



**Course Guide for the  
MSc Degree in Statistics**

**2014 - 2015**

These are unofficial guidance notes for MSc students in the Department of Statistics. The official statement of degree regulations is set out in the current issue of the University of Warwick Course Regulations Handbook which is available for consultation in the Library. A further extremely valuable source of information is the University's online information site for students (insite) available at:

[http://www2.warwick.ac.uk/insite/student\\_info/](http://www2.warwick.ac.uk/insite/student_info/)

Further information is also available from the department's webpage at:

<http://www.warwick.ac.uk/go/stats>

You should retain this booklet, as you will need to consult it from time to time throughout the year. It is expensive to produce and if you require a replacement you will have to download it from our web site at your own expense.

### **Postgraduate Diploma and MSc in Statistics**

For the nine month period from October to June, the programme requirements of the Diploma and MSc are identical. MSc students continue for a further three months working on a dissertation.

The Master's programme aims to provide a postgraduate course in statistical science suitable for those with a strong quantitative background. After completing the taught portion of the Master's (Diploma) the student will have acquired sufficient knowledge and understanding of topics in statistical theory and practice and in probability to provide a basis for academic research or a career as a statistician, and for Master's students to put their knowledge into practice in the dissertation.

The programme aims to cover topics most relevant to a career as a professional statistician. Prior knowledge of statistical theory and methods is assumed, such as would be covered in a typical first degree in mathematics or a joint degree between statistics and some other discipline. The opportunity to pursue a dissertation topic in depth can provide particularly valuable experience for the student's subsequent career.

To assist students in their preparation, along with the welcome pack, a copy of an examination on statistical practice will be sent to them in September. Students are expected to ensure that they are confident in the basic topics addressed.

## 1. GENERAL INFORMATION

### Lectures and Tutorials

Most of the lecture units making up the MSc programme are also available as options for fourth year students of our integrated Masters' degrees or other postgraduate students. Copies of the lecture timetable will be given out at the start of each term.

### Tutorial Support and Advice

Each MSc student is assigned a personal tutor, a member of staff who has oversight of your work throughout the course, and who is available to give you general help and advice. ***You are required to go and see your personal tutor during the last 2 weeks of each term.*** Your personal tutor should be your first port of call if you have any general problems with the course, or if you have any personal concerns or complaints that you wish to discuss.

Some specific ways in which your personal tutor can help are:

- discussing possible option choices;
- advising you about where to find further help on the campus if you need it;
- writing a letter of reference when you apply for jobs or grants.

In addition your personal tutor has certain formal duties to represent you at exam boards and in disciplinary matters.

Academic queries about a specific course, however, should be referred directly to the lecturer concerned - most course lecturers will run tutorials from time to time to answer questions or go over assessed work, or will be prepared to see students on an individual basis.

The Postgraduate MSc Tutor has overall departmental responsibility for the MSc course, and is usually available to see students when needed. If you have any difficulties with the tutorial arrangements, you should discuss these with the MSc Tutor. Remember that the University also offers a number of Welfare and Counselling services (including the Senior Tutor's Office, the Student Welfare and Accommodation Office, the Health Centre, the Chaplaincy and the Students' Union).

If you feel inhibited from talking to a tutor or other member of staff in the first instance, you may also consider talking to a member of your SSLC, the Students' Union, the University Senior Tutor or a member of staff in Student Support for initial, informal advice.

## **Monitoring**

As the Home Office has recently introduced the student tier (Tier 4) of its Points Based System the University is obliged to the implementation of enhanced monitoring requirements. The University's approach aims to build on existing good practice for the benefit of student experience. As such any procedures for monitoring the academic progression of students apply to all students irrespective of nationality. All academic departments have *monitoring points* for their courses of study. The monitoring points for the MSc in Statistics course include attendance at teaching sessions (seminars, tutorials, lectures), assessment submission, exam attendance, personal tutor meetings, meetings with supervisors, etc... ***The monitoring points for the current year can be found at the end of this handbook.*** Please read these and attend to them. Any failure to meet monitoring points, without reasonable explanation, by any student, will be reported to the Academic Office on a termly basis.

## **Student-Staff Liaison Committee**

The Student-Staff Liaison Committee (SSLC) for taught courses meets once a term, and discusses any items of concern to postgraduate students. Students on the MSc course elect one representative. Items can be referred as appropriate to the departmental Chairman or to the Staff Meeting.

