

MSc Information Technology for Business and Management

Dissertation Guidelines

Introduction

The dissertation for the MSc ITBM is worth 33% of your degree programme, and can be supervised by the Department of Informatics (Informatics), Science Policy Research Unit (SPRU) or by a qualified person from a supporting unit (such as IT Services) or industry (with academic oversight—this means you also need an academic co-supervisor), in which case qualified persons from IT Services or industry will be specifically contracted for the supervision of the dissertation. The dissertation should be the culminating experience of your MSc course, so it is reasonable to expect that the focus of the dissertation will be based on the areas of study or work associated with the IT, business or management components of your degree.

The MSc ITBM dissertation can generally take two forms:

1. A **Thesis based dissertation**
 - SPRU publish a specific guideline for this type of dissertation. These guidelines are usually issued at the start of the autumn term. MSc ITBM students are expected to be proactive in acquiring these guidelines from SPRU in order to prepare themselves for a SPRU supervised dissertation.
 - While a thesis based dissertation is the common format for SPRU supervised MSc dissertations this can also be adopted by Informatics for dissertations based on an analysis of an e-business or e-commerce problem, e.g. a case study. Some Informatics supervisors may be convened for this type dissertation. A specific scenario may be that a student identifies a topic for study based on knowledge gained in the E-business and E-Commerce Systems module ([course number 943G5](#)).
2. A **Project based dissertation**
 - This type of dissertation generally involves the implementation of a programme or system that solves a specific problem related to IT, business, or management, thus the problem could involve finding solutions that employ technologies for IT, Web 2.0, management, innovation, e-business, e-commerce, multimedia, etc. studied on the course. The student would be expected to write up such a project as a programming report and demonstrate the working programme or system to their supervisor. Code would be documented in the appendix.
3. Occasionally a mix of type 1 and 2 above arises, which is also acceptable.

MSc Resources

The School of Informatics has made available a general resource area on its web site that outlines all information associated with MSc dissertations and projects. This information can be accessed at:

<http://www.sussex.ac.uk/ei/internal/forstudents/informatics/masters/dissertations>, including information on dissertation content and the suggested timetable for completing the dissertation. The MSc resources web site also contains detailed information on how to go about finding a suitable topic and supervisor (many academics are convened to supervise projects and the sorts of projects they are interested in supervising are listed in a dissertation database).

Note that in terms of dissertation content, because an MSc ITBM dissertation is supervised across many research areas in Informatics and SPRU the primary source of information and help will be your dissertation or project supervisor.

Choosing your dissertation supervisor and dissertation topic

You will be informed by the MSc dissertation coordinator at an appropriate time when the dissertation database opens and you can log in. Supervisors have been specially convened to supervise across all Informatics MSc dissertations and projects. These supervisors can be found on the Informatics Masters Projects Database (you will be provided with a login and password). You need to browse this database (see <https://www.informatics.sussex.ac.uk/courses/csaiproj/mscdb/index.php>) to try and find a suitable topic and supervisor. You are also free to propose an alternative dissertation topic so long as it can be regarded as relevant to the broad aims and learning outcomes of the MSc ITBM programme. That is, the dissertation should be a culminating experience of your studies on Information Technology, Business and Management. The appendix to this document lists a range of suitable project topics, however for dissertation topics in general you must consult potential SPRU supervisor (e.g. the tutors for the courses delivered by SPRU)

If you choose your own topic (look at the list in the appendix to get an idea) you still need to find a suitable supervisor from the convened list (in general you should be looking at the supervisors convened for MSc ITBM, but you may be lucky enough to find an appropriate supervisor from another MSc programme, industry or IT Services, etc.). You would need to present your research topic to the supervisor and negotiate his or her supervision of your project or dissertation.

