



Masters Programmes  
in  
The School of Computer Science  
The University of Manchester  
  
2015/16

Handbook for  
MSc, MRes, Postgraduate Diploma, and Postgraduate Certificate

This is the Handbook for the Taught Postgraduate Programmes offered by the School of Computer Science in the University of Manchester. It covers the MSc, MRes, Postgraduate Diplomas and Postgraduate Certificates. Students on these programmes are expected to be familiar with the contents of this Handbook, as it outlines the regulations for the programmes, assessment rules, descriptions of the facilities of the School and University, as well as guidance on undertaking the programmes.

Although the information contained in this handbook is believed to be correct at the time of going to press, the School reserves the right to make appropriate changes without prior notice; however the School will endeavour to inform students of any substantial changes made affecting the programmes. This disclaimer does not affect any statutory rights which you may have under English law.

Norman Paton, PGT Director

Manchester, September 8, 2015

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# Chapter 1

## General Information

### 1.1 Contact Details

Student Support Office:  
Room LF21, Kilburn Building

School of Computer Science  
The University of Manchester  
Oxford Road  
Manchester M13 9PL  
United Kingdom

Tel: (+44) 161 275 7520  
Fax: (+44) 161 275 6204  
Email: [sso@cs.man.ac.uk](mailto:sso@cs.man.ac.uk)

To visit the website of the School of Computer Science go to <http://www.cs.manchester.ac.uk/>.  
The School of Computer Science is located in the Kilburn Building.

### 1.2 Welcome and General Resources

Welcome to the School of Computer Science. We hope that you will have a productive and happy time here in your postgraduate studies. This section is a brief introductory guide to some of the services, facilities and documents that are available to help you.

#### Documents

**Programme Handbook** (this document): Full of useful details, advice and general information. **We expect you to read and consult it.**

**Syllabus:** The descriptions for each MSc programme and pathways therein are available at <http://studentnet.cs.manchester.ac.uk/pgt/>

A complete list of all themes is available at <http://www.cs.manchester.ac.uk/study/postgraduate-taught/course-information/themes/>.

The full list of MSc course units and their descriptions is available at <http://www.cs.manchester.ac.uk/study/postgraduate-taught/course-information/units/>.

Do read the theme and course unit descriptions. They outline the aims of each unit, what you will learn, the contents and who should take the unit (including requisite academic background). You are strongly recommended to attend the theme introduction talks in the first week before finalising your choice of themes and course units.

**School PGT webpages:** <http://studentnet.cs.manchester.ac.uk/pgt/>. Full of all the latest information: handbooks, syllabi, timetables, projects, specialist advice and guidance.

**Induction Events** During the first week, called *Welcome Week*, we run a number of important induction events, explaining how the school, the programmes, course units, exams, coursework, email accounts, projects, etc. work, setting you up to start with your studies in week 1. It is **vital** that you meet and make friends with staff and other MSc students: **don't miss it!**.

See the Welcome Week timetable <http://studentnet.cs.manchester.ac.uk/pgt/2015/timetable/welcomeweek.php> for the schedule of events.

**Facilities** There are dedicated MSc computing facilities in and around Room 2.25a of the Kilburn Building. All machines in the MSc lab support Linux and MS Windows. On many of the programmes, **you need to be familiar with both systems**. There is an introductory Linux lab for those who need to familiarize themselves with our Unix-based system.

CSIS is the group of people who look after the school's computers, see <https://wiki.cs.manchester.ac.uk/>. If you have a problem with computer equipment or your account, look at their pages – but please do not ask CSIS questions which are already answered on these pages.

As usual, never send your username and/or password in an electronic format to anybody, ever! You will find a wealth of good information at <http://www.itservices.manchester.ac.uk/secure-it>

**Help!** It is extremely important that, if you are having difficulties, whether it is of an academic, personal or university matter, you seek advice at the earliest possible opportunity. In particular, any matter whatever it is that affects your work and progress here must be brought to your Programme Director in confidence. We can often help and can always advise on management of work.

For academic help on particular course units, consult the lecturers on that unit. For academic help on the MSc project in the first instance consult your supervisor and for organizational queries about the project consult the MSc project coordinator. For more general academic matters consult the relevant Programme Directors.

**Procedures and Administration** For forms, procedures etc. go to the Student Support Office (SSO) in the School on the Lower First Floor. Many forms are available on the School StudentNet (<http://studentnet.cs.manchester.ac.uk/pgt/>). The University has an excellent Counselling Service with a drop-in centre and quick appointments. There is also help from the Students' Union, the Academic Guidance Services, Legal Services etc: see university website for details.

**International Students and English Language Courses** During welcome week, we run an **English Language Test** to assess training requirements. Based on the results, we may recommend that you take suitable **English Language courses**, some of which we organize specifically for Computer Science students in our school.

There are many services for international students, and good clubs and societies. See Section 1.4 for more information.

**Photocopying and Printing** As a PGT student, you will be given an annual allowance for computer printout and photocopying in the School for coursework printing. The printing quota for this year is 500 pages. There is a combined printer and photocopier in the MSc lab, but you can use other printers connected to the university's network as well; please see <http://www.itservices.manchester.ac.uk/students/printing/>.

**Additional Costs** As stated above, you have access to the school's computer facilities and a limited allowance of printing and photocopying. During your studies, you are expected to bring the usual stationery to take notes in labs and for your project. Other than for these and the costs for printing and binding your dissertation, we do not expect that university activities will incur any other costs.

## 1.3 Discipline and Conduct

Please note that the University of Manchester has a regulation on *Conduct and Discipline of Students (Regulation XVII)* that governs the conduct and discipline of students, and sets out procedure for taking disciplinary actions:

<http://documents.manchester.ac.uk/DocuInfo.aspx?DocID=6530>

## 1.4 Tier 4 Visa Attendance Monitoring Census

The University operates attendance monitoring Census Points within the academic year in order to confirm the attendance of students holding a Tier 4 Student Visa. This is to ensure the University meets the UKBA statutory requirements as a sponsor of Tier 4 students and its responsibilities in accordance with its Highly Trusted Sponsor status.

If you are a Tier 4 visa holder, you must attend these attendance monitoring census points, in addition to complying with the School's own programme attendance requirements; see Section 5.1.1. You will receive an e-mail from the School to confirm when and where you should attend to have your attendance confirmed. You must check your University e-mail account regularly. Failure to check your e-mail account is not a valid reason to be absent from a census point.

Please note: registration is your first point to confirm your attendance at the University and you will not be required to attend a further census point in October.

**What if a Tier 4 student cannot attend a census point?** If you cannot attend in person due to a valid reason which includes: illness; placement; field studies; research work; or any other reason connected to your course of study, you must email the Student Support Office [sso@cs.man.ac.uk](mailto:sso@cs.man.ac.uk) to inform us of your absence and your inability to attend in person. In the case of illness, you must provide a copy of a medical certificate. If you are in this position you should report in person to the Student Support Office as soon as possible after you return to campus.

Students who are recorded as interrupting their studies are not expected to attend during their period of interruption.

**What happens if a student does not attend a census point?** The School must be able to confirm your presence to the UKBA by the end of each census point in the academic year. If you do not attend a census point when required by your School and you do not provide a valid explanation for your absence you will be deemed to be not in attendance. Those students identified as not in attendance will be reported to the UKBA and the University will cease to sponsor the student's Tier 4 visa. The Tier 4 visa will then be curtailed and the student must leave the UK within 60 days.

**Further information** For more information on Tier 4 visas: <https://www.gov.uk/tier-4-general-visa>  
If you have any concerns about the attendance monitoring census points, or your Tier 4 visa status, please contact [sso@manchester.ac.uk](mailto:sso@manchester.ac.uk).

The University has a very comprehensive website which will answer many of your visa queries at: <http://www.studentnet.manchester.ac.uk/crucial-guide/academic-life/immigration/>. The contact details for the University's **International Advice Team** are:

email [visa@manchester.ac.uk](mailto:visa@manchester.ac.uk)  
telephone +44 (0)161 275 5000 (option 1)

## 1.5 Programme Staff

Table 1.1 summaries the roles of academic staff who have substantial responsibilities relating to our masters programmes. Programme Directors run and organise the programmes: if you have any questions regarding your programme choice, progress, or performance, or if you are experiencing difficulties of any kind, you can contact the your Programme Director or the Student Support Office (see below). Once you have started your project, your supervisor is also there to help you with any questions you have.

Your Programme Director will act as your Academic Advisor. The role of the Academic Advisor includes:

- To assist students with the process of induction and orientation into academic life and the University community;
- To work with students to build personal academic relationships;
- To retain an interest in their students' personal and general academic and professional development throughout their academic careers while at the University, providing information and guidance on academic choice;
- To monitor both academic performance and student engagement in a proactive manner and advise on constructive strategies to enable improvement;
- To offer general academic advice to students on their general progress and development; and
- To listen and offer students help and advice about pastoral/non academic matters and to signpost students to other student services for further assistance if necessary.



<b>Responsibility</b>	<b>Name and homepage</b>
PGT Director	Prof. Norman Paton <a href="http://www.cs.man.ac.uk/~norm">www.cs.man.ac.uk/~norm</a>
Programme Director for Digital Biology and Distance Learning	Prof. Andy Brass <a href="http://www.cs.man.ac.uk/~abrass">www.cs.man.ac.uk/~abrass</a>
Programme Director for MSc in Advanced Computer Science (ACS)	Dr Sandra Sampaio <a href="http://www.manchester.ac.uk/research/s.sampaio/">www.manchester.ac.uk/research/s.sampaio/</a>
Programme Director for MSc in Advanced Computer Science and IT Management (ACS&ITM)	Dr. Goran Nenadic <a href="http://personalpages.manchester.ac.uk/staff/G.Nenadic/">personalpages.manchester.ac.uk/staff/G.Nenadic/</a>
Programme Director for MRes	Dr. Konstantin Korovin <a href="http://www.cs.man.ac.uk/~korovink/">www.cs.man.ac.uk/~korovink/</a>
Programme Director for Modular and Part-time	Dr Renate Schmidt <a href="http://www.cs.man.ac.uk/~schmidt/">www.cs.man.ac.uk/~schmidt/</a>
Project Coordinator	Prof. Tom Thomson <a href="http://www.manchester.ac.uk/research/Thomas.thomson/">www.manchester.ac.uk/research/Thomas.thomson/</a>

Table 1.1: Academic staff with responsibility for the programme

If you need a reference letter for an application, you can ask your project supervisor, a lecturer of a course you have taken or your Programme Director.

Academic staff from the School (Lecturers, Senior Lecturers, Readers, Professors) will teach course units and supervise projects. Each course unit has a course unit leader, but may be taught by more than one person.

We also use *Teaching Assistants*, who are usually PhD students, to help students to understand and assimilate the material in a given lab/examples class; give feedback to students on their work; mark coursework as appropriate; and give general advice on sensible working practices and time management.

