UNIVERSITY OF WOLVERHAMPTON

Course Specification

Published Date:	21-Mar-2023
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Core Information

Awarding Body / Institution:	University of Wolverhampton		
School / Institute:	School of Mathematics and Computer Science		
Course Code(s):	MM002T01UV	Full-time	4 Years
	MM002T31UV	Part-time	8 Years
UCAS Code:	G102		
Course Title:	BSc (Hons) Mathematics with Foundation Year		
Hierarchy of Awards:	Bachelor of Science with Honours Mathematics Bachelor of Science Mathematics Diploma of Higher Education Mathematics Certificate of Higher Education Mathematics Foundation and Preparatory Studies Mathematics University Statement of Credit University Statement of Credit University Statement of Credit University Statement of Credit University Statement of Credit University Statement of Credit University Statement of Credit University Statement of Credit		
Language of Study:	English		
Date of DAG approval:	01/Sep/2017		
Last Review:	2019/0		
Course Specification valid from:	2010/1		
Course Specification valid to:	2024/5		

Academic Staff

Course Leader:	Mr Pardeep Sud
Head of Department:	Mrs Ruth Fairclough

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

2017 Entry

- DD from A level
- BTEC QCF Extended Diploma grade PPP, BTEC QCF Diploma grade MP
- Pass Access to HE Diploma (Full Award)
- If you've got other qualifications or relevant experience, please contact [The Gateway](#) for further advice before applying.
- International entry requirements and application guidance can be found [here](#)

Other Requirements

Students must have studied a minimum of two years post GCSE level. However, it is expected that some applicants will be mature students with work experience, who wish to further their career development. These applicants will be processed through standard procedures, which may involve an interview as part of the process. Please see http://wlv.ac.uk/mature for further information.

Applicants who do not meet the entry requirements may be offered an alternative course.

Distinctive Features of the Course:

BSc (Hons) Mathematics aims to develop your theoretical understanding of the subject. This course will teach you advanced problem solving skills which you will be able to employ in many different ways across a wide choice of potential careers.

This course focusses on the pure aspects of mathematics, including algebra, calculus and analysis. The concept of mathematical proof is of particular emphasis in all these related mathematical subjects. In addition, optional modules can be taken from the areas of business mathematics, statistics and mathematical modelling where you will use your skills to solve real world problems.

You will have the option to undertake a paid placement year, where you will gain invaluable experience in the workplace before returning to complete your final year. Many of the mathematics related placements are very prestigious, and recent placements have included: The Office of National Statistics, Sheffield University research centres and Air Traffic Control amongst many others.

This course is appropriate for those who want to advance their knowledge of mathematics, perhaps with a view to undertaking postgraduate study in mathematics. A mathematics degree is the starting point for many careers especially within the finance industry. A mathematics degree is essential for a career in code breaking and cryptography.

The Mathematics Department includes staff who achieved a very high rating in the last 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. Students on the course have the option to do a year-long placement in industry between their second and final years. Students are helped to find suitable placements by the experienced staff in our Placements Unit, who will also liaise with students while on placement and provide support throughout the placement year.

You can develop the skills and knowledge that you need to study at undergraduate level, building on your strengths and working on your weaknesses, so that you can feel confident that by the end you are ready to commence a degree course, and to apply the skills to undertake the directed and independent learning which will help you to achieve your potential. This will allow you to embark on Level 4 study in an appropriate undergraduate discipline or combined award, confident that you have developed the skills and chosen the most relevant subject area(s) to specialise in, which will allow you to perform strongly at degree level and enhance your career aims.

Educational Aims of the Course:

The BSc course in Mathematics aims to develop your theoretical understanding of the subject   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.

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
2020/1	H	Part Time	£3050.00
2020/1	Overseas	Part Time	£6125.00
2021/2	H	Full Time / Sandwich	£9250.00
2021/2	Overseas	Full Time / Sandwich	£12950.00
2021/2	H	Part Time	£3100.00
2022/3	H	Full Time / Sandwich	£9250.00
2022/3	Overseas	Full Time / Sandwich	£13450.00
2022/3	H	Part Time	£3120.00

PSRB:

MM002T01UV (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

MM002T31UV (Part-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)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

Module	Title	Credits	Period	Type
3CC004	Problem Solving in Science and Technology	20	SEM1	Core
3PY002	Communication and study skills	20	SEM1	Core
3MM003	Foundation Mathematics I	20	SEM1	Core
3MM004	Foundation Mathematics II	20	SEM2	Core
3ET007	Practical Engineering Science for Electro-Mechanical design	20	SEM2	Core
3CS001	Fundamentals of Computing	20	SEM2	Core

September (Full-time)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

Module	Title	Credits	Period	Type
4MM018	Core Techniques in Mathematics	20	SEM1	Core
4MM023	Mathematics Foundations	20	SEM1	Core
4MM024	Mechanics	20	SEM1	Core
4MM025	Probability & Statistics	20	SEM2	Core
4MM020	Introduction to Operational Research	20	SEM2	Core
4MM027	Calculus and Linear Algebra	20	SEM2	Core

September (Full-time)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

Module	Title	Credits	Period	Type
5MM022	Group Theory & Differential Equations	20	SEM1	Core
5MM002	Mathematical Analysis	20	SEM1	Core
5MM024	Discrete Mathematics & Numerical Analysis	20	SEM2	Core
5MM021	Further Techniques in Operational Research	20	SEM2	Core
5MM025	Statistical Modelling & Survey Design	20	SEM1	Core
5MM023	Mathematical Modelling	20	SEM2	Core