Before you choose your project or dissertation topic you should consider the following issues:

1. Will your dissertation allow you to apply your new knowledge acquired from the modules you have taken in your master's course (broadly interpreted)?
 - For example, a computing problem not related to Business and Management is acceptable, but in general should still focus on an IT issue.
2. The dissertation must be either:
 - Project based: Where programming is undertaken, e.g. implementation of a B2C and B2B E-Commerce system connecting customers to retailer and retailer to supplier, or
 - Thesis based: Where a systematic empirical/experimental study of some aspect of Information Technology, Business and Management is undertaken, e.g. a detailed cases study of an E-Commerce sector or an IT strategy.
3. The dissertation should provide a context for the investigation in some depth through:
 - A detailed implementation of an Information Technology, Business or Management related system employing skills learnt from courses such as Object Oriented Programming, Web Computing, Web Services and Applications, Human Centred Computing, Artificial Intelligence programming—these course change from time to time, for a complete list see:
 - <http://www.sussex.ac.uk/ei/internal/coursesandmodules/informatics/pgcourses/2012/H7504>
 - A detailed case study of an Information Technology, Business or Management related system or process employing skills learnt from courses such as E-Business and E-Commerce Systems ... Managing Innovation, Managing Innovation in Complex Product Systems, Information Communication Technology Policy and Strategy, Business and Project Management—these course change from time to time, for a complete list see:
 - <http://www.sussex.ac.uk/ei/internal/coursesandmodules/informatics/pgcourses/2012/H7504>
 - It is possible to develop a dissertation that has elements of a project and a thesis, where for example, a student develops a strategy for the implementation of a new technology in, say a financial IT context and shows the viability of such a strategy through an early prototype, e.g. an iRise based wireframe, to illustrate the concepts.
4. The dissertation topic is expected to employ a rigorous analysis and implementation methodology appropriate to the dissertation topic, i.e. requirements gathering, analysis, specification, design, implementation, test and evaluation methodology software based projects.

5. While negotiating with your supervisor issues to discuss when determining the level of detail required might be, for example:
 - Projects: Consider if the project has scope for considering:
 - Design of effective user interfaces.
 - Choosing technology that is suited to different levels of user knowledge and experience.
 - Examine what makes a system enjoyable to use engaging, motivating, trust worthy, easy to learn, and so on—these factors influence ease of take-up of the technology.
 - Provide help that is actually relevant to the users’ goals and tasks.
 - Investigate how technology can support collaboration.
 - Impact on social networks or work practices.
 - Test alternative methods of evaluation of how users interact with systems.
 - Improve communication between the user and the system, or between different users of the same system.
 - Support users with special needs.
 - Identify the general topic(s) that the project will focus upon.
 - Dissertations: see separate SPRU guidelines, issued in the autumn term.
6. You need to consider project planning for your dissertation, e.g. will the project constitute the equivalent of about 18 week’s full time work?
7. For part-time students, can the project be practicably spread over two years with core activity occurring in two periods of 18 weeks (university summer term and summer vacation).
8. A final note for industry based projects, e.g. American Express. A student undertaking an industrial based project or dissertation should take care not to submit a thesis that is merely a write-up or log of 'two or three months work' within the company. While this work may be essential to the project or dissertation it should be written up in the context of a project or dissertation taking into account points 1 to 7 above, where appropriate, and the student should particularly ensure that essential features such as: novelty, originality, critical review, analysis and evaluation are demonstrated within the appropriate structure of the thesis.

Timetable

This timetable is a suggested guideline, except for the final hand-in deadline, which is subject to normal late penalty rules. It is based on the principle of working towards the dissertation or project, rather than undertaking some project that you will write up at the end. As the dissertation or project is the thing that's marked, anything you don't write up cannot be taken into consideration, no matter how good your project was. Hence, plan and draft the dissertation at an early stage. It is better to have a draft that you can change than to have a blank slate.

