

**MSc/Postgraduate Diploma/Postgraduate Certificate**

**Statistics and Management  
Science**

**Information for 2010 entry**

# **CONTENTS**

What past students say about the course	Page 3
Introduction and course structure	Page 5
Programme of study	Page 6
Teaching, learning and assessment methods	Page 6
MSc route	Page 7
PG Diploma route	Page 9
Module descriptions	Page 11
Faculty of Environment and Technology Graduate School	Page 14
Staying to work in the UK – Tier 1 Post Study Work Scheme	Page 14
Being a student at UWE	Page 15
More student views	Page 16
Fees and payment terms:	
UK and EU	Page 18
International	Page 19
Entry requirements and contact details	Page 21
Other frequently asked questions	Page 22

## **WHAT PAST STUDENTS SAY**

### **Rebecca Rooney**

“After finishing a BSc in Maths I fancied doing an MSc but had no particular career ideas. It seemed a good idea to build on my BSc, as I had found statistics to be the most interesting subject. This would also be a useful springboard into many different careers. I chose to study for an MSc in Statistics and Management Science (SAMS) at UWE as it seemed a well-rounded, interesting and useful course with an excellent academic reputation. A meeting with the programme leader confirmed this was the course for me. SAMS has been a great help to me and, though tough at times, it was definitely a course worth taking. During my dissertation I even discovered which career I wanted to follow! The course was very beneficial and enjoyable and I would certainly recommend it.”



### **Olivier Bardin (France)**

“I became attracted by UWE almost immediately. It is a very dynamic and modern university. Its computer labs, library and general equipment place students in the best conditions for successful study. I came to UWE to improve my statistical knowledge and to gain a deeper understanding of different modeling techniques. All these requirements were met thanks to UWE’s skilled staff; perhaps some of the best lecturers I have ever met!

Another good aspect of being an international student was that 50% of my classmates came from all over the world – India, China, Jamaica and other European countries. Despite our difference, our English friends helped us to integrate and feel welcome and we got to know each other well.

The taught modules provided me with a good understanding of decision analysis and operational research and I discovered many efficient techniques for tackling modeling problems. For example, Statistical Models provided me with a good understanding of many advanced techniques together with knowledge of S-plus (a powerful statistical package widely used in industry). I finished my degree with an internship in New York, where I was able to apply much of what I had learned. UWE’s MSc SAMS has given me great knowledge and helped me to find a job back in my own country. I now work in the Study and Development Department at *Credit Mutuel* – a leading bank-insurance group in France.”

### **Lasithangi Vithana (Sri Lanka)**

“My soft spot for Statistics and Operational Research made me choose the MSc Statistics and Management Science at UWE, a well recognised course with a balanced mixture of interesting and useful content. I improved my statistical skills in analysis, problem solving & modelling and developed proficiency in using software such as SPSS, Minitab, R and AMPL.

UWE staff are very friendly, supportive, actively involved in research, and experts in their areas. I was warmly welcomed and properly guided from day one and then throughout my time at UWE. As a university, not only does UWE have attractive facilities as such a 24-hour library and lots of computers & software, but

also many extra-curricular activities. As a member of the International Student Committee, I participated in and organised cultural shows & exhibitions and had fun while learning. My time as a postgraduate student at UWE was an unforgettable time of my life. Not only did I achieve a standardised qualification but also made lifelong friends from all over the world, from, to name a few, South Africa, India, Taiwan, France, China, Belgium, Brazil and of course the UK. My life after UWE has become more independent and confident. UWE always made me feel at home even when I was so far away from home! “



### **Duncan Woodhall**

“I had been working as a management accountant since completing my undergraduate degree five years ago, but wanted to broaden my skills to include statistics and operational research techniques. Having met a couple of the tutors at a careers fair, I decided to apply for the MSc in Statistics and Management Science at UWE. I was attracted by the practical focus of the course, and because the lectures were scheduled over a two-day period, I was able to continue working part-time.

Although the lectures cover the theoretical basis of the statistics and OR techniques, there is a strong focus on applying these techniques during the tutorials, using appropriate software packages. I had not done much statistics before, but this wasn't a problem as the basics were covered in the earlier modules, before moving on to more advanced techniques. One piece of coursework required us to

research an area of interest and to build an optimisation model in this area. This allowed me to develop my interest in financial mathematics, and I have since chosen this subject as the basis for my MSc dissertation. As a result of this, I have decided to pursue a career as an actuary, and have secured a job with a leading life insurance provider, where I am sure that my new-found statistical knowledge will prove invaluable.”



