Student Handbook 2018-19

Faculty of Social Sciences

School of Mathematical Sciences
MSc Data and Decision Analytics

Welcome

Welcome from the Faculty of Social Sciences Associate Dean

Dear Students,

Welcome to the University of Southampton and good luck on the year to come. As an incoming student on one of our postgraduate taught programmes, you've already demonstrated your ability through your undergraduate studies, and we're glad you've decided to continue your education with us at Southampton.

Within the Faculty, you may also like to know that there are numerous staff who have chosen the role of ensuring the quality and innovativeness of your experience at Southampton. My role, as Associate Dean, is to provide leadership to this group of staff, developing educational strategy and ultimately overseeing all matters to do with your education and its assessment and quality. I have a commitment to ensuring the best possible student experience and, if all is working well, I will be like the duck on the pond - calm on the surface but paddling hard underwater.

In all of our endeavours, we aim to provide a distinctive flavour to our education, both when bringing students from all over the world to Southampton, and when taking Southampton to the world. It is our hope and intention that you too will experience our different and cutting edge way of doing things, and that you will thrive and succeed in your studies and in all that University can offer you outside of your studies. Most of all, we hope that you will be happy during your time with us. This will shine through, and your positivity will be a beacon for friends, for opportunity and for achievements. Our staff are ready and willing to help you on that journey and we will be delighted to hear from you.

For now though, welcome to what we hope will be a 'home from home', and good luck for your year to come.

With best wishes,

Jim Anderson
Associate Dean (Education)
Professor of Mathematics
J.W.Anderson@soton.ac.uk

Dear Students

We are delighted to welcome you to the MSc programme in Data and Decision Analytics (DDA) at the University of Southampton. You are studying in Mathematical Sciences within the Faculty of Social Sciences and we hope that you will have a fulfilling experience whilst undertaking your postgraduate studies.

The programme aims to provide training and skills necessary for success in commercial companies or the public sector. This programme has a vocational focus and there are opportunities for summer projects in a wide range of industries A number of modules will be run by the Operational Research Group and the Statistics Group in Mathematical Sciences, some of which you will study in conjunction with student enrolled in other MSc programmes of Mathematical Sciences. Some modules will be run by the Southampton Business School or the School for Electronics and Computer Science.

The handbook provides comprehensive information about this programme, Student Services and University regulations and resources. In particular, the University web-links may provide you with the most up-to-date information and teaching materials. I hope that you find it helpful. If you have any questions about the course, don't hesitate to get in touch with me or your personal tutor and we'll do our best to help.

I look forward to getting to know you over the next 12 months and hope that you enjoy this programme.

Professor Huifu Xu
Programme Director for MSc Data and Decision Analytics

Resource	Web link	
School website	https://www.southampton.ac.uk/maths/index.page	
Faculty staff information	Dean Jane Falkingham	
	AD Education Jim Anderson	
School staff information	Jonathan Forster *Head of School, Mathematic Sciences*	
	David Gammack *Deputy Head of School, Education*	
	Marika Taylor *Deputy Head of School, Research and Enterprise*	
Programme and module descriptions	Descriptions relating to your programme can be found via the programme pages on the web, and on Blackboard. Your programme structure (i.e. which modules make up your programme) is available in your programme specification and via the on-line programme catalogue which is accessible via Banner Self Service. To find links to broad generic descriptions of the programmes and modules, follow links to your programme starting from the Faculty web pages https://www.southampton.ac.uk/about/departments/faculties/social-sciences.page	

Contents

1. General Information

The information contained within your programme handbook is designed to provide key information applicable to you and your programme during the 2018/19 academic year. It will complement the University's Student Portal.

You can access the Portal by logging on to SUSSED, using your user name and password, and clicking on the Students tab in the top navigation bar. It is important that you make use of these resources as they support the regulations relating to your obligations and that of the University while you are a student at the University of Southampton.

It also provides helpful information on matters such as housing, finance, leisure, healthcare and support facilities.

The Faculty Student HUB – Student Hub and Academic Information Resource (SHAIR)
The Faculty Student Hub is an information resource for undergraduate and postgraduate taught students in the Faculty of Social Sciences. This is designed to be a one-stop shop to direct you to everything you need to navigate your academic journey with us. Containing How To Guides, links to services across the University, copies of all the forms you might need, contact details for academic staff members and your Student Offices, and much, much more, this should be your first port of call for any information you need as a student in the Faculty.

Resource	Weblink
Academic integrity	http://www.calendar.soton.ac.uk/sectionIV/academic-integrity-regs.html
Blackboard	http://blackboard.soton.ac.uk/
Faculty website	https://www.southampton.ac.uk/about/departments/faculties/social-sciences.page
Faculty staff information	Southampton Education School Mathematical Sciences Social Sciences Southampton Law School Southampton Business School
Library	http://www.soton.ac.uk/library/
Programme and module descriptions	Descriptions relating to your programme can be found via the programme pages on the web, and on Blackboard (see above). Your programme structure (ie which modules make up your programme) is available in your programme specification and via the online programme catalogue, which is accessible via Banner Self Service To find links to broad generic descriptions of the programmes and modules, follow links to your programme starting from http://www.southampton.ac.uk/maths/
Programme regulations	The Regulations and Definitions Applying to Progression for all Credit-Bearing Programmes should be read in conjunction with your own programme regulations which detail any supplementary regulations specific to your programme of study.
Educational support services	Enabling Services provides a wide variety of support for students who have disabilities, mental health problems or specific learning difficulties. Its expert team can provide advice and support relating to your studies throughout your time here.
Academic Skills Hub	http://library.soton.ac.uk/sash

1.1 Your student office

Opening Hours: Monday to Friday
                                           9.00am to 5.00pm
Location and contact details: Social Sciences
                                           Building 58, Room 2127
                                           Maths-StudentOffice@soton.ac.uk

1.2 How we keep in touch with you

<u>Email</u>
We will use your University email account to contact you when necessary. We will not use any other email accounts or social networking sites. **It is your responsibility to check your University email account regularly** and you must not let your inbox exceed your storage limit.

Notification that you are due to exceed your storage limit will be sent to your University email account and you should take immediate action as you will be unable to receive further emails once your storage limit has been exceeded.

<u>Written Correspondence</u>
Formal correspondence regarding your programme of study (e.g. suspension, transfer or withdrawal from programme, academic performance (including progression/referral information), issues of academic integrity, student complaints and academic appeals) will be sent to your term-time (TT) or permanent (PM) address listed as active on your student record. You are responsible for advising the University if you change your permanent or term-time address. The University will not be held accountable if you do not receive important information because you failed to update your student record.

<u>Use of social networking sites</u>
We understand that students are increasingly using social networking sites to interact with members of their student community. You should note that any behaviour that affects other members of the University community or members of the general public in ways which might damage the standing and reputation of the University may be subject to <u>disciplinary action</u> within the scope of the <u>University's Regulations</u>.

1.3   Confirmation of your student enrolment status

The Student Office can provide you with a certificate to confirm your status as a student (e.g. for bank account opening purposes). Please ensure that you give at least 48 hours' notice of your requirements (longer at peak times such as at enrolment or during the examination periods).

Your award certificate will be produced using the legal name data you have provided within your student record. Please make any necessary amendments to your record immediately a change occurs to ensure that your certificate contains accurate information.

In accordance with policy, a scale of fees exists for the provision of certificates, transcripts and award certificates. Please see point 11 '*Transcripts, Certificates and Award Letters'* within the <u>fees section</u> of the University Calendar.

Your award certificate will be produced using the legal name data you have provided within your student record. Please make any necessary amendments to your record immediately a change occurs to ensure that your certificate contains accurate information. Changes are made via <u>Banner Self Service.</u>

2.   Supporting you through your studies

2.1   The role of your Personal Academic Tutor and other key academic staff

The University operates a tutor system to help support and advise students in their academic study. As a student, you can expect to be allocated a <u>Personal Academic Tutor.</u> Your Personal Academic Tutor may or may not be one of the teaching staff you see in the course of your studies, but their role in this context is to provide advice and support to you throughout your study, and to help review your academic progress. You can expect to see your Personal Academic Tutor at key points through your University career and, if you need to, you can contact them more frequently. Sometimes, your Personal Academic Tutor may refer you to other areas for support. They may refer you to individual support services, or to your student office for information, or to a Senior Tutor. The Senior Tutor, Dr Honora Smith, and your programme director, Professor Huifu Xu, will have a more specialised understanding of supporting students, and may support you if you have a particular problem. You can also contact the Senior Tutor if you wish to change your allocated Personal Academic Tutor.

The University expects that you will engage with your Personal Academic Tutor, attend the scheduled meetings, respond to messages from your Personal Academic Tutor, and notify your Personal Academic Tutor (or Senior Tutor, if you prefer) if you are experiencing problems which are affecting your performance, attendance or progress in your studies. In particular, you should contact your Personal Academic Tutor if you feel your performance in any forthcoming examinations will be affected by ill health or other special considerations, and check with your Personal Academic Tutor if you plan to cite him/her as a referee for job applications.

2.2   What to do if you are ill

It is important that your doctor (as well as your Personal Academic Tutor) is immediately informed of any illness that is likely to affect your studies. If appropriate, your GP may inform your Personal Academic Tutor that you are experiencing some health difficulties that may affect your academic performance. This will be done with your consent and you may wish the details of your illness to be withheld from your Personal Academic Tutor, although you should think carefully about this (your tutor will, in any case, respect your privacy).

More information can be found in the General Regulations - Attendance and Completion of Programme Requirements.

2.3   External factors affecting your attendance or performance in your studies

We expect you to take responsibility for your studies to ensure that your full academic potential can be realised. However, sometimes difficulties can arise that can affect you.

If you are absent from an examination or other assessment or have other grounds for believing that your studies have been affected by external factors you must bring this to the attention of your Personal Academic Tutor or to the Student Office immediately. Whilst we recognise that students can sometimes be reluctant to discuss cultural, sensitive or personal issues, it is essential that you bring problems affecting you to our attention immediately so that we can determine how best to help you.

2.4   Special considerations

If you believe that illness or other circumstances have adversely affected your academic performance, this is known as Special Considerations. If you wish for these to be considered by the School you must complete a Special Considerations form. **It is important that you submit this to your School in a timely manner and prior to the Board of Examiners.**

All claims must be substantiated by written documentary evidence, for example a medical certificate or GP/consultant letter, self-certification (although self-certification will not be regarded as evidence in relation to your examination performance) or a statement from your Personal Academic Tutor. The purpose of asking for supporting documentation is for you to be able to corroborate the facts of your submission.

All claims will be reviewed by the Special Considerations Board which meets regularly throughout the year. The Student Office will contact you via your University email account to let you know once approval has been made.

2.5   Fitness to Study

The Fitness to Study policy applies to enable the University to respond appropriately to situations where visible signs of illness, mental health difficulties, psychological, personality or emotional disorders may have a profoundly disturbing impact on the functioning of an individual student and or the wellbeing of others around them. The University has a positive attitude towards those with impairments and is committed to maintaining students' wellbeing. The policy identifies the procedure and support available to both students and staff when a student becomes unwell and/or presents a risk to self and/or others.

2.6   Suspending your studies

Should you feel that you need to take some time out from your studies, known as suspending your studies, you should first discuss this with your Personal Academic Tutor. A Suspension Request form should be obtained, completed and returned to the Student Office. Please note that, if you wish, you can suspend your studies in order to undertake an internship or period of industrial training outside of normal vacation time.

2.7   Withdrawing from your studies

If you no longer wish to continue with your studies, a Withdrawal Notification form should be obtained, completed and returned to the Student Office. Further information can be found in the General Regulations - Transfer, Suspension, Withdrawal and Termination

The Students' Union Advice Centre has developed a Guide for students.

3.   Your safety

Ensuring student health and safety is a major goal of the University. As a new student you will have received information on Personal Safety and H&S/Fire Safety as part of your 'Southampton Welcome'. Both new and existing students should also take a look at the following links for further information:

www.susu.org/support

The University statement of Health and Safety Policy Statement and Management System, which defines commitment, governance, responsibilities and management of health and safety is available here:

http://www.southampton.ac.uk/healthandsafety/topics/students.html

The Faculty's Health and Safety Local Arrangements document is available at
https://groupsite.soton.ac.uk/Administration/FSHS-Health-and-Safety/Documents/Forms/AllItems.aspx.

3.1   Local arrangements

Key local Health and Safety arrangements are as follows. If you have questions relating to any of the following information please contact a member of the Faculty Health and Safety team, details of which you will find at the end of this section.

3.2   Action in the event of a fire

 If you notice or suspect that there is a fire you should immediately raise the alarm by operating the nearest fire alarm call point (one will be located on the wall as you leave the building). The fire alarm is a continuously ringing bell.
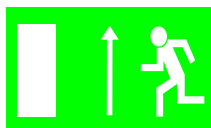
 On hearing the alarm you should immediately stop what you are doing and make your way out of the building by following the green emergency exit signs to the nearest exit, shutting doors behind you as you leave. Do not stop or return to collect personal belongings. Do not use lifts unless you have a Personal Emergency Evacuation Plan (PEEP).

 On leaving the building make your way to the assembly point. Ensure any car parks or roads are kept clear for emergency vehicles. Do not re-enter a building until you are told it is safe to do so by the Fire & Rescue Service, the senior Fire Warden or Security staff.

Fire extinguishers are provided in buildings but should only be used by those trained in their use and only if it is safe to do so.

Evacuation alarms are tested weekly. The times of these tests are detailed near main entrances to buildings. When tests take place the bell will ring for no more than a few seconds.

If you have a permanent or temporary mobility impairment that affects your ability to use stairs to exit a building then you should have been notified to Health and Safety personnel in order for a PEEP to be developed. If this has not been done please contact the Health and Safety team using the details overleaf.

3.3   Assembly points

Building	Assembly point
B32 (Education)	Plaza area at South (Library) end of B32
B34 (Education)	Area around flag pole in front of University library.
B39 (S3RI)	In the pedestrian area at front of B54
B54 (Mathematics) and B56	Grassed area adjacent to Turner Sims Concert Hall.
B58 (Social Science)	Grassed area in front of University Health Service Building (North end of Physics building).
Other buildings	Check the emergency information that should be displayed on a noticeboard in teaching rooms.

3.4   First Aid

In the event of an accident causing injury, the nearest first-aider should be contacted. Their details are displayed on signs in corridors. Alternatively, contact security on 3311 using an internal phone and they will assist. Following treatment, the incident must be reported to your line manager/supervisor and the Faculty Health and Safety team.

3.5   Incident Reporting

If you are involved in an accident or incident, spot a hazardous situation or are concerned that you are being asked to do something without the necessary information, instruction or training that would ensure your safety, please report this to your supervisor and the Faculty Health and Safety team. The circumstances can then be investigated and measures put in place to minimise future risk.

Incidents can be reported online at: https://www.southampton.ac.uk/healthandsafety/incident-report.page

3.6   Induction and Training

As a new student you should have the following expectations with regard to Health and Safety:

- To be made aware of local emergency arrangements and H&S contacts on your first day.
- To receive a local induction before using any laboratory or workshop area. This will identify hazards and make you aware of particular procedures in place to help ensure your safety.
- That risk assessments and other written arrangements that maintain good H&S in all your activities will be brought to your attention by your supervisor.

3.7   Building Access

Most University buildings are open to all from 08.00-18.00 Monday-Friday excluding University and public holidays. All undergraduate students must leave buildings by 18.00. Access by ID card may be available to postgraduate students from 06.00-23.00 depending on student status. Buildings are to be clear by 23.00 and remain so until 06.00 (Closure Period) unless you have particular need which must be approved by your Head of School.

3.8   Out-of-Hours Policy

The Out-of-Hours Policy covers the Closure Period from 11.00pm through to 6.00am the following day and applies to every day of the year, including weekends and Public Holidays. You must have received approval to work during the closure period from your Head of School and this must be documented using **the Out of Hours form** available from the link http://www.southampton.ac.uk/estates/what-we-do/security.page When you are present in the building you should have access to a completed copy of this form, along with your University ID.

3.9   Further information

More detailed information, forms and links to other sources of advice are available on the Faculty H&S site.

3.10 Contact Information

Your primary contact should be your personal academic tutor. However, the following contacts may be used if necessary:

Faculty Health and Safety Team (Faculty of Social Sciences)				
Gary Griffiths	Faculty Health and Safety Officer	G.B.Griffiths@soton.ac.uk		
Aloma Hack	Faculty Health and Safety Officer	A.J.Hack@soton.ac.uk		
Health, Safety and Risk Directorate				
Health, Safety and Risk Directorate (HSR)	Please contact HSR if local contacts are not available	26 University Road	023 8059 3277	hs@soton.ac.uk
Security – Central Control Room (CCR)				
CCR	023 8059 3311 (Emergency)	023 8059 2811 (Enquiries)		unicc@soton.ac.uk

4. Your Academic Programme

4.1 The academic year and the programme structure

The structure and modular content provided within the programme specification is specific to your own programme.

You can view the most up to date version of the programme specification via SUSSED.

The taught components of the programme are delivered in modular form and typically run over two semesters. The teaching weeks are followed by a two to three week examination period. The semesters overlap the traditional three term structure which still determines the pattern of vacations at Christmas and Easter.

For any given programme a module is either core, compulsory, or an option. Definitions of these and of the rules surrounding compensation are provided in the General Regulations – Regulations and Definitions Applying to Progression for all Credit-Bearing Programmes and are reproduced below.

Core Module: A Core Module is a module which must be taken and Passed by all students on a particular programme. Core Modules may not be Passed by Compensation. Where programme regulations specify, a student may be required to select a Module from within a group of Modules, which, once selected, becomes Core.

Compulsory Module: A Compulsory Module is a Module which must be taken by all students on a particular programme. Compulsory Modules may be Passed by Compensation.

Option Module: An Option Module is a Module selected from a group of available Modules which does not become Core or Compulsory on selection. Option Modules may be Passed by Compensation.

Compensation: Pass by Compensation is the award of credit for a Failed Module on the basis that overall performance elsewhere in the Part is sufficient to merit the passing of that Part and the learning outcomes of the programme as a whole will be met.

Non-Compensatable Fail: A Non-Compensatable Fail is a Failed Module which cannot be Passed by Compensation. A Failed Module is Non-Compensatable if the mark achieved for the Module is lower than the Qualifying Mark, or if the Failed Module is a Core Module for the programme.