Having planned the dissertation, don't be afraid to change your mind, especially if an unrealistic plan is preventing progress. Note also that if your project plan assumes that your project is based on a programming project, i.e. computer program, it will have at least a requirements phase and an evaluation phase, see separate guidelines for SPRU based dissertations.

You should also try to work out a schedule of supervision meetings with your supervisor and keep a log record of your activities—a good idea might be to keep an electronic log (e.g. standardized email exchange of a form you create to record meeting activity) with which to record all your work and discussion with your supervisor. Once you have constructed your schedule with your supervisor you should look upon this as a kind of contract, but which can be modified by both parties after further negotiation. Whatever you do, try not to leave your supervision on an ad-hoc basis, which often leads to an unsatisfactory experience.

Time Frame		ITBM Activity Guidelines
Full-Time	Part-Time	

Year 1	Year 1	
March - early May	March - early May	Find a supervisor and agree your topic.
Beginning of May	Beginning of May	Agree with your supervisor a short description of the project. If there is an external partner, include the name of the company and the contact person. What you submit at this stage is intended, in part, to help identify suitable second examiners, so describe your proposed project as accurately as possible.
Middle of May	Middle of May	By this date, you need to register a more precise title. Use the project database to register your project—at this point your supervisor should have a good idea how valid your project is, so make sure your project scope has been discussed at length with your supervisor. You should also draw up a schedule for meetings with your supervisor. (You might want to review this schedule from time to time, as the project progresses.)
End of May	Middle of July	Produce a requirements specification (or equivalent). Draw up a draft table of contents for the dissertation.
End of June	Middle of August	Produce a draft of your literature survey. Produce a design specification (or equivalent).
	Beginning of September	<p>Suggestion:</p> <p>You may like to consider writing up an initial draft of your dissertation or project. If for example, your thesis is some kind of project with requirements, design and implementation phases, the structure may look something like:</p> <ol style="list-style-type: none"> 1. Title page 2. Statement of originality and acknowledgments 3. Abstract 4. Table of contents 5. Introduction <ul style="list-style-type: none"> ○ Background discussion including literature survey ○ Leading to a statement of the problem to be solved with your project 6. Requirements analysis 7. Design specification 8. Implementation details 9. Test and evaluation strategy 10. Conclusion 11. Appendix <ul style="list-style-type: none"> ○ References ○ ... <p>This may vary somewhat with different types of project and this is a generic structure that can be mapped to any programming style project. You should check with your supervisor the most appropriate write-up structure for your thesis. This is important because a substantial component of the assessment criteria is focused on write-up quality covering elements such as: organisation, clarity, references, general</p>

		<p>presentation and English usage.</p> <p>Clearly, you will not be able to add content to all parts of your write-up at this stage, but for INFORMATICS based projects your write up may contain a start on components such as your Introduction (background, problem statement ...) requirements analysis (requirements capture, use case scenarios, requirements specification), and the design specification. A dissertation based on E-Business or E-commerce case studies, for example, would have an equivalent structure. You should discuss the exact requirements with your supervisor. For SPRU based dissertations your initial write-up may contain elements such as your problem statement, background, literature survey and so on. Check with your SPRU supervisor for exact requirements on how to write-up.</p> <p>You should interact closely with your supervisor to ensure maximum benefit and feedback from this initial write up.</p>
	Year 2	
	March - early May	Continue work on your dissertation or project
Middle of July	Middle of July	Start to write a complete draft of the dissertation or project. This will also give you a chance to reflect upon what you have achieved so far. See the suggestion box above for part-time students. This applies equally to full-time students.
End of July	End of July	Submit the complete draft to your supervisor for feedback.
Middle of August	Middle of August	Finish testing and evaluations.
Middle of August	Middle of August	Revise dissertation.
<p>Dissertations must be submitted on or before 12 noon on the first working day of September. You need to submit two copies of the dissertation to the PG Coordinator office in the Department of Informatics.</p>		