## **INTRODUCTION**

There is always demand for well-qualified statisticians and management scientists in a wide range of industries and businesses, as well as government. Why? Because organisations need greater and deeper understanding of statistical and management science methodologies in order to analyse, interpret and extract value from the ever larger amounts of data provided by modern information technology.

This course aims to meet this need through both academic study and the development of applied analytical and modelling skills, mainly computer based. You will also learn the skill of communicating complicated statistical findings to 'non-technical' decision makers. The course equips people from a broad variety of academic backgrounds and professional experience with the knowledge and skills to apply statistical and operational research approaches to a huge range of practical situations. It demonstrates the wide applicability of these approaches within a business or industrial context.

In terms of preparation for a general management career, there are few better ways of gaining an overview and understanding of how organisations work. Typically, statisticians and management scientists are involved in projects which draw on a wide range of business skills and dealings with anyone from the shop-floor and front line, right up to boardroom level. In many organisations, such professionals are a prime source for recruitment into higher levels of general management.

## **15% ALUMNI DISCOUNT ON POSTGRADUATE PROGRAMMES**

UWE alumni and current final year students are entitled to a 15% discount when progressing to a UWE postgraduate degree. (This excludes Health and Social Care postgraduate and professional development courses, the Bristol MBA, Law and PGCE courses). All you need to do is include your UWE student number in your application and the discount will be applied once your entitlement has been confirmed. Terms and conditions apply – please see [www.uwe.ac.uk/money/pg](http://www.uwe.ac.uk/money/pg).

## **STRUCTURE OF THE COURSE**

Students will qualify for the awards MSc, PG Diploma and PG Certificate by accumulating credits on completion of modules, as follows:

- The MSc in Statistics and Management Science requires **180** credits, including 60 credits for the dissertation;
- The PG Diploma in Statistics and Management Science requires **120** credits, all from the taught part of the course, i.e. no dissertation is submitted;
- The PG Certificate in Statistics and Management Science requires **60** credits, again all from the taught part of the course.

Taught modules are worth 15 or 20 credits and may be considered as either **core** (i.e. a module that must be taken), or **optional**. Typically full-time students can expect 12 hours classroom contact time per week. Part-time students should expect a proportionate number of contact hours per week based on the number of modules being studied.

All MSc students will undertake a 60-credit dissertation – a substantial piece of independent work that must be completed in order to achieve the full MSc qualification.

## **MODULE AVAILABILITY**

We cannot guarantee that every optional module will run each year but we will determine in good time which ones will run. The decision will be dependent on the number of students wishing to take an optional module and the resources available.

## **PROGRAMME OF STUDY**

The course has been flexibly developed to allow those in full time employment to study part-time. Part-time students can expect to attend one day per week, either all day or from the early afternoon into the evening. Full-time students can expect to attend the University two days per week.

Based on an assessment of your individual needs, there may be some preparatory learning consisting of:

- Independent directed reading on Statistics with structured guidance
- Three days of classes on the Statistics software *SPSS* during the two weeks prior to the start of normal classes

**Please note:** The content of the programme may change from year to year, so you might find some variation between that shown on the next pages and the final version of your course.

## **TEACHING, LEARNING AND ASSESSMENT METHODS**

An essential objective of this programme is that you will be expected to take major responsibility for your own learning through a high proportion of time spent on independent study.

Additionally, lectures, seminars, discussions, case studies and group work will be used to develop the topics covered in the modules and to allow for application of methods to particular problems. There will be extensive use of computer packages to assist analyses. Students come from a wide variety of industrial and commercial backgrounds and will be encouraged to present, discuss and evaluate techniques in light of their own perspectives and experiences, complementing the examples and experiences brought by the lecturers.

MSc students will undertake a 60-credit dissertation, guided and supported by a personal supervisor. Carrying out the individual research project and writing the dissertation will make demands on your ability to manage your work autonomously and within a limited period of time. You will learn how to think critically, present reasoned arguments backed up by evidence, and write a concise, structured and cogent dissertation.

A variety of assessment methods will be used depending on the aims of the individual modules. Commonly, this consists of one piece of coursework and a written or oral examination. Extra help in mathematics and statistics is also available in our Mathematics and Statistics Resource Centre and the daily Espresso Maths help-point located in the main UWE coffee bar.

