

Course Title	Human Performance				
Course Code	AVM211				
Course Type	Compulsory				
Level	Bachelor (1 st cycle)				
Year / Semester	2 nd Year / 1 st Semester				
Instructor's name	TBA				
ECTS	4	Lectures / week	3 Hours /14 Weeks	Laboratories / week	None
Course Purpose and Objectives	<p>The purpose of the Human Performance course is to provide the student with the knowledge required in order to understand the main physiological and psychological factors that will affect their performance as pilots, and therefore promote safety through a well informed decision making process. The course aims to cover subjects that include physiology of the human body, health problems that pilots may come across, the effects that the environment in which they work may have on them and basic psychological factors such as human information processing, human error, human behavior and more.</p>				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Define the basic concepts relating to human factors in aviation. • Describe the symptoms of a variety of conditions that may affect a pilot in flight. • Describe the actions that a pilot should take in order to avoid or recover from a condition that may affect them during flight. • Describe the human sensory system. • Define appropriate attitudes that must be followed in order to safeguard their health and hygiene. • Describe the main psychological factors that may influence a pilot's performance during flight. • Demonstrate ability to apply knowledge in making decisions that will minimise human error. • Demonstrate behaviours that will promote appropriate cooperation with other flight crew members. • Demonstrate understanding of the appropriate usage of cockpit automation systems. 				
Prerequisites	AVM111	Co-requisites	None		

Course Content

The material included in this course cover the following subjects:

- **Human Factors:**
 - Basic Concepts: Human Factors in aviation (Becoming a competent pilot), Accident statistics, Flight safety concepts, Safety culture.
- **Basics of flight physiology:**
 - Basics of flight physiology: Hypertension and Hypotension, Coronary artery disease, Hypoxia, Hyperventilation, Decompression Sickness/Illness, Acceleration, Carbon Monoxide, High altitude environment (Ozone, Radiation, Humidity, Extreme Temperatures).
 - Man and Environment: the sensory system, Central, peripheral and autonomic nervous systems, Vision (Functional anatomy, Visual foveal and peripheral vision, Binocular and monocular vision, Defective vision), Hearing (Descriptive and functional anatomy, Hearing loss), Equilibrium (Functional Anatomy, Motion sickness), Integration of sensory inputs, Health and hygiene (Personal hygiene, Body rhythm and sleep).
 - Problem areas for pilots: Common Minor Ailments, Entrapped gases and barotrauma, Gastro-intestinal upsets, Back Pain, Food Hygiene, Tropical climates, Infectious diseases, Intoxication (Tobacco, Caffeine, Alcohol, Drugs and self-medication, Toxic materials), Incapacitation in flight.
- **Basic aviation psychology:**
 - Human information processing: Attention and vigilance, Perception, Memory, Response selection (Learning principles and techniques, Motivation).
 - Human error and reliability: Reliability of human behaviour, Mental models and situation awareness, Theory and model of human error, (Error generation), Decision making.
 - Avoiding and managing errors: cockpit management (Safety awareness), Co-ordination - multi-crew concepts, Co-operation, Communication)
 - Human behaviour: Personality, attitude and behaviour, Individual differences in personality and motivation, Self-concept, Self-discipline, Identification of hazardous attitude - error proneness, Human overload and underload (Arousal, Stress, Fatigue and stress management).

	<ul style="list-style-type: none"> ○ Advanced cockpit automation: Advantages and disadvantages, Automation complacency, Working concepts. 						
Teaching Methodology	Face-to-face						
Bibliography	<ul style="list-style-type: none"> • Bristol ATPL (A) Groundschool Manual & CBT Software 						
Assessment	<table border="1"> <tr> <td>Examinations</td> <td>90%</td> </tr> <tr> <td>Participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Examinations	90%	Participation	10%		100%
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Language	English						