## 1.6 School and Postgraduate Student Support Staff

**Head of School:** Prof. Jim Miles, Room 2.125  
[www.manchester.ac.uk/research/Jim.miles/](http://www.manchester.ac.uk/research/Jim.miles/)

**Student Support Office:** general email address: [sso@cs.man.ac.uk](mailto:sso@cs.man.ac.uk).  
Gill Lester (Student Support Office Manager), Room LF21, Tel: 275 6210,  
Email: [Gillian.S.Lester@manchester.ac.uk](mailto:Gillian.S.Lester@manchester.ac.uk)  
Susannah Hymas (Postgraduate Administrator), Room LF21, Tel: 275 7520,  
Email: [Susannah.Hymas@cs.manchester.ac.uk](mailto:Susannah.Hymas@cs.manchester.ac.uk)  
Chris Calland (Postgraduate Assistant), Room LF21, Tel: 275 6283,  
Email: [christopher.calland@cs.man.ac.uk](mailto:christopher.calland@cs.man.ac.uk)  
Richard Ward (Student Support), Room LF21, Tel: 306 6624,  
Email: [wardr@manchester.ac.uk](mailto:wardr@manchester.ac.uk)  
Jennie Ball-Foster (Exams and Quality Assurance), Room LF21, Tel: 0161 275 6964,  
Email: [Jennie.Ball-Foster@manchester.ac.uk](mailto:Jennie.Ball-Foster@manchester.ac.uk)

**Student Disability Support Coordinator:** Dr. Ning Zhang [ning.zhang-2@manchester.ac.uk](mailto:ning.zhang-2@manchester.ac.uk).

## 1.7 Student Support Office

The Student Support Office (SSO), Room LF21, Kilburn Building, is able to provide general guidance and advice. Opening hours are weekdays, 9:00–17:00.

SSO also provides School library access and out-of-hours passes. The School library has copies of recommended textbooks for PG course units, see <http://studentnet.cs.manchester.ac.uk/resources/library/>.

**Coursework – hardcopy submissions** Coursework that requires hard-copy submission must be posted into the relevant pigeonhole in LF21, having first completed and attached the coursework submission form to the front of your work. If no specific label for the course unit is visible, please inform someone in the Student Support Office immediately. Do not post coursework into an unmarked pigeonhole, as such work will automatically be given zero marks.

**Out of Hours Passes** Entry to the Kilburn Building outside of normal hours (before 08.00 and after 18.00 Monday to Friday, plus all day at weekends and bank holidays) requires an out of hours pass which can be obtained from the Student Support Office. You will need to bring your University ID card and a printout of the confirmation email indicating that you have passed the on-line Out of Hours Health and Safety test required by the School. Please also see Section 9.

## 1.8 eLearning environments: Blackboard and Moodle

Course units make use of eLearning environments such as Blackboard and Moodle, to varying degrees, for example to provide access to teaching materials, for submitting coursework and for providing feedback. It is therefore crucial that you have access to Blackboard and Moodle, know how to use them, and check them regularly for relevant information.

## 1.9 Notice Boards, Pigeon Holes, and Social Space

The Postgraduate Notice Board is positioned in the corridor adjacent to the MSc laboratory, Kilburn Building. This is used for displaying general information and advice. Pigeon holes for mail are positioned next to the notice board.

You are entitled to make use of the study and dining area on the lower first floor, near the Byte Café, and the break-out room beside the masters lab is considered to be a space for PGT students.

## 1.10 Student Representatives

The School and University take seriously both the issues of student representation and that of quality control of the programme. Student representatives organise themselves during the first weeks of the programme, and will have the opportunity to bring issues to relevant members of staff, and see that they are dealt with satisfactorily.

In all course units, *Unit Surveys* (USs) will be distributed and collected. Students are encouraged to complete these for they are part of the quality assessment. They are processed by the School, they are read by the course unit lecturers and their appraisers, the Programme Director, the External Examiners, and others who are concerned with the programme quality.

## 1.11 Key Dates in the Academic Year and Timetable

Key dates for the academic year can be found in Table 1.2.

For details of all timetables consult the webpage at <http://studentnet.cs.manchester.ac.uk/pgt/timetable/>

<b>Period/Event</b>	<b>Dates</b>
Welcome Week	21 September - 25 September
Deadline for Course Unit Registration	25 September
Semester 1 Period 1 course unit teaching	28 September - 30 October
Coursework Completion Period 1	2 November - 9 November
Semester 1 Period 2 course unit teaching	9 November - 11 December
Coursework Completion Week 2	14 December - 18 December
Deadline for Sem. 2 Periods 3 & 4 course unit changes	15 January
Semester 1 Periods 1 & 2 examinations	18 January - 29 January
Semester 2 Period 3 course unit teaching	1 February - 4 March
Coursework Completion Period 3	7 March - 11 March
Semester 2 Period 4 course unit teaching	14 March - 6 May
Coursework Completion Period 4	9 May - 13 May
Project Progress Report submission deadline	Mid-May (tba)
Semester 2 Periods 3 & 4 examinations	19 May - 8 June
Final date for notice of submission of dissertation	End of July (tba)
Dissertation submission deadline	9 September
Graduation week	Mid-December (tba)

Table 1.2: Key Dates in the Academic Year 2015/16. Some exact dates have yet to be confirmed.

# Chapter 2

## Overview of the Programmes

### 2.1 Types and Lengths of Programmes

In general, the school offers the following taught postgraduate degrees.

Award	Duration	Mode of Study
MSc	1 year	Full-time
MSc	2-3 years	Part-time
MSc	2.5-4 years	Modular
PG Diploma	1 year	Full-time (exit award only)
PG Diploma	2-3 years	Part-time
PG Diploma	2-3 years	Modular
PG Certificate	1 year	Full-time (exit award only)
PG Certificate	2 years	Part-time (exit award only)
PG Certificate	2 years	Modular (exit award only)

### 2.2 MSc Overview

The MSc has three distinct phases: Induction (Welcome Week), taught course units, and the project. The first two take up roughly the first six months of the programme while the remaining time and part of Semester 2 is dedicated to the project. The Welcome Week is the first week and introduces you to the programme, the School, the Faculty and the University. We also provide introductory lectures for some of the taught course units. You have a chance to meet your programme directors and fellow postgraduate students in the School. There is a reception at the School and a library talk. Other activities are arranged by partner Schools, the Careers Service, the Students' Union etc. If you cannot join the programme in week 1, the onus is on you to contact the School and catch up on all the missed information.

After the introductory week the taught course units begin. For most programmes you will take four of these before Christmas (Semester 1), and these will be examined in mid-January. You will then take a further 2 course units in Semester 2 which are examined in May/June. The choice of these course units is subject to the degree requirements described in Chapter 4.

The Research Skills and Professional Issues course unit runs in Semester 1 and Semester 2. The Research Project starts at the beginning of Semester 2. In April/May you will submit a Project Progress Report which will be assessed in order for you to progress to the remainder of the project work and dissertation submission. The project is chosen at the end of Semester 1. It is a substantial piece of work, resulting in a dissertation of approximately 60-100 pages. You can select one of many topics proposed by members of staff or suggest your own. The project allows you to develop a significant piece of work independently, under supervision by a member of the academic staff. You determine its scope and standards. It will often involve a considerable amount of coding which gives you the opportunity to practice and extend your programming skills. Work on the project can begin any time after it has been assigned. You work under the guidance of a Supervisor and work full-time on the project after Semester 2's taught course units and the Project Progress Report. It is to be completed and a dissertation submitted by the deadline in early September.

Most course units are assessed by both coursework and examination.

Provisional results for the first Semester are published in February. Formal External Examiners' meetings take place in June/July and an official results are published. Dissertations are assessed by internal examiners, and moderated by an External Examiner. A second External Examiners' meeting is convened in November to consider the results. Recommendations for award or otherwise are made to the MSc panel of the Faculty, which makes the final decision in time for December graduation.

## **2.3 Notes for Modular and Part-Time Students**

Information about modular and part-time options can be found at the Advanced Professional Education website at <http://www.cs.manchester.ac.uk/study/professional-development/>.

Part-time registrations are accepted over two years and three years. It is also possible to complete these courses by credit accumulation (Modular Scheme) over not more than 4 years.

Upgrading from a Certificate or Diploma to a Modular Masters degree is permitted for Home/EU students as long as the final award is achieved within a four-year period from first registering for the lower qualification.

Part-time schemes are managed by the Director of Part-Time Studies, who also provides guidance for all modular/part-time students.

In August/September of each academic year you will be asked to select the course units you wish to study in the forthcoming academic year.

The programme regulations apply for all students regardless of module/part-time or full time status.

## Chapter 3

# Programme Elements

The programme starts with the Welcome Week. If you are following the MSc in ACS or ACS&ITM programme, you take six *course units*. In most cases, four course units are to be taken in semester 1, and two in semester 2.

In addition, you follow the COMP60990 (Research Methods and Professional Skills) course unit and work on your *project*: the project starts in semester 2, and is assessed in two parts, through the Project Progress Report (which counts 85% of the 30 credits for COMP60990) and the Dissertation (60 credits)).

There is also a compulsory course on Academic Malpractice that every student must take.

### 3.1 Welcome Week (Week 0)

Each programme has a Welcome Week at the beginning of the academic year. During this period there is a wide range of activities arranged to help you with the programme, your studies, your life at University, here in Manchester and in the UK. In particular, we make sure that you can access the MSc lab computers, your Computer Science email account and eLearning environments so that you can start with your studies in week 1.

In the School of Computer Science, at the beginning of the academic year, there is an introduction to the School, to university facilities, to staff and your fellow students, and also a series of introductory talks for the themes. Students are encouraged to attend these introductions in order to choose the appropriate themes, and also to learn about all the topics, including those you are probably choosing not to take.

In addition to School activities, the University and the Students' Union have a range of introductory events, including the Societies Fair, where you may choose from an enormous list of activities, from Fencing to Mountaineering, from Dance to Films, Chess to Bellingring, from Political and Religious Groups, to Charities and Hobbies.

### 3.2 International Students and English Language Courses

During Welcome Week, we run a subject-specific **English Language Test** to assess training requirements. Based on the results, we may recommend that you take suitable **English Language courses**, some of which we organize specifically for Computer Science students in our school. It is very important that you follow those recommendations, to ensure that you make the most of your time at the University of Manchester, that you can communicate verbally and in writing with your colleagues and lecturers, and that possible difficulties with the English language do not prevent you from getting good marks in your coursework, exams, and project reports. Remember: being able to express yourself in a clear and precise way, and being able to understand well what you hear and read is an essential prerequisite to successful postgraduate studies.

A full guide to the University Language Centre's courses, services and its language learning resources is available at: <http://www.langcent.manchester.ac.uk>

Students from outside the UK may wish to take part in the activities of the International Society, including their Welcome Service. See the website at <http://www.internationalsociety.org.uk>. Other help for overseas students is available from the University's International Advice Team: <http://www.studentnet.manchester.ac.uk/crucial-guide/academic-life/immigration/>.

### 3.3 Themes

If you are following the MSc in ACS or the MSc in ACS&ITM programme, you choose three *themes*: a theme is a conceptually coherent set of two course units, each of which is worth 15 credits. Hence three themes make up the 90 credits of the *taught elements* of these programmes. There is another, compulsory course unit, COMP60990, which is part of the research element and described in Section 3.5.1.

ACS or ACS&ITM students cannot replace or choose other course units than those from their chosen themes: this is due to the fact that course units within a theme are designed to build on each other, and thus a student following a “later” course unit within a theme without having followed the earlier one(s) is likely to lack prerequisite knowledge. The available themes are described in Section 4.1.2.