September (Full-time)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

Module	Title	Credits	Period	Type
6MM032	Professional Project Management and Practice	20	SEM1	Core

Group 04 | Min Value: 40 | Max Value: 40

Module	Title	Credits	Period	Type
6MM033	Advanced Calculus	20	SEM1	
6MM030	Coding Theory & Cryptography	20	SEM1	
6MM029	Multivariate Statistics with Cybermetrics	20	SEM1	
6MM024	Mathematics Project	20	SEM2	Core

Group 03 | Min Value: 40 | Max Value: 40

Module	Title	Credits	Period	Type
6MM023	Advanced Techniques in Operational Research	20	SEM2	
6MM027	Rings, Fields & Galois Theory	20	SEM2	
6MM028	Partial Differential Equations & Fluid Dynamics	20	SEM2	

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:

Reference Points:

- Framework for Higher Education Qualifications
- QAA Subject Benchmark for Mathematics, Statistics and Operational Research
- HEA Employability Profiles for Mathematics, Statistics and Operational Research
- Skills Framework for the Information Age
- e-Skills
- Institute for Mathematics and its Applications
- Special Needs Disability Act 2001
- Race Relations Amendments Act
- University Documents
- Faculty documents.

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 Apply an understanding, knowledge and experience of the principles of mathematics (e.g. core techniques, calculus and linear algebra, mathematical analysis, statistics) to the analysis of solutions to problems which require mathematics for their resolution.	
CERTHE02 Demonstrate and apply knowledge of mathematics with particular reference to real world problems (e.g. cryptography, knot theory).	
CERTHE03 Apply appropriate theory, tools and techniques (e.g. software tools in mathematical modelling and statistics) to the design of solutions to problems in the domain of mathematics.	
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 for their resolution.	
BHONS02 Demonstrate and apply knowledge of mathematics with particular reference to real world problems (eg cryptography, knot theory).	
BHONS03 Apply appropriate theory, tools and techniques (e.g. software tools in mathematical modelling and statistics) to the design and synthesis of solutions to problems in the domain of mathematics.	
BHONS04 Demonstrate competence in the essential concepts, principles, theories and practices enabling graduate employment in applications of mathematics (e.g. mathematics and statistics theory).	
DIPHE01 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 and design of solutions to problems which require mathematics for their resolution.	
DIPHE02 Demonstrate and apply knowledge of mathematics with particular reference to real world problems (e.g. cryptography, knot theory).	
DIPHE03 Apply appropriate theory, tools and techniques (e.g. software tools in mathematical modelling and statistics) to the design of solutions to problems in the domain of mathematics.	
DIPHE04 Demonstrate competence in the essential concepts, principles, theories and practices enabling graduate employment in applications of mathematics (e.g. mathematics and statistics theory).	
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 for their resolution.	
BHONSN02 Demonstrate and apply knowledge of mathematics with particular reference to real world problems (eg cryptography, knot theory).	
BHONSN03 Apply appropriate theory, tools and techniques (e.g. software tools in mathematical modelling and statistics)	

to the design and synthesis of solutions to problems in the domain of mathematics.

BHONSN04 Demonstrate competence in the essential concepts, principles, theories and practices enabling graduate employment in applications of mathematics (e.g. mathematics and statistics theory).

UGCRED01 Solve real world problems using mathematical and statistical techniques.

UGCRED02 Communicate scientifically using oral and written skills to provide information to a variety of audiences.

UGCRED03 Demonstrate and apply problem solving skills to a range of scientific and technological scenarios.

UGCRED04 Demonstrate and apply knowledge of a range of scientific and technological subjects.

UGCRED05 Demonstrate personal development in terms of career choice.

CERTHE04 Demonstrate a range of transferable skills necessary for employment requiring the exercise of personal responsibility.

CERTHE05 Demonstrate the qualities and transferable skills necessary for employment requiring the exercise of some personal responsibility.

DIPHE05 Demonstrate a range of transferable skills in problem solving, communication, project management, self-management and working individually and teams.

DIPHE06 Demonstrate the qualities and transferable skills necessary for employment, requiring the exercise of personal responsibility and decision-making and undertake further training, developing existing skills and acquire new competences that will enable them to assume significant responsibility within organisations.

BHONSN05 Demonstrate a range of transferable skills in problem solving, communication, project management, self-management and working individually and teams.

BHONS05 Demonstrate a range of transferable skills in problem solving, communication, project management, self-management and working individually and teams.

BHONS06 The ability to gather, evaluate and reflect on information from relevant sources and solutions to problems in the domain of mathematics.

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.

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. Faculty of Science and Engineering students are supported by a designated subject librarian who is available to support research and project work.

The Student Enabling Centre provides support for students with disabilities.

The Student "Gateway @ The George" provides help and advice to students on such issues as careers and student finance.

The Faculty of Science and Engineering has a Student Office where students can obtain advice on all activities related to the official aspect of their academic life, such as submission of assignments, registration for modules and progression on their course.

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.

General Mathematical advice is provided by the drop-in service at the Mathematics Support Centre (located in the Harrison Learning Centre at City Campus), open three days a week during term-time. This support is provided by lecturers from the Mathematics team and by postgraduate Mathematics students.

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. The shortage of mathematics graduates within the UK economy is widely reported, hence mathematics graduates are highly employable and your graduate employment prospects upon successful completion of this course are very high.

With an appropriate education qualification you could pursue a career in Mathematics teaching as there is a current shortage of mathematics teachers nationally. Graduates may also have the opportunity to proceed to a masters course or research degree in Mathematics or a related subject.