Pass Mark: The Pass Mark is the minimum mark that must be achieved in order to pass. It may be applied to a Module to an Average Mark or to a Final Average Mark.

The University standard Module Pass Mark for Standalone Masters students taking modules at all levels is 50 ([Regulations for Progression, Determination and Classification of Results: Standalone Masters Programmes](#) (section 3).

Qualifying Mark: The Qualifying Mark is the minimum mark that must be achieved in a Module in order for a Pass by Compensation to be awarded.

The programme consists of two parts: the taught part in the first two semesters of the year and the project, usually carried out during the summer. The University works within the European Credit Transfer and Accumulation Scheme (ECTS), full details of which are in the University Calendar, Section IV.

The taught part of the programme consists of core, compulsory and optional modules and carries 60 ECTS (120 CATS) points. The MSc project carries 30 ECTS (60 CATS) points.

The taught component in Semester 1 and Semester 2 is mainly made up of core and compulsory modules but there are optional modules available. Your personal teaching timetable is available online.

The finalised timetable for the second semester will be available online towards the end of the first semester.

It is anticipated that students will need to do a minimum of 40 hours work per week, including timetabled lectures, workshops, seminars and private study during the instructional part of the programme, and students should only take (short) holidays during the Christmas and Easter vacations.

Unless stated in the programme regulations (and subject to paragraph 3.3 of the [Regulations for Progression, Determination and Classification of Results: Undergraduate and Integrated Masters Programmes](#)), the University standard Qualifying Mark for undergraduate students taking modules at all levels is 35.

Your student record should automatically record core and compulsory modules and these must be completed in accordance with the requirements for progression applicable to your programme. Most programmes will have a number of option modules. If applicable you will need to select a certain number of option modules to complete your portfolio of modules and fulfil the credit points as required for the programme.

4.2   Registration and amendment to optional modules

Most programmes will have a number of optional modules. If applicable, you will need to select a certain number of optional modules to complete your portfolio of modules and fulfil the credit points as required for the programme.

When choosing your options, you are strongly advised to ensure that you have a similar total number of modules in Semester 1 and Semester 2, to maintain a balanced workload throughout the year. Once you have registered your options, it is possible for you make changes but there are restrictions.   The substitution of modules is not allowed (i.e. you cannot take an extra module in semester 2 to replace a semester 1 module in which you failed to perform well).

You may request a change to your optional module choice up to the **end of week 2** in each semester. You should complete a Change of Module form to specify your request (forms can be obtained from the Student Office). If your optional module choices clash in your timetable, then you will need to amend your optional choice accordingly by contacting the Student Office immediately.

You should regularly check your online student record for details of your registered modules. This is particularly important after you have made any changes and will help to maintain the accuracy of your student record. It will also save time and confusion during the examination period.

4.3   Attendance

The University attendance regulations details the University expectations relating to attendance.

Students should not take holidays during the MSc project (normally mid-June to mid-September). There is usually time for a short break after the last examination and before the project start date; otherwise, holidays should be deferred until after the dissertation has been submitted.

4.4   Additional Costs

You may incur additional costs because of your programme, for example for materials, field trips or books. General programme costs are located in the programme specification. Modules that are optionally available to select also include information on module specific costs.

Main Item	Sub-section	PROGRAMME SPECIFIC COSTS
Approved Calculators	Candidates may use calculators in the examination room only as specified by the University and as permitted by the rubric of individual examination papers. The University approved models can be found here: https://www.southampton.ac.uk/studentadmin/assessment/assess-overview/exam-regulations.page These may be purchased from any source and no longer need to carry the University logo.	
Stationery	You will be expected to provide your own day-to-day stationery items, (e.g. pens, pencils, notebooks, etc). Any specialist stationery items will be specified under the Additional Costs tab of the relevant module profile.	
Textbooks	Where a module specifies core texts these should generally be available on the reserve list in the library. However, due to demand, students may prefer to buy their own copies. These can be purchased from any source. Some modules suggest reading texts as **optional** background reading. The library may hold copies of such texts, or alternatively you may wish to purchase your own copies. Although not essential reading, you may benefit from the additional reading materials for the module.	
Equipment and Materials	Hardware	Public workstations are available, but iPads, laptops etc, are to be purchased as the student wishes.
	Software Licenses	The software required for the programme is available on all public workstations on campus, and accessible from your own computer via VPN.
Printing and Photocopying Costs	In the majority of cases, coursework such as essays; projects; dissertations is likely to be submitted on line. However, there are some items where it is not possible to submit on line and students will be asked to provide a printed copy. A list of the University printing costs can be found here: http://www.southampton.ac.uk/printcentre/copyrooms/service.page	
Placements	Where placements involve working away from Southampton, the additional costs of travel and accommodation will usually be covered by a bursary that is given to the student at the start of the project.	

Main Item	Sub-section	PROGRAMME SPECIFIC COSTS
Optional Visits	We offer the possibility of optional off-site visits occasionally during the programme. When these occur, students may be expected to cover the associated transport costs.	

In some cases you'll be able to choose modules (which may have different costs associated with that module) which will change the overall cost of a programme to you. Please also ensure you read the section on additional costs in the University's Fees, Charges and Expenses Regulations in the University Calendar available at www.calendar.soton.ac.uk.

4.5 Modules

The following lists the modules in the programme for 2018/19: more detailed information about the modules can be found here.

COMPULSORY MODULES		Semester	ECTS Points
MATH6001	Project		30
MATH6005	Introduction to Python	1	3.75
MATH6145	Presenting Reports	2	3.75
MATH6157	Applied Statistical Modelling	2	7.5
MATH6161	Deterministic OR Methods for Data Scientists	1	3.75
MATH6164	Stochastic OR Methods for Data Scientists	1	3.75
MATH6165	Statistical Theory for Data Scientists	1	7.5
MATH6166	Statistical Computing for Data Scientists	1	3.75
	Total		**63.75**

OPTIONAL MODULES (26.25 ECTS to be selected)

Options in Mathematical Sciences

MATH6011	Forecasting	2	3.75
MATH6017	Financial Portfolio Theory	2	3.75
MATH6120	Nonlinear Optimization	2	3.75
MATH6021	Survival Analysis	2	3.75
MATH6025	Bayesian Methods	2	3.75
MATH6027	Design of Experiments	2	7.5
MATH6112	Computer Analysis of Data and Models	2	3.75
MATH6119	Analytical Consultancy Skills	1/2	3.75
MATH6146	Revenue Management		3.75
MATH6147	Data Analytics	1	3.75
MATH6158	Managing Uncertainty and Risk	2	3.75
STAT6079	Computer Intensive Statistical Methods	2	5

Options outside of Mathematical Sciences

MANG6054	Credit Scoring & Data Mining	2	3.75
MANG6100	Game Theory for Business	2	3.75
MANG6229	Multivariate Statistics for Data Mining	1	3.75
COMP6234	Data Visualisation	1	7.5
COMP6237	Data Mining	2	7.5

Core modules must be passed (at least **50%**) and cannot be compensated with high marks on other modules.

Compensation There may be compensation for failed compulsory and optional modules (see Section IV of the Calendar for full details), provided no mark is less than the qualifying mark of 35%.

The choice of some module combinations may be affected by timetabling restrictions: you will be informed if there are any clashes affecting your programme.

4.6 Programme outline for part-time PgDip/MSc (taken over 2 years)

The PgDip/MSc can be taken over a 2-year period (i.e. part-time in each year) provided that a suitable programme of study can be arranged. Whether this is feasible will depend on individual circumstances such as other commitments of the student. Enquiries about this should be made to the Programme Director.

4.7 CORMSIS Business Advisory Board

The PgDip/MSc programme is supported by the CORMSIS (Centre for Operational Research, Management Science and Information Systems) Business Advisory Board, which has representatives from a wide range of businesses and government organisations. See http://www.southampton.ac.uk/cormsis/about/businessadvisory.page for the external members' names and their affiliations. It is expected that you will have the opportunity to meet members of this Board over a buffet lunch on several occasions during the year. An industrial mentoring scheme may also be available this year.

5. Faculty Teaching and Learning Skills

5.1 Time management

It is your responsibility to manage your time in order to ensure that you keep up to date with the material presented and with the requirements of the programme. Deadlines for work submission should be adhered to otherwise marks will be deducted via the imposition of a late submission penalty.

The framework of when lectures and classes occur and deadlines for submission of work will be made available to you well in advance, but if you are unclear about any aspect of your module you should talk this through with your module lead or programme lead. This knowledge will allow you to plan your life based on how you know you work best. Effective use of your time will allow you to perform well on your course and to enjoy student life.

One of the work-place skills you should aim to acquire at University is the ability to manage multiple priorities. If you have problems in this area please discuss them with your Personal Academic Tutor.

5.2 Lectures

A single lecture slot lasts 45 minutes. It is therefore vital that you arrive promptly in order to gain maximum benefit from the time. Each lecturer will present material using either handouts or require you to make your own notes. Transcribing lectured material into a form that you find most useful is an important part of the learning process. You should ensure that you understand the material and, if you have difficulty in understanding or applying the knowledge, use recommended textbooks or the assistance of teaching staff during tutorials to gain understanding.

It is your responsibility to develop your ability in a given subject. How well you have acquired that ability and the associated knowledge is gauged by the assessment process. Lectures are provided for your benefit and you should take full advantage by ensuring you attend all of the lectures in a given module. If, for any reason, you are unable to attend, ensure that you get hold of a copy of the notes or handouts from Blackboard or your module lead.

5.3 Use of electronic recording devices or mobile phones in lectures or classes

Out of courtesy to staff and other students, please ensure that mobile phones are switched off in lectures and seminars. You are advised that lectures are the copyright property of the lecturer and permission to audio-record a lecture must be personally sought from the lecturer before proceeding.

If you wish to use an electronic device to take notes in a lecture, you should do so in a way that does not cause disruption to those sitting near you.

If you have a health condition for which additional support is needed, you may, following assessment by the University's educational support services, make appropriate arrangements with staff for recording lectures.

5.4   Tutorials/supervisions

Group tutorials/supervisions are timetabled for some modules. These sessions are intended for you to develop your problem solving skills as well as for you to discuss further with an experienced member of staff any particular lecture material you are finding difficult to understand. It is essential that you come well prepared for these sessions. These sessions are one of the most effective ways of reinforcing the lecture material.

5.5   Independent or Self learning

Independent study or self-directed learning involves using libraries, data retrieval systems, internet, etc, or in a group working on coursework, reading the lecture material or reading around the subject. This should also develop your investigative and problem solving skills in furthering understanding of the subject, creating links with other modules - past and present - and providing a broadening of your educational experiences and knowledge base.

Self-learning is your personal responsibility and your commitment to the programme. It requires discipline, motivation and focussing on achieving individually set targets. It enables you to reach your full potential academically, develops your personal skills and helps establish a successful professional career.

5.6   Key skills

Key skills are those skills which can be applied to other disciplines and fields of work. Employers are increasingly seeking to employ individuals with well-developed key skills. More can be found on the Academic Skills pages of the library website. A conscious effort is made by the Faculty to ensure that every module allows and encourages development of key skills. Further details can be found within individual module specifications.

5.7   School Policy on referencing

References must be made to **all** the sources of information you have used. The **Harvard** style of referencing should be used, with an alphabetical reference list. There is a good guide to Harvard referencing published on the Library Website:
http://library.soton.ac.uk/ld.php?content_id=4660789

Good practice on direct quotations
ALWAYS put direct quotations in inverted commas. Give a reference to the quotation, which then refers to your reference section. It is quite a good idea to use a different font or indent the passage quoted.

Quoting other sources is GOOD, provided you include your own comments about it and reference it clearly. But don't just quote from other people – you will only gain good marks for coursework if your own thoughts and ideas are included.

REMEMBER that, when you hand in your coursework through the Student office, you sign a form to say that the work is all your own except where specific references are made.

Mathematical Sciences policy on collaboration on coursework:
"Students are encouraged to discuss and exchange ideas on their work. However, for a student to read and gain ideas for his own work from another student's finished work on the same topic is clearly unacceptable. Copying and other unfair practices in coursework assessments, including computing assignments, is equivalent to cheating in examinations and is regarded with a similar degree of severity. If this occurs, the student(s) involved will be penalised. A formal procedure may follow any alleged cheating/plagiarism."

5.8 Academic integrity: the University Policy

The University expects that all students will familiarise themselves with the [Regulations Governing Academic Integrity.](#) Where professional, statutory and regulatory body requirements apply and for programmes that lead to professional registration, additional reporting requirements may be in place.

The Students' Union Advice Centre has developed a [Guide for students](#).

Procedures will be invoked to investigate suspected breaches of academic integrity when concerns are raised during the marking process or in connection with suspected cheating in examinations. We are aware that students may have experienced differing standards at other institutions (including those overseas) but it is essential that you take steps to ensure your full understanding of the standards expected at Southampton as significant penalties can be imposed if these are breached. These penalties will always affect the mark you receive for the piece of work in question, and the most serious cases could lead to a reduction in degree classification or even termination of programme. There is likely also to be an impact on any future reference we provide.

It is often helpful to discuss ideas and approaches to your work with your peers, and this is a good way to help you think through your own views. However work submitted for assessment should always be entirely your own, except where clearly specified otherwise in the instructions for the assignment. In some instances working in groups will be required, and there may be occasions when work is submitted from the whole group rather than individuals. In these instances the instructions will make it clear how individual contributions to the joint work should be identified and will be assessed. If you are in any doubt, check with the person setting the assignment. If you have worked with others you should make sure that you acknowledge this in any declaration you make.

If you wish to improve your study skills, always seek advice sooner rather than later. Your personal tutor or module convenor will be able to help you identify sources of assistance. It is an important element of independent learning, and a normal part of academic development, to recognise when you need to seek advice, and to learn to benefit from it. This would not necessarily mean that you are 'struggling' with your work – you may feel you need additional advice to reach your personal potential.

If in doubt about what is required in any particular assignment, what referencing styles are appropriate etc, always ask. Your tutor or module lead will be able to point you in the direction of appropriate sources of advice and information.

You are responsible for your own work and conduct, and for ensuring that you neither fall accidentally into poor academic practice in your written work nor engage in practices which breach academic integrity. Such practices are unacceptable, whether they have been followed deliberately or through a lack of understanding. As well as damaging your own development, failure to work with academic integrity is unfair to other students who complete work honestly and fairly. It can also potentially damage the relationship between staff and students, which is at the heart of the University community, and relationships with external partners. Ultimately, your results will not be a true reflection of your performance, which may potentially damage the academic standing of the University's awards.

Furthermore, should you have reason to believe that a fellow student is not working with academic integrity, you should speak in confidence to the module convenor. Your identity will not be revealed as part of any investigation; however, no further action would be taken unless additional evidence is identified by the marker or module convenor.

5.9 Fitness to Practise

The requirements of programmes of study leading to professional registration include a significant component governing fitness to practice. In addition to existing University procedures for academic progression and conduct, the University must ensure that the health status of students

and their professional behaviour does not constitute a risk to service users, clients and their families, carers, the public, other students or the individuals themselves.

There are mechanisms in place to monitor any issues during your studies. Please ensure you are aware of the [Fitness to Practise policy](#).

5.10 Facilities for PgDip/MSc Students

MSc Study Room, Computing Facilities, Post
PgDip/MSc students have use of Room 3009, which they will share with the other PGT students in Mathematical Sciences. The room can be accessed using a keypad and the code will be given out during at the introductory talk. Please ensure that the door is locked and the windows are shut when the room is empty. Students should note that, for safety reasons, they should not be in the building between the hours of 11pm and 6am, and disciplinary action may be taken if they are.

The room contains computers and printers. These machines are run by iSolutions, and any problems should be reported to them. You can contact them at 023 8059 5656 or from internal phones at 25656.

An email alias will be set up to give access to all PgDip/MSc students.

Room 3009 will also house the Benson Collection of books, project reports and journals. A signing-out book is provided in which **all** borrowings should be recorded. Books requested by another student should be returned within one week. Requests for additions to the library can be made to the Programme Director.

Post can be collected from baskets in the Post Room (Room 5023 - opposite the lift) on Level 5 of the Mathematical Sciences Building (Building 54).

5.11 Research Ethics

The University of Southampton is committed to carrying out its research, teaching, enterprise and other activities within a comprehensive ethical framework (http://www.southampton.ac.uk/ris/policies/ethics.html).

Principles of ethical research include the expectation that studies are undertaken with integrity, quality and transparency. Participants in research must be fully informed about the research and participate voluntarily. They need to know what will happen with the information they provide, and that they can withdraw from the study subsequently (wherever possible). Risks from participation in research must be explained and minimised. Participants' anonymity and/or confidentiality should be protected, for example by removing information that could be used to identify them and by storing confidential information securely.

All research on human participants, their tissue or data requires ethical approval via the University's Ethics and Research Governance Online (ERGO) system (www.ergo2.soton.ac.uk). This includes, but is not limited to, studies of the following kind:

- analysis of existing secondary data at an individual level, even where such data have been anonymised and/or the datasets exist in the public domain;
- collection of data using questionnaires and online surveys;
- collection of data using interviews, observations, focus group discussions or similar qualitative approaches; and
- experiments involving human participants.
- research on animals is governed by separate procedures.

The University believes that ethical issues should be interpreted broadly and that ethics approval might also be needed for research where other factors could be present including:

- a risk of damage to the environment;
- political or social sensitivity; and
- impact on culture and cultural heritage.

If you are in doubt about whether the research for your dissertation requires ethical approval, please contact your divisional 'ethics champion', or a member of the Faculty Ethics Committee via risethic@soton.ac.uk.

To obtain ethical approval for your research, please apply via the ERGO system (www.ergo2.soton.ac.uk). Detailed guidance on how to apply and what documents to upload can be found on the Researcher Portal (https://intranet.soton.ac.uk/sites/researcherportal/) and in the Downloads section on the ERGO page.

Please note that the University does not permit mass emailing for the recruitment of research participants.

Your supervisor will need to approve your ethics application before it is reviewed by the Faculty Ethics Committee. There are no submission deadlines; instead applications are reviewed on a rolling basis. You can expect a decision within 10 working days. Please allow extra time in case you are asked for revisions. **You must not begin your research before you have obtained approval via ERGO!** Retrospective approval is never granted.

Failure to obtain ethics approval or to comply with the University's Ethics Policy will be investigated under the University's regulations governing Academic Integrity (http://www.calendar.soton.ac.uk/sectionIV/academic-integrity-regs.html).

6. Assessment and Examinations

6.1 Coursework assessment and submission

A number of modules include coursework assignments as part of the assessment. Coursework can often occupy a large amount of time. It is worth noting that getting a few extra marks on an assignment may not justify the extra time spent. Conversely, students who forget or do not bother to hand in work can make it very difficult for themselves to achieve their full academic potential.

Normally, all coursework should be accompanied by a completed Coursework Submission/Feedback form and submitted to the Student Office by not later than the published date and time. If both paper-based and electronic submission is required, you should note that your submission will not be considered complete until both formats have been submitted. If other arrangements are in force for submission of a particular piece of coursework, this will be advised by your module lead.

6.2 Overlength work

Although the types, lengths and styles of assessed written work vary considerable between disciplinary contexts, the production of written work to a specified length is an important transferable skill that you are expected to develop during your studies. The ability to produce concise, clear writing to a determined length is fundamental both to academic work and to professional working life. In response to student demand for greater clarity, a Faculty policy has been developed (available on the Faculty Student Hub) to provide a consistent approach towards overlength work across the Faculty. Where relevant and appropriate, written assessments may specify a word limit either as a single figure or as the upper limit of a range. Your work will be overlength if you go even one word over the stipulated length or upper limit. There are no complicated penalties to apply. Instead, overlength work will be addressed through marking **solely that proportion of work that falls within the word limit**.
Your individual module lead will provide further details via their Blackboard sites. This approach to overlength work does not apply if a piece of work has not word limit, however, you should attend to any length guidance given by your module leads. Please note that word limits are rare in Mathematics.

6.3 Penalties for late coursework submission

When coursework is set a due date for submission will be specified and there will be associated penalties for handing in work late. The University has a uniform policy for the late submission.

The University has a uniform policy for the late submission penalty for a piece of assessed work worth 10% or more of the final module mark.

Work submitted up to 5 days after the deadline should be marked as usual, including moderation or second marking, and feedback prepared and given to the student. The final agreed mark is then reduced by the factors in the following table.

University Working Days late	Mark
1	(final agreed mark) * 0.9
2	(final agreed mark) * 0.8
3	(final agreed mark) * 0.7
4	(final agreed mark) * 0.6
5	(final agreed mark) * 0.5
More than 5	Zero

6.4 Coursework extensions

If you know there will be a valid reason why you cannot submit the work at the given date you must contact the Student Office as soon as possible. You should complete a Special Considerations form, which should provide adequate detail of the reasons why you are seeking an extension. Your completed form should be submitted to the Student Office who will arrange for your request to be reviewed. The Student Office will contact you via your University email account to let you know once approval has been made. ***It is your responsibility to request an extension in a timely manner.***

See paragraph 2.5 above.

6.5 Examination preparation (also see Appendix A)

You will know yourself how best you prepare for examinations. It is always worth remembering that the sooner you start your preparation the better and that one of the aims of each module is to help you prepare for the examination. Make sure that you have a complete set of notes; that you understand their content; that you can apply the material by solving the example sheet questions; and that you have practiced questions from past papers under examination time constraints. The University's online archive of previously set examination papers is available to assist with your learning and preparation for forthcoming examinations.

Past Exam Papers are available via the library.

Remember that if you get into difficulty during your revision process on a particular subject ask someone to help you. This may be either one of the lecturers or teaching assistants on the module. For helpful hints on revision strategy and examination techniques, please refer to Appendix A.

6.6 Examinations

The dates of University examination periods are published annually on the exam timetables web page. However Faculties that have extended academic years, may have assessment periods outside of these times.

6.7 Illegible exam scripts

If your examination script is considered illegible, the Illegible Examination Scripts Policy will be instigated. You will be asked to come in to dictate your script so that it can be transcribed. The

cost of this work will be met by you.   If your script is not transcribed then it will receive a mark of zero (0).

6.8   Scaling

Occasionally, systematic issues arise in marking; for example, there may be differences noted among markers that require adjustment to bring them in line with one another, the level of difficulty of different exam questions, or anomalous variations in performance between difference groups of students taking the same module. Each module is subject to a moderation process designed to identify any such issues, and further review by the relevant External Examiner. Where potential issues are identified, the module lead will review the evidence and recommend appropriate action such as re-marking using the same or a different marking scheme, re-weighting components or sub-components, or scaling the assessment component or module marks. Any adjustments to marks will be made according to the principles and practices identified in the University's double-blind marking and moderation and scaling policy/policies, which include discussion with the External Examiner and approval by the responsible Board of Examiners to confirm that the resulting marks conform to University and national standards. As determining appropriate standards is a matter of academic judgement, these decisions are not subject to academic appeal. Where marks are adjusted, affected students will be notified of both the rationale and the process applied.

6.9   Coursework and examination feedback

Feedback comes in many forms and you must learn to recognise the merits of all of these. The Student Feedback Policy provides an overview of formal feedback.

Formal feedback is well documented and the following paragraphs identify ones that you are officially entitled to.

Informal feedback is just as important and comes in the form of individual chats with your Personal Academic Tutor, module leaders or project supervisors, or group meetings with academics after a lecture or practical session. Also tests and quizzes on Blackboard, which are available for several modules, can provide valuable feedback on how you are progressing.

All coursework will be marked and returned to you, accompanied by feedback which will relate to the standard of your work and the reasons for the mark/grade given. You should note that all marks are considered provisional until they have been reviewed and confirmed by the Board of Examiners.   This feedback will typically be returned within four weeks following your submission. Large assignments (e.g. your dissertation/project work) may take slightly longer to be returned. Bear in mind that if you hand in work late, your feedback may be delayed.

Where appropriate, for example with smaller problem solving exercises like calculations, the lecturer will decide if feedback should be given individually, or reported back to the whole group. You are, however always free to ask the lecturer personally how you are progressing.

The feedback you receive will be:

- **timely** - allowing you to learn from your work
- related to the **learning outcomes** for that piece of work
- **constructive** and **honest** – allowing you to take the comments on board, learn from your mistakes and understand why you did well.

For the feedback to be effective, it is important that you work with the feedback given and identify how you can improve your work in the future. Should you need further information about your work, get in touch with whoever marked the coursework.

Feedback may be made available online or can be collected from the Student Office. You will be contacted when feedback is ready. For some kinds of assignment, other arrangements will be made and the module lead will explain those to you.

Although individual feedback on examinations is not normally given, feedback on the strengths and weaknesses of the performance of the whole group which took an examination may be available via Blackboard.

6.10 Access to coursework/examination scripts

Students are entitled to view their examination scripts on request to the School (your Student Office can advise on the process to be followed). You are only permitted to view an examination script to enable you to see how you can improve your future performance and no mark or other annotation on the script is negotiable or open to alteration. The absence of annotation on a script does not mean that it has not been marked.

6.11 Release of results

Students will be given, as a matter of course, the marks they obtain in each individual module of study after they have been ratified by the Board of Examiners. More information can be found in the Release of Marks procedure.

These marks will be made available by your Student Office according to the procedures of the Faculty. In certain cases, especially for semester 1 exams, such marks at the time of release may be provisional only and subject to change by a subsequent Board of Examiners. It will be made clear when marks are provisional

You should note that the official transcript of your marks would normally show the latest mark obtained in each subject with a note, where appropriate, that it was obtained at repeat or referral attempt.

6.12 Final assessment

At the end of your programme, your overall performance will be assessed. The basis of this assessment is specified in your programme regulations. If you satisfy the academic standards necessary, the examination board will recommend you for award.

6.13 Failure of a Taught Element, Referral and Repeating the Year

Mathematical Sciences adheres to the University progression regulations which can be found at http://www.calendar.soton.ac.uk/sectionIV/progression-regs-standalonemasters.html

Candidates may be permitted to re-take failed core modules (MATH6002 and MATH6004) during the Semester 2 Examination period, and non-core modules during the Supplementary Examination period.

6.14 Progression Warning

After the January examinations you will be informed in writing by the Student Office if your progress is not satisfactory and will be advised on the action to be taken. You should seek further advice from your personal academic tutor or the Programme Co-ordinator.

6.15 Award and classification of PgDip/MSc

An award of a Standalone Masters, Postgraduate Diploma or Postgraduate Certificate is made on accumulation of the required number of credits, i.e. 90, 60, 30 ECTS (180, 120, 60 CATS), respectively. For details, see http://www.calendar.soton.ac.uk/sectionIV/cats.html

An MSc or PgDip will be classified as "with Distinction" or "with Merit" if a final average mark of 70% or over or 60 - 69% is gained (respectively, rounded to the nearest integer, using CAPPED referral marks where relevant). For details and regulations should final average marks fall within 2% below these levels, see the University classification regulations which can be found at http://www.calendar.soton.ac.uk/sectionIV/progression-regs-standalonemasters.html.

6.16 Project Allocation

The duration of the project is from an official starting point (normally in the middle of June) to 13 September 2019, the deadline for dissertation submission for full-time students, or 13 December 2019, the deadline for part-time students.

Projects are classified as external or internal.

The process of matching students to external projects is a rigorous one. The Industrial Liaison Officers will arrange a series of briefings in the second semester to discuss details of the process and how students should prepare. They will also post a list of projects and a set of Project Briefs (describing project scope and objectives) on the University's electronic "Blackboard" system as they become available during April and early May.

