Undergraduate Programme Specification

Session	2025/26	**Last Modified**	06/06/2025
Named Award Title	BSc (Hons) Mathematics with Education Single		
Award Title for Each Award	BSc (Hons) Mathematics 2023 BSc Mathematics Dip HE Mathematics Cert HE Mathematics		
Date of Approval	June 2023		
Details of Cohort Applies to	All students joining or continuing into Levels 7, 8, 9 and 10 in 2025-26, except students who began the programme before September 2021		
Awarding Institution	University of the West of Scotland	**Teaching Institution(s)**	University of the West of Scotland
Language of Instruction & Examination		English	
Award Accredited by		General Teaching Council for Scotland (GTCS)	
Maximum Period of Registration		8 Years	
Duration of Study			
Full-time	4 Years	**Part-time**	
Placement (compulsory)			
Mode of Study	☒ Full-time ☐ Part-time		
Campus	☒ Ayr ☐ Dumfries	☐ Lanarkshire ☐ London ☒ Paisley	☐ Online / Distance Learning ☐ Other (specify)
School	**Computing, Engineering and Physical Sciences**		
Divisional Programme Board	**Engineering Physical Sciences**		
Programme Leader	Ryan P. Meeten (Interim) Alan Walker		

Admissions Criteria
Candidates must be able to satisfy the general admission requirements of the University of the West of Scotland as specified in Chapter 2 of the University Regulatory Framework together with the following programme requirements:

SQA National Qualifications:

Year 1: HIGHERS: BCCC including Mathematics plus English at SCQF Level 5 (e.g. National 5, Standard Grade (Grade 3 or above), Intermediate 2).
Year 2: ADVANCED HIGHERS: CCD including Mathematics plus English at SCQF Level 5 (e.g. National 5, Standard Grade (Grade 3 or above), Intermediate 2).

Before progressing to Year 3, students must have attained a qualification in English at SCQF Level 6 (e.g. Higher). Furthermore, students must successfully undertake an interview conducted by School of Education staff.

Students who are offered the opportunity to progress to Year 3 of this programme must apply for and obtain membership of the Protection of Vulnerable Groups Scheme before enrolment.

Experience of working with young people and up-to-date knowledge and understanding of secondary education in Scotland will aid progression to Year 3.

Or GCE
Year 1: A-LEVEL: CCD including Mathematics plus GCSE (Grade C or above) English
Year 2: A-LEVEL: BCC including Mathematics plus GCSE (Grade C or above) English

Before progressing to Year 3, students must meet the following requirements: GCSE English Language and English Literature at C or above. Furthermore, students must successfully undertake an interview conducted by School of Education staff.

Students who are offered the opportunity to progress to Year 3 of this programme must apply for and obtain membership of the Protection of Vulnerable Groups Scheme before enrolment. Experience of working with young people and up-to-date knowledge and understanding of secondary education in Scotland will aid progression to Year 3.

Or SQA National Qualifications / Edexcel Foundation
Year 1: Relevant HNC, which includes Higher National Unit: Engineering Mathematics 1 (H7K0 33).
Year 2: Relevant HND, which includes Higher National Units: Engineering Mathematics 2 (H7K1 34) and Engineering Mathematics 3 (H7K2 34).

Before progressing to Year 3, students must have attained a qualification in English at SCQF Level 6 (e.g. Higher). Furthermore, students must successfully undertake an interview conducted by School of Education staff.

Students who are offered the opportunity to progress to Year 3 of this programme must apply for and obtain membership of the Protection of Vulnerable Groups Scheme before enrolment. Experience of working with young people and up-to-date knowledge and understanding of secondary education in Scotland will aid progression to Year 3.

Other Required Qualifications/Experience
Year 1: Irish Leaving Certificate: H3H3H3H4 including Mathematics or International Baccalaureate (IB) Diploma: 24 points (including Mathematics).

Year 2: BTEC Extended Diploma: DDM, Scottish Baccalaureate in Science: Advanced entry to Year 2 will be dependent on subjects studied and grade of award or International Baccalaureate (IB) Diploma: 28 points including Mathematics.

Before progressing to Year 3, students must have attained a qualification in English at SCQF Level 6 (e.g. Higher). Furthermore, students must successfully undertake an interview conducted by School of Education staff.

Students who are offered the opportunity to progress to Year 3 of this programme must apply for and obtain membership of the Protection of Vulnerable Groups Scheme before enrolment. Experience of working with young people and up-to-date knowledge and understanding of secondary education in Scotland will aid progression to Year 3.

Further desirable skills pre-application

A willingness to learn, engage, and work closely with academics and peers alike.

General Overview

The BSc (Hons) Mathematics with Education programme is designed to enable students to complete in four years Honours degree level study in Mathematics with the teaching qualification required to teach Mathematics in secondary schools.

The programme is designed to fulfil the requirements of the QAA subject benchmark statement for Mathematics, Statistics and Operational Research (MSOR) (2015), the Guidelines for Initial Teacher Education Programmes in Scotland (GTCS, 2013), the benchmark statement for Standard for Provisional Registration (GTCS, 2012) and the QAA subject benchmark statement for Education Studies (2015).

The overall aim of the programme is to develop individuals with a range of transferable graduate skills who will acquire Honours-level knowledge and skills in Mathematics and Statistics alongside attaining the Standard for Provisional Registration. Consequently, such individuals will be eligible to apply for provisional registration with GTCS, and entry to the Teacher Induction Scheme as secondary school teachers of Mathematics. These teachers of Mathematics would also be fully equipped to deliver material in Statistics at secondary school level.

The programme teaches the fundamentals of Mathematics and Statistics as a core science and computer laboratory sessions develop practical and communication skills. Across the four years of the programme, increasingly complex understanding of Mathematics and Statistics, viz. Algebra, Calculus, Probability & Statistics, is developed. Depth of knowledge across a broad range of topics supports the teaching of senior phase courses up to, and including, Advanced Higher level.

The study of Education is introduced in year three with a focus on key educational issues, cross-cutting curricular themes, contexts for learning and professional values. Knowledge and understanding of curriculum, pedagogy and assessment of secondary Mathematics, and the skills and abilities to implement effective teaching and learning, are developed in year four, through campus teaching and school experience placements.

In accordance with the relevant benchmarks, graduates will have demonstrated the attributes, knowledge and skills encompassed by the following core areas:

Professional Values and Personal Commitment

The core values defined as Social Justice, Integrity, Trust and Respect, and Personal Commitment, which are integral to, and demonstrated through, all professional relationships and practices.

Professional Knowledge and Understanding

The knowledge and understanding of Mathematics within the secondary curriculum, including contexts for learning to fulfil their responsibilities in literacy, numeracy, health and wellbeing and interdisciplinary learning; the principal features of the education system and their own professional responsibilities within the learning communities in which they will teach; relevant educational principles and pedagogical theories; and the importance of research in informing professional practice.

Professional Skills and Abilities

The ability to design, deliver and assess effective, appropriate and stimulating programmes of work in Mathematics within the secondary curriculum that are suitable for children at different stages of secondary education; and to use reading, research and feedback from a range of sources to inform effective self-evaluation and maintain a record of professional learning and development culminating in an Initial Professional Development Action Plan. The programme will encourage the student to engage in lifelong learning, study and enquiry and to appreciate the value of education to society. It will also assist the student to develop the skills required for both autonomous practice and team-working.

Opportunities for further study

The Standard for Provisional Registration is part of a suite of professional standards published by GTCS (2012). Individuals obtaining Provisional Registration aim to progress to Full Registration and are then expected to continue to develop their expertise through appropriate and sustained career long professional learning (GTCS, 2012). The suite of professional standards may be used to guide this learning and includes, for example, the Standards for Leadership and Management. Non-award-bearing courses have always formed an important part of professional development and update for teachers, but many opportunities exist at Masters level and above in subjects and areas relevant to schools and the wider world of education.

Honours graduates may choose to pursue further study of Mathematics and/or Statistics through Masters or Doctoral programmes at this or other universities.

Support and Guidance

Student support and guidance is incredibly important. In addition to support provided by Programme Leaders, there are two key roles within the School's student support network: Personal Tutors and Year Leaders. They provide guidance and advice on a range of key matters such as (but not exclusively), health and wellbeing; funding; exams and assessment; study skills; attendance and engagement; and careers. Students may also be referred for specialist advice, to the central student support teams based on each campus at the Student Hub/Link.

Typical Delivery Method

Formal lectures will be supported by a range of blended learning activities such as small group tutorials, workshops, computer laboratory classes and use of the University VLE. These activities will employ a range of learning and teaching methodologies including group work, investigations, problem-based learning, concept visualisation (e.g. using drawing and collage), walking, student presentations and online tutor/student-led discussions. Resources such as industry-standard mathematical and statistical software packages (e.g. Matlab, SPSS and R), interactive whiteboards, laptops and the outdoors, will be used, as appropriate, to develop student learning.

In order to enable students undertaking BSc (Hons) Mathematics with Education, BSc (Hons) Chemistry with Education, BSc (Hons) Physics with Education, PGDE (Secondary) and PGDE (Primary) programmes to benefit from working together, the School & Professional Studies (L9) module will be delivered through a blended approach using the University VLE and some face-to-face lectures, tutorials and workshops.

Within the University VLE, students will experience a range of e-learning methods. They will be required to remotely access set and extension readings and other course materials, and

communicate both online and asynchronously with peers, whilst being supported by tutors, to address problem-based learning tasks. Students are required to undertake significant independent learning in each module.
Student handbooks and other material made available to students will give more detailed information on the particular learning and teaching methodologies, and combinations of these methodologies, to be used for timetabled student sessions. This will clarify for students both their expectations for timetabled sessions, and their expectations for the overall balance of learning and teaching methodologies to be used during the programme.
Ongoing formative assessment across the programme will provide feedback to students on their developing thinking on subject knowledge and skills, educational issues and professional abilities. Summative assessment of academic study will take the form of class tests, written and numerical assignments, essays, project reports, oral presentations, problem sheets and examinations. Assessment of school experience is outlined under Work Based Learning/Placement Details.

Any additional costs
Optional costs for the purchase of books/printed materials and/or computing hardware facilities. Travel costs for school placements will also be required.

Graduate Attributes, Employability & Personal Development Planning
The programme is designed to develop students' range of skills and UWS Graduate Attributes that are transferable to other areas of study and professional employment, i.e.

- developing in-depth knowledge of Mathematics and Education, considering the provenance of such knowledge, and its boundaries and limits, and developing related practical skills;
- being aware of the currency of subject knowledge and having a sound grasp of how new understanding is generated in the subject areas of Mathematics and Education;
- developing critical and higher order thinking skills, including analysis and application, judgement, synthesis and creativity;
- learning experimental and empirical investigation skills relating to the study of Mathematics and the teaching of Mathematics in schools;
- solving problems in Mathematics and Education contexts through application of systematic and critical assessment of complex issues;
- communicating knowledge, understanding and skills effectively, both orally and in writing, in a range of settings;
- developing digital literacy, which includes finding, using and presenting a variety of media and sources of information;
- formulating, evaluating and applying evidence-based solutions and arguments in academic and professional contexts;
- evaluating, reflecting on and acting to improve the effectiveness of their own practice;
- developing skills in working with others, including planning and organisation, questioning and listening, decision making, leadership, and professionalism, through group working, and by doing so developing understanding of others, empathy and compassion;
- nurturing a reflective awareness of ethical dimensions, and responsibilities to others, in academic, educational and everyday contexts;
- developing cultural awareness within a globalised society;
- developing personal competencies, including intellectual ability, personal and intellectual autonomy, knowledge of how to learn, attention to detail and accuracy, numeracy, integrity, character and personality, independence, self-management, initiative, confidence, positivity, enterprise, adaptability and flexibility, and resilience;
- equipping students with the ability and interest to continue to enlarge their knowledge, understanding and skills throughout their working lives.

Personal Development Planning (PDP) is central to the programme, which aims to develop in every student the professional qualities and capabilities of a reflective practitioner.
At Level 7, PDP/transferable skills development is an important part of the core modules Analysis of Data and Python Fundamentals. The aim is to enable students to become familiar with the ePortfolio that will be used, and to identify and evaluate their own range of skills and aspirations. Students will be encouraged to take ownership and capture evidence that will demonstrate distance travelled and career-readiness.
In Levels 7 and 8, activities used for PDP/transferable skills development will be drawn from core/option module provision as well as ASPIRE, to ensure that there is a strong link between PDP and the curriculum. In all aspects of PDP, the emphasis will be on students taking personal responsibility for their PDP portfolio, with support from staff as appropriate at each level.
At Level 9, the PDP process is formally embedded in School and Professional Studies.
At Level 10, while the PDP process is formally embedded within the Secondary School Experience module, and is linked to target setting and evaluation on placement, students will also be encouraged to reflect on personal and professional learning in academic work and its impact on developing practice and progress towards achievement of the Standard for Provisional Registration. The PDP process will culminate in the production of an Initial Professional Development Action Plan.
Upon graduation and provisional registration with the GTCS, graduates are eligible for entry to the Teacher Induction Scheme. This scheme is administered by the GTCS, in partnership with the Scottish Learning Directorate, and provides a guaranteed one-year probationary post to every eligible student.