## **MSC - FULL TIME PROGRAMME STRUCTURE**

### **Semesters 1 and 2:**

Applications of Statistics 20 credits at level 3  UFQETL-20-3	Decision Modelling 20 credits at level 3  UFQETN-20-3
Business Research Methods 20 credits at level 3  UFQEGF-20-3	

### **Semester 1:**

Statistical Models 15 credits at level M  UFQEF5-15-M	Operations Simulations & Forecasting 15 credits at level M  UFQETQ-15-M
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### **Semester 2:**

Research Methods 15 credits at level M  UFPEEV-15-M	Option 1 15 credits at level M
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### **Option 1 is chosen from one of:**

UFQEF6-15-M: Applied Multivariate Techniques

UFQEF3-15-M: Logistics Optimisation

### **Dissertation:**

UFQEF4-60-M Statistics and Management Science Dissertation (60 credits at level M)

## **MSC - PART TIME PROGRAMME STRUCTURE**

### **Year one - Semesters 1 and 2:**

Applications of Statistics 20 credits at level 3  UFQETL-20-3	Decision Modelling 20 credits at level 3  UFQETN-20-3
Business Research Methods 20 credits at level 3  UFQEGF-20-3	

### **Year two - Semester 1:**

Operations Simulations & Forecasting 15 credits at level M  UFQETQ-15-M	Statistical Models 15 credits at level M  UFQEF5-15-M
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### **Year two - Semester 2:**

Research Methods 15 credits at level M  UFPEEV-15-M	Option 1 15 credits at level
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### **Option 1 is chosen from one of:**

UFQEF3-15-M: Logistics Optimisation

UFQEF6-15-M: Applied Multivariate Techniques

### **Dissertation:**

UFQEF4-60-M Statistics and Management Science Dissertation (60 credits at level M)

## POSTGRADUATE DIPLOMA - FULL TIME PROGRAMME STRUCTURE

### **Semesters 1 and 2:**

Applications of Statistics 20 credits at level 3  UFQETL-20-3	Decision Modelling 20 credits at level 3  UFQETN-20-3
Business Research Methods 20 credits at level 3  UFQEGF-20-3	

### **Semester 1:**

Statistical Models 15 credits at level M  UFQEF5-15-M	Operations Simulations & Forecasting 15 credits at level M  UFQETQ-15-M
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### **Semester 2:**

Applied Multivariate Techniques 15 credits at level M  UFPEF6-15-M	Logistics Optimisation 15 credits at level M  UFQEF3-15-M
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### **Project:**

UFQEL9-20-M: Statistics for Research C (20 credits at level M)

## POSTGRADUATE DIPLOMA - PART TIME PROGRAMME STRUCTURE

### Year One - Semester 1 and 2:

Applications of Statistics 20 credits at level 3  UFQETL-20-3	Decision Modelling 20 credits at level 3  UFQETN-20-3
Business Research Methods 20 credits at level 3  UFQEGF-20-3	

### Year Two - Semester 1:

Statistical Models 15 credits at level M  UFQEF5-15-M	Operations Simulations & Forecasting 15 credits at level M  UFQETQ-15-M
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### Year Two - Semester 2:

Applied Multivariate Techniques 15 credits at level M  UFPEF6-15-M	Logistics Optimisation 15 credits at level M  UFQEF3-15-M
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### Project:

UFQEL9-20-M Statistics for Research C (20 credits at level M)

# **MODULE DESCRIPTIONS**

## **APPLICATIONS OF STATISTICS (UFQETL-20-3)**

This is an exciting new module providing some common transferable statistical skills and also allowing a choice of application areas. You will study subject specific topics drawn from one of two pathways (1) socio-economic and business applications (2) the biomedical and industrial fields looking at the statistical analyses used in medicine, public health, and engineering. The techniques studied in the socio-economic and business pathway are based primarily on regression. The content will look at the ways in which regression models can be adapted to provide a better understanding of economic and business behavior as well as providing a tool for forecasting. You will use real world datasets and a 'hands-on' approach to explore the way in which these models can provide insight and explore patterns of behavior. It is possible that only one pathway may be offered.

## **DECISION MODELLING (UFQETN-20-3)**

This module teaches modeling to provide support for decision makers who are faced with complex quantitative decisions. These may be about trying to plan production in circumstances where finding the optimal product mix may be far from simple even though products demand and costs are known. In addition key information is often missing or imprecisely known so that the decision maker has to operate with uncertainty. One solution to such a problem may be to pay for increased certainty, or more likely reduced uncertainty, but how much is such information worth? The module covers a variety of approaches, including linear programming and its extensions and decision trees and other decision structuring approaches

## **BUSINESS RESEARCH METHODS (UFQEGF-20-3)**

This module covers a range of topics and issues related to how to collect and analyse data. We start with a look at quantitative and qualitative research methods: how to design a research project for example conducting and managing interviews and focus groups, and undertaking surveys. These are explored with a focus on market research, customer satisfaction, and other ways in which business and government seek data. We approach the analysis of large data sets, typically multivariate methods, starting with data mining techniques such as CHAID and C&RT and then moves on to the more traditional multivariate techniques such as Principal Components Analysis (PCA), cluster analysis, binary logistic regression and correspondence analysis. The emphasis is on being able to apply these techniques to large data sets using and SPSS and gaining an understanding of the output produced. The module runs in conjunction with Applied Multivariate Techniques (UFQEF6-15-M) where some of the analysis techniques are explored further. The two modules are complimentary in approach and focus. Both combine to present a comprehensive view of multivariate analysis techniques applied to large data sets.

