MODULE SPECIFICATION

Part 1: Information			
Module Title	Flight Test and Airworthiness		
Module Code	UFMEWH-15-M	Level	Level 7
For implementation from	2019-20		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Environment & Technology	Field	Engineering, Design and Mathematics
Department	FET Dept of Engin Design & Mathematics		
Module type:	Project		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description

Educational Aims: See Learning Outcomes

Outline Syllabus: The syllabus includes:

Introduction: Brief history of aircraft testing and flight safety, ICAO, EASA, FAA – Concorde Design, Flight Test and into service.

Flight Test: Flight Test theory, testing the boundaries of the flight envelope- Instrumentation and systems test equipment, ground and air vehicle mounted- Data transmission, telemetry, data analysis- Links to design and product development, military, civil fixed and rotary wing-The work of Flight Test.

Airworthiness: Safety and Regulations; Design Organisation Approval- Route to Type Certification; ETOPS / LROPS; Airworthiness limitations- Individual Aircraft Certification, changes to type design- Certification of military and rotary wing aircraft, and engines- Continued Airworthiness, non-standard parts, bulletins, in-service repairs.

Guest lectures will, if possible, be included, including a session on accident investigation.

Teaching and Learning Methods: Students will learn through a combination of formal lectures and tutorial sessions. A variety of different scenarios will be considered through the tutorial exercises.

Part 3: Assessment			
First Sit Components	**Final Assessment**	**Element weighting**	**Description**
Project - Component A	✓	50 %	Airworthiness assessment of design project vehicle
Project - Component A		50 %	Assessment of vehicle balance, stability and control-ability
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Report - Component A	✓	100 %	Individual Report and Supporting Documentation

Part 4: Teaching and Learning Methods

Learning Outcomes

On successful completion of this module students will achieve the following learning outcomes:

Module Learning Outcomes	**Reference**
Airworthiness processes; Type and Aircraft certification	MO1
Continuing airworthiness processes, including accident investigation	MO2
Flight test principles and processes, tools and techniques	MO3
The role of flight test in product design and development	MO4
Identifying workable aircraft configurations and layouts	MO5
The performance and safety implications of the aircraft envelope	MO6
Understanding when handling characteristics are acceptable	MO7
Aircraft static and dynamic characteristics and control	MO8
Executing an airworthiness assessment of a project aircraft design	MO9
Programming aircraft handling characteristics into the UWE simulator	MO10
Understanding the complete aircraft as an integrated complex aircraft	MO11
Awareness of professional literature	MO12
Communication skills	MO13
Problem formulation and decision making	MO14
Self-management skills	MO15
Working with others	MO16

Contact Hours

Independent Study Hours:

Independent study/self-guided study	113
Total Independent Study Hours:	113

	Scheduled Learning and Teaching Hours:	
	Face-to-face learning	37
	Total Scheduled Learning and Teaching Hours:	37
	Hours to be allocated	150
	Allocated Hours	150
Reading List	*The reading list for this module can be accessed via the following link:* https://uwe.rl.talis.com/modules/ufmewh-15-m.html	

Part 5: Contributes Towards
This module contributes towards the following programmes of study: