

IHA101 AVIATION TECHNOLOGIES AND TERMINOLOGY

IHA101 AVIATION TECHNOLOGIES AND TERMINOLOGY

COURSE DESCRIPTION

Course Level Associate Degree

Course Type **COMPULSORY**

The Aim of Course

The aim of this course is to make students aware of the aviation terms they will encounter in their professional life and to have a good command of the aviation industry.

Course Content

Aviation alphabet National and International Civil aviation authorities, National Civil aviation authority duties and controls, Duties of International Civil aviation authorities and associations, Air transport terms, Airport terms, Air terms, Aircraft terms, Flight terms, Aircraft control surfaces, Emergency terms, Document terms, Health & first aid terms

Course Prerequisite

The course does not have a prerequisite

Course Side Condition

The course does not have a side condition.

Teaching Type

Face to face

COURSE LEARNING OUTCOMES

1	Will be able to define the physical properties of the atmosphere.
2	Explain the International Standard Atmosphere.
3	Defines the changes in pressure, density and temperature depending on the change in height.
4	Explains static pressure and dynamic pressure.
5	Will be able to express the basic principles of aerostatics and aerodynamics.
6	Refers to the behavior of the air flow.
7	Defines the components of aerodynamic force.
8	Will be able to define the properties of the wing profile and the angles related to the wing.
9	It names the characteristics of the wing profile - the edge of attack and trailing, veter, curvature, thickness.
10	Defines the openness rate.
11	Expresses the effect of the wing shape on the aerodynamic properties of the wing.
12	Defines the dihedral angle, wing fixing angle and arrow angle.
13	Will be able to define drag force and its components.
14	Express the factors that create the profile (noise) drag and explain the boundary layer.
15	Refers to the factors that create induced drag.
16	Will be able to define Stall's situation and properties.
17	Defines stall speed and stall angle.
18	Stall explains the reasons for its formation.
19	Explain Stall delay / prevention methods.
20	Will be able to define flight control surfaces.
21	Describes the primary flight control surfaces and their use in roll / pitch / roll control.
22	Defines elevon, taileron, flaperon and ruddervator surfaces.
23	Define secondary flight control surfaces and trim control.
24	Describes overflow enhancing devices and their uses.
25	Identifies spoiler surfaces and speed brakes.
26	Will be able to express the definition of stability and factors affecting stability.
27	Defines the difference between static and dynamic stability.
28	Express longitudinal, lateral, directional stability definitions and factors affecting them.
29	Will be able to define the elements of an airplane.
30	Will be able to define the features of high speed flight.
31	Defines the sound speed, Mach number and critical Mach number.
32	Defines the subsonic, transonic and supersonic flight.
33	Explain the shock wave and wave drag.
34	Explain the effect of the arrow angle.
35	Will be able to express the basic terminology used in rotary wing aerodynamics and systems and define the operation of collective, cyclic and anti-torque controls.

IHA101 AVIATION TECHNOLOGIES AND TERMINOLOGY							
Course Name	Course Code	Term	Time	Theoretical	Practice	Credit	ECTS
AVIATION TECHNOLOGIES AND TERMINOLOGY	IHA101	1.	3	3	0	3	4
WEEKLY SUBJECTS							
WEEK	SUBJECTS						
1	Basic Concepts: Atmospheric physics, International Standard Atmosphere.						
2	Aerostatic and Aerodynamics: Air flow, aerodynamic forces acting on the aircraft, aerodynamic moment, transport and drag coefficients, L / D ratio.						
3	Wing Profile and Wing Plan Format: Wing profile terms, wing span, span ratio, dihedral angle, wing fixing angle, arrow angle.						
4	Drag Force: Boundary layer, profile (noise) drag, induced drag.						
5	Stall: Stall speed, stall angle, causes and reduction methods, stall warning systems.						
6	Stall: Stall speed, stall angle, causes and reduction methods, stall warning systems.						
7	Flight Control Surfaces: Airplane axes, primary flight control surfaces, roll / pitch / roll control.						
8	MIDTERM						
9	Flight Control Surfaces: Secondary flight control surfaces and other flight control surface properties.						
10	Flight Control Surfaces: Transport-enhancing elements, spoilers, speed brakes.						
11	Stability and Control: Static and dynamic stability, longitudinal / lateral / directional stability.						
12	Aircraft Elements (Anatomy) - General Concepts: Wing, body, tail, power group, landing gear.						
13	Aircraft Elements (Anatomy) - General Concepts: Wing, body, tail, power group, landing gear.						
14	High Speed, Flight: Speed of sound, Mach number, critical Mach number, subsonic / transonic / supersonic flight, shock wave, wave drag, effect of arrow angle.						
15	Rotary Wing: Terminology, collective, cyclic and anti-torque systems.						
16	FINAL EXAM						