### **STATISTICAL MODELS (UFQEF5-15-M)**

This module concerns the application of advanced regression techniques that extends the standard multiple regression paradigms to situations when data may not conform to the usual assumptions of normality, linearity and homoscedacity. This is achieved using Generalised Linear Models that encompasses Poisson, Binomial and Gamma regression as well as Log-linear modelling for categorical data. Censored data is also considered using both non-parametric and semi-parametric Survival Analysis techniques. Lecture sessions are designed to give students an overview to the individual methodologies. These are then followed by Lab sessions which will give students extensive practical experience. The course gives students an introduction to R which is an increasingly popular programming environment for statistical analysis.

### **OPERATIONS SIMULATIONS AND FORECASTING (UFQETQ-15-M)**

This module first introduces you to the simulation of complex operations where randomness plays a large role, such as traffic systems, manufacturing, supply chains, the health service. We learn how to use the methodology of discrete-event simulation and specialist software to model such operations to with the aim of improving their efficiency and effectiveness. We also study forecasting methods to enable to make quantitative well-judged predictions of how demand, sales, and other random variables might develop in the future, taking into account trends, seasonality and other more subtle effects.

### **APPLIED MULTIVARIATE TECHNIQUES (UFQEF6-15-M)**

This module equips you to analyse large data sets in ways that allow structure to be revealed in a simple and comprehensible manner. We achieve this by learning about commonly applied multivariate techniques such as Factor Analysis, Discriminant Analysis, MANOVA, Canonical Correlation and Cluster Analysis as well as introducing the student to the newer technique of Structural Equation Modelling. The emphasis is on the application of the techniques and the interpretation of the resulting output from the statistics packages SPSS and AMOS. This module extends some of the multivariate techniques that are covered in Business Research Methods (UFQEGF-20-3).

### **LOGISTICS OPTIMIZATION (UFQEF3-15-M)**

Logistics and Business Optimization plays a major role in many management science applications. This module will teach you how to model logistics and organisational operations problems that are amenable to optimization through the use of network models and integer linear programming. You will learn to use of spreadsheet for simple models and then a specialist optimization modelling languages for more complex systems. For the assignment you will model and solve an optimization problem in a applications area of your choice, a superb way to learn modelling skills that many students then apply in their dissertation.

### **RESEARCH METHODS (UFQEEV-15-M)**

The main focus of this module is to explore the research process and prepare students for the forthcoming dissertation which includes tasks such as selection of the research topic, development of the research questions, and choice of methodology. The module is core to the MSc programme as the assignment requires students to prepare a Research Proposal which will generally form the basis for their dissertation work.

## **STATISTICS FOR RESEARCH C (UFQEL9-20-M)**

This module looks at different statistical methodologies and tools for conducting research. Specifically it covers statistical inference (parametric and non-parametric tests), regression modelling, logistic regression models, design and analysis of experiments, design and analysis of questionnaire surveys, multivariate exploratory data analysis, multivariate analysis of variance, forecasting, data mining, survival analysis, time-series regression modelling with non-stationary data and independent study in advanced quantitative topics. Additionally, three cases will be studied in some depth to allow for application of the various tools learnt on the module.

## **MSC DISSERTATION (UFQEF4-60-M )**

Guided and supported by an academic supervisor, you will carry out an individual research project and write it up. The dissertation module requires you to apply the learning acquired in the Research Methods module (UFQEEV-15-M), manage your work autonomously and within a limited period of time, think and reflect in a critical and original manner, present reasoned arguments backed up by evidence, and write a concise, structured and cogent dissertation.

## **ASSESSMENT CRITERIA**

Masters degree programmes are governed by the University's academic regulations and procedures which can be found on the UWE website using the following link:

<http://acreg.uwe.ac.uk/rf.asp> .

The degree can be achieved at pass, merit or distinction level, as can the interim qualifications of Postgraduate Certificate and Postgraduate Diploma.

You would normally have two opportunities to pass a module. If all the assessments are not passed at the first opportunity, a resit for the failed component is allowed (eg a resit exam or a new coursework submission), providing you have attempted the necessary assessments the first time round. On a project module the resit assessment usually involves reworking the original submission. You will be charged an administration fee for each module to be resat.