## **Study Skills**

It is important to understand that university education is based on *independent study*. Lecture courses are very compressed. You will need to spend considerable time supplementing the lecture material, filling in the gaps, working through examples, and studying textbooks.

If English is not your first language, it is important to practice at every opportunity. This department encourages the use of English at all times. If you wish to improve your skills, you should visit the English Language Teaching Unit who offer both Pre-sessional and In-sessional courses in English:

[http://www2.warwick.ac.uk/fac/soc/al/learning\\_english](http://www2.warwick.ac.uk/fac/soc/al/learning_english)

## **Information Technology**

The department expects to be able to communicate with you via email - and you should check your account once a day. Go to the University's Information Services to find out more!

## **The Library**

### 10 THINGS TO DO TO HELP WITH YOUR STUDIES

1. Register with **IT Services** to use the University computer network. Registration also enables you to access a range of electronic resources to assist with your studies.  
<http://go.warwick.ac.uk/its>
2. Explore the **Library Web site**, where you will find the Library Web Catalogue, your subject pages, details of Library services and a wide range of electronic resources, including online journals and databases.  
<http://go.warwick.ac.uk/library>
3. Find out how to get to the **main campus Library, Learning Grid and any departmental libraries** linked to your studies.  
<http://go.warwick.ac.uk/lib-findus>
4. Find out what study resources and facilities the **Learning Grid** offers.  
<http://go.warwick.ac.uk/learninggrid>
5. Find out the name of the **Librarian responsible for your subject area** and the location of the **Enquiry Desk** for general Library enquiries. Your Subject Librarian will be happy to help with any subject research queries you have. Details of subject librarians and enquiry services are contained in the main Library print guide, *Library Services: helping you to succeed in your studies*. <http://go.warwick.ac.uk/lib-subjects> and <http://www2.warwick.ac.uk/services/library/help/guidespublications/webguide>
6. Find out where the **journals and books for your subject** are in the Library, and how to **borrow material**. Take the Library's Acoustiguide audio tour or pick up a copy of the self-guided *Help Yourself* tour in the Library to find your way about.
7. Find out **how many Library books** you may **borrow** at any one time and **how long** they can be borrowed for.  
<http://go.warwick.ac.uk/lib-borrowing>
8. Find out where the **Short Loan Collection** is situated in the Library and how it can help you with material on your course reading lists.  
<http://go.warwick.ac.uk/lib-shortloan>
9. Learn how to use the **Library Web Catalogue** to find out whether a book or journal is available in print or electronically. View the tutorial at the

bottom of the Catalogue homepage, which demonstrates how to search the Catalogue effectively, or attend one of the drop-in sessions held in the Library Seminar Room each weekday afternoon during weeks 1, 2 and 3 of Autumn Term.

<http://go.warwick.ac.uk/lib-webcatalog>

10. Set up your **Library PIN** (Personal Identification Number) via the 'My Catalogue' link on the Library Web Catalogue. A leaflet explaining the process is available from the Library. A PIN allows you to access electronic journals and to renew and reserve Library books online.

### **Accommodation**

The Department provides a workroom for use by MSc students. The room can take up to 10 MSc students at a time.

Many students work in the Library - make an early visit to the Library to familiarise yourself with the facilities there, including the availability of study space. Social facilities open to all students are in the Rootes Building and in the Students' Union Building.

For security reasons, the Maths and Stats Building is locked in the evenings and at weekends.

### **Computing**

Computing facilities are provided in the MSc workroom. The PCs in the workroom are checked on a regular basis by the departmental IT Officers. Please contact the IT Officers (check noticeboard in MSc workroom for details) if you experience any problems. If you require paper for the printer in the MSc workroom please ask for it in the Student Support Office.

The University's Computing Services also have a number of open access computer rooms offering PC and UNIX workstation facilities in various locations throughout the campus.

Several courses will require you to use R which will be introduced to you in course ST952. You will also need to use a word processing package capable of handling mathematical expressions - LaTeX is best. Get used to using these as soon as you can. Although courses are available, the best way to learn is to just try for yourself, making full use of the on-line help facilities.

Some MSc dissertations involve extensive computing, and other software may be needed. Access to the Department's UNIX network can be made available with the agreement of your dissertation supervisor.

## Assessed Work

Several courses require written work that will be graded by the lecturer concerned and count towards your examination results. Learning to present your work in a clear and concise manner is a vitally important part of the training of a statistician - put effort into the presentation as well as the technical content of your work. Get into the habit of word processing all your reports, preferably in LaTeX. **It is expected that your work is presented in correct English.**

Of course work for assessment must be your own work, and not copied from someone else's work or directly from a book. However, you are encouraged to collaborate with other students in discussing how to tackle problems - you will learn as much from each other as from the staff! **But the work you present must be written up independently.**

You will be given the opportunity to look at your assessed work. Always endeavour to learn from your mistakes. Note that the assessed work has to be kept by the department as the external examiner will need to see it when he/she reviews your examination marks.

## Deadlines

Assessed work usually comes with a deadline for completion. The department and SSLC consider these essential to ensure fairness to all the students doing the work and to the markers. Unless stated otherwise by the lecturer you will usually be expected to post your work with a filled out cover sheet, available from the Student Support Office, in the 4<sup>th</sup> year assignment slot located in the entrance corridor.

Deadlines are enforced by penalising late work. Different departments have different conventions. In the Statistics Department the lecturer giving the assessment will name a date as the deadline. A student who misses the deadline must personally hand their work to the Postgraduate Support Officer who will record the date and time it was received. For postgraduate students the lecturer will automatically enforce a penalty of 3 marks per day (including weekend days).

The only circumstances in which this will be waived is if the lecturer has received documented evidence of medical or similar extenuating circumstances which will be communicated to the Statistics Chief Examinations Correspondent.

The penalty will not be waived for bad time management, so plan ahead and make allowances for the possibilities of unforeseen demands on your time, such as job interviews. If you write your work on your computer make sure you regularly save your files. No excuses will be made due to problems you may suddenly have with your computer or printer.

## Cheating

### 1. *What constitutes cheating?*

In the University Regulations cheating is defined as an attempt to benefit oneself or another by deceit or fraud. The department recognises that discussing ideas about how to tackle questions is a valuable part of the learning process. However, **the work you submit must be your own and written in your own words.** Work produced by someone else may be included provided it is appropriately acknowledged or referenced.

Unacknowledged copying from either another student or from published sources including the internet threatens the integrity of the assessment procedures and is treated very seriously by the University.

Cheating also covers more obvious sins such as copying in tests, sharing calculators in tests and examinations, stealing work from other students, or taking your mobile phone into an examination. **You are also guilty of cheating if you assist another student to do so, for example by allowing them to copy your work.**

### 2. *Consequences of your cheating*

- Cheating is unacceptable and often easily spotted. Lecturers have been instructed to report students to the chair of the department who will give you opportunity to explain yourself before deciding on a penalty. You have the option of appealing against the decision to the University authorities.
- We keep records! As Personal Tutors are often required to write references to prospective employers testifying to honesty and integrity, if you file records that you are guilty of the offence of cheating, then this could lead to serious difficulties for you.
- If the matter goes to an Investigating Committee (and second offences will!) then you could end up thrown out of the university.
- Cheating by students from the Statistics department in modules taught by other departments will be dealt with within that other department and reported back to the Statistics Exam Board. It works the other way round too – the Statistics department will deal with all cases of suspected cheating in Statistics modules and report the outcome to a student's home department.

### 3. *Formal procedures followed in cases of suspected cheating in coursework*

The University sets out the formal procedures in Regulation 11 of the University Calendar. These are briefly described in the following paragraphs:



- No incident of a suspected cheating should be dealt with informally by the lecturers or examiners. All incidents should be reported to the Chair of the Department. In particular no penalty should be imposed on a student outside the formal procedure laid out below.
- The Chair of the Department shall inform the student of the allegations and provide the student with reasonable opportunity to make representation on his/her behalf before determining whether an offence has occurred and, if so, determining the appropriate penalty. In the absence of mitigating circumstances this shall normally be a mark of zero in the piece of work concerned.
- The student may accept the penalty determined by the Chair as a final decision. Then a report of the circumstances of the case and the penalty imposed shall be lodged with the appropriate Board of Examiners and be recorded in the student's file.
- The student may seek the jurisdiction of an Investigating Committee of the Senate as detailed in Regulation 11 of the University Calendar.
- Should the Chair of the Department consider it appropriate then he/she may refer any case to an Investigating Committee of the Senate. Second offences of misconduct shall normally be so referred.

### **Past Examination Papers**

You must practice using past examination papers. You must do these examinations without your notes, and practice until you can get the right answers.

