MODULE SPECIFICATION

Part 1: Information			
Module Title	Flight Test and Airworthiness		
Module Code	UFMEWH-15-M	Level	Level 7
For implementation from	2020-21		
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:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description

Overview: This module explores the flight test and airworthiness principles and processes and their application to support the design, development, certification and operations of aerospace vehicles.

Educational Aims: The aim of this module is to ensure that students acquire knowledge of industry standards, processes and regulations relating to the airworthiness of aerospace vehicles.

Outline Syllabus: Introduction: Brief history of aircraft testing and flight safety, ICAO, EASA, FAA – e.g. Aerospace vehicle 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 e.g. military, civil fixed and rotary wing.

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.

Teaching and Learning Methods: Students will learn through traditional lectures and seminar sessions to which explore flight test and airworthiness principles through a variety of relevant case studies.

Part 3: Assessment			
Component A The in-class airworthiness activity is communicated and assessed in the form of a group presentation (Component A) of 30 minutes held at the end of the teaching block and provides the control condition assessment. The presentation assesses that students have a clear understanding of airworthiness processes and how they encapsulate the needs of a particular aerospace industry. The analysis and reflection of the findings will also be assessed. Component B The assessment is in the form of an individual reflective report which requires demonstration of independent learning of flight test and airworthiness principles and processes and their application, evaluation and critical reflection of their work both during and outside timetabled sessions. The expected output is a 3500 word report.			
First Sit Components	**Final Assessment**	**Element weighting**	**Description**
Presentation - Component A		20 %	Group presentation and discussion (30 minutes)
Report - Component B	✓	80 %	Individual Report (3500 words)
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Report - Component B		80 %	Individual Report (2000 words)
Presentation - Component A	✓	20 %	Individual presentation (15 minutes)

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**
Evaluate the relevance of airworthiness regulations and whether they effectively encapsulate the current and future requirements of the aerospace and aviation industry	MO1
Identify and apply appropriate processes such as type and aircraft certification and continuing airworthiness to complete an airworthiness assessment of a complex aerospace or aviation design project.	MO2
Apply flight test principles and techniques to evaluate the flight envelope and handling characteristics of aerospace vehicles to support design, development and aircraft certification processes.	MO3

Contact Hours

Independent Study Hours:	
Independent study/self-guided study	125

	Total Independent Study Hours:	125
	Scheduled Learning and Teaching Hours:	
	Lectorials	25
	Total Scheduled Learning and Teaching Hours:	25
	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: