



MODULE SPECIFICATION

Part 1: Information			
Module Title	Pilot Studies and Aeronautics		
Module Code	UFMFDK-15-1	Level	Level 4
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:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>Overview: This module will provides an overview of pilot studies topics for a typical Private Pilot's Licence (PPL) and an introduction to aeronautics concepts such as aerodynamics and flow measurement and analysis.</p> <p>Educational Aims: See Learning Outcomes</p> <p>Outline Syllabus: In the pilot studies section you will cover:</p> <p>Introduction to aircraft familiarisation, aircraft systems and communications</p> <p>Aspects of Ground school training for a typical PPL such as (for pilots) meteorology, interpreting weather data, weight & balance, performance, navigation and cross country flight planning</p> <p>Use of the university flight simulator</p> <p>In the aeronautics section you will cover:</p> <p>Introduction to fluid dynamics, pressure, density, hydrostatic pressure</p> <p>Introduction to basic aerodynamics</p>

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Volumetric and mass flow rates, continuity and Bernoulli's equation

Flow measurement devices and calculations

Dimensional analysis for engineering problems

Flow types: laminar and turbulent flow, characteristics including solving basic problems

Use of the university subsonic windtunnel

Teaching and Learning Methods: See Assessment.

Part 3: Assessment

Component A:

Assessed in controlled conditions via end of semester Exam of 2 hours (50%) in which LO1, LO2, LO4 and LO6 are covered through the specific exam questions. Formative assessments (not contributing to module mark) are provided via support in tutorial sessions.

Component B:

Report on the general aviation aircraft navigation assignment in the form of a group presentation of 30 mins held during in-class (50%). In this assignment it is required that use of the flight simulators is made by the student group (LO3). The presentation will cover aspects of aircraft navigation, communication and weight and balance (LO5, LO6, LO7). Marks will be allocated as a group for demonstration of problem formulation and decision making during the presentation, as well as for demonstration of understanding of pilot studies concepts covered in this module. Group work procedures (e.g. group member responsibilities and mediation process) will be outlined in the module handbook and peer review is incorporated within the assessment process to ensure that the group work aspect is a positive experience for students and staff. Formative assessment is provided via support in tutorial sessions.

First Sit Components	Final Assessment	Element weighting	Description
Presentation - Component B		50 %	Pilot studies navigation project (group presentation 30 mins.)
Examination - Component A	✓	50 %	End of semester exam (2 hours)
Resit Components	Final Assessment	Element weighting	Description
Presentation - Component B		50 %	Pilot studies navigation project (individual presentation 30 mins.)
Examination - Component A	✓	50 %	End of semester exam (2 hours)

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Part 4: Teaching and Learning Methods																	
Learning Outcomes	<p>On successful completion of this module students will achieve the following learning outcomes:</p> <table border="1"> <thead> <tr> <th style="text-align: left;">Module Learning Outcomes</th> <th style="text-align: left;">Reference</th> </tr> </thead> <tbody> <tr> <td>Show a detailed knowledge and understanding of key principles in fluid dynamics and aerodynamics analysis</td> <td>MO1</td> </tr> <tr> <td>Demonstrate a basic understanding and knowledge of modelling and solving numerical problems in fluid dynamics, based on knowledge of the relevant engineering principles</td> <td>MO2</td> </tr> <tr> <td>Demonstrate the ability to use specific aerospace equipment such as the subsonic windtunnel and the flight simulators. (</td> <td>MO3</td> </tr> <tr> <td>Understand the basics of aircraft composition, weight and balance and performance</td> <td>MO4</td> </tr> <tr> <td>Develop a Visual Flight Rules cross country flight plan for a general aviation aircraft</td> <td>MO5</td> </tr> <tr> <td>Show cognitive skills with respect to modelling and simplifying real problems, and applying mathematical methods of analysis</td> <td>MO6</td> </tr> <tr> <td>Demonstrate key transferable skills in problem formulation and decision making, interpreting experimental results</td> <td>MO7</td> </tr> </tbody> </table>	Module Learning Outcomes	Reference	Show a detailed knowledge and understanding of key principles in fluid dynamics and aerodynamics analysis	MO1	Demonstrate a basic understanding and knowledge of modelling and solving numerical problems in fluid dynamics, based on knowledge of the relevant engineering principles	MO2	Demonstrate the ability to use specific aerospace equipment such as the subsonic windtunnel and the flight simulators. (MO3	Understand the basics of aircraft composition, weight and balance and performance	MO4	Develop a Visual Flight Rules cross country flight plan for a general aviation aircraft	MO5	Show cognitive skills with respect to modelling and simplifying real problems, and applying mathematical methods of analysis	MO6	Demonstrate key transferable skills in problem formulation and decision making, interpreting experimental results	MO7
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Reading List	<p><i>The reading list for this module can be accessed via the following link:</i></p> <p>https://uwe.rl.talis.com/index.html</p>																

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Part 5: Contributes Towards

This module contributes towards the following programmes of study:

Aerospace Engineering with Pilot Studies {Foundation} [Sep][FT][Frenchay][4yrs] BEng (Hons) 2018-19
Aerospace Engineering with Pilot Studies (Design) {Foundation} [Sep][FT][Frenchay][4yrs] BEng (Hons) 2018-19
Aerospace Engineering with Pilot Studies (Design) {Foundation} [Sep][SW][Frenchay][5yrs] BEng (Hons) 2018-19
Aerospace Engineering with Pilot Studies [Sep][PT][Frenchay][6yrs] BEng (Hons) 2018-19
Aerospace Engineering with Pilot Studies (Manufacturing) {Foundation} [Sep][FT][Frenchay][4yrs] BEng (Hons) 2018-19
Aerospace Engineering with Pilot Studies (Systems) {Foundation} [Sep][FT][Frenchay][4yrs] BEng (Hons) 2018-19
Aerospace Engineering with Pilot Studies (Manufacturing) {Foundation} [Sep][SW][Frenchay][5yrs] BEng (Hons) 2018-19
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