Towards the beginning May, students eligible to proceed to external projects will be asked to indicate their preferences from the available projects. Based on student preferences, the Programme Directors will assign each student a short-list of about four to six external projects. Because of the complexity of fairly matching students to projects, the process is aided by a computer allocation program. You should not expect to be short-listed only for your most preferred projects as there are likely to be conflicts with the preferences of other students.

The process will culminate in the project allocation 'Open Day' likely to be in the middle of May. Representatives of the external organisations sponsoring the projects will be available to meet students in short informal interviews. This is an opportunity for students to confirm their understanding of their short-listed projects, and for the sponsors to assess the match of student capabilities to their project(s). At the end of the open day, students will have the opportunity to comment on their previously expressed preferences, and sponsor representatives can comment on how the short-listed students would fit with their project(s) being offered.

After the Open Day, University staff will arrive at an allocation of students to projects taking into account the feedback received from students and sponsors. The allocation will be completed by the first week of June. Students unsuccessful in being assigned to an external project will be allocated to an internal supervisor according to their project preferences.

Students who wish to arrange their own projects with an external organisation may do so, but this must be coordinated through the Industrial Liaison Officers, before the project Open Day.

Full-time students should expect to work full-time on the project, and not plan to take a holiday during this period. Part-time students should follow the same working pattern for the project as during the taught part of the course.

You will receive a sum of money to assist with external project expenses over and above your normal day-to-day expenses whilst studying at Southampton. The amount will depend on the level of expenses you are likely to incur such as additional accommodation (if the project is not based in Southampton) and travel.

To ensure your health and safety during the project period:
o all students will receive a briefing from the Faculty Health and Safety Officer shortly before the projects start;
o all students must complete a simple Risk Assessment form and provide contact details and an itinerary before any off-campus work is undertaken;
o external sponsor organisations hosting students are required to confirm that their health and safety procedures in respect of that location comply with University expectations and requirements.

When the allocation of projects takes place you will be asked to submit forms online at ERGO.soton.ac.uk so that any possible ethical considerations can be followed up: typically these affect research involving interviews; questionnaires or surveys; analysis of personal or corporate details (e.g. bank records, personnel records, test results) that are not already in the public domain; and participant observations. Any issues identified will be followed up through the Faculty's Ethics Committee.

You will also be asked to complete a form signing up to a "learning contract" in terms of commitment to the project and your responsibilities (see below): this is also signed by the project supervisor.

6.17 Project Supervision

A University supervisor will be assigned to each student project.

The supervisor will provide guidance about the conduct of the project, but the final responsibility for the content of the dissertation is the student's. The supervisor may comment on the structure, content and the depth of discussion of written chapters but such comments, or their absence, should not be taken by the student as an indication of a satisfactory dissertation.

Responsibilities of the Supervisor include:
(a)   giving guidance about the nature, and scope, of the project and the standard expected;
(b)   providing technical expertise and literature sources (if appropriate);
(c)   establishing close working relations with both the sponsor and student, and providing an independent point of contact for both. The supervisor should visit the sponsor at least twice; once towards the beginning and once towards the end of the project. If necessary, more visits should be made. The student and supervisor should maintain regular contact (face-to-face, telephone or email).
(d)   suggesting completion dates for successive stages of the project so that the dissertation is submitted on time;
(e)   monitoring the progress of the student and providing necessary feedback;
(f)   being a member of the internal examining panel.

Responsibilities of the student include:
(a)   agreeing a schedule of meetings with the supervisor and sponsor. In normal circumstances it is expected that the student and supervisor will communicate regularly during the first month. Subsequently, the frequency of meetings may be adjusted to suit the progress of the project;
(b)   discussion with his/her supervisor regarding the type of guidance s/he finds most helpful;
(c)   acquiring any necessary skills for the project, as suggested by the supervisor;
(d)   ensuring that the student, sponsor and supervisor all share the same clear understanding of the scope and objectives of the project. Any changes to the focus of the project should be agreed with all parties;
(e)   preparing a plan of work for completion of the project, to be agreed with the sponsor and supervisor. The plan should allow for:
         (i)   regular Progress Reports to sponsor and supervisor. Note that a formal Progress Report will be required at the 5 week point. This should be accompanied by a detailed description of the planned approach to the project, and explaining the OR/MS tools and techniques to be used;
         (ii)   the drafting of written material in sufficient time to allow the supervisor to make suggestions;
         (iii)   a presentation of findings and conclusions to the sponsor;
(f)   working steadily according to the agreed plan;
(g)   maintaining the confidentiality of commercially sensitive information. The approach to be taken to the writing up of sensitive issues in the dissertation should be discussed and agreed with the sponsor and supervisor at around the mid-point of the project;
(h)   taking the initiative in raising any problems and indicating if the guidance provided is inadequate;
(i)   developing the content of the dissertation and ensuring that it is prepared and submitted in accordance with the relevant University Regulations.

Responsibilities of the Sponsor include:
(a)   ensuring the health and safety of the student while working on-site;
(b)   providing practical guidance regarding the business issue(s) to be addressed in the project;
(c)   supporting the student in gaining access to the data, systems and personnel necessary in order to undertake the project;

(d)   being available for consultation on a regular basis.

6.18 Writing Dissertations

Some guidelines on writing dissertations are provided in **Appendix B.**

6.19 Project Assessment

The project is assessed by two internal examiners, normally the first and second supervisor. See Appendix C for the assessment criteria for dissertations. A report is written by the first internal examiner and the recommendation discussed with the second internal examiner. The internal examiners' reports and recommendations are then sent to the External Examiner.

The regulations require projects to be submitted by 13 September 2019 for full-time students and 13 December 2019 for part-time students. If you submit your project after this date, you will fail unless in very exceptional circumstances you have obtained permission to submit later. Applications for extensions should be made in the same way as for coursework extensions as Described in 6.4.

Candidates who fail the project have one opportunity to revise the dissertation and resubmit. Resubmission deadlines are set by the Maths Student Office.

7.   Staff/Student Liaison: getting your voice heard

7.1   Module Survey

The Faculty aims to consult with and to provide opportunities for all students and staff to make their views known. You are encouraged to offer your comments/suggestions to members of staff and feedback is requested for each module undertaken. The Faculty formally seeks feedback on every module every time it is delivered in line with University Policy. This is normally done through an anonymised electronic system.

In addition, all programmes should seek informal feedback from you part-way through your module. Your module leads will confirm to you the processes and opportunities to provide feedback.

We encourage you to take every opportunity to express your opinions/comments/and suggestions as this is very valuable to the Programme Team and the Faculty in our drive towards continual enhancement of education

7.2   Module Reports

Your feedback to module surveys will be reflected upon by the module leader and will be included in the Module Report. Modules reports are available via SUSSED under the "programme specific information' tab.

7.3   Staff Student Liaison Committees

Staff-Student liaison committees have representatives from across each programme. These committees have the role of monitoring the organisation and management of the student programmes, to note any difficulties that students may be encountering, and to take advice about ways of improving the programmes.

7.4   Student Representation

Through the Students' Union you will be invited to elect your Faculty representatives (Faculty Officers, Academic Presidents, Academic Vice-Presidents and Course Representatives) who co-ordinate the student voice on Faculty/School committees to enable your voice to be heard.

More information on the Students' Union officers and their roles is available on the Students' Union Representation webpages.

8.   Careers and Employability

The [Careers and Employability Service](#) provides support to students at all levels of study and has a range of opportunities on offer. We provide drop-in advice, 1:1 guidance, workshops, skills sessions, Careers Fairs and employer led events to support your career planning as well as the following opportunities:

8.1   Volunteering Bank

[Volunteering](#) is a great way to help you gain many of the skills employers are looking for, build your network and develop yourself in new ways. Opportunities vary in duration and the type of role advertised.

8.2   Enterprise

Whether you want to develop your own start-up or make a real difference from within an existing organisation, enterprise skills are essential to working life and highly valued by employers. The University of Southampton's Student Enterprise Team support all students in developing their enterprising and entrepreneurial skills. Click [here](#) to find out more about opportunities and support.

8.3   Career Readiness Test

Developed especially for University of Southampton students and graduates, our Career Readiness Test will give you an insight into your career planning. Research shows that students who are more self-aware and clear on their career strengths feel more confident in their ability to succeed in the future.
The test is for everyone. Take the test to:
  ➢ Understand where to start
  ➢ Reflect on your strengths and areas for development
  ➢ Recognise what makes students most employable
  ➢ Structure your thinking
  ➢ Identify priorities for action

Just go to [www.soton.ac.uk/careers and click](#) on the Graduate Capital Model to find out more.

8.4   Employability events within the School/Faculty

The Careers and Employability Service work closely with departments and Faculties to provide targeted careers support within and alongside your curriculum. Activities and opportunities may be appear within the timetable, or be advertised within your School/Faculty. Examples include lectures and workshops, online learning options, and events featuring alumni/employers. There are often opportunities to connect with organisations that offer themed events focused on employability. Some companies offer projects linked to dissertations or specific research.

The School has a Career Management Agreement with Careers Destinations, who arrange talks and sessions that are relevant to Mathematical Sciences students. Information about these talks and sessions is circulated to students by email and in the Student Centre. The School Careers Destinations liaison officer is Dr David Gammack. Further, careers sessions for those wishing to enter the actuarial profession are arranged by SUAS (the Southampton University Actuarial Society).