In order to help you choose, there is an introduction to themes in the Welcome Week at the beginning of the academic year. The themes and their course units available are listed in <http://studentnet.cs.manchester.ac.uk/pgt/study-curriculum.php>.

For more detail regarding course units and themes to which they belong, see Section 4.

### 3.4 Course Units

Many of the MSc course units are taught in a one-day-a-week format over 4 periods (2 in each Semester). Some course units are taught in half-days over a longer period.

For those in a one-day-a-week format, the teaching period is divided into 4 periods of 5 weeks each; 2 periods in each Semester. At the end of each period is a coursework completion week to enable you to complete the coursework for the preceding period. Examinations take place twice a year at the end of each Semester. Each course unit is allocated a day a week in a particular period, making 5 days for each course unit; see the timetable at <http://studentnet.cs.manchester.ac.uk/pgt/timetable/> for details. These 5 days are the taught days of the course unit and will typically consist of a mix of activities including lectures, supervised practical work, seminars, discussions etc. In addition, the course units have coursework to be taken outside these taught days, amounting to one and a half days per week for each course unit. Some or all of the coursework is likely to be assessed. Deadlines for assessed work will be set in individual course units. For units taught in half-days per week format, arrangements are similar but these units extend over a full semester. Course units are worth 15 credits each and you need to take 6 taught course units for an MSc and, in addition, the 30 credit Research Skills and Professional Issues course unit, and the 60 credit dissertation. Where there is a choice of course units you are strongly advised to spread the load evenly throughout the taught period, taking into account the Research and Professional Skills course unit and your Research Project. For example, for the MSc in Advanced Computer Science you should take 4 course units in the first Semester (two in each period) and 2 in the second Semester (one in each period). In this way, your work will be properly paced over the taught period and you will be able to manage the workload to your best advantage. Any other arrangement of your course units requires special dispensation from your Programme Director.

Whilst we try to ensure all course units will run, some may be withdrawn or changed for a variety of reasons. The University reserves the right to change the availability of course units. Some course units will have a restriction on the number of students who may attend for various reasons (e.g. licences, facilities, etc) and these may become fully subscribed. Course units with very few students may be cancelled but we try to avoid this.

**Course unit selection.** Registration of the pathways, themes and course units should be completed by the end of Welcome Week. A course unit selection guide can be found at <http://www.studentnet.manchester.ac.uk/selfservice/course-unit-selection/>. The deadlines for changes to course unit selections are listed in Section 1.11. It is not normally possible to change course unit selection for Semester 1 Period 1 after the first week. There is a ‘course unit changes’ form which must be completed by any student wanting to change their original course unit choices (if changes occur within the deadline). This should be collected from and returned to the Student Support Office. The student will need an agreement signature from the relevant Programme Director. Permission will be granted only in exceptional circumstances.

### 3.5 Projects

Projects are designed by members of staff to enable you to develop research and development skills and to gain practical experience of applying the techniques covered in the taught part of the programme to realistic problems. Projects relate to current research and development areas, and are undertaken within research groups in the School or in an industrial setting. Keen students may propose their own projects so long as the project is suitable for the award

of an MSc and it can be accommodated by the School.

The projects are individually supervised and typically you would meet with your supervisor, at least at the beginning of the project, for approximately one hour each week. Although much of your work is likely to be in the form of a working program or system, your degree is awarded on the basis of the Progress Report and the final Dissertation.

**Project allocations** are made towards the end of the first Semester, satisfying individual preferences wherever possible. An announcement about this procedure will be made in the latter half of the first Semester.

You start working on your MSc Project at the beginning of Semester 2 as part of the COMP60990 course unit, see Section 3.5.1. By the end of Semester 2 you need to submit the Project Progress Report. A deadline for the Report will be announced. You should read the Guide to MSc Projects in Appendix A early in the first Semester.

**Dissertation submission deadlines.** The deadline for submission of MSc dissertations is early in September and you must complete it by then. The only exception to this deadline are significant mitigating circumstances (see also Section 10.2), approved, in advance.

**Seminars.** Students are encouraged to attend the regular course of research seminars in the School, given by invited speakers, covering a wide variety of topics in computer science.

**Ethical Approval Mechanisms.** All experiments that involve human or animal subjects have to be approved by the University Ethical Approval procedure. This includes all usability studies for software and hardware systems and HCI evaluations of systems. To get approval, contact the Ethical Approval Officer in the School, see <http://ethics.cs.manchester.ac.uk/>.

### 3.5.1 COMP60990 Research Skills and Professional Issues

This course unit runs mainly in Semester 2 with some activities in Semester 1, and is part of the research element of the programme. Part of the course unit provides training in research skills and an orientation towards the practice of research as well as talks from research scientists and the initial work on your research project. The other part provides training in a range of professional skills and material on expectations and conduct in an industrial and business environment.

This course unit has two aims:

1. Training in Research Skills and initial work on the Research Project. This will give you a grounding in various aspects of research and project management, including advice on research methods, managing projects, working with your supervisor, professional research writing and preparing your dissertation/reports. You will also begin preliminary work on your project including background reading, familiarising yourself with the topic, other work in the area, any relevant software or other systems, and project planning. You will write a report on this preliminary work and the progress made to date which will be submitted at the end of April/beginning of May.
2. The course unit covers various aspects of Professional Skills as required in the IT industry and more generally in a Research and Development environment. The skills necessary in the IT industry are taught through the Careers Service and external consultants from the IT industry. The skills include team-work skills, industrial problem-solving, leadership skills, communication skills and presentation skills. Consideration of ethics and conduct are also presented.

This course unit also provides you with guidance on the choice of your project. The assessment for this course unit is via (a) coursework (15%) and (b) the Progress Report (85%), which must be submitted by the deadline announced. Failure to submit by the deadline without permission may incur a mark penalty or the submission may be disallowed. The pass mark for COMP60990, for progression to the full dissertation, is 40%. Students who achieve less than 40% will have one opportunity to resubmit work for this course unit. The mark for resubmitted work will be capped at 40%. Any student who fails to achieve 40% for the resubmitted work will not be allowed to progress to the dissertation stage, and will be deemed to have failed the MSc. Students who fail this course unit may be eligible for a Certificate.

### 3.5.2 Notes for the MSc in Advanced Computer Science and IT Management

The projects typically undertaken by students on the ACS&ITM Programme fall into three categories: general computer science, management-related and industry-based. Availability of projects in the last two categories is limited.



There is no requirement that the project topic is IT management-related. A limited number of projects supervised by staff in the Manchester Business School are normally available. These can be selected by ACS&ITM students only.

### **3.5.3 Notes for Part-Time Students**

As a part-time student, you should allow a minimum of one year for completion of your research project; you will start your project in the same year as you take the COMP60990 course unit as this forms part of the project.

Work-based research projects: If you are going to carry out a project in conjunction with your full-time work environment, this needs to be discussed fully with the Part-Time Programme Director so that all the appropriate mechanisms are put in place to satisfy both the academic requirements of a research project and the requirements of your sponsoring employer.

# Chapter 4

## Individual PGT Programmes

Each MSc programme has its own structure and regulations which are described below.

### 4.1 MSc in Advanced Computer Science

The MSc in Advanced Computer Science draws upon the high international profile of the research and teaching activities of the School, together with industrial links, to provide an intensive and leading-edge MSc programme. The programme provides both a depth of treatment and a wide choice of topics in Computer Science.

The structure of the programme is intended to be attractive to both full-time one-year students and to part-time students who take the programme over a period of years, accumulating credits to achieve a Certificate, a Diploma or an MSc. The aim is to have a broad participation both on the teaching side and amongst the students, in particular attracting industrial participants and those requiring a more flexible learning regime.

#### 4.1.1 Pathways

Depending on the themes you follow, you can choose to specialise in one of the *pathways* listed below. If your project is suitable for your chosen pathway, you can opt for your degree certificate to carry the title

*MSc in Advanced Computer Science with specialisation in <PathwayName>.*

Alternatively, you can choose the themes of a given pathway, carry out a suitable project and opt for your certificate to carry the title *MSc in Advanced Computer Science* (without the pathway being mentioned).

Next is a description of the themes associated with each of our pathways:

1. **Advanced Computer Science:** though not a pathway, for your MSc in Advanced Computer Science, you choose any three themes.
2. **Advanced Web Technologies:** for this pathway, you choose the *Data on the Web* theme, and two other themes.
3. **Artificial Intelligence:** for this pathway, you choose at least two themes from *Data on the Web*, *Learning from Data*, *Making Sense of Complex Data*, and *Ontology Engineering and Automated Reasoning* plus a third theme.
4. **Computer Security:** for this pathway, you choose the *Security* theme and any two other themes.
5. **Computer Systems Engineering:** for this pathway, you choose the *Mobile Computing* theme and the *Parallel Computing in the Multi-core Era* theme, plus one other theme.
6. **Data and Knowledge Management:** for this pathway, you choose any two themes from *Data on the Web*, *Learning from Data*, *Making Sense of Complex Data*, and *Ontology Engineering and Automated Reasoning*, plus one other theme.
7. **Digital Biology:** for this pathway, you choose the *Biohealth Informatics* theme and any two other themes.
8. **Multi-core Computing:** for this pathway, you choose the *Parallel Computing in the Multi-core Era* theme and any two other themes.
9. **Semantic Technologies:** for this pathway, you choose the *Data on the Web* theme, the *Ontology Engineering and Automated Reasoning* theme, and one other theme.

10. **Software Engineering:** for this pathway, you choose the *Software Engineering 1* and 2 themes, and any other theme.

#### 4.1.2 Themes and Course Units

Studying a theme involves taking two course units. A student chooses 2 themes that are taught in Semester 1, and one theme that is taught in Semester 2.

A complete list of themes and course units they involve can be found at <http://studentnet.cs.manchester.ac.uk/pgt/study-curriculum.php>. Below is a provisional list—where (1) marks themes taught in Semester 1, and (2) marks those taught in Semester 2:

1. (1) Data on the Web:
  - (a) COMP60411 Modelling Data on the Web
  - (b) COMP62421 Querying Data on the Web
2. (1) Data Engineering and Systems Governance:
  - (a) COMP60711 Data Engineering
  - (b) COMP60721 IT Governance
3. (1) Learning from Data:
  - (a) COMP61011 Foundations of Machine Learning
  - (b) COMP61021 Modelling & Visualization of high-dimensional data
4. (1) Parallel Computing in the Multi-Core Era:
  - (a) COMP60611 Parallel Programs and their Performance
  - (b) COMP60621 Designing for Parallelism and Future Multi-core Computing
5. (1) Security:
  - (a) COMP61411 Cryptography
  - (b) COMP61421 Cyber Security
6. (1) Software Engineering 1:
  - (a) COMP61511 Software Engineering Concepts in Practice
  - (b) COMP62521 Agile Software Development
7. (2) Software Engineering 2:
  - (a) COMP61532 Component-based Software Development
  - (b) COMP62542 Pattern-based Software Development
8. (2) Biohealth Informatics:
  - (a) COMP60532 Principles of Digital Biology
  - (b) COMP60542 Introduction to Health Informatics
9. (2) Ontology Engineering and Automated Reasoning:
  - (a) COMP60332 Automated Reasoning and Verification
  - (b) COMP62342 Ontology Engineering for the Semantic Web
10. (2) Making Sense of Complex Data (students taking this theme must have taken Learning from Data):
  - (a) COMP61332 Text Mining
  - (b) COMP61342 Computer Vision
11. (2) Mobile Computing:

- (a) COMP61232 Mobile Systems
- (b) COMP61242 Mobile Communications

Any other course unit choices, especially those that lead to more than two course units in Period 1 or 2, or to more than two course units in Semester 2 are strongly discouraged and require the explicit authorisation of both the Programme Director and the course unit lecturers.

### 4.1.3 Advanced Computer Science Programme Specification

The University Programme Specification document is at:

[http://studentnet.cs.manchester.ac.uk/pgt/prog\\_spec/](http://studentnet.cs.manchester.ac.uk/pgt/prog_spec/)

## 4.2 MSc in Advanced Computer Science and IT Management

The aim of this programme is to provide students with a state-of-the-art knowledge, understanding, and skills in the area of Advanced Computer Science and IT management. It has been developed with input from our industrial partners and the Manchester Business School (MBS), and is taught in collaboration with MBS.

The strategic importance of information technology in the growth and development of organisations and companies has become apparent with the huge expansion in the use of the Internet and e-commerce. This MSc programme is aimed at the growing demand for specialists who can use their understanding and knowledge of new and future technologies to manage the strategic development of information technology within user industries.

In light of the continuing development and growing significance of the field of information and data management, we have introduced the Information management pathway that focuses on big data management and analytics (see below). The MSc in Advanced Computer Science and IT Management is managed within the existing framework of the MSc in Advanced Computer Science. Students select themes and thereby course units from the existing advanced portfolio together with specialist management course units as specified below.

### 4.2.1 Themes and Course Units

Students choose three course units from a selection of ACS units (see below) and three course units offered by the Manchester Business School. A student must make their choice so that they study four course units in Semester 1 and two course units in Semester 2.

In Semester 1, students choose *one* of the following ACS themes:

1. Data on the Web:

- (a) COMP60411 Modelling Data on the Web
- (b) COMP62421 Querying Data on the Web

2. Data Engineering and Systems Governance:

- (a) COMP60711 Data Engineering
- (b) COMP60721 IT Governance

3. Learning from Data:

- (a) COMP61011 Foundations of Machine Learning
- (b) COMP61021 Modelling & Visualization of high-dimensional data

4. Parallel Computing in the Multi-Core Era:

- (a) COMP60611 Parallel Programs and their Performance
- (b) COMP60621 Designing for Parallelism and Future Multi-core Computing

5. Security:

- (a) COMP61411 Cryptography
- (b) COMP61421 Cyber Security

6. Software Engineering 1:

- (a) COMP61511 Software Engineering Concepts in Practice
- (b) COMP62521 Agile Software Development

In addition, in Semester 1 students choose two course units from the IT Management 1 theme, which is offered by the Manchester Business School and includes the following:

- BMAN60111 IS Strategy and Enterprise Systems
- BMAN70391 Managing projects
- BMAN71641 Social Media and Web Analytics
- BMAN60101 Mathematical Programming and Optimisation
- MCEL40021 Entrepreneurial Commercialisation of Knowledge

In Semester 2, an additional advanced Computer Science course unit is chosen from the following list:

- COMP62532 Component-based Software Development
- COMP62542 Pattern-based Software Development
- COMP61332 Text Mining
- COMP61342 Computer Vision
- COMP61242 Mobile Communications
- COMP61232 Mobile Systems
- COMP60542 Introduction to Health Informatics
- COMP60532 Principles of Digital Biology
- COMP60332 Automated Reasoning and Verification
- COMP62342 Ontology Engineering for the Semantic Web

and an additional course unit offered by the Manchester Business School is chosen from the following IT Management 2 theme units:

- BMAN60422 Data Analytics for Business Decision Making
- BMAN71652 Information and Knowledge Management
- BMAN60092 Risk, Performance and Decision Analysis
- BMAN70142 Simulation and Risk Analysis
- BMAN73292 Games Businesses Play
- MCEL40042 Business Feasibility Study

Any other course unit choices, especially those that lead to more than two course units in Period 1 or 2 or to more than two course units in Semester 2 are strongly discouraged and require the explicit authorisation of both the Programme Director and the course unit lecturers. Please also note that some course units in Semester 2 have specific prerequisites in Semester 1 – please check the specifications for individual course units.

### 4.2.2 Information management pathway

MSc in Advanced Computer Science and IT Management offers a pathway on Information management, where students can graduate with the title

*MSc in Advanced Computer Science and IT Management with specialisation in Information Management.*

This pathway addresses the significance of information capture and usage from “big data”, and the need for its effective and efficient management and analysis within business, scientific, educational, entertainment and organisational contexts. In addition to the need to work with huge volumes of data, current applications are also challenged with multi-modality, including un- and semi-structured data, image and video data, spatial and temporal data, etc.

This pathway examines the entire information management life cycle, including data strategy, management, design and warehousing, data analytics and information governance.

Students on the Information management pathway take the following two themes:

1. Information Management 1
  - (a) COMP61011 Foundations of Machine Learning
  - (b) BMAN60111 IS Strategy and Enterprise Systems
  - (c) BMAN71652 Information and Knowledge Management
2. Data Engineering and Systems Governance:
  - (a) COMP60711 Data Engineering
  - (b) COMP60721 IT Governance

Note that BMAN71652 Information and Knowledge Management is in Semester 2. In Semester 2, the students also take one course unit from the following theme:

#### Information Management 2

- (a) BMAN60422 Data Analytics for Business Decision Making
- (b) COMP61332 Text mining
- (c) BMAN70142 Simulation and Risk Analysis

This pathway is designed to address specific content and consequently does not allow much flexibility in course unit choice. Note that this pathway is particularly demanding in Period 1, when two course units (COMP61011 and COMP60711) are taught in addition to BMAN60111.

### 4.2.3 Advanced Computer Science and IT Management Programme Specification

The University Programme Specification document is available at:

[http://www.cs.manchester.ac.uk/pgt/prog\\_spec/](http://www.cs.manchester.ac.uk/pgt/prog_spec/)

## 4.3 Foundation Route

MSc Foundation Routes are offered to students who have a good degree in a Science or Engineering subject but little formal training in Computer Science at degree level.

To enter the Advanced Programme you are required to take at least 2 Foundation course units by Distance Learning, and at maximum 4. Normally these are taken in the year preceding full entry to the MSc Programme.

In order to progress to the full taught programme you must pass all of the required Foundation course units at the 50% level. 15 credits are carried forward towards your MSc. You must then complete your MSc programme according to the regulations.

If you wish to enter by the Foundation Route, please indicate this on your application.

## 4.4 MRes in Advanced Computer Science

The MRes in Advanced Computer Science is targeted at those students with a keen interest in research, who aim at a 1-year postgraduate degree with a substantial research element. Like the MSc, it provides a rich learning environment with good contact with expert staff, in both the taught course units and the research projects.

The structure of the programme is intended to be attractive to both full-time one-year students and to part-time students who take the programme over a period of years, accumulating credits to achieve a Certificate, a Diploma or an MRes. The aim is to have a broad participation both on the teaching side and amongst the students, in particular attracting industrial participants and those requiring a more flexible learning regime.

### 4.4.1 Pathways

Depending on the themes you follow, you can choose to specialise in one of the *pathways* listed in Section 4.1.1. If your project is suitable for your chosen pathway, you can opt for your degree certificate to carry the title

*MRes in Advanced Computer Science with specialisation in <PathwayName>*.

Alternatively, you can choose the themes of a given pathway, carry out a suitable project and opt for your certificate to carry the title *MRes in Advanced Computer Science* (without the pathway being mentioned).

### 4.4.2 Themes and Course Units

Themes and course units are specified in Section 4.1.2. A student takes:

- three 15 credits course units: two course units in Period 1, and one course unit in Period 2, following the above rules regarding their specialisation, if such a specialisation is chosen.
- three research course units, COMP80122, COMP80131 and COMP80142 (<http://studentnet.cs.manchester.ac.uk/pgr/syllabus.php>), at 5 credits each, to be taken in Periods 2, 3 and 4.

Any other course unit choice, especially those that do not conform to the “2 course units in Period 1, 1 course unit in Period 2” pattern are strongly discouraged and require the explicit authorisation of both the Programme Director and the course unit lecturers.

### 4.4.3 MRes Project

The MRes project counts 120 credits towards the 180 credits of the programme, and is structured as follows:

- in Semester 1, students work on a 10 credit *Taster project*, assessed via a short presentation.
- at the end of Semester 1, students pick their research project.
- during Semester 2, students work on their research project, which is assessed via
  - a 30 credit *Project Progress Report*, to be submitted early-mid April, and a
  - a 80 credit *Dissertation*, to be submitted early-mid September.

### 4.4.4 MRes in Advanced Computer Science Programme Specification

The University Programme Specification document is at:

[http://studentnet.cs.manchester.ac.uk/pgt/prog\\_spec/](http://studentnet.cs.manchester.ac.uk/pgt/prog_spec/)

## Chapter 5

# Assessment and Examinations

The defining regulations and procedures for the MSc programme are laid down in the University's Ordinances and Regulations at <http://www.tlso.manchester.ac.uk/degree-regulations/>.

### 5.1 General Requirements

The assessment for the MSc consists of two parts:

1. the assessment of the **taught course** units undertaken, and
2. the assessment of the **project**, which consists of a *Dissertation*, and assessments for the Research Methods and Professional Skills course unit (COMP60990) which includes a project *Progress Report*.

In order to be allowed to progress to the research project, students must successfully pass the taught part of the programme and the COMP60990 unit. The award of an MSc is then dependent upon passing the assessment of the project.

#### 5.1.1 Attendance

Attendance on all days of the taught course units is compulsory. During the project phase, students are expected to be in Manchester, up until submission of your dissertation, so as to allow you to have your regular meetings with your supervisor face-to-face, see also Appendix A.8. We monitor students' attendance during the taught part by weekly completion of class registers and checking coursework submission, and during the project phase of the programme via brief, fortnightly student progress updates with supervisors' comments. Non-attendance and non-engagement with the programme may result in students not being allowed to sit examinations and even in programme exclusion.

The Student Support Office should be notified of absences due to illness of less than 7 days by means of self-certification forms, which are available from the Student Support Office. Longer absences must be certified by a medical note signed by a general practitioner or hospital doctor. It is in your interests to keep us fully informed of medical or other problems you have so that the effect these may have on your work can be taken into account in examination meetings. Please refer to Section 10.2 for a more detailed guidance on what to do in case of illness. The University's policy regarding *Work and Attendance of students* is available from the policy webpage at <http://documents.manchester.ac.uk/DocuInfo.aspx?DocID=1895>.

In particular, all international students who are studying under a visa have to follow the rules associated with their visas, and attendance as well as active engagement with their programme are part of these rules; for more information, see Sections 1.4.

#### 5.1.2 Interruptions

An interruption is a formal break, usually of one month or longer, in your programme of study. A request is made via the Programme Director and circumstances will dictate whether and under what terms it may be granted. The University is generally under an obligation to inform any sponsor if an interruption is granted and it may affect your visa status. The University is sympathetic and helpful in genuine cases of difficulty. The University's policy regarding interruptions is available here <http://documents.manchester.ac.uk/DocuInfo.aspx?DocID=4779>.



