Course Specification

Published Date:	13-Jun-2023
Produced By:	Multi Type Usr Record For All Personnel
Status:	Validated

Core Information

Awarding Body / Institution:	University of Wolverhampton			
School / Institute:	School of Mathematics and Computer Science			
Course Code(s):	SE057H01UV	University of Wolverhampton	Full-time	3 Years
UCAS Code:				
Hierarchy of Awards:	Bachelor of Science with Honours Mathematics with Secondary Education (QTS) Bachelor of Science with Honours Mathematics with Secondary Education (QTS) Bachelor of Science with Honours Mathematics with Secondary Education (QTS) Bachelor of Science Mathematics with Secondary Education (QTS) Bachelor of Science Mathematics with Secondary Education Diploma of Higher Education Mathematics Certificate of Higher Education Mathematics			
Language of Study:	English			
Date of DAG approval:	06/Oct/2014			
Last Review:	2018/9			
Course Specification valid from:	2013/4			
Course Specification valid to:	2024/5			

Academic Staff

Course Leader:	Mr Pardeep Sud
Head of Department:	Mrs Tracy Wallis

Course Information

Location of Delivery:	University of Wolverhampton
Category of Partnership:	Not delivered in partnership
Teaching Institution:	University of Wolverhampton
Open / Closed Course:	This course is open to all suitably qualified candidates.

Entry Requirements:

Entry requirements are subject to regular review. The entry requirements applicable to a particular academic year will be published on the University website (and externally as appropriate e.g. UCAS

All applicants offered places will have;

1. Level 3 points score of 200 or a recognised alternative (Access to HE).
2. A-level mathematics Grade C, or above – or an equivalent.
3. GCSE mathematics and English at GCSE grade C or above (or recognised equivalent).
4. be required to attend an interview and undertake written subject-knowledge audits (mathematics and English).

All applicants must meet the DfE requirements for Initial Teacher Training prior to beginning the route for recommendation of QTS.

Opt-in points

During year 1 a student can move, after negotiation with the personal tutors, to BSc (Hons) Mathematics with Secondary Education after meeting the above requirements.

The latest opt in date is the 1st September prior to the commencement of level 5 studies.

Distinctive Features of the Course:

The mathematics department includes staff who achieved a very high rating in the recent Research Assessment Exercise. The team includes a professor who is internationally recognised as a leading authority in the field of Statistical Cybermetrics.

We pride ourselves on the academic support and guidance given by our friendly and approachable staff. Students have shown their appreciation for this by the exceptionally high ratings they have given us in the National Student Survey.

Following the changing demand in recent mathematical research and applications, this course has evolved to provide a modern outlook on the subject and the important role it plays in the ever-changing world of commerce, industry and education. This course is designed for those who want to proceed in teaching and we have an excellent record of producing graduates who subsequently enter a career in teaching mathematics. The QTS has three interrelated elements with critical reflection at the core;

- Professional studies
- Subject specialist studies
- School based teaching practice.

Subject specialist studies are concerned with the knowledge, understanding and teaching of a particular subject. They focus on the key principles and key components of subject knowledge, the ability to apply principles and knowledge in the classroom, and the assessment of pupils' achievements.

Professional studies are concerned with teachers' professional values, roles, responsibilities and development,

together with whole school issues in education. Professional studies are taught through Subject studies as well as some whole cohort lectures, mixed group seminars, two days in schools working in mixed subject groups and a Primary school placement.

School based teaching experience involves developing competency in classroom teaching to the standards described in national legislation.

Educational Aims of the Course:

The BSc (Hons) in Mathematics with Secondary Education (QTS) course aims to develop your theoretical understanding of the mathematics. Emphasis is placed on pure mathematics, where you will enhance your techniques in algebra and calculus, by studying subjects such as group theory, geometry and mathematical modelling.

The course will teach you advanced problem-solving skills. These are skills which are highly sought after by many graduate employers. Mathematicians are warmly welcomed in industry, business and commerce for their analytical ability and logical approach to unravelling complex issues.

The course will provide a high standard of both mathematical subject content and pedagogical knowledge in addition to preparing students to take up a mathematics teaching post in the secondary sector. The course reflects the specific and precise quality frameworks established by the relevant national government agency, and complies fully with the relevant teaching standards framework.

The BSc (Hons) Mathematics with Secondary Education (QTS) course is specifically designed to ensure that those who are successful can be recommended to the relevant professional body for the award of Qualified Teacher Status (QTS) which is the recognised professional award required by all those who wish to teach in a maintained school.

The course will also be designed to develop secondary school teachers who will be:

- empathetic and committed to pupils' learning;
- reflective and reflexive;
- enthusiastic and innovative;
- open-minded and research-aware
- capable of engaging in practitioner research
- flexible and creative
- knowledgeable – both mathematically and pedagogically

The course will also help a student to develop as a teacher who understands the links between subject knowledge and the curriculum knowledge needed to teach his/her their subject. Equally we seek to develop teachers who understand the needs of the individual pupil and the school community in which they will work.

Intakes:

September

Major Source of Funding:

Office for Students (OFS)

Tuition Fees:

Tuition fees are reviewed on an annual basis. The fees applicable to a particular academic year will be published on the University website.

Year	Status	Mode	Amount
2020/1	H	Full Time / Sandwich	£9250.00
2020/1	Overseas	Full Time / Sandwich	£12250.00
2021/2	H	Full Time / Sandwich	£9250.00
2021/2	Overseas	Full Time / Sandwich	£12950.00
2022/3	H	Full Time / Sandwich	£9250.00
2022/3	Overseas	Full Time / Sandwich	£13450.00
2023/4	H	Full Time / Sandwich	£9250.00
2023/4	Overseas	Full Time / Sandwich	£14450.00

PSRB:

SE057H01UV (Full-time)

Professional Accreditation Body:
Institute of Mathematics and its Applications (IMA)

Accrediting Body:
Institute of Mathematics and its Applications (IMA)

Accreditation Statement:
"This programme will meet the educational requirements of the Chartered Mathematician designation, awarded by the Institute of Mathematics and its Applications, when it is followed by subsequent training and experience in employment to obtain equivalent competences to those specified by the Quality Assurance Agency (QAA) for taught masters degrees."

Approved	Start	Expected End	Renewal
27/Aug/2019	01/Sep/2019	31/Aug/2025	31/Aug/2025

Course Structure:

September (Full-time)

Full time and Sandwich Undergraduate Honours students normally study 120 credits per academic year; 60 credits semester 1 and 60 credits semester 2.

Module	Title	Credits	Period	Type
4MM018	Core Techniques in Mathematics	20	SEM1	Core
4MM023	Mathematics Foundations	20	SEM1	Core
4MM024	Mechanics	20	SEM1	Core
4MM027	Calculus and Linear Algebra	20	SEM2	Core
4MM025	Probability & Statistics	20	SEM2	Core

Linked Option Group Rule: Select a minimum of 20 credits and a maximum of 20 credits from the linked (*) groups.

*** Group 06 | Min Value: 0 | Max Value: 20**

4MM020	Introduction to Operational Research	20	SEM2	

*** Group 01 | Min Value: 0 | Max Value: 20**

4SE001	Subject-specific Pedagogy: Justifying the Specialist Subject	20	SEM2	

September (Full-time)

Full time and Sandwich Undergraduate Honours students normally study 120 credits per academic year; 60 credits semester 1 and 60 credits semester 2.

Module	Title	Credits	Period	Type
5MM002	Mathematical Analysis	20	SEM1	Core
5MM022	Group Theory & Differential Equations	20	SEM1	Core
5MM025	Statistical Modelling & Survey Design	20	SEM1	Core
5SE001	Subject-specific Pedagogy: Teaching the Specialist Subject	20	YEAR	Core
5SE002	Professional Development: The Beginning Teacher	20	SEM2	Core

Linked Option Group Rule: Select a minimum of 20 credits and a maximum of 20 credits from the linked (*) groups.

*** Group 06 | Min Value: 0 | Max Value: 20**

If you have studied and passed 4SE001 in year 1, then you MUST select 5MM024.

5MM024	Discrete Mathematics & Numerical Analysis	20	SEM2	

*** Group 01 | Min Value: 0 | Max Value: 20**

5SE003	Subject Specific Pedagogy 1a: Exploring the Teaching of the Specialist Subject	20	SEM2	

September (Full-time)

Full time and Sandwich Undergraduate Honours students normally study 120 credits per academic year; 60 credits semester 1 and 60 credits semester 2.

Module	Title	Credits	Period	Type
6MM024	Mathematics Project	20	SEM1	Core
6SE007	Professional Development: The Developing Teacher	40	SEM2	Core
6SE008	Subject-specific Pedagogy: Investigating Practice	20	YEAR	Core

Group 01 | Min Value: 40 | Max Value: 40

6MM033	Advanced Calculus	20	SEM1	
6MM030	Coding Theory & Cryptography	20	SEM1	
6MM029	Multivariate Statistics with Cybermetrics	20	SEM1	

Please note: Optional modules might not run every year, the course team will decide on an annual basis which options will be running, based on student demand and academic factors, to create the best learning experience.

Learning, Teaching and Assessment

Academic Regulations Exemption:

Section 1.2.3 - Exemption for delivery outside of the standard University Academic Calendar in order to enable students to complete the required hours for two placement modules;

5SE002 Professional Development: The Beginning Teacher

6SE007 Professional Development: The Developing Teacher.

Section 1.2.5 - Exemption to permit less than 33% differentiation between the main specialist degree with QTS and the 'opt-in' specialist degree with QTS.

Section 1.2.7 - Exemption to designate a taught module as the independent study contribution towards the 'opt-in' specialist degree with QTS;

6SE008 (Subject-specific Pedagogy: Investigating Practice).

Section 1.3.3 - Exemption to exclude the use of non-subject option modules at Level 4, Level 5 and Level 6 in order to meet QTS requirements.

Section 4.3.3 - Exemption in accordance with the Professional Body requirements for Qualified Teacher Status (QTS). There will be no automatic right to a second attempt for any failed practice components at the discretion of the Assessment Board (second attempts are permitted for theory components);

5SE002 Professional Development: The Beginning Teacher

6SE007 Professional Development: The Developing Teacher.

Section 4.4.3 - Exemption in accordance with the Professional Body requirements for Qualified Teacher Status (QTS). Compensation will not be permitted for any core modules which are a required in order to meet these standards;

4SE001 Subject-specific Pedagogy: Justifying the Specialist Subject

5SE001 Subject Specific Pedagogy: Teaching the Specialist Subject

5SE002 Professional Development: The Beginning Teacher

5SE003 Subject Specific Pedagogy: Exploring the Teaching of the Specialist Subject

6SE007 Professional Development: The Developing Teacher

6SE008 Subject-specific Pedagogy: Investigating Practice.

Students are normally required to gain a minimum of 120 credits before commencing the next level of study.

APPROVED by AFRSC.

Reference Points:

Quality Code - Part A: Setting and Maintaining Academic Standards. Including;

Qualifications Frameworks

Characteristics Statements

Credit Frameworks

Subject Benchmark Statements

Quality Code - Part B: Assuring and Enhancing Academic Quality

University Policies and Regulations

Equality Act (2010).

Initial Teacher Training Criteria and Supporting Advice (DfE, June 2020) Initial Teacher Training Criteria and Supporting Advice

The recommendation of Qualified Teacher Status (QTS) is subject to meeting the Teachers' Standards. These standards set the minimum requirements for teachers' practice and conduct.

Teachers' Standards (DfE, 2011) Teachers' Standards

Initial Teacher Training Courses are subject to inspection by the Office for Standards in Education (OFSTED).

Ofsted Handbook (Ofsted, June 2020) Ofsted Initial Teacher Education Inspection Handbook

Overview of Assessment:

As part of the course approval process, the course learning outcomes were mapped to each of the modules forming the diet of the programme of study. This process confirmed that all course learning outcomes can be met through successful completion of the modules. This mapping applies to the final award as well as to all of the intermediate awards.

Learning Outcomes	Modules
CERTHE01 Demonstrate knowledge of the underlying concepts and principles associated with your area(s) of study, and an ability to evaluate and interpret these within the context of that area of study.	
CERTHE02 Demonstrate an ability to present, evaluate and interpret qualitative and quantitative data, in order to develop lines of argument and make sound judgements in accordance with basic theories and concepts of your subject(s) of study.	
CERTHE03 Evaluate the appropriateness of different approaches to solving problems related to your area(s) of study and/or work.	
CERTHE04 Communicate the results of your study/work accurately and reliably, and with structured and coherent arguments.	
CERTHE05 Demonstrate the qualities and transferable skills necessary for employment requiring the exercise of some personal responsibility.	
DIPHE01 Apply a full understanding and knowledge of the principles of mathematics(e.g. core techniques, calculus and linear algebra, mathematical analysis, statistics) to the analysis, design and synthesis of solutions to problems which require mathematics or their resolution.	
DIPHE02 Demonstrate and apply knowledge of mathematics with particular reference to its applications in other subject areas (e.g. mathematical education, analysis and modelling of business, engineering and scientific systems).	
DIPHE03 Demonstrate a range of transferable skills in: problem solving; communication; project management;	

Learning Outcomes	Modules
working individually and in teams; self-management; and the ability to gather, evaluate and reflect on information from relevant sources and solutions to problems in the domain of applications of mathematics.	
DIPHE04 Demonstrate a range of social, legal, ethical and professional skills required for continuing professional development in the mathematics discipline within a worldwide context and show your understanding of the professional, ethical and legal responsibilities embodied in the role of the secondary school teacher.	
BHONSN01 Apply a full understanding, knowledge and experience of the principles of mathematics(e.g. core techniques, calculus and linear algebra, mathematical analysis, statistics) to the analysis, design and synthesis of solutions to problems which require mathematics or their resolution.	
BHONSN02 Demonstrate and apply knowledge of mathematics with particular reference to its applications in other subject areas (e.g. mathematical education, analysis and modelling of business, engineering and scientific systems).	
BHONSN03 Demonstrate a range of transferable skills in: problem solving; communication; project management; working individually and in teams; self-management ; and the ability to gather, evaluate and reflect on information from relevant sources and solutions to problems in the domain of applications of mathematics.	
BHONSN04 Demonstrate a range of social, legal, ethical and professional skills required for continuing professional development in the mathematics discipline within a world-wide context and show your understanding of the professional, ethical and legal responsibilities embodied in the role of the secondary school teacher.	
BHONSN05 Act independently, exercise initiative and act as a positive role model in a range of complex teaching and learning situations.	
BHONS01 Apply a full understanding, knowledge and experience of the principles of mathematics (e.g. core techniques, calculus and linear algebra, mathematical analysis, statistics) to the analysis, design and synthesis of solutions to problems which require mathematics or their resolution.	
BHONS02 Demonstrate mastery of the essential facts, concepts, principles, theories and practices enabling graduate employment in applications of Mathematics.	
BHONS03 Demonstrate a range of transferable skills in: problem solving; communication; project management; working individually and in teams; self-management; and the ability to gather, evaluate and reflect on information from relevant sources and synthesize new knowledge and solutions to requirements in the domain of applications of Mathematics.	
BHONS04 Demonstrate a range of social, legal, ethical and professional skills required for continuing professional development in the Mathematics Discipline within a world-wide context and be able to disseminate this to a wider audience.	
BHONS05 Display the technical pedagogical and Mathematics competence to meet the standards required to be recommended for QTS and to teach Mathematics in secondary schools.	

Learning Outcomes	Modules
PHONS06 Act independently, exercise initiative and act as a positive role model in a range of complex teaching and learning situations.	

Teaching, Learning and Assessment:

The learning activities on your course will develop distinctive graduate attributes that will make you stand out and enhance your employability. These skills will be embedded into the curriculum throughout your course. Examples include;

Digitally Literacy: All mathematics graduates will surely be users of advanced technologies. However, on your course you will develop your skills to encompass literacy more fully such as learning how to find information and how to take best advantage of digital resources and the Internet to make you effective in the Information Age.

Global Citizenship: On each level of your course you will learn about the social aspects of mathematics, which will broaden your understanding of the way the world works and how communication and collaboration are evolving.

