course Level		Sequence	



Knowledge Domain

Domain Code	Knowledge Domain	Credited Hours of Study Plan
0	General Aviation, Advanced English 1, Advanced English 2, Aviation Maintenance Management.	9
1	Airframes, aircraft types and performance, Materials and hardware, basics of aerodynamics, flight theory, Human Factors, Aviation Legislation, Ref: JCARC&EASA Part -66 by TTS Integrated Training System, Total Training Support.	28
2	Electric circuits Fundamentals, electromagnet, electric forces, automatic control, basics of electronics, digital techniques, electronic devices and systems, systems and signals, digital signal processing, physics, Mathematics, Avionics, Ref: JCARC&EASA Part -66 by TTS Integrated Training System, Total Training Support, Heathkit Educational System, Experiment Manual.	24
3	Airframe Aerodynamics structures and Systems, automated flight systems, Communications and Navigation systems, Propulsion and Indications, Hydraulic and oxygen systems, Ref: Basic Practical Log Book, Aircraft ATA Chapters, JCARC&EASA Part -66 by TTS Integrated Training System, Total Training Support.	18
4	Instrumentation and metering systems, HVAC, fuel and steering systems, information and data systems and cockpit maintenance, maintenance work practices and field training, Ref: A/C AMM Aircraft Maintenance Manuals, Structural repair and Trouble Shooting Manuals.	31

First: University Requirements: (27) Credit Hours

A. Compulsory Requirements: (18)Credit Hours

Teaching type			Course Number	Course Title	Credited Hours	Pre- Requisite
Online E- Learning	Blended	Face-to-Face				
X			50511104	Communication Skills - Arabic Language (I)	3	50511108
X			50511105	Communication Skills - English Language (I)	3	50511109
X			50511206	National Education	3	
X			50511308	Military Sciences	3	
X			50511205	Life skills and social responsibility	0	-
X			50511108	Arabic Language Basics	0	-
X			50511109	English Language Basics	0	-
X			50511100	Computer Basics	3	-
x			50511305	Leadership and Creativity	3	
Total					18	

B. Elective Requirements: (9)Credit Hours from the following list:

Teaching type			Course Number	Course Title	Credited Hours	Pre- Requisite
Online E- Learning	Blended	Face-to-Face				
X			50511106	Communication Skills -Arabic Language (2)	3	55011101
X			50511107	Communication Skills -English Language (2)	3	55011102
X			50521203	Principles of Psychology	3	-
X			50521204	Human Rights	3	-
X			50531101	Islamic Culture	3	-
X			50531205	Quds and Hashemite Custodianship	3	



X			50531101	Environment and Community	3	-
X			50541206	Health and Community	3	-
X			50541103	Computer Skills	3	-
X			50541309	Digital Culture	3	-
X			50541308	Foreign Language	3	-
Total					9	

Second: College Requirements: (18) Credit Hours

Teaching type			Course Number	Course Title	Credited Hours	Pre-Requisite
Online E-Learning	Blended	Face-to-Face				
	<input type="checkbox"/>		Aviation Law and Air Safety	80111207	3	-
	<input type="checkbox"/>		Advanced English(1)	80101206	3	80101206
	<input type="checkbox"/>		Advanced English(2)	80102107	3	-
	<input type="checkbox"/>		Communication Skills and Technical writing	80112108	3	80101206
	<input type="checkbox"/>		Specialized English language	80112109	3	-
	<input type="checkbox"/>		Aviation Maintenance Management	80102203	3	-
Total					18	



Third: Program Requirements (92) Credit Hours

Teaching type			Course Number	Course Title	Credits Hours*	Theoretical	Practical	Pre-Requisite	Con-current requirement
Online E-	Blended	Face-to-							
	<input type="checkbox"/>		80211101	Aircraft Types	3	3	-	-	-
	<input type="checkbox"/>		80211102	Introduction to theory flight	3	3	-	-	-
	<input type="checkbox"/>		80221107	Mathematic and Algebra	2	2	-	-	-
	<input type="checkbox"/>		80221208	Physics of aviation	3	3	-	-	-
		<input type="checkbox"/>	80212201	Materials and hardware	2	2	-	80221208	80211101
		<input type="checkbox"/>	80212202	Materials and hardware Practical	1	-	3	-	-
		<input type="checkbox"/>	80212104	Basic Aerodynamics and its applications	3	3	-	80221208	80212104
		<input type="checkbox"/>	80212205	Fundamentals of Aerodynamics and its Practical Applications	1	-	3	-	-
	<input type="checkbox"/>		80211205	Human factors	3	3	-	-	-
	<input type="checkbox"/>		80211206	Aviation Legislation	3	3	-	-	-
	<input type="checkbox"/>		80222101	Electrical Fundamentals and its applications (I)	2	2	-	80221208	80222101
		<input type="checkbox"/>	80222202	Electrical Fundamentals and its	2	2	-	-	80222202



			applications (2)					
		□	80222203	Basics of Electricity and its Practical Applications	1	-	3	-
	□		80222204	Avionics(1)	2	2	-	80221208
	□		80223104	Avionics (2)	2	2	-	80222204
		□	80223105	Avionics Practical	1		3	-
	□		80222206	Digital Techniques & Electronic Instrument Systems	2	2	-	80221208
	□		80223108	Digital Techniques & Electronic Instrument Systems (2)	2	2	-	80222206
		□	80223109	Digital technologies Electronic, Devices and Systems - Practical	1	-	-	-
	□		80232101	Airframe Dynamics	3	3	-	80212104
		□	80232102	Airframe Dynamics - Practical	1	-	-	-
		□	80233107	Autopilot Systems	2	2	-	-
		□	80233108	Autopilot Systems - Practical	1	-	-	-
	□		80233109	Communication and	2	2	-	-



				Navigation Systems					
		☐	80233110	Communication and Navigation Systems-practical	1	-	-	-	-
		☐	80243111	Measuring and gaging systems	3	3	-	80222206	80243111
		☐	80243112	Measuring and gaging systems-Practical	1	-	3	-	-
		☐	80223205	Electrical Power Systems	3	3	-	80222206	80223205
		☐	80223206	Electrical Power Systems-Practical	1	-	3	-	80223205
		☐	80243207	HVAC, fuel and steering systems	3	3	-	-	80243207
		☐	80243208	HVAC, fuel and steering systems - practical	1	-	3	-	-
		☐	80233209	Hydraulic and oxygen systems	3	3	-	80243207	80233209
		☐	80233210	Hydraulic and oxygen systems-practical	1	-	3	-	-
		☐	80244111	Information and data systems and maintenance in the cockpit	3	3	-	80243111	80244111



		□	80244112	Information and data systems and maintenance in the cockpit-practical	1	-	3	-	-
	□		80234113	Engines	3	3	-	80211101	80234113
		□	80234114	Engines - Practical	1	-	3	-	80222203
	□		80244101	Maintenance Practices (1)	3	3	-	-	80244101
		□	80244102	Maintenance Practices (1)- Practical	1	-	3	-	80244101
	□		80244103	Maintenance Practices (2)	3	3	-	-	80244103
		□	80244104	Maintenance Practices (2)- Practical	1	-	3	-	80244103
	□		80244205	Maintenance Practices (3)	3	3	-	-	80244205
		□	80244206	Maintenance Practices (3)- Practical	1	-	3	-	-
		□	80244207	Field Practical Training	7	-	-	After 120 hours	
Total					92				



Guidance plan

First Year

Course No.	Course Title	Type of Learning	Credited Hours*	Prerequisite	Co-requisite
80221107	Mathematic and Algebra	B	2	-	-
80211101	Aircraft Types	B	3	-	-
80211102	Introduction to theory flight	B	3	-	-
-	University requirement	0	3	-	-
-	University requirement	0	3	-	-
-	University requirement				
		17			

Second Semester

Course No.	Course Title	Type of Learning	Credited Hours*	Prerequisite	Co-requisite
80101206	Advanced English language(I)	B	3	-	-
80111207	Aviation Law and Air Safety	B	3	-	-
80211205	Human factors	B	3	-	-
80221208	Physics of aviation	B	3	-	-
80211206	Aviation Legislation	B	3	-	-
50511308	Military Science	0	3	-	-
Total			18		



Second Year

First Semester

Course No.	Course Title	Type of Learning	Credited Hours*	Prerequisite	Co-requisite
80102107	Advanced English language(2)	B	3	80101206	-
80112108	communication Skills and Technical writing	B	3	80101206	-
80212104	Basic Aerodynamics and its applications	F	3	80121208	-
80222101	Electrical Fundamentals and its applications(1)	B	2	80221208	-
80112109	Specialized English language	B	3	-	-
80232101	Airframe Dynamics	B	3	80212104	-
80232102	Airframe Dynamics -Practical	F	1	-	80232101
Total			17		

Second Semester

Course No.	Course Title	Type of Learning	Credited Hours*	Prerequisite	Co-requisite
80102203	Aviation Maintenance Management	B	3	-	-
80212201	Materials and hardware	F	2	80221208	-
80212202	Materials and hardware lab	F	1	-	80211101
80222202	Electrical Fundamentals and its applications (2)	F	2	-	80222101
80222203	Electrical Fundamentals Practical	F	1	-	80122202
80222204	Avionics (I)	B	2	80221208	-
80222206	Digital Techniques & Electronic Instrument Systems (I)	B	2	80221208	-
80102205	Basic Aerodynamics workshop	F	1	80212104	-
	Elective University Requirement	O	3	-	-
Total			17		





Third Year

First Semester

Course No.	Course Title	Type of Learning	Credited Hours*	Prerequisite	Co-requisite
80223104	Avionics (2)	B	2	80222204	-
80223105	Avionics lab	F	1	-	80222204
80223108	Digital Techniques & Electronic Instrument Systems (2)	B	2	8022206	-
80223109	Digital Techniques & Electronic Instrument Systems lab	F	1	-	80223108
80233107	Autopilot Systems	F	2	-	80232101
80233108	Autopilot systems - Practical	F	1	-	80233107
80233109	Communication and Navigation Systems	F	2	-	80233107
80233110	Communication and Navigation Systems- practical	F	1	-	80233109
80243111	Measuring and gaging systems	F	3	80223108	-
80243112	Measuring and gaging systems- Practical	F	1	-	80243111
80212205	Fundamentals of Aerodynamics and its Practical Applications	F	1	-	-
Total			17		

Second Semester

Course No.	Course Title	Type of Learning	Credited Hours*	Prerequisite	Co-requisite
80223205	Electrical Power Systems	F	3	80222206	-
80223206	Measuring and gaging systems lab	F	1	80233205	-





80243207	HVAC, fuel and steering systems	F	3	-	80223205
80243208	HVAC, fuel and steering systems lab	F	1	-	80243207
80233209	hydraulic and oxygen systems	F	3	80233207	-
80233210	hydraulic systems and oxygen lab	F	1	-	80233209
Total			12		

Fourth Year

First Semester

Course No.	Course Title	Type of Learning	Credited Hours*	Prerequisite	Co-requisite
80244111	Information and data systems and maintenance in the cockpit	F	3	80243111	-
80244112	Information and data systems and maintenance in the cockpit lab	F	1	-	80244111
80234113	Engines	B	3	80211101	-
80234114	Engines lab	F	1	-	80234113
80244101	Maintenance Practices (1)	B	3	-	80222203
80244102	Maintenance Practices (1) -lab	F	1	-	80244101
80244103	Maintenance Practices (2)	B	3	-	80244101
80244104	Maintenance Practices (2) -lab	F	1	-	80244103
Total			16		

Second Semester

Course No.	Course Title	Type of Learning	Credited Hours*	Prerequisite	Co-requisite
80244205	Maintenance Practices (3)	B	3	-	80244103
80244206	Maintenance Practices (3)- lab	F	1	-	80244205