### 5.1.3 Appeals

No appeal can be made against the academic judgment of Examiners. However, a student has right of appeal on procedural grounds, on the grounds of prejudice or bias or of inadequate assessment, and on grounds that the examiners were not in possession of information relating to circumstances that may have affected the student's academic performance. There is also provision for appeal against decisions on Masters dissertations. Full details can be found on the University Policy webpage at <http://documents.manchester.ac.uk/DocuInfo.aspx?DocID=1872>.

### 5.1.4 Prizes

Annual prizes for excellence in academic performance in Masters programmes are awarded.

## 5.2 Taught Part

Taught course units are normally assessed by a combination of coursework and examination (though some are coursework only).

### 5.2.1 Coursework

Coursework is likely to include practical laboratory exercises (individually or in groups), written reports and essays, seminar presentations, and/or other forms appropriate to each individual course unit. The weightings of coursework and examination marks used in computing the course unit results are given in the course unit descriptions.

Make sure that you understand all issues related to **academic malpractice** as summarized in Section 10.3, and the following issues pertaining to coursework: make sure you read all of these sections carefully before undertaking any coursework.

**Group and Individual Work** There are two types of coursework, Group and Individual. Students may not elect to undertake a given assignment as group work when it has been set as individual work.

**Individual Work** Individual work is an assessment of your own ability to complete the coursework. It should not be tackled in a group and you are responsible for ensuring that you submit your own original work.

**Group Work** Some coursework requires students to work in groups. The marks awarded for a student can be generated in two ways:

- a group mark: all members of the group will be awarded the same mark irrespective of the contribution of the individual team members.
- an individual mark: each member of the group will gain an individual mark that will be based on their individual contribution to the group.

Where given, an individual mark is often computed from a group mark (awarded to the entire group) and an individual mark that will be based on observation by members of staff and/or the assessment of an individual report.

**Late submission** The university has the following policy on work that is submitted after the advertised deadline:

- The mark awarded will reduce by 10 marks per day for 5 days (assuming a 0 – 100 marking scale), after which a mark of zero will be awarded.

Deadlines may be extended for students with Mitigating Circumstances (see Section 10.2).

### 5.2.2 Rules for taking MBS course units

For any course units taught by the Manchester Business School (BMAN and MCEL codes), you should be aware that you need to follow the rules of the Manchester Business School, which are sometimes different and **much more stringent** than the rules in the School of Computer Science.

Please take special care to understand the MBS process regarding coursework for MBS course units. In particular note that:

- The penalty on all course units for late or none submission (where you have not been granted an extension) of assessment: a loss of 10 marks per day (sliding scale), for up to 10 days. A "day" is 24 hours, i.e. the clock starts ticking as soon as the submission deadline has passed. A day includes weekends and weekdays. You may additionally be required to complete a form acknowledging your late submission.

Given that assignments are set well ahead of the submission date, the only exception to this is where there are strong mitigating circumstances (e.g. medical circumstances documented by a doctors note) and these have been notified to the Programme Director (for consideration by the Exams and Assessment Officer and the Mitigating Circumstances Committee) prior to the submission date.

**There is no tolerance whatsoever in the MBS deadlines.** Whatever the deadline is, we suggest that you submit the work at least **30 minutes earlier** to avoid any unanticipated delays (queues forming outside the MBS PGT office, etc).

- All extension requests for MBS course units must go through the MBS PGT office **only**. Students must collect the forms from MBS PGT and submit them with full evidence **prior** to the deadline. **Full-time or part-time employment, even for part-time students, is not a valid reason to request an extension for a deadline.**

The MBS PGT office is Room GO.16 Dover Street Building. The MBS Programme Administrator is Pauline Bradshaw (Email: [Pauline.bradshaw@mbs.ac.uk](mailto:Pauline.bradshaw@mbs.ac.uk)).

### 5.2.3 Notes on Coursework Deadlines for Modular and Part-Time Students

In relation to coursework deadlines, for course units run by the School of Computer Science as a modular/part-time student you can negotiate with the course lecturer a deadline that is longer than the given date if you know that your work commitments will not allow you to meet the published course deadline. For courses run by MBS (with a BMAN or MSEC code) the strict submission rules apply as shown above.

### 5.2.4 Examinations

The examinations usually consist of a two-hour paper for those course units with examinations. The examinations take place at the end of each Semester. Past examination papers are available via the School's website at [http://studentnet.cs.manchester.ac.uk/assessment/exam\\_papers/index.php?view=pgt](http://studentnet.cs.manchester.ac.uk/assessment/exam_papers/index.php?view=pgt). Some examinations may be Open Book, in which case material may be taken into the examination room. Sometimes this material will be prescribed. Most examinations however are not of this form and no supporting material may be taken into the examination room.

### 5.2.5 Resitting Examinations

If you fail the examination component of your programme, the Board of Examiners will determine which examinations you must retake in accordance with The University of Manchester progression rules set out in the Ordinances and Regulations for the Degree of Master, Postgraduate Diploma and Postgraduate Certificate at <http://www.tlso.manchester.ac.uk/degree-regulations/>.

If you are required to resit any examinations then you are responsible for ensuring that you are able to attend the correct set of examinations.

An examination timetable will be sent to you before each examination period. For resit exams, you may not attend lectures and laboratory classes except by arrangement with the PGT Director.

**Use of language translation dictionaries in the examinations.** Students who are registered on these programmes of study are not allowed the use of a dictionary during examinations.

### 5.2.6 Remarking of Examination Papers and Coursework

It is the practice of the School of Computer Science not to selectively remark examination papers or coursework on request.

Examination papers and coursework will only be remarked where the school officers (PGT Director or Examinations Officer) have good cause to believe that there has been a marking irregularity and, under such circumstances (which would be exceptional), all examination papers or coursework would be remarked.

The School will not remark work simply because you believe that you should have obtained a better mark than that shown on your transcript.

## 5.3 Assessment Regulations for MSc, Postgraduate Diploma, Postgraduate Certificate

In this section, we give assessment regulations for the MSc, together with the Postgraduate Diploma and Postgraduate Certificate.

### 5.3.1 Taught Course Units

For the MSc, each student will be assessed on 90 credits worth of coursework and/or examination questions. The University regulations are at: <http://documents.manchester.ac.uk/DocuInfo.aspx?DocID=13148>

**Pass Rules for individual course units:** Individual course units are assessed as follows: a pass at MSc level is awarded if the overall mark for the course unit is at least 50%. For a pass at diploma or certificate level, an overall mark for the course unit of 40% is required.

**Pass Rules for course units on MSc programmes:** A candidate for the MSc degree must pass 90 credits worth of taught course unit.

Failed course units may be re-sat, by re-submitting coursework and/or re-taking exams, following recommendations from the MSc Examination Board. The resits will be considered a *second attempt* (called a referral). To pass referral students need to achieve 50% or more. Referral pass marks will be capped at the lowest compensatable mark of 40% unless the previous mark was within the compensation zone 40%–49.9%, in which case the original mark will stand. When a student is referred and fails a unit, the first mark stands.

In case of *mitigating circumstances*, and following the school's process (see also Section 10.2), a student may be allowed to resit course units as *first attempt* (called a deferral), where no cap will be applied.

**Compensated pass:** Students may be awarded a compensated pass for a **Masters degree** when they receive a mark between 40 and 49% for those failed credits. **No more than 30 credits** can be compensated.

**Failed units:** The maximum allowable cumulative failure of course units in a Masters programme at the first attempt is 45 credits of the taught component of the programme.

A student whose failures at the first attempt exceed 45 credits will be deemed to have failed the programme. They will then be judged against the requirements for a pass on the Postgraduate Diploma programme. If this results in their failing less than or equal to 45 credits at Postgraduate Diploma level, the student may resit those units failed at Postgraduate Diploma level to obtain the award of Postgraduate Diploma.

The rules for degree classification are found in Section 5.3.5. The final decision on whether a student passes is taken by the MSc Examination Board.

### 5.3.2 Pass rules for Postgraduate Diploma and Certificate

**Postgraduate Diploma** The University regulations are at:

<http://documents.manchester.ac.uk/DocuInfo.aspx?DocID=13148>

A Postgraduate Diploma is awarded to a student who has been assessed on 120 credits worth of coursework & examination questions, and will normally be considered as passing the units if all course units have been passed at 40% or more.

Students may be awarded a compensated pass for a **Postgraduate Diploma** programme when they fail **no more than 30 credits** and receive a mark between 30% and 39% for those failed credits.

The maximum allowable accumulative failure at Postgraduate Diploma level at first attempt is 45 credits of the taught component of the programme. These failed course units can be re-sat at Postgraduate Diploma level: the achieved mark of the resit will be taken into consideration to determine whether the course unit has been passed at Diploma level, and it will be capped to 30%.

**In addition**, to complete the award of a Diploma, students are required to achieve a mark of 40% or more on the assessment for COMP60990 (Research Skills and Professional Issues).

**Postgraduate Certificate** The University regulations are at:

<http://documents.manchester.ac.uk/DocuInfo.aspx?DocID=13148>

The Postgraduate Certificate is awarded to students who have passed 60 credits of course units at a level of at least 40% or more in each course unit.

Students may be awarded a compensated pass for a **Postgraduate Certificate** programme when they fail no more than **15 credits** and receive a mark between 30% and 39% for those failed credits.

### 5.3.3 MSc Project

The MSc Project comprises two parts:

1. Background research, specification, design studies, preparatory work and first steps, project plan and Research Methods and Professional Skills, carried out February to May, worth 30 credits.

Assessment: Project Progress Report (85%) and COMP60990 coursework(15%).

2. Completion of MSc project, from May to early September, worth 60 credits.

Assessment: Dissertation

All work must be original: students presenting work from another source, including from other students, without explicit acknowledgement may be regarded as attempting a fraud and will be dealt with under the University's disciplinary procedures. A more extensive discussion of what is and what is not permitted in this area can be found in Section 10.3.

**Project Progress Report and COMP60990** The assessment for COMP60990 (Research Skills and Professional Issues) is through:

- coursework (15% of the overall mark) and
- the Project Progress Report (85% of the overall mark) in the case of an individual MSc Research Project.

Reports are assessed according to the standards expected of the Masters Dissertation with respect to substance, soundness of contents, and quality of presentation. The supervisor and a second marker make independent assessments. An agreed mark is moderated by an external assessor. Reports contribute 85% of 30 credits to the MSc. The pass mark for this part of the MSc, for progression to the full dissertation, is 40%.

Students who achieve less than 40% in COMP60990 will have one opportunity to resubmit the Progress Report by a given deadline, normally within 3 weeks of the July Exam Board meeting. The mark for the resubmitted Progress Report will be capped at 40%, and will count 100% of the new COMP60990 coursework mark. Any student who fails to achieve 40% for the resubmitted work will not be allowed to progress to the dissertation stage, and will be deemed to have failed the MSc. Students who fail may be eligible for a Postgraduate Certificate or Diploma.

**Research Project and Dissertation** The general requirements for presentation of a dissertation are set out in the University's Ordinances and Regulations, in particular in the *University's guidance on the presentation of taught Masters dissertations* at <http://documents.manchester.ac.uk/display.aspx?DocID=2863>.