Work Based Learning/Placement Details

In compliance with the requirements of the GTCS, a total of eighteen weeks, or ninety days, is devoted to school experience, occurring in each school term, with a block of at least four weeks taking place towards the end of the programme, in secondary school environments.
During Level 9, students will undertake ten serial days on observation placement in order to establish links between theory and practice. Student handbooks and other very detailed materials made available to students will set out the requirements and expectations of the two-week observation placement and three more substantial periods of school experience, including the maintenance of the teaching portfolio. During each placement, students will monitor their progress through target- setting and evaluation in a personal development plan.
Following formative assessment of the first substantial period of school experience, the two subsequent placements will be assessed summatively by the partner school and the visiting University tutor.
In addition to written feedback, students will receive “Satisfactory” or “Unsatisfactory” grades for each of the eight benchmark areas of the Standard for Provisional Registration. Assessment of the module is on a Pass/Fail basis, dependent upon satisfactory or unsatisfactory performance in school. The overall assessment of Pass or Fail is achieved by totalling the grades awarded by the partner school and those awarded by the University tutor.
In accordance with both module and programme handbooks, any student whose attendance has fallen below the 80% minimum requirement for Secondary STEM Subject Studies and Secondary School Experience, during any of the three blocks of campus study preceding the periods of school experience, is therefore deemed to be unprepared for a period of school experience. Such students will normally be required to undertake a period of further on-campus preparation when other students are on placement. This process assures placement partners that students are appropriately prepared to undertake periods of school experience.
UWS Regulation 1.64 also applies to periods of school experience, and it should be noted that any student whose attendance has fallen below the 80% minimum requirement may be deemed not to have met the professional requirements of the programme as accredited by the GTCS and, therefore, may not be eligible for assessment on that placement. In either case, the

required school experience placement would normally be completed in the August/September diet following that academic year of study.

Attendance and Engagement

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.

For the purposes of this programme, academic engagement equates to the following:

In accordance with both module and programme handbooks, any student whose attendance has fallen below the 80% minimum requirement for Secondary STEM Subject Studies and Secondary School Experience, during any of the three blocks of campus study preceding the periods of school experience, is therefore deemed to be unprepared for a period of school experience.

UWS Regulation 1.64 also applies to periods of school experience, and it should be noted that any student whose attendance has fallen below the 80% minimum requirement may be deemed not to have met the professional requirements of the programme as accredited by the GTCS and, therefore, may not be eligible for assessment on that placement.

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.

The programme is appropriate for all students irrespective of age, disability, gender and gender identity, race, ethnicity, religion or belief, or sexual orientation. To promote inclusive practice, procedures and processes have been subject to Equality Impact Assessment where appropriate.

In line with the Equality Act 2010 and UWS Equality and Diversity Commitments, the School of Computing, Engineering & Physical Sciences encourages the disclosure of support requirements, including disability, at the recruitment stage and throughout the duration of the programme. Emphasis is placed on confidentiality of information, the benefits of disclosure, and that no detriment to progress will be experienced. The School will endeavour to make reasonable adjustments to teaching and learning approaches and arrangements for assessment, including in laboratory environments, where a student has disclosed specific requirements.

