



MODULE SPECIFICATION

Part 1: Information			
Module Title	Flight		
Module Code	UFMFFK-15-2	Level	2
For implementation from	September 2019		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Environment and Technology	Field	Engineering, Design and Mathematics
Department	Engineering, Design and Mathematics		
Contributes towards	BEng (Hons) Aerospace Engineering (compulsory), MEng Aerospace Engineering (compulsory), BEng (Hons) Aerospace Engineering with Pilot Studies (compulsory), MEng Aerospace Engineering with Pilot Studies (compulsory),		
Module type:	Standard		
Pre-requisites	UFMFJ9-30-1 Engineering Mathematics		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>This module provides a detailed overview of flight mechanics and dynamics concepts using illustrated practical examples and computational exercises to help reinforce concepts of aircraft performance and stability Students will also have the opportunity to undertake a flight test course in a real aircraft as well as use flight test data to model aircraft dynamic motion.</p> <p><i>In this module you will cover:</i></p> <ol style="list-style-type: none"> 1. Elements of Aircraft Performance including: take-off and landing, climb, descent, and level flight 2. Principles of Aircraft Longitudinal and Lateral Static Stability including: weight and balance, neutral point, static margin, calculation of elevator angle to trim, stick-fixed versus stick-free static stability 3. Principles of Aircraft longitudinal and lateral dynamic stability including: mathematical description and numerical simulation of the primary dynamic modes of an aircraft. 4. Principles of Flight Test including: In-flight measurements; post-flight calculations; comparison with theory; and multiple flights and tests

Part 3: Assessment

The skills acquired by the student are demonstrated within a project based framework. A typical project may for instance be the conceptual design of an aircraft. The students are led through the conceptual design by the teaching team upon which the students will then apply the concepts and taught materials and demonstrate their conformance to the learning outcomes. The acquisition of the requisite skills are assessed through a formative assessments during the project process, a final report and presentation by the group; with the two latter assessments providing opportunities for individual assessment.

Identify final timetabled piece of assessment (component and element)

Component A1

% weighting between components A and B (Standard modules only)

A:
25

B:
75

First Sit

Component A (controlled conditions)
Description of each element

Element weighting

1. Group presentation(20 minutes)

100

Component B
Description of each element

Element weighting

1. Group Assignment (6000 words)

100

Resit (further attendance at taught classes is not required)

Component A (controlled conditions)
Description of each element

Element weighting

1. Individual Presentation (10 minutes)

100

Component B
Description of each element

Element weighting

1. Individual Assignment (2500 words)

100


Part 4: Teaching and Learning Methods

Learning Outcomes

On successful completion of this module students will be able to:

- 1) Apply concepts and principles in flight theory and model performance, static and dynamic stability of aircraft. (Comp A & B)
- 2) Apply fundamental flight test principles to an aircraft. (Comp A & B)
- 3) Operate a flight simulation package and use it to assess an aircraft's stability. (Comp A & B)
- 4) Use numerical models to produce simulations of aircraft dynamic flight modes. (Comp A & B)
- 5) Use professional literature to research and evaluate flight performance and stability. (Comp A & B)

Key Information
Sets Information
(KIS)

	Key Information Set - Module data																			
	<i>Number of credits for this module</i>					15														
Contact Hours	Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours															
	150	36	114	0	150															
Total Assessment	The table below indicates as a percentage the total assessment of the module which constitutes a;																			
	<p>Oral Exam Coursework: Written assignment or report</p> <table border="1"> <tr> <td colspan="2">Total assessment of the module:</td> <td></td> </tr> <tr> <td>Oral exam assessment percentage</td> <td></td> <td>25%</td> </tr> <tr> <td>Coursework assessment percentage</td> <td></td> <td>75%</td> </tr> <tr> <td>Practical exam assessment percentage</td> <td></td> <td>0%</td> </tr> <tr> <td></td> <td></td> <td>100%</td> </tr> </table>					Total assessment of the module:			Oral exam assessment percentage		25%	Coursework assessment percentage		75%	Practical exam assessment percentage		0%			100%
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		100%																		
Reading List	Essential reading material is provided as study notes on Blackboard. Additional external reading resources are listed on the following reading list link https://uwe.rl.talis.com/lists/4034FDDE-4115-2AB1-3532-50D812D91D66.html																			

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First Approval Date	11 November 2016			
Revision Approval Date		Version	1	Link to RIA (ID 3982)
	28 May 2019		2	Link to RIA (ID 5191)