9.   Further study opportunities

If you wish to continue your studies, the next step is likely to be a research degree. Opportunities are available each year to continue at the University of Southampton and we would encourage you to discuss potential projects with your tutor or module lecturer if you are interested.

Further details on the programmes offered by the Faculty can be found on the Faculty's website.

10.   Regulatory Issues

We hope that you will be satisfied with your experience during your time as a student at the University of Southampton but we do recognise that, on occasion, things can go wrong. If you have a concern about any aspect of your experience at the University we encourage you to raise it as soon as the concern arises. It is always better to let us know that you feel there is a problem as soon as possible so that the matter may be resolved quickly. You may alternatively wish to consult with your student academic president if it is an issue in common with other students. Please be reassured that you will not suffer any disadvantage or recrimination as a result of raising a genuine concern, student complaint or academic appeal.

10.1   Academic appeals

Provided you have grounds, you may appeal against any academic decision made by the University. There are some exceptions and you should note you cannot appeal against a decision that has been made in the proper exercise of academic judgment. The [Regulations Governing Academic Appeals by Student](s) outlines the regulations and procedure that should be followed should you wish to make an academic appeal.

The Students' Union Advice Centre has developed a [Guide for students](#).

10.2   Student complaints

The [Regulations Governing Student Complaints](#) sets out the process that should be followed should you wish to raise a complaint about a matter relating to either the facilities and services provided by the University, its academic programmes, and the conduct of University staff, and which has materially affected you.

10.3   Dignity at work and study

The [University's Dignity at Work and Study Policy](#) applies to the conduct of staff and students, in the context of their University work of study, or which otherwise affects the working, learning or social environment of the University. Fair criticism of staff or student performance or conduct will not be considered to be bullying or harassment provided that those involved are treated with dignity, courtesy and respect. Any allegation of harassment, bullying or victimisation will be treated seriously, regardless of the seniority of those involved, and anyone found to have behaved unacceptably may be the subject of disciplinary action up to and including dismissal or expulsion.

10.4   Student Discipline

As members of the University community, all students are expected to conduct themselves with due regard for its good name and reputation and are required to comply with the University's Regulations at all times. Any allegation of misconduct will be considered within the [Student Discipline Regulations](#) , in accordance with the evidence and circumstances presented. Information for students on discipline is available from the [Student Services website](#).

Appendix A - Revision Strategy and Examination Techniques

A.1   Revision strategy

Revision should be an on-going process which starts very early in your programme. The amount of knowledge to be accumulated and the variety of skills and techniques to be developed are large and they are best assimilated gradually and consolidated as you go along. Regular revision is really a part of the learning process but, of necessity, becomes more concentrated as the examination approaches. "Re-vision" means looking again at things you have already seen – it is not about learning for the first time.

A.1.1   Final revision programme

At the start of your final revision schedule (during the Christmas Vacation for Semester 1 exams, and during the Easter Vacation and at the end of the taught element of the programme for Semester 2 exams) you must get organised, and the best way to do this is to devise a revision timetable. Plan your time carefully, give yourself definite objectives for each session, revise actively, test yourself regularly, make notes, and practise problem solving. Use revision sessions to study topics you have worked on before, as revision is simply the process of reminding you of topics and techniques previously understood. You will appreciate how well-organised notes will help you during your revision. Write out important definitions, proofs, formulae and equations, checking them against your notes. Re-work previously solved problems without looking at your previous solution, then attempt questions that you have not looked at before. Make special revision notes for quick reference on cards to keep in your pocket and charts to hang on the wall of your study room. Practise your examination technique.

A.1.2   Examination practice

You should be familiar with the modules and syllabuses you will be examined in at the end of Semesters 1 and 2. Analyse recent examination papers. Work out how long you have for each question and become familiar with the style of questions.

During your ordinary study periods you will no doubt have attempted many questions but will have seldom given yourself strict time restrictions. In examinations the timing of your answers to questions is vitally important. Practice answering examination questions in mock examination conditions, allowing yourself only the normal available examination time and the equipment you are permitted to take into the examination room. To obtain 'mock examination' practice save one or two complete examination papers so that you can use them as final test papers 'against the clock'.

Examination nerves are common and understandable but will be lessened if you have followed a sensible course of study and revision. You may not do yourself justice if you have a poor examination technique. The hints on the next page should help you to tackle the examination with greater confidence.

A.2   Examination techniques

A.2.1   Before the day

Before the actual day of your examination, make sure you know:
·   the date, day, time and venue of each paper for your course;
·   how to get to the examination venue if it is not well known to you;
·   your candidate number;
·   the telephone number of the Student Office.

Prepare any equipment you will need for your particular examination:
·   pens which are comfortable to use;
·   sharp pencils, a pencil sharpener and rubber;

- drawing instruments such as a ruler, compasses, protractor, set squares;
- University approved calculator (if allowed) and spare batteries (check that you know how to replace them quickly);
- an accurate watch or small clock.

A.2.2 On the Day

Before the examination:

Check that you have all the equipment you will need before setting off for your examination with plenty of time to spare. If you are delayed, contact the Student Office (have the telephone number with you) to explain what has happened. Arrive at the examination room early; a late start to an examination cannot be a good start and you will not be permitted to enter the examination room later than 30 minutes after its scheduled start time.

Just before the start:

Listen carefully to the invigilator. There may be some changes or special instructions which you were not expecting or some errors in the paper. Fill in any details, such as your candidate number, when the invigilator instructs you to do so.

Reading the instructions:

When the invigilator says that you may begin, read the instructions on your examination paper very carefully. Make sure that it is the correct examination paper and, in particular, note:
- the number of sections and questions you have to do;
- how much time you have to do them in;
- which questions (if any) are compulsory;
- what choice of questions (if any) you have;
- how to present your answers.

Planning your time
Quickly calculate the length of time you should spend on each question. You will have practised doing this for past papers but make sure that you use the instructions on your actual examination paper, rather than making any assumptions. Try to allow about 10 minutes at the end for checking your paper.

Choosing the questions
Read through the whole examination paper carefully, checking that you have read each page. If you have a choice of questions:
- cross out the ones you can't do;
- tick those you can definitely do;
- choose the correct number to do;
- mark the order in which you are going to attempt them, attempting your best question(s) first.

Answering the question
Before you attempt to answer a question, read it all again carefully, jotting down points such as formulae and information relating to that question. These hints should help you when writing an answer.
- Plan before you write – the stress of working under time constraints in the exam room can make all your good study intentions disappear. However, this is when it is more important than ever. Take a few minutes to think and plan.
- Think about what the question is actually *asking.* What are you expected to include in your answer. What material will be *relevant*?

Underline the key words in the question; identify the main topic and discussion areas; choose a few points/arguments about which you can write; make a mini plan which puts them in order before you start writing. You can cross it through afterwards.

·	Make sure that your writing is legible.
·	Present your answer in a neat, logical and concise way.
·	Show all your working; marks are often given for methodology as well as your answers. You should be able to refer by name to the main theorists/researchers in your topic, giving the year of their major works. You do not need to give page numbers of lengthy quotes, except in an open book exam. You do not need a reference list.
·	Do not do things you are not asked for.
·	If relevant, state any principles, results or formulae used and indicate your reasons for using them.
·	Check any formulae you use with the formula sheet, if provided.
·	Always do a rough estimate of any calculation to check that your answer is sensible.
·	When using a calculator, make sure that each calculation is shown clearly in your answer and give your final answer to the required degree of accuracy.
·	If you get 'stuck', re-read the question carefully to check that you have not missed any important information or hints given in the question itself.
·	When you have completed your answer, re-read the question to check that you have answered all parts.

Examination discipline
It is important that you try to keep to the times you have allocated to answering a question or section and that you answer the correct number of questions. If you answer less than the number of questions required you are limiting the number of marks available to you.

At the end
Before handing in your examination script check that:
·	any 'front sheet' is completed according to the instructions;
·	every loose page is clearly marked with your candidate number, etc;
·	every answer is numbered correctly;
·	pages are numbered clearly and in order.

Appendix B - Guidelines for Writing Dissertations

This appendix contains guidelines on how to write a dissertation. Both Word and Latex thesis templates can be downloaded from the library website (http://library.soton.ac.uk/thesis/templates) and these will help to ensure that you have the correct formatting and all of the necessary elements.

B.1. Dissertation Structure

In general, every dissertation must define the problem that motivated the project, explain why the problem is important, review previous relevant work by others (if any), describe your approach and findings, draw conclusions and make recommendations. There is no standard structure suitable for all MSc dissertations; each is unique. However, a good dissertation structure will have the following.

- A natural and logical order that leads the reader from an explanation of the problem to your conclusions and recommendations. It is not a chronological story of what you did.
- A contents page that makes clear the order and nature of discussion.
- Sections and sub-sections that reflect accurately and concisely the discussion they precede.
- Discussion and analysis that develops progressively through the dissertation. In many cases a "hierarchical" structure is appropriate, with early chapters giving a general overview and later chapters giving a more detailed discussion of specific topics.
- Minimal repetition of points.

Any detailed discussion of technicalities, for example, a description of each line of a computer program, or the listing of large amounts of data, should be placed in an Appendix (if required at all).