The marks for module components which are not passed at the first opportunity are normally "capped" at a bare pass – 50% for level M modules and 40% for level 3 modules (if applicable).

## **FACULTY OF ENVIRONMENT AND TECHNOLOGY** **GRADUATE SCHOOL**

The Faculty of Environment and Technology's Graduate School represents all postgraduate study and students within both Bristol Institute of Technology and the School of the Built and Natural Environment. It represents a very distinctive multicultural and vibrant postgraduate community. It cuts through the internal structures of the Faculty, including schools, departments, research centres and support services - bringing all elements of the postgraduate student experience together.

Bristol Institute of Technology has a large postgraduate community – around 280 taught and over 100 research students – who study a range of courses and disciplines on both a full-time and part-time basis. Students come from all backgrounds, nationalities and faiths. We believe that by integrating postgraduate taught and research students in the Graduate School, greater co-operation and closer working between these two groups will be encouraged. The Graduate School aims to improve the quality of postgraduate education and thus the postgraduate student experience. It provides a range of student events each year, including social activities, poster presentation sessions and an annual student conference. Additionally training and workshops are provided, some through UWE's Graduate Studies Office.

All postgraduate taught students have access to a team of Student Advisors who offer a range of support and information services to help you settle in and address any needs you might have. The Student Advisors have expertise on the structure of your course as well as experience in some of the financial and personal worries often faced by students. Students will also work very closely with their Programme Leaders on academic matters.

### **STAYING TO WORK IN THE UK - TIER 1 POST STUDY WORK**

On 30 June 2008, new arrangements came into effect for international students who have studied in the UK. Called Tier 1 (Post Study Work), students who have obtained an undergraduate or postgraduate degree are able to stay and work in the UK for two years without the requirement of a work visa.

It is applicable to all international students who have obtained a UK recognised Bachelors or Postgraduate degree in any subject from a University or College in the UK. Replacing the International Graduates Scheme (IGS) and the Science and Engineering Graduates Scheme (SEGS), it applies to any student with any degree classification, except those who fail their degrees and those from Foundation degrees.

The Scheme is seen as providing a transitional route from studying in the UK to skilled work. Extensions to the permit will not be allowed and the Scheme is not intended as a route to settlement in the UK. To stay in the UK beyond the 2 year period, international graduates will need to apply and meet the criteria of immigration categories and processes.

See the UK Border Agency website [www.ukba.homeoffice.gov.uk/workingintheuk](http://www.ukba.homeoffice.gov.uk/workingintheuk) for more information. Guidance and information can also be found on the UKCISA website at [www.ukcisa.org.uk/student/info\\_sheets/working\\_after\\_studies.php](http://www.ukcisa.org.uk/student/info_sheets/working_after_studies.php). You can also contact UWE's International Development Office at [uwe.international@uwe.ac.uk](mailto:uwe.international@uwe.ac.uk).

# **BEING A STUDENT AT UWE**

## **Learning at UWE**

We offer one of the most extensive university virtual learning environments (Blackboard), giving you access to lecture notes and teaching materials at any time of the day or night. And it doesn't stop there, you can also take part in online discussions with students and staff on your course. Library Services enables you to access a wealth of information resources to support your studies at UWE, including books and journals, videos, e-books, e-journals, bibliographic databases and past exam papers. You can also check and renew your loans online or by telephone 24 hours a day. As a UWE student you have 24 hour access to the library during term time as well as over 60 computer rooms in the university open 24 hours a day. [www.uwe.ac.uk/library](http://www.uwe.ac.uk/library)

## **UWE Students Union**



The UWE Students Union not only puts on daytime and night time entertainment all year round, it is also home to a wide range of clubs and societies, organised by students for students. Clubs are as wide and as varied as you can imagine – from Aikido and Waterski to Ultimate Frisbee and Skydiving. So why not delve into an activity you already enjoy or try something completely new and exciting? The Students Union Advice Centre offers confidential and impartial advice on accommodation, funding and academic matters. It is also home to the Students Union Law Clinic offering free legal representation for some of the more serious issues. [www.uwesu.net](http://www.uwesu.net)

## **Performing Arts and Centre for Sport**

UWE's Centre for Performing Arts is for anyone with a love of the performing arts, whether you are a beginner or a seasoned performer. Professionals direct all our plays, musicals and concerts – so by taking part you gain great experience. [www.uwe.ac.uk/cpa](http://www.uwe.ac.uk/cpa)