80244207	On Job Training (OJT)	F	7	-	330 Field Work Hours
Total			11		

Courses Tree

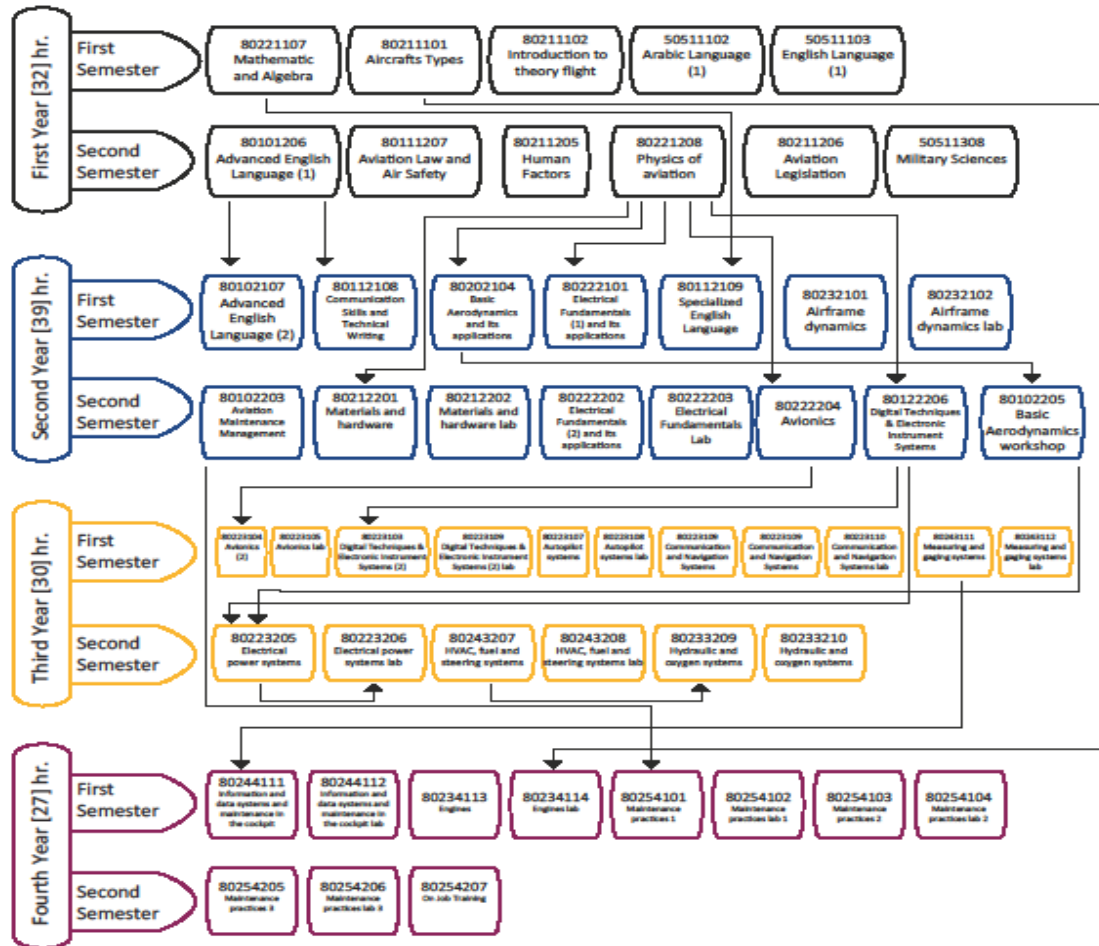


Courses Tree

Faculty: Aviation Science
Major: Avionics

Program: Bachelor

Department: Aviation Science
Issue Date: 2022/2023



F566, Rev. a
Ref.: Quality Assurance Council Session (08/2021-2022), Decision No.01, Date:21/05/2022



F026-I, Rev. c
Ref.: Deans' Council Session (35/2023-2024), Decision No.: 07, Date: 20/05/2024





Course Description

8011207 Aviation Law and Air Safety (3, n: 3, p: 0, prerequisite :), Blended

Studying international organizations and conventions, aircraft validity, aircraft registration marks, cabin crew licenses, air laws, air accident investigations, search and rescue operations.

8010206 Advanced English Language (I) (3, N: 3, P: 0, Prerequisite :), Blended

Improving students' English language skills in listening, speaking, reading and writing, as well as vocabulary and pronunciation. The teacher's book contains activities that support the material. The exercise book contains additional exercises, and the syllabus contains CDs to improve listening.

80102107 Advanced English Language (2) (3, N: 3, P: 0, Prerequisite: 8010206), Blended

Intensive English language skills in listening, speaking, reading and writing in addition to vocabulary and pronunciation. The course uses traditional methods of English language teaching and effective multimedia training. The syllabus also contains CDs to improve listening.

80112108 Communication Skills and Technical writing (3, N: 3, P: 0, Prerequisite: 8010206), Blended

Recognizing and applying the elements of technical writing, report components, design and images, correspondence, research and documentation, writing and revision.

80112109 Specialized English Language (3, n: 3, p: 0, concurrent: 50512112), Blended

This course includes many topics related to aviation aimed at improving the technical language of the student, such as manufacturing techniques, control systems, safety, and electrical systems.

80102203 Aviation Maintenance Management (3, n: 3, p: 0, prerequisite), Blended

Recognizing topics related to aviation maintenance management such as the development of aircraft maintenance programs, aviation certification requirements, maintenance documentation, technical bulletins, and technical services.



**80201102 Aircraft Types (3, n: 3, p: 0, prerequisite :), Blended**

Recognizing topics related to the types of aircraft and their performance, such as single-engine and twin-engine, and determine their performance during all phases of the flight.