ITBM Assessment Criteria

The assessment criteria for the MSc ITBM programme including the dissertation is defined in the Postgraduate Examination Handbook, which can be downloaded from:

<http://www.sussex.ac.uk/academicoffice/documentsandpolicies/examinationandassessmenthandbooks>

This handbook provides guidance on the general principles applying to the formal assessment of Postgraduate Taught (PGT) Programmes, for the information of students who are registered on such programmes (i.e. students registered on Taught Masters, Postgraduate Diploma and Postgraduate Certificate programmes). The handbook should be read in conjunction with any programme specific material provided by the Programme Convenor, the academic department or the Graduate Centre within the School of Studies.

Appendix —ITBM Dissertation Topics

Generic project topics:

The MSc ITBM project should normally be substantially based on a working software system or detailed case study that deals with some aspect of IT, Business or Management broadly interpreted from the courses offered on this programme.

- Evaluation of an existing IT, E-Business or E-Commerce system/website, then redesign, implement and re-evaluate.
- Scientific investigation of a specific technology that may be exploited in an IT, E-Business or E-Commerce framework.
- Novel tools to support IT, E-Business, E-Commerce, Project Management, Innovation Management.
- Evaluation of methods and tools to enhance productivity in IT, E-Business or E-Commerce.
- Design and evaluation of visualizations to support comprehension and decision making with IT, E-Business, E-Commerce, Project Management, Innovation Management.
- Technology-enhanced training methods or systems for particular tasks or applications with an IT, E-Business, E-Commerce, Project Management, Innovation Management context.
- Application and evaluation of how games technology can be applied to business and commercial settings.
- Design and evaluation of mobile technology applications from a usability perspective in an IT, E-Business or E-Commerce, Project Management, Innovation Management context.

Specific dissertation topics:

Examples of the types of ITBM topic can be taken from titles of previous Master's dissertations. This document can be down loaded from:

<http://www.sussex.ac.uk/informatics/internal/forstudents/masters/dissertations/mscproject>

As an example, we can elaborate some of these specific dissertation titles into more detailed proposals:

The development of a proof of concept for a mobile banking application

Account based security for mobile devices

- Using secure mobile IT technologies (for example the Android or iPhone SDKs) and methods to design and build an application that solves a specific mobile banking problem. In more detail, imagine the scenario where it is useful to aggregate a set of customer bank accounts into a single financial application on the iPhone. The classic example is the Egg Money Manager, but now it is mobile. The solution will need to provide a secure way of storing account details on your iPhone, authenticating a secure a login to the accounts in the applications, and then present a summary of each account, further allowing a more detailed drill down into each account.

Building and developing an IT strategy

- This may involve a scientific study of a specific IT business process that the organization wishes to develop into a more general IT process. A further goal may be to decide on a specific technology with which to implement that type of business process leading to a corporate wide IT strategy for this type of business process. This may involve modeling and simulation of the business process and suggestions for better processes that are proven or demonstrated in the simulation. Such a simulation might not involve programming with traditional languages, but perhaps the use of tools (e.g. sophisticated spreadsheets, MatLab, etc. perhaps existing industrial business analysis tools, or scripting languages). Once the business process has been simulated, thought can be given to different IT technologies that may used to implement this business process. A recommendation is then made on the technology approach to be taken, which is adopted as a corporate IT strategy for that business process.

IT strategy and systems architecture evolution

- A new IT strategy is being determined that requires a re-implementation of an existing program or system concerned with an E-Business or E-Commerce product. The dissertation should include constructive criticisms and suggest improvements to the old system, i.e. what are the cost benefits for taking the new approach. An example might be to implement the new system as a mobile web application to provide a new interface that links back to a legacy financial system using more modern software frameworks such as .NET or J2EE. The new approach may use the Model View Controller pattern, where the so called model is define by the legacy back end database system exposed through web services, the controller is coded using PHP technologies, and the view is based on the use of HTML5, JavaScript and X3DOM.