Programme structures and requirements, SCQF level, term, module name and code, credits and awards (Chapter 1, Regulatory Framework)

Learning Outcomes

SCQF LEVEL 7 Learning Outcomes	
Knowledge and Understanding	
A1	Demonstrate a broad knowledge of fundamentals of algebra, calculus, and statistics
A2	Relate knowledge to mathematical and statistical theories, concepts and principles
A3	
A4	
A5	
Practice - Applied Knowledge and Understanding	
B1	Apply basic knowledge and skills in solving routine problems in mathematics and statistics
B2	Apply basic knowledge and skills in solving investigation-type problems in mathematics and statistics
B3	
B4	
B5	
Communication, ICT and Numeracy Skills	
C1	Use software to tackle a range of numerical and non-numerical problems in theoretical and applicable situations
C2	Present information in a variety of forms relevant to the context
C3	Obtain information and data from standard sources
C4	
C5	
Generic Cognitive Skills - Problem Solving, Analysis, Evaluation	
D1	Present and evaluate information and ideas in mathematical and statistical problems
D2	Use a range of approaches to the solution of routine problems
D3	
D4	
D5	
Autonomy, Accountability and Working with Others	
E1	Exercise some initiative in and take responsibility for defined activities
E2	Work with others in defined group exercises
E3	
E4	
E5	

Level 7 Modules

CORE

SCQF Level	Module Code	Module Title	Credit	Term			Footnotes
				1	2	3	
7	MATH07002	Discrete Mathematics 1	20	☒	☐	☐	
7	APPD07001	ASPIRE	20	☒	☐	☐	
7	MATH07011	Applied Mathematics	20	☒	☐	☐	
7	MATH07008	Python Fundamentals	20	☐	☒	☐	
7	MATH07001	Analysis of Data	20	☐	☒	☐	
7	MATH07009	Single Variable Calculus	20	☐	☒	☐	
Footnotes for Core Modules							

Level 7 Modules

OPTION

SCQF Level	Module Code	Module Title	Credit	Term			Footnotes
				1	2	3	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
Footnotes for Option Modules							

Level 7
Criteria for Progression and Award
Please refer to UWS Regulatory Framework for related regulations

Progression to SCQF Level 8 is available to students who fulfil the University progression requirements and who have obtained at least a C pass in each of the core modules at SCQF 7.

In line with the Regulatory Framework, for the award of Cert HE, at least 120 credit points must be achieved of which a minimum of 120 are at SCQF Level 7 or above.

A student may exit with a Cert HE Physical Sciences, with:

- a minimum of 120 credit points achieved at Level 7 or above, and;
- at least 80 credit points are achieved from any CHEM/FORS/MATH/PHYS modules.

Distinction will be awarded in line with University Regulations and no imported credit can be used. (Regulations 3.35 & 3.26)

SCQF LEVEL 8 Learning Outcomes	
Knowledge and Understanding	
A1	Demonstrate a broad knowledge of main areas of mathematics and/or statistics
A2	Display an understanding of some major core theories and principles of mathematics and/or statistics
A3	Demonstrate specialist knowledge and understanding of some important mathematical and/or statistical concepts that underpin issues in classical and contemporary problems
A4	
A5	
Practice - Applied Knowledge and Understanding	
B1	Use a range of routine skills, techniques and practices in mathematics and/or statistics, including some advanced aspects
B2	Carry out routine investigations into practical and theoretical issues
B3	Present information gained through non-routine investigations which demonstrates knowledge and understanding of some classical and contemporary mathematical and/or statistical problems
B4	
B5	
Communication, ICT and Numeracy Skills	
C1	Use a range of specialist statistical software packages to process and analyse data and perform statistical predictions based on analysis
C2	Use mathematical software to extend the analysis of non-routine problems to those requiring numerical methods
C3	Present information in numerical, graphical, verbal and written forms to a variety of audiences
C4	
C5	
Generic Cognitive Skills - Problem Solving, Analysis, Evaluation	
D1	Undertake critical analysis, evaluation and synthesis of information related to the main ideas and concepts within the understanding and practice of mathematics and/or statistics
D2	Use a variety of approaches to develop solutions to defined problems in classical and contemporary problems in mathematics and/or statistics
D3	Display a critical evaluation of solutions and explanations of output from a range of analytical and numerical techniques
D4	
D5	
Autonomy, Accountability and Working with Others	
E1	Exercise autonomy and initiative in defined academic and professional activities

E2	Take responsibility for work planning and time management within specified contexts
E3	Co-operate in group working exercises
E4	Work under guidance on a range of current professional practice and issues
E5	

