

University of the West of Scotland

Module Descriptor

Session: 2024/25

Title of Module: Mathematics Project			
Code: MATH10011	SCQF Level: 10 (Scottish Credit and Qualifications Framework)	Credit Points: 40	ECTS: 20 (European Credit Transfer Scheme)
School:	School of Computing, Engineering and Physical Sciences		
Module Co-ordinator:	Dr Alan Walker		
Summary of Module			
<p>The mathematics (or statistics) final year project offers the opportunity for students to put their knowledge into practice, experiencing how mathematics (or statistics) is carried out in a research environment.</p> <p>Students will conduct their independent research project with staff supervision. Taught sessions on any extra software related material that may be necessary will be provided.</p> <p>In the initial stages of the Honours project the outcome for the student is a thorough understanding of their project area. A clear plan will be delineated as to what is to be achieved in the main part of the project, identifying key milestones along the way.</p> <p>Students will learn to identify, analyse and synthesise the necessary mathematical (or statistical) concepts and methodologies in a critical manner. It is important that a coherent pathway between the initial problem and the final conclusions is maintained.</p> <p>With reference to the Mathematics programme, this module offers the students the opportunity to learn by experience, with suitable supervisory guidance, whilst confidently employing their mathematical (or statistical) knowledge and problem-solving techniques.</p> <p>Further, students will be asked to consider target setting and evaluation of their own work and will also be encouraged to reflect on personal and professional learning in academic work. The PDP process will culminate in the production of an Initial Professional Development Action Plan.</p> <ul style="list-style-type: none"> Graduate Attributes (Academic): critical thinker; analytical; inquiring; knowledgeable; digitally literate; problem solver; autonomous; incisive; innovative. Graduate Attributes (Personal): effective communicator; influential; motivated. Graduate Attributes (Professional): collaborative; research-minded; enterprising; ambitious; driven. 			

Module Delivery Method					
Face-To-Face	Blended	Fully Online	HybridC	Hybrid 0	Work-Based Learning
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

See Guidance Note for details.

Campus(es) for Module Delivery

The module will **normally** be offered on the following campuses / or by Distance/Online Learning: (Provided viable student numbers permit) (tick as appropriate)

Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Add name

Term(s) for Module Delivery

(Provided viable student numbers permit).

Term 1	Term 2	Term 3
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Learning Outcomes: (maximum of 5 statements)

These should take cognisance of the SCQF level descriptors and be at the appropriate level for the module.

At the end of this module the student will be able to:

L1	Develop a plan for an extended mathematical and/or statistical investigation.
L2	Demonstrate understanding of the context of the investigation.
L3	Carry out an extended investigation, applying appropriate mathematical and/or statistical techniques.
L4	Communicate the plan, the context and the output to peers and professional colleagues.

Employability Skills and Personal Development Planning (PDP) Skills

SCQF Headings	During completion of this module, there will be an opportunity to achieve core skills in:
Knowledge and Understanding (K and U)	<p>SCQF Level 10</p> <p>The project covers all relevant areas mentioned at SCQF Level 10. The student will carry out a review of the background to the work to be undertaken with the aid of suitable published resources, together with interaction with their supervisor and other staff.</p> <p>The student will be able to identify and develop their understanding of the key concepts underpinning their investigations.</p>

Practice: Applied Knowledge and Understanding	<p>SCQF Level 10</p> <p>The student will utilise the necessary mathematical and/or statistical skills to carry out an extended piece of work. The project is an excellent way for students to apply the knowledge and understanding they have developed throughout their programme across a range of modules.</p> <p>The student will execute a research-driven project in which they have to plan and log an investigation, identifying key milestones along the way.</p>	
Generic Cognitive skills	<p>SCQF Level 10</p> <p>The student will produce, present and evaluate information and ideas in a coherent and well documented way.</p>	
Communication, ICT and Numeracy Skills	<p>SCQF Level 10</p> <p>The student will:</p> <ul style="list-style-type: none"> • convey ideas in well-structured and coherent forms; • use a range of forms of communication effectively in both familiar and new contexts; • use advanced techniques to obtain and process a variety of information and data, and; • use software, as necessary, to support the work undertaken. 	
Autonomy, Accountability and Working with others	<p>SCQF Level 10</p> <p>The student will exercise initiative and independence in carrying out planned activities, will meet clearly delineated milestone agreed with their project supervisor.</p>	
Pre-requisites:	Before undertaking this module the student should have undertaken the following:	
	Module Code: MATH09002	Module Title: Differential Equations 2
	Other:	The above module plus any 80 credits MATH coded options at Level 9.
Co-requisites	Module Code:	Module Title:

*Indicates that module descriptor is not published.

Learning and Teaching
<p>This module offers training in a research context in mathematics and/or statistics. Professional skills that are relevant for any mathematically influenced career will be developed.</p> <p>The delivery of the project part of the module offers, primarily, individual learning, although support on any necessary software would be offered where necessary. The student will be guided by the project supervisor regarding appropriate preparation, such as background reading, and in suitable approaches to be taken. It is to be expected, however, that the student will take the initiative in the design and development of their work.</p>

Near and at the conclusion of the project, an important professional skill is communication of project findings. This module offers an opportunity to experience formal communication processes by means of an oral presentation and the submission of a formal project report.

Adjustments for special requirements can be made on request.

<p>Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:</p>	<p>Student Learning Hours (Normally totalling 200 hours): (Note: Learning hours include both contact hours and hours spent on other learning activities)</p>
Tutorial/Synchronous Support Activity	12
Lecture/Core Content Delivery	8
Independent Study	380
	Hours Total 400

****Indicative Resources: (eg. Core text, journals, internet access)**

The following materials form essential underpinning for the module content and ultimately for the learning outcomes:

Materials will be suggested by the Project Supervisor.

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Please ensure the list is kept short and current. Essential resources should be included, broader resources should be kept for module handbooks / Aula VLE.

Resources should be listed in Right Harvard referencing style or agreed professional body deviation and in alphabetical order.

(*N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

Attendance and Engagement Requirements

In line with the [Student Attendance and Engagement Procedure](#): Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time.

Equality and Diversity

The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: [UWS Equality, Diversity and Human Rights Code](#).

Please ensure any specific requirements are detailed in this section. Module Co-ordinators should consider the accessibility of their module for groups with protected characteristics..

(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

Supplemental Information

Divisional Programme Board	Engineering and Physical Sciences
Assessment Results (Pass/Fail)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
School Assessment Board	Computing, Engineering and Physical Sciences
Moderator	All mathematics staff (as project topic dictates)
External Examiner	C. Guiver
Accreditation Details	
Changes/Version Number	1.04 Minor wording changes. Minor changes to delivery hours.

Assessment: (also refer to Assessment Outcomes Grids below)

Assessment 1 - Final Report (80%)

Assessment 2 - Oral presentation (20%).

(N.B. (i) **Assessment Outcomes Grids** for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed.

(ii) An **indicative schedule** listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Module Handbook.)

Assessment Outcome Grids (See Guidance Note)

Component 1							
Assessment Type	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Learning Outcome (5)	Weighting (%) of	Timetable d Contact Hours

(Footnote B.)						Assessment Element	
Dissertation/ Project report/ Thesis	✓	✓	✓	✓		80	0

Component 2							
Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Learning Outcome (5)	Weighting (%) of Assessment Element	Timetabled Contact Hours
Presentation				✓		20	0

Combined Total for All Components						100%	0 hours
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