The Centre for Sport on Frenchay Campus was built in 2007 and features a Main Hall that can cater for badminton, basketball, volleyball, 5-a-side football, indoor hockey and more. There is also an aerobics studio, squash courts, a climbing wall and a large fitness suite as well as an outdoor all weather pitch. [www.uwe.ac.uk/sport](http://www.uwe.ac.uk/sport)

## **Career Development**

As a UWE student you can also take advantage of the Career Development Unit. You can get one to one advice and support from a dedicated careers advisor as well as full access to the Resource Centre. You can also benefit from this service for three years after graduation. [www.uwe.ac.uk/careers](http://www.uwe.ac.uk/careers)

## **Childcare**

The Halley Nursery on Frenchay Campus offers childcare for pre-school children and is run by fully qualified staff and inspected by Ofsted and Social Services. The age range is from three months to five years and offers a purpose built facility with an extensive and interesting indoor and outdoor play area. [www.uwesu.net/nursery](http://www.uwesu.net/nursery)

## MORE STUDENT VIEWS

### **Stephen France**

“Whilst developing customer systems, it occurred to me that very little use was made of the large amounts of data stored in these systems. Analysis of the data usually consisted of making pie charts! I wanted to build upon my commercial experience and find ways of analysing the sorts of data found in customer databases. With a Bachelors in Computer Science, I decided to study for UWE’s MSc SAMS because of the university’s outstanding reputation for teaching and its strong links with industry. It equipped me with a large range of statistical and operational research techniques. I particularly enjoyed the Applied Multivariate Statistics and Prediction modules, perfect for reducing complex customer information into simple visual representations for management reports. The dissertation component of the course gave me a thirst for doing research. I am now pursuing a PhD at Rutgers University, studying multivariate analysis techniques. The MSc has given me the skills and quantitative tools to succeed in a demanding PhD program at a top American research university.”



### **Binni Jonsson**

“After a couple of years working in market research in Iceland, I was interested in advancing my statistical, mathematical and analytical skills to be able to take my career a step further. The SMAS course at UWE was the ideal choice for me because the teaching was very well balanced between the theory and practical aspects. This practical orientation gave me the opportunity to study advanced analytical methods and their applications in my field of interest.

Soon after graduating I was offered a position with a market research company in London where I have been able to put into practice many of the methods I studied at UWE. I can now say with confidence that the course prepared me very well for a career in market research, where people with good statistical and analytical skills are in high demand.”

### **Zoe Townsend Brown**

“Working for a statistical agency, I realized that there were many statistical techniques beyond what my BSc had taught me. Even though I had vowed never to return to education, I decided the most appropriate way to expand my knowledge was to study for an MSc. I was very fortunate as my employer supports people studying part time. I wanted to study for a course that was more applied; one that concentrated on when and how to use the techniques as well as how to best to interpret the results. The majority of statistical analysis is carried out on computer software. For me, the SAMS course covered all these aspects: throughout the course I used three different types of software and all the taught modules focused on the practical application of techniques. A lot of the classes were split into taught and practical computer-based sessions, which made it a lot easier to learn techniques. Studying part time was made a lot easier for me by my employer allowing me to have day release to attend the lectures. The advantage with already working in a statistical area was that I could see how the techniques would be used in my area of work. I found the general approach to teaching throughout the SAMS MSc very easy to follow and the lecturers sympathetic to the added complication of working full time whilst studying. I have definitely expanded my statistical knowledge and have already been able to put a few of the techniques to use within my work.”



## Hannah Walker

“I got an undergraduate Mathematics degree in 2000 and started working as a computer programmer 6 months later; by 2003 I was starting to get bored and began looking for something to stretch my mind again. Having considered many courses at different universities, the MSc SAMS seemed to most closely meet my interests, desired career progression and provided a fairly wide subject base.

At first I was totally unprepared for the balancing act of working full time and studying part time. There is certainly a skill to it, and I don't think I ever fully learnt it, but it did get easier and all the teaching staff were very supportive of the problems that can arise due to work commitments. Many of the other students on the course worked full time as well, so there was always someone to give a bit of moral support when a deadline was looming. As I discovered it was also possible to take a year out to recharge the batteries allowing me to travel for 12 months between completing the taught modules and starting my dissertation!

The taught modules covered a wide range of subjects that had different difficulty levels and with varying degrees of relevance to me. All modules were taught by excellent lecturers who were always on hand for that extra bit of help or to give a bit more information if something was of particular interest and you wanted to study it in more detail. My favourite modules were the management science ones, with my enjoyment of the Operational Research module (now Logistics Optimisation) leading to my chosen dissertation subject. I found the dissertation challenging, interesting and very rewarding and had a brilliant supervisor who made everything seem easy. In fact I enjoyed it so much I would love to develop it into a PhD – something I said I'd never do!!