Level 8 Modules

CORE

SCQF Level	Module Code	Module Title	Credit	Term			Footnotes
				1	2	3	
8	MATH08007	Linear Algebra	20	☒	☐	☐	
8	MATH08008	Multivariable Calculus	20	☒	☐	☐	
8	MATH08010	Probability and Statistics	20	☒	☐	☐	
8	MATH08002	Differential Equations 1	20	☐	☒	☐	
8	MATH08006	Discrete Mathematics 2	20	☐	☒	☐	
8	APPD08001	ASPIRE 2	20	☐	☒	☐	
Footnotes for Core Modules							

Level 8 Modules

OPTION

SCQF Level	Module Code	Module Title	Credit	Term			Footnotes
				1	2	3	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
Footnotes for Option Modules							

Level 8
Criteria for Progression and Award
Please refer to UWS Regulatory Framework for related regulations

Progression to SCQF Level 9 is available to students who fulfil the university progression requirements and the GTCS requirements for entry to programmes of initial teacher education, i.e. SCQF Level 6 English and SCQF Level 5 Mathematics. Progression is also dependent on a successful interview with School of Education staff.

In line with the Regulatory Framework, for the award of Dip HE in Mathematics, at least 240 credit points must be achieved of which a minimum of 100 are at SCQF Level 8 and none less than SCQF Level 7.

A student may exit with a Dip HE Physical Sciences, with:

- a minimum of 240 credit points, where;
- at least 100 credit points are achieved at Level 8 or above, and;
- at least 80 credit points are achieved from any CHEM/FORS/MATH/PHYS modules at Level 7 and Level 8.

A student failing to meet the GTCS entry requirements or being unsuccessful at interview may transfer to the BSc (Hons) Mathematics degree.

Distinction will be awarded in line with University Regulations and no imported credit can be used. (Regulations 3.35 & 3.26)

SCQF LEVEL 9 Learning Outcomes (Maximum of 5 per heading)	
Knowledge and Understanding	
A1	Demonstrate a broad and integrated knowledge and understanding of major aspects of mathematics and/or statistics
A2	Display a critical understanding of principal theories, principles, concepts and terminologies of mathematics and/or statistics
A3	Show a knowledge of specialisms in calculus, plus at least four other chosen specialist areas in pure and applied mathematics and statistics
A4	Demonstrate knowledge of current educational issues and effective approaches to teaching and learning informed by forefront developments
A5	Demonstrate knowledge of how to access and apply relevant findings from educational research
Practice - Applied Knowledge and Understanding	
B1	Use a selection of skills, techniques and practices in the analysis of problems in mathematics and/or statistics
B2	Display skills in techniques, practices and information at a specialised level in mathematics and/or statistics
B3	Practise routine and more unpredictable investigations and enquiries in mathematics and/or statistics
B4	Consider how to use skills, practices and materials which are specialised or advanced in a variety of educational settings, environments and circumstances
B5	Consider how to practise in a range of professional contexts, which include a degree of unpredictability
Communication, ICT and Numeracy Skills	
C1	Use statistical software to analyse data at a specialised level and make, and communicate, effective conclusions and recommendations
C2	Use software to analyse increasingly specialist problems in applied mathematics, making and communicating conclusions effectivelyf
C3	Communicate effectively, using a variety of media including digital technologies, and engage in professional dialogue with peers and university staff
C4	Communicate and report effectively, both orally and in writing
C5	Constructing coherent arguments about educational matters and professional practices
Generic Cognitive Skills - Problem Solving, Analysis, Evaluation	
D1	Undertake critical analysis, evaluation and synthesis of ideas, concepts, information and issues in mathematics and statistics, and in educational contexts
D2	Identify and analyse routine professional problems and issues in mathematics and statistics, and in educational contexts
D3	Draw on a range of sources in making judgments on matters relating to mathematics and statistics, and in educational issues
D4	
D5	

Autonomy, Accountability and Working with Others	
E1	Exercise autonomy and initiative in dealing with activities at a professional level in mathematics and/or statistics
E2	Take some responsibility for the work of others and for the use of resources
E3	Practise working in group exercises taking account of others' roles and responsibilities
E4	Develop awareness of own and others' roles and responsibilities in educational contexts
E5	Work under guidance with specialist practitioners on aspects of professional skills and ethical codes