80211102 Introduction to Flight Theory (3, n: 3, p: 0, prerequisite :), Face to Face

Identifying and studying the four forces affecting the aircraft, Bernoulli's principle, lift and Newton's third law, the axes of the aircraft, in addition to identifying and working principle of control surfaces in the aircraft and its impact on the performance of the aircraft.

80221107 Mathematic and Algebra (2, n: 2, p: 0, prerequisite: -), Blended

The student is introduced to the basic principles of solving mathematical problems and arithmetic algebra in addition to solving linear equations and graphing, as well as trigonometric relationships, the use of tables, and rectangular and polar coordinates.

80221208 Physics of aviation (3, n: 2, p: 0, prerequisite :), Face to Face

The student is introduced to the basic units of matter and mechanics, both static and kinetic, dynamic, fluid dynamics, and thermodynamics, in addition to optics, sound and wave motion, and physical phenomena related to aviation sciences.

80212104 Aerodynamics Fundamentals and Applications (3, N: 3, N: 0, Prerequisite: 80221208), :), Face to Face

The student recognizes the different layers of the atmosphere and related variables, as well as aerodynamics and engineering definitions, the aircraft's resistance to the air, the increase in altitude, the forms of the flight control wing, the forces affecting the aircraft during flight, the flight in rotational modes, the aircraft's equilibrium conditions.

80212205 Fundamentals of aerodynamics and its Applications-practical (1, n: 0, p: 3, prerequisite: 80212104), :), Face to Face

The student uses the air flow device and applies experiments related to the effect of air resistance on the aerodynamic shape, applies Bernoulli's rule to the aerodynamic shape, uses a fluid pressure gauge, recognizes the locations of the main control surfaces on the aircraft, and operates them





from the cockpit, and operates the three main rudders in addition to the landing auxiliary rudders and rotation.

80212201 Materials and hardware (2, N: 2, N: 0, Prerequisite: 80221208), :), Face to Face

Recognizing aircraft metal materials, which include: materials that contain mainly iron, that do not contain iron mainly in addition to plastic and flexible materials, composite materials, wood and wooden structures, fabric sheaths as well as fastening tools, used in aircraft.

80212202 Materials and hardware -Practical (1, n: 0, p: 3, prerequisite: concurrent with 80211101), :), Face to Face

It implements the following practical applications: assembling metal sheets using different rivets, distinguishing between different types of rust, removing rust manually, and using many different types of accurate measuring tools such as Vernier.

80211205 Human factors (3, n: 3, p: 0, prerequisite :), Blended

Understanding human activity and the interaction of individuals with the workplace to explore the implications of the human factor and the error of work, consider the role of work implementation methods and procedures and consider safety policy and communication methods

80211206 Aviation Legislation (3, n: 3, p: 0, prerequisite :), Blended

Recognizing all the elements or EASA aviation legislation applicable to Part 66 Awareness Needs including the structure of rules and the role of the International Civil Aviation Organization (ICAO) and national authorities. Providing a detailed understanding of the aviation legislation applicable to Part 66 requirements for technical certificates and licenses.

80222101 Electricity Basics and Applications (I) (I) (2), N: 2, N: 0, Prerequisite: 80221208), :), Face to Face

Recognizing the static electricity, electrostatic charge distribution and conduction, Coulomb's theory and electrical conductivity in liquids and solids, electrical terms and contain electrical energy, electric charges, electric current, electrical resistance, electrical laws, electricity





generation, direct current sources, direct current circuits resistance / resistor, power, capacitance / capacitor.

80222203 Basics of Electricity and its Applications-Practical (1, n: 0, p: 3, the requirement is concurrent with 80222202), Face to Face

Implementation of practical applications such as direct and alternating current voltage measurement, direct and alternating current measurement, resistance measurement, connecting loads in parallel, connecting loads in series, assembling and disassembling direct current generators, checking capacitors and coils, electrical transformers and their types in practice and using appropriate software.

80222202 Electrical Fundamentals and its applications (2) (2, N: 2, N: 0, Co-requisite: 80222101), Face to Face

Recognizing magnetism, inductance / inductor, DC motors and generators, including working principle, installation, types of DC motors in reverse, rotating speed of the motor, AC theory, transformers, including working principle, transformer installation, properties of the metal core, transformer coils, types of transformers, filters, types of alternating current generators, types of alternating current motors and related electrical circuits.