**Examination of Dissertations** The MSc dissertation is evaluated by two internal examiners at Manchester (normally your supervisor and another not involved with your work on the project) who submit written reports. These reports and the dissertations themselves are considered by the external examiner at a specially convened examination meeting in October/November.

The **MSc Project Mark** is the credit-weighted average of the marks for the course unit COMP60990 (30 credits) and the MSc dissertation. A pass for the Project is awarded for a Project Mark of 50% or above.

At the recommendation of the board of examiners, a student who achieves less than 50% for their MSc Project Mark will have one opportunity to resubmit the Dissertation by a given deadline, normally within five months of the date of the publication of the result. To pass the MSc project, the resubmitted Dissertation will count 100% of the new MSc Project mark and must achieve a mark of at least 50%, but will be capped to 40%. The Diploma project is assessed by the same procedure, applied to a project of 30 credits (instead of 90 credits) and the minimum pass mark is 40%.

Students who pass the taught units and achieve an MSc project mark of between 40-49% may accept the award of Postgraduate Diploma with no further work required, or may resubmit the dissertation on one occasion, at the discretion of the Board of Examiners. Students achieving a mark of 40-49% for a resubmitted dissertation may be awarded a Postgraduate Diploma if they pass the taught course units at Diploma level.

### 5.3.4 Awards by Credit Accumulation

As well as the one-year MSc programme, the School offers an MSc, Diploma and a Postgraduate Certificate, by accumulating credits over a period, normally no more than four years. These qualifications are suitable for part-time students and for those who are on release for training and skills enhancement.

The **MSc Programme** requires a total of 90 credits in taught course units (6 course units), assessed as described above, and a 90 credit full project. The whole must normally be taken within four years, and students are encouraged to take it within a shorter period, either over two years; or in a three-year scheme in which 45 taught credits (3 course units) are taken in each of the first two years and the research project in the third. These arrangements can be modified to suit personal circumstances.

There are two routes to achieving the **Diploma**.

Route 1. This route is only open to part-time or part-time modular students and requires a total of 120 credits in taught course units (8 course units), assessed as follows. To pass at Diploma, at least 6 course units should be passed at the Diploma level of 40% or above, and all failed course units (no more than 2 units) should have final marks in the compensatable range between 30% and 39.9%. The selection of course units must fulfil the same criteria as selection for the MSc programme. Candidates would select this option at (a) entry point into the programme or (b) on successful completion of 90 credits (6 course units).

Route 2. This route is open to all students and requires a total of 90 credits in taught course units (6 course units), assessed as described above. The selection of these course units must fulfil the same criteria as selection for the MSc programme and the 30 credits COMP60990 Research skills and Professional Issues unit. To pass at Diploma, at least 90 credits should be at the Diploma level of 40% or above and remaining credits (no more than 30) in the compensatable range between 30% and 39.9%.

The **Postgraduate Certificate** is awarded to students who have successfully taken 60 taught credits (4 course units) with a result of 40% or above in at least 3 course units and at most one course unit with the final mark in the compensatable range between 30% and 39.9%.

**Individual course units** may be taken and these are awarded a pass when the marks for the unit are 50% or more.

The results for every student are presented to the Computer Science MSc examination board and provided they fulfil the stated criteria will be confirmed as a pass.

For credit accumulation, upgrading from a Certificate to a Diploma or to an MSc, or from a Diploma to an MSc is permitted as long as the final award is achieved within a four-year period from first registering for the lower qualification.

### 5.3.5 Degree Classification: Distinction, Merit, Pass

An MSc can be awarded with distinction, merit, or pass, depending on the following rules; for the general university regulations, see <http://documents.manchester.ac.uk/display.aspx?DocID=13148>.

- For the MSc,
  - the *pass level* is 50% or above. Marks between 40% and 49.9% may be *compensatable*.
  - the *merit level* is 60% or above. The boundary zone for the merit level is between 58% and 59.9%.
  - the *distinction level* is 70% or above. The boundary zone for the distinction level is between 68% and 69.9%.
- For a PG Diploma or PG Certificate,
  - the *pass level* is 40% or above. Marks between 30% and 39.9% may be *compensatable*.
- The overall mark for the *taught elements* of a Master's programme is the weighted average of the overall marks obtained for the course units of the taught part of the programme (see Section 3.3), where the mark of a course unit or the dissertation is
  - the mark of its first attempt, if no resit as second attempt (referral) has been taken.
  - the mark of its second attempt, if a resit as *first* attempt was taken (this is only possible in case of severe mitigating circumstances for this course unit - see also Section 10.2).
  - if the course unit is resat as second attempt and passed (with at least 50%) and
    - \* the mark of the first attempt was in the compensation zone, then this one
    - \* 40% otherwise.

- if the course unit is resit as second attempt and failed (with less than 50%) then the mark of the first attempt stands.
- A student *passes the taught elements* if
  - no more than three course units were failed at first attempt (for MSc and Diploma – no more than 2 for PG Certificate), and
  - after resits, and taking the uncapped resit marks into account, at most two course units are failed, and all failed course units are compensatable (for MSc and Diploma – at most 1 for PG Certificate).
- A student *passes the MSc programme* if he or she passes the
  - taught elements, and
  - MSc project, i.e., if either the MSc Project Mark was 50% or above for the first attempt, or the uncapped resit mark for the project was 50% or above.
- A student *qualifies for the*
  - *PG Diploma* if the student passes the taught elements (90 credits) (6 course units) and COMP60990 (30 credits) with a total of at least 90 credits at the Diploma level and at most 30 credits compensatable.
  - *PG Certificate* if the passes 60 credits (4 course units) of the taught elements with a total of at least 40 credits at the Certificate level and at most 15 credits compensatable.
- A student *qualifies for a merit* of the MSc or MRes programme if
  - he or she passes the taught elements, and
  - the average of the *taught elements* and the *MSc project mark* is at merit level. In case that this average is in the *merit level boundary zone*, the student needs to have achieved at least 120 credits at merit level to qualify for a merit.
- A student *qualifies for a distinction* if
  - he or she passes the taught elements, and
  - all course unit were passed at first attempts (and none were compensated), and
    - \* both the *taught elements mark* and the *MSc project mark* are at distinction level, or
    - \* either the *taught elements mark* or the *MSc project mark* is at distinction level, the other one is in the *distinction level boundary zone*, and either the average of both is at distinction level or at least 120 credits are at distinction level.
- The above boundaries and rules are *strict*: no other measures of leniency are permissible other than in cases of mitigating circumstances, see Section 10.2.

### 5.3.6 Procedures for Students Who Fail

Students who fail the assessment for the taught part of the programme are permitted single resits of failed examinations on the next occasion that the examinations are set. Resubmission of coursework may also be required. If a candidate satisfies the criteria for a Diploma or Certificate, they may exit with the award of Diploma or Certificate. If in the opinion of the Examiners, a candidate fails to meet acceptable standards of performance, they will be excluded from the programme and their registration will be cancelled. In all such circumstances the Programme Director will discuss the candidate's circumstances with the aim of achieving the most satisfactory outcome for the student.

## Chapter 6

# Programme Management

Each programme is run on a day-to-day basis by your Programme Director. The Student Support Office is managed by Gill Lester who is assisted by Susie Hymas, Chris Calland, and Richard Ward.

The Postgraduate Committee oversees management of the MSc programmes. Its principal function is to determine and monitor the academic content of the programme, to admit and examine students and to monitor student progress and to decide on policy and planning. It is answerable to the MSc Panel of the Faculty. Its chair is Professor Norman Paton, Director of the Postgraduate School in the School of Computer Science.

There is also a joint Industry Club which includes advisors from commerce and industry, which has recently included Thales Information Systems, NCC, Tessella Support Services, Logica, Fujitsu Services (CMS), IBM UK Ltd, etc.

**Student involvement** in programme management is possible in three ways: through election of representatives to carry your concerns to the SSCC (Staff-Student Consultative Committee) which meets three times a year, typically in October, February and June; via feedback meetings with the Programme Directors; and through Unit Surveys.

**Staff-Student Consultative Committee** meetings between student representatives and the relevant staff take place once per Semester where you may bring forward comments and suggestions, and raise complaints about the programmes.

We encourage you to raise problems immediately as the programme management may not be aware of difficulties. Queries or comments about individual course units should be addressed in the first instance to course unit lecturers. The Programme Directors are available to discuss genuine problems of either an academic or personal nature.

**External examiners** are appointed to monitor the standards of our teaching and assessment. During the year they review coursework and examination papers and provide critical advice on these, which we are obliged to take into account. Following the second semester examinations, they attend the University and scrutinise the written papers and coursework of students, submitting a report to the University on our conduct of the whole student assessment. They also examine the Masters dissertations and moderate marking.

## Chapter 7

# Student Support Services

The School and University offer a wide range of student support services. You are encouraged to make use of these services: they are there **for you**. If you need any help, whether it be academic help, in finances, in your personal life, with relationships or the family, in legal matters, or with health, there are services provided for you.

*Do not hesitate to use these services.*

It is important that any factor that affects your work is communicated to the School, usually directly to the Programme Director or Student Support Office in room LF21. This is entirely confidential. Such factors may be taken into consideration during the assessment process, and we can compensate for any disruption to, or difficulties during, your work here.

If you have difficulties of any sort that you don't want to talk to the course management about, you may want to consult the University's excellent, professional counselling service or other advice teams:

- A collection of useful links to all sorts of services can be found at <http://www.manchester.ac.uk/international/support/>, and at <http://www.studentnet.manchester.ac.uk/crucial-guide/>.
- Student Counselling Service: It is based in Crawford House in the University Precinct Centre, is open 9.00-5.00 weekdays, and can be phoned on 275 2864, see also <http://www.studentnet.manchester.ac.uk/counselling/>.
- The Student Union: has a wide range of services, including a welfare officer, and a legal advice service, see also <http://manchesterstudentsunion.com/>.  
The Student Union Advice Centre, Steve Biko Building, Oxford Rd. Phone 275 2930.
- The Student Occupational Health Service, Waterloo Place opposite the Kilburn Building. Phone 275 2858.
- The Accommodation Office: 1st Floor, University Place. Phone 275 2888.
- Manchester Student Homes <http://www.manchesterstudenthomes.com> has a 'Virtual Accommodation Bureau' (an on-line property database), which contains information on all the available student properties.
- The Careers Service, Crawford House, Precinct Centre. Phone 275 2828
- The Student Services Centre, Burlington Street, by the library. Phone 275 5000.
- The International Students Advice Team. Phone 275 5000 (option 1).
- The University Language Centre, <http://www.langcent.manchester.ac.uk/>. Contact details for information on English language courses: 306 3397, [englang@manchester.ac.uk](mailto:englang@manchester.ac.uk).

### 7.1 Students with Additional Support Needs

The University of Manchester welcomes students with additional support needs arising from a specific learning difficulty, such as dyslexia, a medical condition, a mental health difficulty or a disability or impairment. The University has a central Disability Support Office (DSO) which can offer confidential advice and **organise support**. In order to access the full support that the University can offer, you should contact the DSO to discuss your support requirements, either by



- email: [disability@manchester.ac.uk](mailto:disability@manchester.ac.uk)
- telephone 0161 275 7512 or 0161 275 8518
- minicom 0161 275 2794
- text 07899 663512
- fax 0161 275 7018
- or just drop into the DSO offices where you can speak in confidence to a Disability Adviser about your needs.