Past examination papers can be found here:

<http://www2.warwick.ac.uk/fac/sci/statistics/courses/modules/exampapers>

### **Noticeboards and Pigeonholes**

Notices for MSc students will be posted on the notice board outside the MSc workroom. Please check your pigeonhole daily. You can leave notes as needed in the staff pigeonholes (located in the Common Room). The postgraduate noticeboard might also contain advertisements for PhD places at other departments or Universities. Many statistics postgraduate students find it useful to join the ALLSTAT mailing list which keeps you up in contact with the international statistical community and provides job/PhD advertisements. For the latter you might also consult the *jobs.ac.uk* webpage.

## 2. WELFARE <http://www2.warwick.ac.uk/insite/topic/healthsafety/welfare>

### Illness

If your work is affected by illness get a sick note from your doctor; ensure that your personal tutor is informed; that lecturers expecting assessments know; and that a copy of the sick note is given to the Postgraduate Support Officer.

**This is most important in relation to Boards of Examiners who require legitimate evidence before making due allowance for adverse circumstances.**

### Sexual and Racial Harassment

Sexual and racial harassment is totally unacceptable, we will support those subjected to it and, when appropriate, will take disciplinary action against offenders. Within the department help and support will be provided by all members of staff. Outside the department you may seek help from the University Senior Tutor, the Student Counsellors, the Student Welfare Officer and the Student Union Welfare Staff.

The University and the Students' Union have prepared Guidelines on Sexual, Racial and Personal Harassment (which can be seen on *insite* in the Campus Life [Health and Welfare] section). The guidelines include advice on identifying and addressing harassment, formal procedures which can be followed and details of sources of support. The guidelines are also available from the office of the Director of Student and Ancillary Services.

If you feel able to make it clear to the person causing you offence that their behaviour is unacceptable that may be enough to stop it. But if you do not feel able to tackle the person, you should feel free to seek assistance from those listed above or from fellow students to put an end to it.

## 3. PEOPLE AND DATES

### **Academic year 2014-2015**

**Term 1** (weeks 1-10): Monday 29 September 2014 to Saturday 7 December 2014  
Lectures commence Tuesday 30 September 2014

**Term 2** (weeks 11-20): Monday 5 January 2015 to Saturday 14 March 2015

**Term 3** (weeks 21-30): Wednesday 20 April 2015 to Saturday 27 June 2015

### **Postgraduate Tutor/Admissions:**

Director of Postgraduate Studies: Dr Barbel Finkenstadt

PhD Admissions: Professor Chenlei Leng

MSc Tutor/Admissions: Dr Dario Spano

**Head of Department:** Professor Mark Steel

**Chief Examinations Correspondent:** Dr David Croydon

**MSc Examinations Correspondent:** Dr Larbi Alili

**Timetable Officer:** Mr David Kinmond

**Centre for Research & Statistical Methodology (CRiSM):**

Professor Mark Girolami, Director

**Risk Initiative & Statistical Consultancy Unit (RISCU):**

Professor Simon French, Director

**Department Administrator:** Mrs Paula Matthews

**Postgraduate Support Officer:** Ms Eleanor Ingram

Telephone: 024 7615 0886 (external) or 50886 (internal)

Email: [stats.pg.support@warwick.ac.uk](mailto:stats.pg.support@warwick.ac.uk)

**Programmes Assistant:** Gustavo Diniz

Email: [G.Diniz@warwick.ac.uk](mailto:G.Diniz@warwick.ac.uk)

#### **4. COURSE REQUIREMENTS**

##### **Diploma and MSc**

The Postgraduate Diploma in Statistics and the Degree of MSc in Statistics are both full-time courses. The period of study for the Postgraduate Diploma shall be at least three terms, and the period of study for the MSc shall be twelve months.

**Candidates for the Postgraduate Diploma and the MSc shall do the following core modules:**

		<b>CATS</b>
ST903	Statistical Methods	15
ST952	An Introduction to Statistical Practice	15

**and choose 90 credits from the following optional list:**

ST405	Bayesian Forecasting and Intervention with Advanced Topics	15
ST406	Applied Stochastic Processes with Advanced Topics	15

ST407	Monte Carlo Methods	15
ST409	Medical Statistics with Advanced Topics	15
ST410	Designed Experiments with Advanced Topics	15
ST412	Multivariate Statistics with Advanced Topics	15
ST413	Bayesian Statistics & Decision Theory with Advanced Topics	15
ST414	Advanced Topics in Statistics	15
ST418	Statistical Genetics with Advanced Topics	15
ST906	Financial Time Series	15

Subject to the approval of the Department of Statistics a maximum of 30 CATS from the optional list may be replaced by other appropriate fourth year or M-level modules (if you wish to do this please discuss this with your personal tutor first).