Level 9 Modules

CORE

SCQF Level	Module Code	Module Title	Credit	Term			Footnotes
				1	2	3	
9	MATH09002	Differential Equations 2	20	☒	☐	☐	
9	EDUC09048	School & Professional Studies	40	☒	☒	☐	
9	MATH09012	Statistical Estimation and Inference	20	☐	☒	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
Footnotes for Core Modules							

Level 9 Modules

OPTION

SCQF Level	Module Code	Module Title	Credit	Term			Footnotes
				1	2	3	
9	MATH09009	Complex Analysis	20	☒	☐	☐	
8	PHYS08007	Classical Mechanics	20	☒	☐	☐	1
9	MATH09014	Numerical Analysis	20	☒	☐	☐	
9	MATH09011	Numerical Anlaysis 2	20	☐	☒	☐	2
9	MATH09013	Abstract Algebra	20	☐	☒	☐	
				☐	☐	☐	
Footnotes for Option Modules 1. PHYS coded Level 8 Module (suitable level and content for Mathematics students) 2. Should choose Numerical Analysis in T1 to take this option.							

Level 9

Criteria for Progression and Award
Please refer to UWS Regulatory Framework for related regulations

Progression to SCQF Level 10 is available to students who fulfil the university progression requirements.

A student may exit with a BSc Mathematics with Education Studies, with a minimum of 360 credit points, where at least 100 credit points are achieved at Level 9 or above, and where all Core Level 7, 8 and 9 modules have been passed at grade C or above (Regulation 3.15). The Progression and Awards Board will award distinction to candidates for undergraduate awards other than Honours degrees where a mean mark of 70% or above is achieved by candidates at their first attempt.

Distinction will be awarded in line with Regulations 3.25-3.26.

A student may exit with a BSc Physical Sciences, with:

- a minimum of 360 credit points, where;
- at least 100 credit points are achieved at Level 9 or above, and;
- at least 80 credit points are achieved from CHEM/FORS/MATH/PHYS modules at every level.

Distinction will be awarded in line with University Regulations and no imported credit can be used. (Regulations 3.35 & 3.26)

SCQF LEVEL 10 Learning Outcomes (Maximum of 5 per heading)	
Knowledge and Understanding	
A1	Demonstrate integrated knowledge and critical understanding of a broad range of facts, concepts, principles and theories relating to main branches of mathematics and statistics, and to secondary education
A2	Demonstrate detailed knowledge and understanding of a subject area within the secondary curriculum, current educational issues and effective approaches to teaching and learning, including the ways in which they are developed using established techniques of professional enquiry
A3	Show knowledge of specialist topics in major areas of mathematics and statistics, and awareness of significant issues at the frontiers of the application of statistics in today's society
A4	Demonstrate understanding of classical mathematics topics in the field of partial differential equations and their applications in today's world
A5	Demonstrate knowledge of how to access and apply relevant findings from mathematics and statistics, and educational research
Practice - Applied Knowledge and Understanding	
B1	Exhibit practical skills in classical and contemporary applications of mathematics and/or statistics, particularly in real-life situations

B2	Construct and implement experimental design, and statistically analyse corresponding complex data associated with modern issues, providing recommendations based on findings
B3	Design, deliver and assess effective, appropriate and stimulating programmes of work, in a subject area within the secondary curriculum, which are suitable for children at different stages of secondary education, using the results of assessment to evaluate and improve teaching
B4	Use skills, practices and materials which are specialised, advanced or at the forefront of classroom practice in a variety of settings, environments and circumstances, which include a degree of unpredictability and specialism, and maintain a safe, caring and purposeful learning environment within these contexts
B5	Execute a defined project of professional enquiry related to teaching and learning in secondary school of challenging concepts in mathematics or statistics
Communication, ICT and Numeracy Skills	
C1	Communicate effectively, using a variety of media including digital technologies, to promote and develop positive relationships, and to stimulate pupils and achieve the objectives of lessons
C2	Communicate effectively and engage in professional dialogue with peers, university staff and school colleagues
C3	Implement specialist statistical software for the analysis of complex data associated with problems in today's society
C4	Communicate and report effectively, both orally and in writing, to a wide range of audiences, including learners, educational practitioners, and the wider community
C5	Construct and sustain reasoned and coherent arguments about educational matters and professional practices
Generic Cognitive Skills - Problem Solving, Analysis, Evaluation	
D1	Undertake critical analysis, evaluation and synthesis of ideas, concepts, information and issues in mathematics, statistics, and educational contexts
D2	Justify a personal stance on issues in mathematics and/or statistics by referring to appropriate evidence from a range of sources
D3	Reflect on and act to improve the effectiveness of their own practice and contribute to the processes of curriculum development, school development planning and meeting the educational needs of school communities
D4	Adopt an enquiring approach to professional practice, demonstrating some originality and creativity in finding solutions to professional issues
D5	Develop record of personal professional learning and development into an Initial Professional Development Action Plan
Autonomy, Accountability and Working with Others	
E1	Exercise autonomy and initiative in academic and professional activities, including managing time and prioritising workloads
E2	Work effectively under guidance in a peer relationship with qualified practitioners and other agencies and individuals
E3	Work effectively with others and, at times, take a leading role in bringing about change, development and new thinking relating to an aspect of mathematics, statistics, or secondary education