If you are a student with support needs and have not yet informed the DSO, then please contact them in the first instance.

In addition to this, each Faculty and School has a Disability Coordinator, Ning Zhang, who liaises with the DSO to organise support in the School—a full list of Disability Co-ordinators is available on the DSO web pages <http://www.dso.manchester.ac.uk/>. The DSO can also organise screening tests for students who think that they might have dyslexia.

## 7.2 GRADS Scheme and Personal Development Planning (PDP)

The aim of the Graduate Education Scheme is to support postgraduate students, in the Faculty of Engineering and Physical Sciences, in the development of personal/professional skills required to successfully complete a degree and ensure maximum future employability.

For students taking taught master courses, we do this primarily by providing a set of Key Skills workshops and online learning programmes. Additionally, postgraduate students are offered the chance to complete an online Personal Development Plan (PDP). The PDP allows you to self-assess your skills, record your achievements and reflect on your progress throughout your degree. At the end you can take away your records and use them to help you write your CV. The PDP covers the following:

- The philosophy of personal development planning
- Identify areas for development
- Prioritise your skills development needs
- Plan how to develop these skills
- Record and monitor your development
- Review and reflect upon your development

The online Personal Development Plan is a tool for you to use to achieve the goals of the process outlined above. As this is a self-directed tool, you will only benefit from the process if you take ownership of the PDP and take the initiative in using it to enhance your own learning and personal and professional development.

The Faculty of EPS has developed a file for all PGT students which we strongly encourage you to use.

**Training Workshops** The Graduate Development Scheme offers Key Skills workshops for MSc students. The sessions are provided in addition to school provision and are targeted specifically to meet the needs of dissertation/project students. There is no charge for attending these workshops.

To find out more about the Graduate Development Scheme and the workshops or to register for online Personal Development Plan see [www.researchsupport.eps.manchester.ac.uk/postgraduate\\_home](http://www.researchsupport.eps.manchester.ac.uk/postgraduate_home) or email your query to: [eps-grads@manchester.ac.uk](mailto:eps-grads@manchester.ac.uk).

## 7.3 International Students

The University provides special facilities and support for overseas students. The International Society at <http://www.internationalsociety.org.uk/> provides a meeting point for overseas students, provides support and advice and also organises many activities, including welcome activities in the first few weeks of the academic year. See their website for more details.

**Confirmation of registration** If you are an international student, please note that if you require a letter for your visa application, visa extension or your sponsor confirming that you are registered in this School, you must provide one week's notice of this request to the Student Support Office.

## 7.4 Useful Forms

- Notice of Submission form: <http://studentnet.cs.manchester.ac.uk/pgt/submission.php>
- Mitigating Circumstances form: <http://studentnet.cs.manchester.ac.uk/assessment/mitigatingcircumstancesform.pdf>
- Interruption form, Permission to Submit Late form, Extension to Period of Course form, and Change in Registration Status form: [http://studentnet.cs.manchester.ac.uk/pgt/interruption\\_and\\_extension.php](http://studentnet.cs.manchester.ac.uk/pgt/interruption_and_extension.php)

## Chapter 8

# University of Manchester Library

The University of Manchester library provides you with resources and support throughout your programme. The Main Library, located at the end of Burlington Street, houses all the essential textbooks. The library also has an extensive collection of printed books (4 million) as well as access to an unparalleled range of electronic resources including over 40,000 e-journals, 500,000 e-books and a comprehensive range of databases. <http://www.library.manchester.ac.uk/>.

**Facilities** The Main Library offers group study rooms, individual study spaces and computer clusters. Wi-Fi is available throughout the building and a cafe lounge can be found on the ground floor.

The Alan Gilbert Learning Commons provides a state of the art 24/7 learning environment, offering flexible open learning spaces, multimedia facilities, computer clusters and bookable group study rooms. The Learning Commons also runs a wide range of study skills workshops throughout the academic year. The location of all library sites and opening hours are available on the following page: <http://www.library.manchester.ac.uk/locations-and-opening-hours/>

**Getting Started** All the information you need to get started in the library is found on the Students area on the library website: <http://www.library.manchester.ac.uk/services-and-support/students/>. You will need your student card to access all library sites around the campus. Many of our services and resources also require you to confirm that you are a registered student. This authentication can be your student card, the ID number on the card, your Library PIN or the central username and password you use to log on.

**Library Search:** To find books, e-books, online journals and articles: <http://www.library.manchester.ac.uk/search-resources/>.

**Library Subject Guides:** To find information on relevant library resources for your subject area. Use these guides to find out which databases to use, reference management, keeping up to date and details of our research/academic skills training: <http://subjects.library.manchester.ac.uk/>.

**Training and Support** For training see details of our information skills sessions and clinics which run throughout the year and our extensive range of online research / academic skills resources:

**My Learning Essentials:** <http://www.library.manchester.ac.uk/services-and-support/students/support-for-your-studies/my-learning-essentials/>.

For general enquiries, e-resources support and feedback on our services, contact the library in person, via phone or online: <http://www.library.manchester.ac.uk/contact/>.

**Library News and Updates** Keep up to date with the latest library developments via Facebook or Twitter:

- <https://www.facebook.com/tuomlibrary>
- <https://twitter.com/UoMLibrary>

# Chapter 9

## Health and Safety

This Health and Safety section provides a summary of the major Health and Safety issues of which all staff and students should be aware; for further details see the School Health and Safety Policy Document. The full School Health and Safety Policy Document is available at: <http://staffnet.cs.manchester.ac.uk/acso/healthpolicies.php>.

### 9.1 Fire, Emergencies and First Aid

#### 9.1.1 Fire Safety Arrangements and Requirements

All staff and students are expected to respond promptly to all fire alarm activations (except the weekly tests at specified times). Staff who are responsible for groups of students or visitors at the time of an alarm are expected to stop teaching or speaking, and to lead the whole group in the evacuation procedure.

**Fire Detection** Kilburn and IT Buildings are fitted with automatic detectors supplemented by break glass points located throughout each building. These activate the buildings audible alarm in the event of fire or smoke. The automatic detectors allow early detection of any developing fire.

If you discover a fire and the building alarm is not sounding, activate the nearest break glass point on your escape route and evacuate the building immediately. Make your way to the building assembly point and await further instruction. If possible you should inform security of the event and supply them with as much information as possible in order for them to evaluate the risk and to take appropriate action.

**Fire Alarm** The audible alarm for Kilburn building is a two stage system:

**Stage 1** An intermittent alarm - be prepared to evacuate the building.

**Stage 2** A continuous alarm – evacuate the building immediately.

The audible alarm for IT building is a single system. Upon hearing the fire alarm it is necessary to evacuate the building.

In the event of the alarm being activated Security will attend in the first instance.

**Fire Evacuation Procedure** On hearing the fire alarm all occupants should evacuate the building immediately by their nearest available exit.

- **Do not use lifts.**
- **Do not return to offices to collect belongings.**
- **Go to Building Assembly Point.**

Fire action notices are located throughout all buildings on campus summarising the specific local fire safety arrangements. Local fire notices also indicate the nearest fire assembly point. Evacuation Marshals are located throughout the building (identified by hi-visibility vests in an alarm situation) and are instructed to provide assistance and direction in the event of the fire alarm being raised.

**DO NOT RE-ENTER THE BUILDING UNTIL THE EMERGENCY SERVICES OR SECURITY HAVE ADVISED YOU THAT IT IS SAFE TO DO SO.**

**Means of Escape** Means of escape are signed throughout the building. Green running man signs indicate the nearest emergency exit. You should familiarise yourself with the nearest means of escape within your local working area, as well as alternative routes should your main means of escape become inaccessible.

**Fire Alarm Test** The fire alarm is tested weekly at the following times, and should last for no longer than 20 seconds:

- IT Building - Thursday at 2:00pm.
- Kilburn Building - Wednesday at 1.55pm.

**Fire Extinguishers** Fire extinguishers are provided extensively through out all University buildings and should only be used by personnel specifically trained in their correct operation.

**Automatic door closers** Throughout the Kilburn and IT buildings many of the fire doors are allowed to remain open during the day by means of an automatic fire detection door closing system. These units are designed to release the door following a continuous constant sound of 65 decibels and above, for a period of 20 seconds or more.

**Link bridge** The Kilburn and IT buildings have separate fire alarm systems in place. The link bridge between the Kilburn and IT buildings has been fitted with a flashing beacon, connected to the fire alarm system, which is activated during an emergency situation. A Marshal will be stationed on the bridge to assist occupants of the vulnerable building to escape in an orderly manner and to prohibit re entry.

### 9.1.2 Emergencies

In the event of any emergency, medical or otherwise, please contact the emergency services by calling 9999 internal or 999 external line. The University Security Office must also be informed once the emergency services have been alerted by calling 69966 internal or 0161 306 9966 external line. The School Health and Safety Advisor must be notified of any emergency by calling 56118 internal or 0161 275 6118 external line.

University Security telephone number can be found on the reverse side of your University staff/student card.

The School Health and Safety Advisor must be notified of any emergency by calling 56118 internal number 0161 275 6118 if dialled externally (07917558862 mobile number).

### 9.1.3 First Aid

The School has a number of trained first aiders in the Kilburn and IT buildings able to provide basic first aid as required. Details of current first aiders are available on first aid notices located next to each fire notice and can be found near to every exit point of the building, on notice boards throughout the buildings and via the following link: <http://documents.manchester.ac.uk/DocuInfo.aspx?DocID=11029>. If local first aiders are not available or assistance is required outside normal working hours, Security can be contacted to provide first aid by calling 69966 internal or 0161 306 9966 external line.

### 9.1.4 Emergency Evacuation Marshals

The University requires that all Schools appoint suitable numbers of emergency evacuation marshals to assist in the evacuation of all occupants from the buildings should an emergency situation arise. The criteria used for identifying the number of evacuation marshals required is one marshal per floor per protected stair case. In the school of Computer Science a Marshal is also required to be posted on the link bridge between the Kilburn and IT buildings to ensure no one enters one building from the other during an emergency situation.

## 9.2 Accidents and Incidents

All accidents, dangerous occurrences and near misses must be reported in the first instance to the School Safety Advisor and documented as necessary using the correct form. Accident and incident forms are available via the following link: [http://www.healthandsafety.manchester.ac.uk/topic\\_a-z/](http://www.healthandsafety.manchester.ac.uk/topic_a-z/)

Reporting of accidents and incidents are necessary for the following reasons:

- To comply with legal requirements depending upon the nature of the accident or incident.

- To investigate the accident / incident and take steps to prevent recurrence.
- To keep records in case of possible future litigation.
- To allow collation of accident statistics.

Near misses should also be reported to your School Safety Advisor as acting upon near misses will prevent accidents occurring.

## 9.3 Electrical Equipment

Any electrical equipment brought into the school for use in offices, laboratories or workshops must be suitable for the intended purpose, meet UK requirements for safety, and display the CE universal quality standard mark. The School Health and Safety Advisor must be informed if any electrical equipment is brought into the school other than via the normal purchasing system. For the school to comply with health and safety legislation it is essential for all portable appliances, including those built at The University of Manchester, to be checked and tested on a regular basis. The school carries out Portable Appliance Testing in accordance with university guidelines and maintains a database of all such equipment. Checks and tests are carried out at regular intervals. High risk portable appliances (Heaters, power supplies, electric drills, kettles, etc) are checked and tested annually. Lower risk items like computer workstations, which are classed as semi-permanent fixtures, are checked and tested every four (4) years.