The load for Diploma students is 120 CATS. The load for MSc students is 120 CATS credits for the taught component described above and 60 CATS credits for the compulsory dissertation.

### **Dissertation CATS Points (compulsory for MSc candidates)**

ST955	Dissertation	60
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Candidates for the MSc are required to write a dissertation on a relevant subject approved by the Course Co-ordinator.

### **Examinations**

The core modules are examined as follows:

ST903	<p>Statistical Methods</p> <p><i>Assessment:</i> 10% coursework, 90% exam in week 1 of Term 2.</p>
ST952	<p>An Introduction to Statistical Practice</p> <p><i>Assessment:</i> 50% coursework, 50% exam in week 1 or 2 of Term 2</p>

More detailed information is also available on each module's webpage.

Examinations for MSc students are held in January, April and weeks 5-9 of the Summer Term. Further information and specific dates will be made available on the University's website during the academic year. The grades are examined by an examinations committee consisting of academic staff plus an external examiner appointed from another university.

Dissertations are examined in the Department and then sent to the external examiner for assessment. The MSc degree is awarded subject to the satisfactory standard of the dissertation. MSc students who do outstandingly well on both the examination and the dissertation may be awarded the MSc *with distinction* (70%) or *merit* (60%).

Students who do sufficiently well on the Master's programme, and who wish to continue their postgraduate studies may, at the discretion of the Department, be admitted onto the PhD programme. If you are interested in this, you should see the PhD Admissions Tutor to discuss possibilities.

### **Exam Board Guidelines for MSc/Diploma in Statistics**

- In order to proceed to dissertation, the student is required to obtain both: (a) an average mark of at least 50% over all modules taken; (b) successful completion (i.e. marks not lower than 50%) of modules that are worth 60 or more credits, *including the core modules*.
- A mark of 50% on the dissertation is then required for the award of the Master's degree.
- A mark of at least 70% in both the taught component (average mark over modules taken) and the dissertation is required for the award of distinction.
- A mark of at least 60% in both the taught component (average mark over modules taken) and the dissertation is required for the award of merit.
- An average mark of at least 40% in exams with marks higher or equal to 50% in modules that are worth 60 credits *including the core modules* is required for the award of the Diploma. The Diploma is awarded with merit if the student obtains an average mark between 60% and 69.9% over the modules taken. The Diploma is awarded with distinction if the student obtains an average mark of at least 70% over the modules taken.

### **Extenuating Circumstances**

Circumstances which may have affected your performance in an exam (e.g., illness on the day of an exam) are reviewed by the Board of Examiners when

considering your exam results. You should, therefore, take care to keep your Personal Tutor informed of anything which may affect your exams, and provide appropriate independent evidence (eg., a note from your doctor) of any such circumstances if at all possible. Written evidence must be in English.

Such information must be provided *as soon as it is available*, and if possible before the Board of Examiners meets to consider your results in week ten of the Summer Term.

### **What constitutes cheating?**

In the university regulations cheating is defined as an attempt to benefit oneself or another by deceit or fraud. The department recognises that discussing ideas about how to tackle questions is a valuable part of the learning process.

However for assessments which give rise to credit towards your degree, and which are not explicitly group work, you are required to work independently of other students. While collaboration in the sense of a discussion of general strategies or help of a general nature is allowed, detailed discussions and comparison of numerical results or computer code are not permitted. The work you submit should be written in your own words and you should not ask to see written work, computer code or computer output belonging to another student. If you hand in work in claiming that it is your individual work and it is not this will be treated as cheating. Work produced by someone else may be included only provided it is appropriately acknowledged. Unacknowledged copying from either another student or from published sources including the internet is also treated as cheating. Work that you hand in that gives no credit towards your degree is treated differently: in this case you may work closely with other students if you choose. However it is worth bearing in mind that your ultimate aim is to develop your own skills and understanding, and this will not happen if you simply copy another's answer.