E4	Deal with complex ethical and professional issues in accordance with current professional and/or ethical codes of practice and in accordance with the needs of schools and wider communities
E5	Demonstrate achievement of all aspects of the Standard for Provisional Registration

Level 10 Modules

CORE

SCQF Level	Module Code	Module Title	Credit	Term			Footnotes
				1	2	3	
10	EDUC10050	Secondary STEM Subject Studies	40	☒	☒	☐	
10	EDUC10049	Secondary School Experience	40	☒	☒	☐	
10	MATH10008	Regression Methods and Experimental Design	20	☒	☐	☐	
10	MATH10003	Partial Differential Equations	20	☐	☒	☐	
				☐	☐	☐	
				☐	☐	☐	

Footnotes for Core Modules

Level 10 Modules

OPTION

SCQF Level	Module Code	Module Title	Credit	Term			Footnotes
				1	2	3	
10	EDUC10051	STEM Work Based Learning	40	☒	☒	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	

Footnotes for Option Modules

Students who do not pass Secondary School Experience (EDUC10049) on the second attempt may undertake STEM Work Based Learning (EDUC10051), which offers an alternative form of assessment of school experience but will not enable provisional registration with the GTCS.

Level 10
Criteria for Award
Please refer to UWS Regulatory Framework for related regulations

Honours degrees are classified in accordance with University Regulation 3.21.

Students who complete a minimum of 480 credit points, including Secondary School Experience, will exit with BSc (Hons) Mathematics with Education, enabling provisional registration with the GTCS.

Students who complete a minimum of 480 credit points, including STEM Work Based Learning, will exit with BSc (Hons) Mathematics with Education Studies, which will not enable provisional registration with the GTCS.

The BSc (Hons) Mathematics with Education programme is an example of a professional programme where a Progression and Awards Board has the power to terminate the programme progress of a student whose continuation on placement is judged to be unacceptably damaging to the interests of placement partners, i.e. schools and their pupils, during school experience. Student handbooks will provide further details. In such cases, students may exit with a Dip HE in Mathematics.

Regulations of Assessment

Candidates will be bound by the general assessment regulations of the University as specified in the University Regulatory Framework.

An overview of the assessment details is provided in the Student Handbook and the assessment criteria for each module is provided in the module descriptor which forms part of the module pack issued to students. For further details on assessment please refer to Chapter 3 of the Regulatory Framework.

To qualify for an award of the University, students must complete all the programme requirements and must meet the credit minima detailed in Chapter 1 of the Regulatory Framework.

Combined Studies

There may be instances where a student has been unsuccessful in meeting the award criteria for the named award and for other more generic named awards existing within the School. Provided that they have met the credit requirements in line with the SCQF credit minima (please see Regulation 1.21), they will be eligible for a Combined Studies award (please see Regulation 1.61).

For students studying BA, BAcc, or BD awards the award will be BA Combined Studies.

For students studying BEng or BSc awards, the award will be BSc Combined Studies.

Version no: 1

Change/Version Control

What	When	Who
Updated names of modules: Computational Methods -> Python Fundamentals and Mathematical Analysis -> Single Variable Calculus.	June 06 2025	R Meeten

Removed superfluous "1" from Applied Mathematics as there is no "2" running currently.		
Added update about serial placements (changed from 2 week block to serial days at Level 9, one day per week for 2 5-week bocks)	June 06 2025	R Meeten