Overall, I enjoyed the whole experience (even the sleepless nights) and would recommend the course to anyone interested and prepared to work hard!”



## **FEES AND PAYMENT TERMS**

### **Home and EU Students**

We are awaiting confirmation of the fee structure and payment terms for 2010 entry. As an indication, these were the fees and payment terms for 2009. Normally an inflationary increase is applied.

All fees are charged based on the number of modules taken (£365 per 15 credit level M module and £139 per 10 credit level 3 module). This means you can expect to pay more or less the following:

<b>Full-time Home and EU students:</b>	£3,754 – MSc £2,294 – PG Diploma
<b>Part-time Home and EU students:</b>	MSc - Year 1 - £1,460. Year 2 – £2,920. PG Diploma – Year 2 - £834. Year 2 - £1460 Year 2 fees will be subject to increase, normally in line with inflation

### **WAYS TO PAY – HOME AND EU STUDENTS**

UWE provides you with a wide range of payment options. Fees can either be paid at the start of your course in full or you can choose to pay in instalments by direct debit. Full details will be sent to you through your Welcome portal over the Summer. Please note that UWE directs all its communications with incoming students through the Welcome portal so its worthwhile making sure you keep your eye on it for any updates.

UWE's tuition fee for home and EU students includes the following:

- All essential away days or activities which form part of your course
- Induction and Welcome Week activities
- Free email account and unlimited internet access in all University libraries and IT laboratories
- Access to a broad range of University services including student advice and support, career development, counseling and security

### **FUNDING, SPONSORSHIP AND SCHOLARSHIPS**

There are many ways that you can get financial help with financing your postgraduate degree. Many postgraduate students are encouraged by their employer to work for a degree by research or a taught programme, and are normally willing to pay some or all of the students' tuition fees. You can also find out more about funding and sponsorship schemes at [www.uwe.ac.uk/money](http://www.uwe.ac.uk/money) which offers extensive and detailed information and advice. You will also find information about the 15% Alumni Discount. There is also more information on the Frequently Asked Questions section within this booklet.

### **AND FINALLY...**

You might also find it useful to go to these links – they have extensive sections on opportunities for postgraduate funding as well as further information.

[www.prospects.ac.uk](http://www.prospects.ac.uk)

[www.hotcourses.com](http://www.hotcourses.com)

## **FEES AND PAYMENT TERMS**

### **International and Partner Institutions**

We are awaiting confirmation of the fee structure and payment terms for 2010 entry. As an indication, these were the fees and payment terms for 2009. Normally an inflationary increase is applied.

<b>International (non-EU) students:</b>	MSc - £9,500 PG Diploma - £6,334 See below for what this includes
<b>Students from international partner institutions:</b>	Please contact us to find out what the fees are for students from your partner institution

UWE's tuition fee for international students includes the following:

- Your annual course fees which are fixed at this rate for the duration of your course
- All essential away days or activities which form part of your course
- Induction and Welcome Week activities for international students
- A free 'meet and greet' collection service from either Heathrow Airport or Bristol International Airport on specified dates
- Free email account and unlimited internet access in all University libraries and IT laboratories
- Access to a broad range of University services including English language support, advice, career development, counselling and security
- Access to UWE's well-equipped and staffed Language Centre

It is important to note that an offer of a place is conditional on proof of ability to cover the fees. The University also requires international students to pay a deposit on acceptance.

### **WAYS TO PAY – INTERNATIONAL (NON-EU) STUDENTS**

International students who accept their offer of a place to study at UWE will be required to pay a deposit of £3000 (note that this could increase for 2010 entry) which must be paid by 30 June or within 21 days for offers made after this date. On receipt of payment of the deposit a Certificate of Acceptance will be sent to you which you will need to be able to apply for your visa.

A third of the remaining balance must be paid on enrolment, which will take place during Induction and Welcome Week at the start of your course. At the same time you will need to make arrangements for payment of the balance, which you may choose to pay by instalments if you wish. Full details will be sent to you through your Welcome portal over the Summer. Please note that UWE directs all its communications with incoming students through the Welcome portal so its worthwhile making sure you keep your eye on it for any updates.

### **THE UWE LOYALTY SCHOLARSHIP**

A UWE Loyalty Scholarship of £500, received as a fee reduction, applies to all international students who pay their total annual tuition fee on or before enrolment each year.

### **THE UWE ALUMNI SCHOLARSHIP**

A tuition fee discount of 15% applies to all international students who have previously graduated from a UWE degree programme, including those delivered at a partner institution either in the UK or overseas.