80222204 Avionics (1) (2, n: 2, p: 0, prerequisite: 80221208), Blended

Recognizing semiconductors, solid state devices, diodes, transistors of all kinds and their different applications, integrated circuits, printed circuit boards, Dyson and Magnussen systems, Magnesian board system, torque synchronization and includes synchronization classification.

80223104 Avionics (2) (2, n: 2, p: 0, prerequisite: 80222204), Blended

Recognizing integrated circuits, PCBs, operational amplifiers, and design of various electronic circuits.



80223105 Avionics -Practical (1, n: 0, p: 3, concurrent requirement: 80222204), .), Face to Face

Examining and installing basic electronic components and recognizes the nature of their work, building basic electronic circuits using electronic components such as diode and transistor and their applications in various electrical systems. In addition to integrated electronic circuits ICs.

80222206 Digital Techniques & Electronic Instrument Systems (1), n: 2, p: 0, prerequisite: 80221208), Blended

Identifying electronic indicator systems, digitization systems, information conversion, logical circuits and their components, basic computer structure, optical fiber description, optical fiber concepts, optical fibers and cables, optical connectors, connectors and couplers, optical fiber measurement techniques, optical sources and optical transmitters, devices Optical detectors and receivers, electronic displays, electrostatic sensitive devices, control software management, electromagnetic medium, electronic / digital model aircraft systems.

80223108 Digital Techniques & Electronic Instrument Systems (2) (2), n: 2, p: 0, prerequisite 80222206, Blended

Recognizing electronic displays, static sensitive devices, management software control, and electromagnetic medium, and electronic/digital aircraft systems.

80223109 Digital Techniques & Electronic Instrument Systems Practical (1, N: 0, N: 1, Concurrent requirement with 80223108), .), Face to Face

Examining and installing basic electronic components and learning their nature, and builds basic digital electronic circuits using electronic components such as meters, seven-segment displays and integrated circuits.

80232101 Airframe Dynamics (3, n: 3, p: 0, prerequisite: 80212104), .), Face to Face

Learning about aerodynamic systems and engineering definitions, aircraft resistance to air, increase in altitude, wing shapes, flight control, forces affecting the aircraft during flight, flight





with rotational conditions, aircraft equilibrium states. Also learning about the control systems on the different plane surfaces.

80232102 Airframe Dynamics- Practical (1, n: 0, p: 3, concurrent requirement for 80232101), Face to Face

The course implements the following practical applications: airflow patterns around the aerodynamic shape, description and operation of the tail and auxiliary rudder, control system for the main and auxiliary rudders, aircraft doors, operational examination of the retarder surface system and its effect on air flow, identifies the balance of the wing surface, examines the wing of the aircraft and its components.

80233107 Autopilot Systems (3, N:3, N:0, Co-requisite 80232101), Face to Face

The course learns the basics of automated flight control; command signal processing; its working methods; yaw dampers; stability-increasing systems in addition to automatic cut-off control and autopilot navigation assistance interface; Automatic throttle control and automatic landing systems.

80233108 Autopilot Systems-Practical (1,N:0,N:1,Concurrent Requirement 80233107), Face to Face

The following practical applications implement automated flight controls; command signal processing; its working methods; yaw dampers systems increase stability automatic trim control interface navigation assistance autopilot; Automatic throttle control Automatic landing systems.

80233109 Communication and Navigational Systems (3: N,3,N:0, concurrent requirement 80233107), Face to Face

Recognizing the working principles of VHF and HF communication systems, audio systems, emergency locator transmitters, cockpit voice recorder, Very High Frequency VHF Omnidirectional Range (VOR), Automatic Direction Finding (ADF), Instrument Landing Systems (ILS), Microwave Landing System (MLS), Flight Management Systems (FMS), Distance Measurement Equipment (DME) and Global Positioning System (GPS).





80233110 Communication and Navigational Systems -Practical (1: N,0, N:1, Co-requisite 80233109), :), Face to Face

The student is trained in all navigation systems (HF, VHF, VOR ADF, ILS, MLS, DME and GPS) in terms of components, working methods and maintenance.

80243111 Measuring and gaging systems (3 credit hours, 3 theoretical, 0 practical, prerequisite 80222206), :), Face to Face

Recognizes pneumatic systems, direct reading pressure and temperature gauges, fuel quantity indication systems, gyroscopic system indications, synthetic horizontal slip indicators, directional gyroscopes, flight data recording systems, electronic flight instrument warnings, and central warning panels.

80243112 Measuring and gaging systems- Practical (1 credit hour, 0 theoretical, 1 practical, concurrent requirement 80243111), :), Face to Face

Practically performs and recognizes the object components of all relevant systems with respect to fuel, gyroscope, temperature and other measurement systems.

80223205 Electrical Power Systems (3 credit hours, 3 theoretical, 0 practical, prerequisite 80222206), :), Face to Face

Recognizing the types of electrical energy, batteries, DC and AC generating devices, various voltage regulators, constant speed drive unit, generator and integrated motor, brushless generator, fixed frequency and variable speed generator, emergency power generator, transformer regulators, inverters, as well as generators external ground energy and its distribution, real load distribution mechanism, reaction and fault protection, in addition to control devices and cockpit indicator.

80223206 Electrical Power Systems -Practical (1 credit, 0 theoretical, 1 practical, concurrent requirement 80223205), :), Face to Face

It performs practical applications such as disassembling and installing the battery, dismantling and installing the electric coil protection feeder, dismantling and installing the battery temperature sensor, charging and discharging the battery, checking the battery and its components, recognizing the warning and signal system, runway and landing lights, ice test lighting, anti-collision, position and tilt lighting. Cockpit dome lighting, cockpit service lighting, and indirect lighting.



80243207 HVAC, fuel and steering systems (3 Cr. H., 3 Theoretical, 0 Practical, Concurrent Requirement 80223205), :), Face to Face

Learning about air supply systems, air conditioning and refrigeration, cabin pressure control, safety and alarms, interior equipment and supplies, emergency equipment, emergency evacuation, cockpit, seat belts and shoulder anchors, cabin, in-cab entertainment systems, maintenance applications, detection systems Fire and suppression, flight control fins, fuel systems.

80243208 HVAC, fuel and steering systems -Practical (1 credit, 0 theoretical, 1 practical, concurrent requirement 80243207), :), Face to Face

Performing practical applications from dismantling and assembling parts for air conditioning and refrigeration systems, aircraft fuel and control systems, checking fire extinguisher valves, checking internal equipment, seat belt pulleys, actual operation of the fire sensor system, and checking valves.

80233209 Hydraulics and Oxygen Systems (3 Cr. Hrs., 3 Theoretical, 0 Practical, Prerequisite 80243207, Synchronization), :), Face to Face

To Learn about fluid pressure theory, design of on-board fluid pressure system, hydraulic oil, hydraulic pump, emergency pressure generation, fluid pressure system disconnection, alarm and warning systems, snow prevention and rain removal, safe and non-potable water use systems, aircraft landing wheel system , brakes, anti-skid system, oxygen system and its uses for crew and passengers, safety and maintenance standards, air intake system, high and low gas pressure system with emphasis on related electrical and electronic circuits.

80233210 Hydraulics and Oxygen Systems -Practical (1 credit, 0 theory, 1 practical, concurrent requirement 80233209), :), Face to Face

It performs the following practical applications: dismantling and installing fluid pressure control switches, hydraulic pump, pressure sensors, rain wipers, wheels and brakes, oxygen cylinders, oxygen flow regulator valve, filling hydraulic tanks, operating the fluid pressure system virtually on the plane, aircraft landing system, Work, anti-skid system check, ground flight guidance system check, pressure storage system, aircraft acceleration system check and electrical and electronic circuits.



80244111 Information and data systems and maintenance in the cockpit (3 credit hours, 3 theoretical, 0 practical, prerequisite 80243111), :), Face to Face

Recognizing the communication data system, the cab network system, and the basic cab systems; on a leisure trip; External connections Comprehensive memory system for cabin; Cabin Monitoring Systems Various Cab Systems.

80234112 Information and data systems and maintenance in the cockpit -Practical (1 credit, 0 theoretical, 1 practical, concurrent requirement 80234111), :), Face to Face

Familiarize yourself with the aircraft general information system; flight deck information system; Maintenance information system Cabin information system various information systems.

80234113 Engines (3 Cr. H., 3 Theoretical, 0 Practical, Prerequisite: 80211101), :), Face to Face

Understanding the contents of the principle of jet propulsion and the four main types of turbine engines. The principles and operation of engine identification systems for engine monitoring are presented in detail. , design of air intake, types and factors affecting them, types of axial air compressors, combustion section: types and methods of cooling the combustion chamber, turbine section: construction and types of turbines, methods of cooling and installation of turbine blades, functions and construction of exhaust, sound dampers, thrust reflectors, bearings and agencies, Lubricants, sources of supply, lubrication, properties of oils, oil additives, types of oils, international fuel specifications, aviation fuel, refueling / unloading of fuel and fuel tank, basic requirements for contaminated fuel lubrication systems and electrical and electronic circuits for turbochargers.

