MODULE SPECIFICATION

Part 1: Information			
Module Title	Flight Test and Airworthiness		
Module Code	UFMEWH-15-M	Level	Level 7
For implementation from	2018-19		
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		
Contributes towards			
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 be able to:

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

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<tr><td>Contact Hours</td><td>
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<tr><th colspan="2">Contact Hours</th></tr>
<tr><td colspan="2"></td></tr>
<tr><td colspan="2">Independent Study Hours:</td></tr>
<tr><td>Independent study/self-guided study</td><td>113</td></tr>
<tr><td>Total Independent Study Hours:</td><td>113</td></tr>
<tr><td colspan="2">Scheduled Learning and Teaching Hours:</td></tr>
<tr><td>Face-to-face learning</td><td>37</td></tr>
<tr><td>Total Scheduled Learning and Teaching Hours:</td><td>37</td></tr>
<tr><td>Hours to be allocated</td><td>150</td></tr>
<tr><td>Allocated Hours</td><td>150</td></tr>
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<tr><td>Reading List</td><td>The reading list for this module can be accessed via the following link:

https://uwe.rl.talis.com/modules/ufmewh-15-m.html</td></tr>
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