# **ENTRY REQUIREMENTS**

## **General requirements**

You should have a quantitative background and be a good communicator. Although not a requirement for entry, some previous exposure to statistics and/or management science would be useful.

## **Education and work experience**

Typically, students enter the programme with a degree which has a significant quantitative content (though not necessarily with a statistical or management science focus). We would normally expect an honours degree at 2.1 or better. Alternatively, you may have a lower classification degree but with 2+ years of appropriate experience; or have none of the qualifications given above but have substantial work experience and a keen interest in developing your analytical skills. In both these cases it is likely that we would invite you for an informal interview.

## **English language requirements**

A recognised English Language qualification is normally required for entry to all programmes. If the medium of instruction of your first degree was not English, you are required to pass such tests as the British Council's International English Language Test (IELTS). All applicants for graduate entry programmes, postgraduate certificates, postgraduate diplomas, masters and doctorate programmes must achieve a minimum grade of 6.5. Those who have achieved a grade of 6 may attend a pre-sessional English Language course to bring their language skills up to the required level.

International students who already have a qualification recognised as equivalent to the UK GCSE in English language at grade C or above or who have previously studied at degree level in the medium of English will not need to take the IELTS test.

If you have questions which you feel have not been fully answered in this handbook, please contact

Alistair Clark, Programme Leader

Tel: +44 (0)117 32 83134

Email: [Alistair.Clark@uwe.ac.uk](mailto:Alistair.Clark@uwe.ac.uk)

or

Bristol Institute of Technology's Admissions and Marketing Team:

Tel: +44 (0)117 32 84242

Fax: +44 (0)117 32 83680

E-mail: [bit.admissions@uwe.ac.uk](mailto:bit.admissions@uwe.ac.uk)

You can apply online at <http://courses.uwe.ac.uk/g42a12/2010>

Please also visit our website at [www.uwe.ac.uk/bit](http://www.uwe.ac.uk/bit)

## **OTHER FREQUENTLY ASKED QUESTIONS**

### **How much additional time and independent study will this course require?**

A 20-credit module typically involves 2 hours per week of classroom time over a two 12-week periods. A 15-credit level-M module typically involves 2-3 hours per week over a 12 week period in structured activities, although this may vary. You should reckon on devoting approximately a further 9 hours per week to each module. This means that a full time student may need to spend up to 50 hours per week on his/her studies. In practice, of course, students spread this load over the holiday period, and there may be times of particularly intense activity, when deadlines need to be met.

### **How much time and effort will I be expected to put into the dissertation?**

You should view your dissertation as a part time activity over the duration of the course. Writing the dissertation is demanding, not so much because of its length, which is about 15000 words, but because you are expected to identify a research question that is important and interesting to you, and then think analytically and creatively about this question. This will involve extensive, critical reading of literature.

### **I am in the final year of my undergraduate degree. Why should I do a postgraduate degree and what better career prospects can this give me?**

By doing a Masters degree, you would be gaining skills and knowledge valued by employers – making yourself much more attractive to employers and much more likely to be invited to interview. A higher qualification such as a Masters degree sets you apart from other potential employees in the market place. You will also study Statistics and Management Science in much more depth than you would at undergraduate level, and will be encouraged to think more critically throughout your degree. Additionally, you will learn to work independently – in fact this is crucial in a Masters qualification such as this – a skill which employers really value.

### **Where can I find help financing my postgraduate degree?**

Career Development Loans of up to £8000 can be applied for through Barclays, the Co-operative Bank and the Royal bank of Scotland. This can be used to pay for course fees, living costs and other related expenses, such as childcare, textbooks, etc. Details of these loans are fully explained on the UK's DirectGov website:

[www.direct.gov.uk/en/EducationAndLearning/AdultLearning/CareerDevelopmentLoans/](http://www.direct.gov.uk/en/EducationAndLearning/AdultLearning/CareerDevelopmentLoans/).

Further help and information can also be obtained from UWE's Students' Financial Advice and Welfare Office on +44 (0)117 32 82822 or by email to [saws@uwe.ac.uk](mailto:saws@uwe.ac.uk), your local job centre or by telephoning the advice line on +44 (0) 800 585505.

Disabled Students Allowances are available for postgraduate students, provided no other funding support applies. Please contact the Disability Resource Centre for details on +44 (0)117 32 82564 or be email to [drc@uwe.ac.uk](mailto:drc@uwe.ac.uk).

Finally, many postgraduate students are encouraged by their employer to work for a degree by research or a taught programme and are normally willing to pay some or all of the student's tuition fees.