80234114 Engines -Practical (1 credit, 0 theory, 1 practical, concurrent requirement with 80234113), :), Face to Face

Executing the following practical applications: checking and installing the anti-freeze system, checking the combustion chamber, engine cover and turbines, checking and cleaning the exhaust and bearings, removing and installing filters, dismantling and installing the fuel pump and its associated pipes, as well as various engine control circuits.

80244101 Maintenance Practices (1) (3 credit hours, n: 3, p: 0, concurrent: 80222203), Blended

Recognizing the safety procedures on the aircraft and the operator, as well as practical exercises in the workshops, equipment, hand tools, electrical devices, precise measuring tools, tools and





methods of lubrication and lubrication, electrical examination equipment, electronic examination equipment, engineering drawings, diagrams and standards, display tools used for computer and tools. The different widths, Air Transport Association specifications, common standards in the field of aviation, permitting and conformity, measurements for making holes, rows and standards for compliance with regulations, arcing and torsion, electrical connection system, continuity and insulation tests, use of pressing tools, examination of fixed parts using the pressing method, installation and removal of the connecting pin, Filament wires, types of wires and identification methods, methods of wire protection, permittivity in standards for testing wires and faults, systems for testing electrical wires and connections. In addition to all control systems associated with these systems.

80244102 Maintenance Practices (1)-Practical (1) Practical (1, N: 0, N: 3, Prerequisite: Simultaneous to 80244101), :), Face to Face

It performs the following practical applications: Examining the rudder wires, removing the buckles using electrical and manual tools, using the tools for checking the amount of voltage, current and electrical resistance, measuring the external dimensions using precise measuring tools, examining the braking systems for the limits of wear, in addition to the related electrical and electronic control systems.

80244103 Maintenance Practices (2) (3, n: 3, p: 0, prerequisite: concurrent with 80244101), :), Blended

Recognizing the different types of rivets and their uses in addition to special fasteners, tubes and hoses, bending and expanding the ends of aircraft tubes, theoretical and practical examination of tubes and hoses, pipe installation and fixation, springs treatment, cleaning and testing of bearings, storage, principles of transmissions, control cables, the mechanism of clamping the ends of connections, Processing, theoretical and practical examination of approved control cables and devices (scrap), various wiring systems, material handling, sheet metal, composite materials.

80244104 Maintenance Practices (2) - Practical (1, N: 0, N: 3, Prerequisite: Simultaneous to 80244103), :), Face to Face

Executing the following practical applications: dismantling, repairing, installing and checking different types of fasteners, tubes, pulleys, control wires and various control systems.



**80244205 Maintenance Practices (3), N: 3, N: 0, Prerequisite: Simultaneous to 80244103), Blended**

The different types of welding, weighing and balancing systems, materials handling and storage, dismantling and installation methods, identifying some emergency conditions that the aircraft may pass through, maintenance methods, planning and licensing procedures.

80244206 Maintenance Practices (3) -Practical (1, N: 0, N: 3, Prerequisite: Simultaneous to 80244205), Face to Face

Implementation of the following practical applications: Examination and application of a number of practical exercises such as welding the corner of the plane for a long time, checking the fluid pressure system, connecting external sources of electricity, solving problems through a system of possible causes with the rudder control system, dismantling and installing different types of lighting devices and some parts of the external plane. And control devices associated with these systems.

80244207 Field Practical Training (7, n: 0, p: 330 working hours in the field, prerequisite: -), Face to Face

It includes all the practical activities that take place in the aircraft maintenance hangar related to the aircraft's electrical and electronic systems, navigation and communication. As well as devices and workshops, such as aircraft lifting, ground handling, aircraft systems inspection, functional operations, maintenance and repair, troubleshooting, parts replacement and testing using all required special tools and equipment, ground floor and training manuals, in addition to complying with all safety requirements while working on all aircraft components and each of the following systems:

- Electrical and electronic systems.
- Digital tools systems.
- Engine systems.
- Pneumatic and hydraulic systems.
- Fuel systems in the aircraft.
- Flight control systems.
- Autopilot systems
- Air Navigation Systems
- Environmental systems.
- Repair of the structure and design of the aircraft.