IHA105 COMPUTER AIDED TECHNICAL DRAWING

IHA105 COMPUTER AIDED TECHNICAL DRAWING

COURSE DESCRIPTION

Course Level Associate Degree

Course Type COMPULSORY

The Aim of Course To teach the student the technical language, to get the opinions of the objects with this language, to complete the missing appearances and to teach the appearances by design and appearances according to the design. Also, to take the horizontal and vertical cross-section of the objects, to make dimensioning and to understand the perspective drawing techniques and to draw them. Thus, students will be provided with three-dimensional thinking, comprehension, transferring this on paper and analyzing two-dimensional drawings on paper in three dimensions.

Course Content Introduction to basic technical drawing. Sectioning. Principles of dimensioning and tolerance. Machine elements standards. One-view drawings. Geometric drawings. Appearance. Dimensioning techniques. Sectional views. Drawings of machine elements. Drawings of assembly parts.

Course Prerequisite The course does not have a prerequisite

Course Side Condition The course does not have a side condition.

Teaching Type Face to face

COURSE LEARNING OUTCOMES

- 1 To be able to use the drawing tools in accordance with the technique
- 2 To be able to draw pictures on technical drawing papers according to their size and properties.
- 3 To be able to draw standard lines and write with vertical and italic types.
- 4 To be able to use projection planes, projection types and view extraction methods.
- 5 To be able to draw projections and views of basic shapes, prism and pyramid, and read the given drawings.

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To be able to draw the perspective of objects according to the drawing rules and to be able to read the given perspective.

IHA105 COMPUTER AIDED TECHNICAL DRAWING							
Course Name	Course Code	Term	Time	Theoretical	Practice	Credit	ECTS
COMPUTER AIDED TECHNICAL DRAWING	IHA105	1.	3	1	2	2	3
WEEKLY SUBJECTS							
WEEK	SUBJECTS						
1	Introduction to technical drawing, definition of technical drawing and its importance for Manufacturing Engineering, technical drawing tools, importance of CAD-CAM programs in technical drawing.						
2	Drawing papers, scales, writing and numbers, writing applications, lines and types, line applications, geometric drawings, polygon drawings, class applications.						
3	Projections (projections of point, line, planes), real size finding, extraction (single-view, two-view, drawing of three-view parts), determination of part position, appearance types, determination of the number of views, auxiliary views, class applications.						
4	Dimensions and dimensioning, principles of dimensioning pictures, showing and writing dimensions, class applications.						
5	The importance of perspective painting, drawing of isometric perspective, class applications.						
6	Oblique perspective, sample drawing about oblique perspective, drawing of cylindrical parts in oblique perspective, conical (central) perspective, drawing of perspective types, class applications.						
7	Sectioning and rules, full section, half section drawings, class applications.						
8	MIDTERM						
9	Progressive section, partial section, rotated section drawings, class applications.						
10	Dimensions and dimensioning, principles of dimensioning pictures, showing and writing dimensions, class applications.						
11	Surface roughness and surface treatment marks, class applications.						
12	Showing tolerances and tolerances on the drawing, class applications						
13	Surface roughness, Gear profile and construction pictures						
14	Drawings of standard machine elements						

15	Drawings of standard computer-aided machine elements
16	FINAL EXAM