B.2. Overview of Dissertation Layout

The dissertation should contain the following elements.

2.1 Title Page

The title page must conform exactly to the style given at the end of this document.

2.2 Acknowledgements Page

This is where you can thank your supervisors and sponsors for their help. You should also acknowledge anyone else who has had input to your project.

2.3 Contents Page

Microsoft Word can automatically create and update a table of contents (TOC). To use this you have to use heading styles for your section and subsection headers. You then create the TOC by clicking on the Table of Contents icon on the References tab.

2.4 Table of Figures

A table of figures or illustrations can be created in the same way as a TOC.

2.5 Summary Page

The summary should be no more than 300 words long.

Checklist for summary:
- Could it be understood by a non-specialist in the subject?
- Have you avoided use of technical jargon?
- Does it outline the area on which you focused?
- Does it explain the problem or issue you investigated?
- Does it explain what you did and what you found?

- Does it explain what conclusions were drawn?

2.6 Body of the Dissertation

See Section 3 for suggestions on how to organise the main part of your dissertation.

2.7 Glossary

If you are writing about a project that uses a large number of technical, non-standard terms or acronyms, it can be useful to include a glossary at the end of the dissertation. A glossary should contain a list of terms/acronyms and their definitions.

2.8 References

References must be made to **all** the sources of information you have used. The **Harvard** style of referencing should be used, with an alphabetical reference list. There is a good guide to Harvard referencing published on the Library Website: see
http://library.soton.ac.uk/ld.php?content_id=4660789

Checklist for references:
- Have you indicated all sources used in your text?
- Have you included in your list of references all the references which are cited in your dissertation?

2.9 Appendices

Appendices must be numbered in Roman numerals, i.e. I, II, III …

B.3. Organisation of Main Body of Dissertation

As explained in Section 1, above, there is no mandatory structure for the main body of a dissertation. Each is unique and the structure should be reviewed with your supervisor at an early stage. It could contain the following elements.

3.1 Introduction

The introduction should provide some brief background information about the project sponsor organisation and the general area in which you carried out the study; a statement of the problem(s) being addressed and objectives of the project; and an indication of how your dissertation addresses the objectives (usually indicating what is included in the main chapters, including the conclusion). Normally the introduction should be fairly short.

Checklist for introduction:
- Does your introduction begin by explaining the general background to the organisation where you carried out your study and to the subject of the study?
- Are the objectives clearly stated?
- Is there a statement of the main contributions of your dissertation?

3.2 Background

In order for the reader to understand the subsequent chapters, it may be necessary to describe in more detail the workings of the sponsor organisation or the problem/issue at hand (the introduction will probably only provide sufficient information to define the objectives).

Checklist for background:
- Is the background understandable to the reader with no knowledge of the organisation?

3.3 Review of Previous Relevant Work/Literature Review

Your work should be put in context by including a review of relevant literature, or previous work including, where appropriate, a critical analysis of the studies described. In many cases, the methodology you choose will be based on an analysis of the alternative approaches you have found from searching the literature.

3.4 Methodology

A note on your ethics approval should be included in a section entitled "Ethical approval" in the Methodology chapter. Suggested wording is either:

> "Ethics approval for this research was granted, with ERGO approval number xxxxxxxxxx."

> or that

> "Consideration was given to ethics approval for this research and no application to ERGO was found necessary."

Checklist for methodology:
- Do you explain the methodology used and the reasons for choosing it?
- Are all details of your study included, such as assumptions made, data required, how data was obtained and limitations of the data?

3.5 Results

Checklist for results:
- Do you explain how you treated your raw data?
- Do you explain, in clear English, what you found in your study?
- Do you provide appropriate summaries of your results, using tables and graphs wherever this is useful?
- Are all tables and graphs clear and properly labelled, and are they included only when relevant?

3.6 Discussion

Checklist for discussion:
- Do you start by explaining, in clear and simple terms, what you found in your study?
- Do you discuss whether the results are as you expected, or whether they contradict previous research?
- Do you provide reasoned explanations for inconsistencies in your results, and for unexpected findings (except possibly when these differences are statistically insignificant)?

3.7 Conclusions and Recommendations

Checklist for conclusions:
- Do the conclusions address the objectives listed in the introduction?
- Do they follow naturally from the discussion of findings?
- Do you draw well-reasoned conclusions from your study, and suggest further areas of research?

3.8 Final Checklist

Checklist before submission:
- Have you checked spelling and page numbering?
- Have you checked that all chapters, sections and subsections are numbered?

You might ask another student to read through your report to ensure clarity of exposition.

B.4. Written English

Every statement in a dissertation should be supported either by a reference to published literature or by original work (unless it is really obvious or common sense!). Where possible you should not rely on Internet sources, as they are generally not subject to a review process.
You should write everything in your own words, even if you are struggling with written English, to avoid plagiarism.

A dissertation should be in formal academic style, which means:
- complete sentences
- no contractions, e.g. "it isn't"
- avoid sensational and over-descriptive language, e.g. "nice", "terrible", "stupid"
- avoid colloquialisms and slang, e.g. "okay", "right as rain"
- no imprecise statements, e.g. "Hopefully,.."

The present tense should generally be used. Do not use "I" or "you".
Good styles are "We propose ..."; "Preliminary analysis suggests ..."; "Franklin and Boyd (1998) describe...".
(N.B. this document is not written in a formal style!)

Spelling should be in UK English. Words to watch out for are: centre, behaviour, travelling (and similar doubled letters.

An excellent reference on punctuation is "The Penguin Guide to Punctuation" by Trask RL (Penguin Reference, RRP £6.99.

B.5. Length of the Dissertation

The length of the dissertation will vary, but the standard will normally be in the range of 15,000 to 20,000 words, excluding appendices. This is about 45-50 typed pages using Arial size 12 font and 1.5 line spacing. You are likely to be penalised for significantly exceeding the above limit, and in any case there is no merit in making the dissertation longer than it should be.

The length should be commensurate with presenting a systematic, readable, but concise account of the work done. Superfluous material and verbiage will attract minimal marks whatever the length of the project.

Conversely, it is not advisable to submit a dissertation which is significantly shorter than 15,000 words, as you risk not including enough quality material in your dissertation to achieve a pass.

B.6. Formatting Requirements

All dissertations reports must be in Calibri 11 font typescript at 1.5 line spacing, using both sides of the paper. Double spacing may be used at a candidate's discretion for parts involving formulae. The paper should be A4 size (210 x 297 mm) of 80gsm or higher. Exemption from the use of this size paper can only be granted by the Faculty in cases where the subject matter of the project renders the A4 size unsuitable.

Sufficient margins should be made on both edges to enable a binder to guillotine the pages if necessary - the left-hand margin being not less than 38 mm (1.5").

Pages should be numbered consecutively. Chapters and sections within each chapter should be numbered to help with cross-referencing. Tables and diagrams must be numbered serially in type-script. Pencilled diagrams and page numbers are not acceptable.

Any diagrams, tables, or exhibits on oversize sheets should be folded so that they are least 7 mm (0.25") from the right-hand edge of the text sheets. Large diagrams, pamphlets etc., unsuitable for binding in the text, may be accommodated in a pocket in the back cover of the dissertation.

B.7. Submitting Your Dissertation

An electronic copy of your dissertation should be uploaded to the Blackboard site MATH6001. The electronic copy will be processed by Turnitin, to check for plagiarism.

B.8. Late Submission

If you are having trouble meeting the deadline for submission, you should contact your project supervisor and Programme Director as soon as possible, and definitely BEFORE the deadline. You should also complete an Extension Request form.

B.9. Example Title Page for dissertations

See below for an example of a title page. Brackets are used to show where there is information that you need to enter and should be removed when this has been done.

The University of Southampton

Academic Year (20XX/20YY)

Faculty of Social Sciences

Mathematical Sciences

MSc Dissertation

(Dissertation Title)

(Your name)

A dissertation submitted in partial fulfilment of the MSc in (your degree programme)

This project is entirely the original work of (your name). Where material is obtained from published or unpublished works, this has been fully acknowledged by citation in the main text and inclusion in the list of references.

Word Count: xxxxx words

Appendix C - Assessment of Mathematical Sciences MSc dissertations

Part A: Individual Marker's Assessment

Student name/ID Number:
Project Title:
Sponsor Organisation (where relevant):
1st/2nd Supervisors:
The dissertation should be marked based on the criteria below taking into account the background factors (such as nature of project, difficulty of the problem, supervisor's input, difficulties experienced (both in the project and the dissertation). Please tick one box for each category using the marking scheme indicated.

Content (65%) *(To assess the student's academic qualities)*	Outstanding	Very Good	Good	Pass	Fail
Modelling approach to the problem					
Survey of past work					
Level of conceptual/technical difficulty					
Originality of research					
Scope of project					
Data collection/analysis/computer program					
Applicability of results					
Understanding and use of different sources					
Suggestions of how work could be extended					

Mark from this section: /65

Exposition (35%) *(To assess the student's ability to communicate through report writing)*	Outstanding	Very Good	Good	Pass	Fail
Quality of layout and clarity of structure					
Appropriate academic style					
Standard of English					
Mathematical and statistical accuracy					
Relevance of the material included					
Expression of own ideas					
Description of the problem and the methodology					
Explanation of results					

Mark from this section:

/35

Total Mark (out of 100):