AVIA H2603: Human Factors in Aviation

Module Title:	Human Factors in Aviation
Language of Instruction:	English

Credits:	5

NFQ Level:	6

Module Delivered In	2 programme(s)

Teaching & Learning Strategies:	This module will be taught by Lectures, Tutorials, and Class/Group Discussions analysing a range of published aircraft accident investigation reports.

Module Aim:	The student will understand that by recognising human factors issues in aircraft flight crew & maintenance engineering, it can help them to identify problems and prevent accidents. By analysing various case studies, the student will understand the 'human' side of aircraft accidents and incidents, specifically the social, physical, physiological and environmental aspects as they affect the flight crew, maintenance staff and management.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Recognise & describe how various Human Factors issues affect task performance
LO2	Analyse and effectively disseminate safety information with others using an appropriate range of communication skills/techniques (electronic, written, verbal and non-verbal)
LO3	Evaluate recurring human error patterns from their own technical, ethical and personal viewpoints
LO4	Analyse common/frequent aviation workplace hazards and develop/propose strategies to reduce/mitigate and/or eliminate them
LO5	Compare the differences between the 'Old' and 'New' views of Human Factors (Safety I v Safety II) and examine the impact on their own personal professional & ethical behaviours

Pre-requisite learning
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*
No recommendations listed
Incompatible Modules *These are modules which have learning outcomes that are too similar to the learning outcomes of this module.*
No incompatible modules listed
Co-requisite Modules
No Co-requisite modules listed
Requirements *This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.*
No requirements listed

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Module Content & Assessment

Indicative Content
Human Factors & Social Psychology The Need To Take Human Factors Into Account; Incidents Attributable To Human Factors/Human Error; 'Murphy's' Law; Personal/Individual/Group Responsibilities; Professional Characteristics/Development/Behaviour; Motivation And De-Motivation; Peer Pressure; Safety 'Culture' - Ethical Standards/Responsibilities; Team Working; Management, Supervision And Leadership.
Human Performance & Limitations Vision; Hearing; Information Processing; Attention And Perception; Memory; Claustrophobia And Physical Access.
Factors Affecting Performance/Communication Fitness/Health; Stress: Domestic And Work Related; Time Pressure And Deadlines; Workload: Overload And Underload; Sleep And Fatigue, Shiftwork; Alcohol, Medication, Drug Abuse; Communication within/between Teams; Work Logging And Recording - Accuracy/Honesty/Integrity; Keeping Up To Date, Currency; Dissemination Of Information; Portfolios/Journals/Log Books
Tasks & Human Error Physical Work; Repetitive Tasks; Visual Inspection; Complex Systems; Error Models And Theories; Types Of Error In Maintenance Tasks; Implications Of Errors (Accidents); Avoiding/Managing Error, Importance of Honesty/Truthfulness in Reporting Error; Safety I vs Safety II
Physical Environment & Hazards In The Workplace Noise And Fumes; Illumination; Climate And Temperature; Motion And Vibration; Working Environment; Recognising And Avoiding Hazards; Dealing With Emergencies

Assessment Breakdown	%
Continuous Assessment	50.00%
Project	50.00%

Continuous Assessment

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Written Report	Each student will complete a range of tutorials during term time for which a maximum of 50% will be awarded	1,2,3,4,5	50.00	n/a

Project

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Project	Each student will complete a range of Research Activities culminating in a Written Portfolio, during term time, for which a maximum of 50% will be awarded	1,2,3,4,5	50.00	n/a

No Practical

No End of Module Formal Examination

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

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Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Lecture	12 Weeks per Stage	4.00
Independent Learning	15 Weeks per Stage	5.13
	Total Hours	125.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_EEAER_B	Bachelor of Engineering (Honours) in Aerospace Engineering	3	Mandatory
CW_EEACS_D	Bachelor of Engineering in Aircraft Systems	3	Mandatory