Knowledgeable and Enterprising: Throughout your course you will build up your professional and employability skills and learn to apply the knowledge you have acquired in an enterprising way. You will constantly nurture your own intellectual curiosity. The tools, methodologies and techniques that you will learn have been carefully selected to prepare you with the skills that employers demand and the opportunities for work based learning and placements will allow you to gain the vital experience that they often expect

Learning activities to support the learning outcomes will include;

- Reflective Journal Entries
- University Professional Studies Sessions
- University Specialist Subject Sessions
- Audit and action planning
- Construction of personal timeline of education
- Review of progress towards standards to Qualified Teacher Status
- Experience in school, including:
- Professional studies placement
- Primary School placement
- Two major teaching placements
- School-based activities and tasks
- Personalised opportunities for enhanced professional development
- Compiling teaching files
- Record of Professional Development
- Subject Specific Research Project
- Career Entry and Development Portfolio.

Assessment Methods:

At the University of Wolverhampton, a variety of modes of assessment will be used to support and test your learning and progress and to help you develop capabilities that are valued beyond your University studies and into your working life. Your course may include a variety of assessment activities:

Written examinations (including online examinations, open and closed book examinations and quizzes)

Coursework (for example, essays, reports, portfolios, project proposals and briefs, CVs, poster presentation)
Practical (for example, oral and video presentations, laboratory work, performances, practical skills assessment)

In the final year of your undergraduate degree, and at the end of your postgraduate degree, you are likely to be expected to write an extended piece of work or research, such as a dissertation or a practice-based piece of research.

Student Support:

University provided support:

As well as providing general counselling support the University Counselling Service provides short courses on topics such as "Self Confidence", "Stress Management and Relaxation" and "Life Skills". They also provide study skills and academic support, providing short courses such as provide help in areas such as "Writing and Assignment Skills", "Exam Techniques", "Enhancing Professional Skills", "Personal Development Planning" and "Making Choices for the Future".

University Learning Centres provide general academic skills support to all students. You can make an appointment with a study skills advisor for advice on areas such as academic writing, assignment planning, exam preparation, and time management. In addition, there is a regular timetable of drop-in and bookable workshops covering information and digital literacy skills, including academic referencing. FSE students are supported by a designated subject librarian who is available to support research and project work.

Course support:

At the start of each year of your course you will be assigned a Personal Tutor who will guide you through the induction process and provide support and academic counselling throughout the year on an appointment basis. They should be able to offer you advice and guidance to help you liaise with other staff and support facilities in the School and University. You should meet your Personal Tutor at least 3 times a year, which must include meetings that you are invited to at critical points in your course.

The Academic Programme Advisor (APA) provides academic counselling and will be accessible throughout the week on a drop-in or appointment basis to discuss timetables, requests for extensions, requests for extenuating circumstances, general concerns about study and student life and general programme planning. The APA will act as a first point of contact in relation to leave of absence (including returning after leave), withdrawal, transferring to another course (internal and external) and changes to mode of attendance. Your Course Leader will be available thereafter for meetings by appointment to discuss leave of absence, withdrawal, transferring to another course (internal and external), changes to mode of attendance, returning after leave of absence and direct entrants.

Subject support:

Tutorials, workshops, seminars and meetings - provide the primary opportunities for students to interact with staff on topics relating to modules. All modules provide at least one of these forms of face-to-face support.

Formative feedback - tutors provide personalised written feedback on most summative assessments. The mechanism for feedback from purely formative tasks varies between assessments, but will always be provided in some form. Online formative tasks often provide feedback straight away. On occasions tutors may provide generalised verbal feedback to the whole class on points relating to an assessment

Assessment and subject-based surgeries provide additional student support for subjects that students often need extra help with. They are often concentrated around the times when assessments take place. Revision sessions are provided for many modules that have exam-like tests and enable you to interact with tutors to review parts of the course. Mock exams and tests may provide opportunities to experience an examination environment before the final summative test and give you feedback on your understanding.

Employability in the Curriculum:

Mathematics graduates may aspire to a wide variety of careers, such as accountancy, actuarial work, operational research, engineering, computing, cryptography and statistics. There is a current shortage of mathematics graduates nationally, so your graduate employment prospects upon successful completion of this course are very high. With the award of QTS you will be well-placed to pursue a career in mathematics teaching in secondary schools. Graduates may also have the opportunity to proceed to a masters course or research degree in Mathematics or Education.