### **Use of Calculators in Examinations**

Concerning the use of calculators in examinations the Department of Statistics follows the University rule which states that except for the display of error or function messages, calculators with non-numeric displays are not allowed. In other words prohibited calculators are those which can accept alphabetical data. Note that this includes most graphical calculators of the type acceptable in GCSE and A-Level examinations. It is your responsibility to ensure that your calculator fulfils the University's criterion and that your calculator is not of the prohibited type. Otherwise you may find yourself denied the use of your calculator and be involved in disciplinary proceedings.

Suggested suitable calculators for incoming students which are in line with recommendations from the Computer Science Department are Casio fx82, fx83

or fx85. All of these are available to buy from the Students' Union and from well-known retailers. They are also reasonably priced.

Please remember:

- calculators must not be passed from candidate to candidate during the examination;
- responsibility for the calculator's proper functioning is entirely that of the student;
- students taking examinations other than those of the Department of Statistics must ascertain the regulations governing the use of calculators from the Department concerned.

In particular, calculators are not allowed in examinations organised by the Mathematics Department (these are all MAxxx module exams). In general, the same rule applies to tests for credit in MAxxx modules, unless students are otherwise informed by the lecturer running the test.

### **Guide to Exam Dates**

Exams take place at various points during the academic year. The majority of MSc exams take place in week 1 of the Spring Term, and weeks 1-2 and 5-9 of the Summer Term. Specific dates will be released closer to the time and can be found on the Exams Office website

<http://www2.warwick.ac.uk/services/academicoffice/examinations>

## **5. SEMINARS AND READING GROUPS/CONFERENCES**

The Department runs two seminar series, one in statistics and one on probability. *All graduate students are urged to attend*, both as a way of broadening experience of research topics of current interest, and for meeting leading research workers from other universities and research institutions. The *Statistics CRiSM Seminar* meet about six times per term, when outside speakers present their latest research on some theoretical or applied statistical topic. *You are expected to attend at least four CRiSM seminars per term.*

The Department is the regular venue for the *Midlands Probability Theory Seminar*, which meets three times a term. At each meeting two speakers discuss topics of current interest in probability or stochastic modelling. Regularly check the webpage and the monitor in the common room for other seminars/workshops that are of interest to you including the Probability Forum P@W and the Young Researchers meeting where you gain information about the research done by PhD students.

## **Gregynog Conference**

The Department is a participating member of the annual *Gregynog Statistics Conference*, a joint venture with the University of Birmingham and the colleges of the University of Wales. All staff and graduate students are invited for a weekend away during each Easter vacation at Gregynog, a fine country house in mid-Wales. This is an excellent opportunity to hear leading statisticians from the UK and overseas present and discuss their work in a relaxed atmosphere. The dates for 2015 are 17-19 April.

## **6. THE DISSERTATION**

### **Background Information**

**The dissertation is a piece of work independently executed by the researcher.** It will be assessed on its academic merit and intellectual content and also on the quality of presentation. Dissertations are examined in the Department and then sent to the external examiner for his/her assessment. The MSc degree is awarded subject to a satisfactory standard on the dissertation. MSc students who do outstandingly well on both the examination and the dissertation may be awarded the MSc with distinction or with merit.

### **Choice of dissertation topic**

The MSc course tutor will collect dissertation topics from academic staff and provide these to MSc students during a meeting held in Term 2. In the following weeks MSc students should visit members of staff, whose topic they are interested in, during their office hours. If you wish to propose your own topic then this will be fine provided you can identify a member of staff who will agree to supervise it. It is usually better to choose a topic provided by staff as that ensures a supervisor is available and that the project is suitable for a dissertation. Please liaise with all other students interested in the topic to visit the lecturer jointly (usually MSc students have organised this themselves by posting lists on the noticeboard in the MSc workroom). The MSc tutor will provide you with a date by which you should give your 2 or 3 choices of topic to the Postgraduate Support Officer and allocate supervisors by the end of term 2. In case several students are interested in the same topic the supervisor will be consulted and we will consider your background knowledge relevant to the project and your performance in the core modules.

### **Guidelines for the Dissertation**

Please note that this is provisional guidance only and may be subject to change.

The dissertation is an important part of your MSc degree programme. Some of the objectives of requiring a dissertation for the MSc are given below. These may help you understand what is expected of you in writing a dissertation.



The objectives of writing a dissertation are to allow a student to demonstrate the ability:

- to complete a major and worthwhile piece of research work, with some guidance, but largely self-motivated and with a minimum of supervision;
- to write an academic paper that is well-organised and which clearly and concisely communicates its contents to its readers;
- to apply knowledge of statistics and probability theory gained through coursework to a specific area of study, to demonstrate ability to acquire further knowledge of additional statistical methodologies as required by the topic, and to show ability to acquire a good understanding of the underlying scientific problem.
- to identify and formulate a scientific problem and to show evidence of skills of inquiry, logical reasoning, probabilistic modelling and statistical analysis in addressing that problem.

The dissertation is your responsibility and is a means of demonstrating your ability to complete independently a major piece of work with minimum supervision. The end product must be *your* work, not that of your supervisor and it is your responsibility to determine what needs to be done within the available time frame. It is stressed that the aim of the dissertation is to assess your ability to undertake *independent* work. Most dissertations are necessarily a compromise between ambition and feasibility. All students should recognise this and also know that their examiners recognise this. It is of great help if you are genuinely interested in the issue that you are investigating; also if the focus is clear. Try to make your dissertation interesting to read and reflect your own motivation. Use tools of analysis (theoretical, analytical, and empirical) that you have learned during your course or which reflect the literature in the area. Write as a professional to a learned audience. Explain the nature of the models referred to, make any arguments of your own transparently clear, integrate any figures into your discussion, and define all notation when or before it is first used. **Make sure that you reference clearly all sources of literature and internet that you have used.** A failure to do so will be considered as cheating.

To meet the deadline for the submission of your dissertation you should schedule your work through a series of self-imposed targets. You must therefore, plan ahead and aim to keep closely to your plan.

The standard of English, style and overall presentation of the dissertation is your responsibility. CELTE offer English Language support classes for international students in the Summer term which cover the language of dissertation writing – [http://www2.warwick.ac.uk/fac/soc/al/learning\\_english/insessional](http://www2.warwick.ac.uk/fac/soc/al/learning_english/insessional). ***Your supervisor will not be responsible for proof-reading your work or correcting English grammar and spelling.*** If you think you may have some problems with

grammatical structure or presentation, then you ought to seek feedback on your writing from colleagues or friends *before* presenting work to your supervisor.

► ***Role of the dissertation supervisor***

The supervisor's main concerns will be to:

- advise on the identification, and refinement, of a suitable topic
- provide some references to the general methodology to be used
- assist you to identify deficiencies in your work
- comment on presentation, findings and reporting of the conclusions

You should not expect your supervisor to read every word in your drafts nor to provide detailed and comprehensive comments on each chapter.

► ***Contact with your supervisor***

The frequency of contact and methods of working are matters for you to arrange between yourself and your supervisor. In general, each student has only *one* supervisor and you should agree (a timetable of) contact meetings with her/him. This should be agreed during term 3 and may be in the form of a sequence of supervision appointments at intervals over the summer or a more flexible arrangement. Students can reasonably expect 5 - 8 hours of supervision (*including* supervisor's reading time) during the preparation of their dissertation and before final submission. Note that this is a guide and that some students might benefit from having supervision in small groups. Your supervisor may require you to prepare summary reports of all meetings to ensure there is a record of 'actions' to enable monitoring of progress.

You should note that many supervisors have their own research, conferences, family and other commitments, including dissertation supervision of students during the period from June to September, and are therefore not usually available for the whole of this period. Your meetings/contact with the supervisor will therefore need to be *scheduled keeping the supervisor's availability in view*.

Should you have difficulties with your dissertation, always discuss these with your supervisor in the first instance. Where a problem is unresolved, please then contact your Personal Tutor or the MSc tutor who will try to address the particular issues as soon as possible.

Please ensure that you always inform your supervisor when you will be away from your normal address over the summer for more than two weeks, just in case your supervisor wishes to make urgent contact with you. You should also inform the Postgraduate Support Officer.

► ***Presentation of your work***

Dissertations vary in length according to the topic, but should normally be 40-80 pages long (in total). Any work submitted must be typed. The dissertation should be single-spaced and double-sided. Pages must be numbered. The first page should include the title, your name and the date of submission. Any preface and acknowledgements should be listed on the second page. A list of references must be collected at the back. For tables, references etc, you should follow the style guidelines of any of the Journals of the Royal Statistical Society (look at any recent issue). Enumerate all tables and figures and refer to them in the text using their number. All figures and tables should have a caption explaining (but not interpreting) the content. If you have developed novel programming codes that are not standard routines in a programming package then these need to be provided in an appendix.

Please contact the Postgraduate Support Officer if you wish to see examples of good practise from previous dissertations.

Students should submit an electronic copy via Tabula and two copies of the printed dissertation, soft bound, for assessment.

► ***Submission of your dissertation***

Dissertations must be handed in by **3.30pm on Friday 11<sup>th</sup> September, 2015**. Please note that problems with printers and other problems of that kind are not regarded as a valid reason for late submission. A dissertation that is not submitted by the deadline date will fail.

Both copies of your dissertation should be given to the Postgraduate Support Officer on or before the deadline date. The electronic copy of the dissertation should be uploaded to Tabula by 12pm on the deadline date.

***Plagiarism in dissertations and other written project work***

In writing dissertations or any other piece of research project work **it is necessary at all times to acknowledge the work of others**. Ways of doing this are usually through referencing to other published or unpublished work, creating footnotes which state other sources, and including a paragraph on general acknowledgment on any help or any other input you have received from others. Any idea, fact, formula etc in your work which is not your own creation needs to be clearly linked to the source by means of a reference.

Plagiarism arises when one is submitting work which is sourced (in part or in its entirety) from the work of others without such acknowledgement. Examples of plagiarism include **copying** using another person's language and/or ideas, by:

- **quoting** other work without acknowledgement;
- **changing some of the words, or the order of the words**, without acknowledgement;

- **using ideas** and mathematical formulae without reference;
- **cutting and pasting** from the Internet without reference;
- **submitting someone else's work** (for example, buying or commissioning work, or not attributing research contributed by others to a joint project).

Plagiarism might also arise from collaborating with or receiving help from another person without acknowledgement. A candidate should include a general acknowledgement where he or she has received substantial help. *This includes help with the language and style of a piece of written work.* Plagiarism refers to all types of sources and media: text, illustrations, mathematical derivations, computer code, material downloaded from websites or drawn from manuscripts or other media, published and unpublished material, including lecture handouts and other students' work. **Plagiarism is cheating** as it constitutes a breach of academic integrity. If plagiarism is detected (this is relatively easy) then this will be reported to the Head of Department. A consequence of plagiarism may be failure of the entire piece of work with no further right to resubmit.

**Department of Statistics**  
**Points of Engagement to Monitor Attendance and Progress of MSc Students**  
**Academic Year 2014-15**

**Term 1**

1. Attendance at Department induction meeting
2. Meeting with Personal Tutor during weeks 1&2 of term.
3. Attendance Weeks 3 of core module ST952. Students will be required to sign an attendance register for each lecture. Register then submitted to PGSO.
4. Attendance Weeks 4 of core module ST903. Students will be required to sign an attendance register for each lecture. Register then submitted to PGSO.
5. Submission of Assignment 1 for ST952. Submission will be noted by the PGSO on the day of the given deadline.
6. Attendance Weeks 8 of core module ST903. Students will be required to sign an attendance register for each lecture. Register then submitted to PGSO.

**Term 2**

1. Attendance at ST952 exam – Week 1.
2. Attendance at ST903 exam – Week 1.
3. Attendance in week 6 at meeting with MSc Tutor to discuss dissertation topics. Student to email PGSO their dissertation choices by end of week 8.
4. Meeting with Personal Tutor during weeks 9 or 10 of term

**Term 3**

1. Submission of a signed attendance form by the end of week 10. This should be signed by both the dissertation supervisor and student detailing where the student intends to be whilst writing up their dissertation.

**Summer**

1. One supervision or contact by the student or supervisor by 15<sup>th</sup> of August, and the submission of a signed attendance form.
2. Submission of dissertation on **11<sup>th</sup> September 2015, by 3.30pm.**

**Implementation**

For monitoring, in practise the list of engagement points will be kept with the Postgraduate Support Officer (PGSO).

The PGSO will regularly check to see if any students are missing monitoring points.

For those students who are granted an extension, one of the following will be required:

- resit students will be expected to attend each of the exams for which they are registered
- students who are allowed to resubmit their dissertation will be required to submit a signed supervision/attendance contact form for each month of their extension, either a form for each supervisory meeting if they remain in the country or one for each supervisory contact and/or submission of revised drafts if they choose to stay elsewhere (as Term 3 point 2).

If a student misses 3 monitoring points in an academic year, then the student should be invited to a meeting with their personal Tutor.

If a student misses any further monitoring points in a year, dependent upon circumstances, the student will be required to meet with the MSc Tutor.

If a student misses 6 monitoring points in a year, then the Department will invoke the formal University process.