All portable appliances, including separate mains cables will be clearly labelled upon completion of the test. A recommended retest date will be indicated on the label.

Please ensure that ALL heaters and high load non-essential appliances within your working area are switched off before you leave the building.

## 9.4 Lone Working and Out of Hours Working

**Lone Working** Lone working is defined as working without close or direct supervision, and without contact from others.

To reduce the risks associated with lone working it is the policy of the School of Computer Science not to permit any lone working activity beyond normal office based activities without first completing a risk assessment for the activity. The requirements of the University guidance on lone working should be followed at all times. Details of these requirements and a definition of lone working are available at:

<http://documents.manchester.ac.uk/display.aspx?DocID=13891>.

### 9.4.1 Out of Hours Work

Normal opening hours for the Kilburn and IT buildings are 8am to 6pm weekdays, excluding weekends, bank holidays and any other days when the building is closed (for example Christmas closure period). On occasion it may be necessary to use the facilities available in the Kilburn and IT buildings outside normal working hours.

During this time the presence of security or school staff members cannot be guaranteed. It is therefore extremely important that all occupants know what to do should an emergency situation occur within the school such as a fire, or the need for medical attention.

### 9.4.2 Kilburn Building

Use of the Kilburn building outside normal working hours will be permitted following successful completion of the out-of-hours induction online training course. Upon successful completion of the out-of-hours induction training, the following access times will be made available for masters students: 6pm - 11.30pm Monday - Friday, 8am - 11.30pm Saturday and Sunday.

Outside normal working hours the Kilburn Building is to be used for study and research (office based) purposes only. No social events or gatherings will be permitted unless an appropriate member of staff has been notified and has agreed to the event. Depending upon the details of the event it may be necessary to complete a risk assessment (see out of hours events section below). Please contact the School Safety Advisor, Tony McDonald via email ([tony.mcdonald@manchester.ac.uk](mailto:tony.mcdonald@manchester.ac.uk)) for guidance and further information.

### **9.4.3 Information Technology Building**

Outside normal working hours access into the IT building is gained via the south entrance door only. Swipe access is required and the out-of-hours book must be signed by all users detailing name, work location and times of entry and exit. The swipe card access system for the IT building is only enabled for staff and postgraduate students based in the IT building who have undertaken the necessary local and health and safety inductions.

### **9.4.4 Occupants of the buildings remaining on site after normal working hours**

Any person wishing to remain in the buildings outside normal working hours must sign the appropriate out-of-hours books. The out-of-hours book for the Kilburn Building is located at the porters lodge; the out-of-hours book for occupants of the IT building is located in the foyer of the building by the main entrance.

This procedure is necessary should an emergency situation occur. Responding emergency services must be able to account for all personnel on site during an emergency situation such as a fire or bomb scare.

The school reserves the right to spot check anyone on site outside normal working hours to ensure that this procedure is being followed. Anyone found not to have followed the correct procedure may be asked to leave the building, and may be suspended from out-of-hours activities for a period.

Please remember that authorisation to use The Kilburn and IT buildings outside normal working hours is a privilege, and not an automatic right, and that there is no right of appeal for anyone excluded from out-of-hours access to these buildings.

## **9.5 Chemical Safety**

Any chemical(s) brought into the School for experimental, practical or general use must be controlled and a risk assessment carried out to ensure that the chemical is used, stored and disposed of safely. University guidance on chemical safety is available at: <http://www.healthandsafety.manchester.ac.uk/toolkits/chemicals/> HSE guidance is available at: <http://www.hse.gov.uk/chemicals/index.htm>

## **9.6 School smoking policy**

To comply with current Government legislation The University of Manchester promotes a no smoking policy within all buildings, irrespective of their use or location. This policy also applies to e-cigarettes. To safeguard staff, students and visitors from the adverse effects of second hand smoke, and to show unity with other schools, the School of Computer Science has adopted a no smoking exclusion zone within 5 meters of all school entrances and exits of the school buildings. Smoking is also prohibited directly outside open windows where smoke may drift into school premises. Your assistance in keeping the school of Computer Science a safe and healthy place to work and study in is much appreciated.

## Chapter 10

# University Regulations, Procedures and Policies

The university website contains details of university regulations, procedures and policies, including those for work and attendance, for MSc dissertations, for appeals, on plagiarism, etc.

### 10.1 Ill Health

It is a requirement of your registration with the University of Manchester that you register with a local General Practitioner (GP). A list of GP practices can be obtained from the Student Health Service, any University hall of residence or a local Pharmacy. According to guidance issued by the General Medical Council it would not be regarded as good practice for a family member to be the registered GP or to offer treatment except in the case of an emergency.

You should always consult your GP (or for emergencies the Accident and Emergency Department of a hospital) if your illness is severe, if it persists or if you are in any doubt about your health. You should also consult your GP if illness keeps you absent from the University for more than 7 days including week-ends. If you do consult a GP and they consider that you are not fit for attendance at the University, then you should obtain a note from the doctor to that effect or ask them to complete Part III of the University form 'Certification of Student Ill Health' ([http://studentnet.cs.manchester.ac.uk/student-services/certification\\_ill\\_health.pdf](http://studentnet.cs.manchester.ac.uk/student-services/certification_ill_health.pdf)).

If your condition is not sufficiently serious to cause you to seek medical help, then the University will not require you to supply a doctor's medical certificate unless you are absent from the University due to illness for more than 7 days. You must however contact the Student Support Office as soon as possible and self-certify your illness (that is, complete and sign the 'Certification of Student Ill Health' form to state that you have been ill) as soon as you are able to attend your school. You should do this if your illness means you are absent from the University for any period up to 7 days, or if you are able to attend the University but your illness is affecting your studies.

The following explains what you should do if your illness affects your attendance at compulsory classes or if you consider that your performance in your studies/examinations has been impaired. If you are unwell and feel unable to attend the University to take a compulsory class, assessment or examination then you must seek advice by contacting the Student Support Office immediately, in person, through a friend or family member, by telephone or by email. This is to ensure that you understand the implications of being absent and the consequences for your academic progress, which might be quite serious. You must do this as soon as possible so that all options can be considered and certainly no later than the day of your compulsory class, assessment or examination.

You may be unwell but able to proceed with an assessment or examination and yet you feel that your performance will have been impaired. If you wish this to be taken into account as a Mitigating Circumstance, you must inform the Student Support Office about this on the day of the assessment or examination, and complete a Mitigating Circumstances form (see Section 10.2).

If, as a consequence of your illness, you wish to seek an extension to a deadline for submitting assessed coursework, you must complete a 'Certification of Student Ill Health' form and discuss it with the Programme Director. The application for extension must be made before the deadline and not retrospectively.

If you are found to have been deceitful or dishonest in completing the Certification of Student Ill Health form you could be liable to disciplinary action under the University's General Regulation XVII: Conduct and Discipline of Students.



## 10.2 Mitigating Circumstances

Evidence of illness or any other mitigating circumstances that affect assessments are considered by the School's Postgraduate Mitigating Circumstances Committee, which makes recommendations to examiners. It is therefore particularly important that any periods of ill health are properly documented, and that such documentation is deposited with the Student Support Office at the time of the illness. Other Mitigating Circumstances which disrupt your studies will also be considered.

If you wish the Mitigating Circumstances Committee to consider your case you must complete a Mitigating Circumstances form at:

<http://studentnet.cs.manchester.ac.uk/assessment/mitigatingcircumstancesform.pdf>,

You will normally need documentation, such as a medical note, to support your application.

All mitigating circumstances should be discussed with Programme Directors.

## 10.3 Guidance on Plagiarism and Other Forms of Academic Malpractice

The University document "Plagiarism and Academic Malpractice - Guidance for Students" can be found at: <http://documents.manchester.ac.uk/DocuInfo.aspx?DocID=2870>

There is further guidance on the school's web site at: <http://studentnet.cs.manchester.ac.uk/assessment/plagiarism.php?view=pgt>

As a student, you are expected to cooperate in the learning process throughout your course of study by completing assignments of various kinds that are *the product of your own study or research*. Whether unwittingly or otherwise, students may commit what is known as *plagiarism* or some other form of *academic malpractice* when carrying out an assignment. This may come about because students have been used to different conventions in their prior educational experience or through lack of understanding of what is expected of them. This guidance is designed to help you understand what we regard as academic malpractice and hence to help you to avoid committing it. You should read it carefully, because academic malpractice is regarded as a serious offence and students found to have committed it will be penalized. You are very likely to receive a reduced mark for the piece of work in question, but it could be worse; you could be awarded zero (with or without loss of credits), fail the whole unit, be demoted to a lower class of degree, or be excluded from the course.

Academic malpractice includes plagiarism, collusion, fabrication or falsification of results and anything else intended by those committing it to achieve credit that they do not properly deserve. Please note that work you submit may be screened electronically to check against other material on the web and in other submitted work. Plagiarism is an important disciplinary offence. You should make sure you understand exactly what it is and how to avoid it. There is an on-line course to help you during "Welcome Week" and this is reinforced during "COMP60990 Research Skills and Professional Issues". All students must take these courses.

All written work submitted for assessment must be free of plagiarism. Plagiarism is presenting the ideas, work or words of other people without proper, clear and unambiguous acknowledgement. It also includes self-plagiarism (which occurs where, for example, you submit work that you have presented for assessment on a previous occasion), and the submission of material from essay banks (even if the authors of such material appear to be giving you permission to use it in this way). Obviously, a blatant example of plagiarism would be to copy another student's work. Hence it is essential to make clear in your assignments the distinction between:

1. the ideas and work of other people that you may have quite legitimately exploited and developed, and
2. the ideas or material that you have personally contributed.

To assist you, here are a few important dos and don'ts:

- Do get lots of background information on subjects you are writing about to help you form your own view of the subject. The information could be from electronic journals, technical reports, dissertations, etc.
- Don't construct a piece of work by cutting and pasting or copying material written by other people, or by you for any other purpose, into something you are submitting as your own work. Sometimes you may need to quote someone else's exact form of words in order to analyse or criticize them, in which case the quotation must be enclosed in quotation marks to show that it is a direct quote, and it must have the source properly acknowledged at that point. Any omissions from a quotation must be indicated by an ellipsis (...) and any additions for clarity must be enclosed in square brackets, e.g. '[These] results suggest that ... the hypothesis is correct'. It may also be appropriate to reproduce a diagram from someone else's work, but again the source must be explicitly and

fully acknowledged there. However, constructing large chunks of documents from a string of quotes, even if they are acknowledged, is another form of plagiarism.

If any direct quotations are taken from the literature and included in the report, it is vitally important that these are visually distinct and are clearly referenced. Quotations are made distinct by enclosing them in quotation marks, for example 'this is a quotation (anonymous source 2014)'. Longer quotations should be put into separate quote marked and indented paragraphs, for example,

“The rise of capitalism and the expansion of the world market have made international trade an essential part of modern society. The industrialised core has developed, and continues to maintain its lifestyle, by exploiting the labour and resources of the periphery. Because the developed countries hold the power they dictate the terms, not only with regard to pricing but also the uses to which resources are put.

The resource depletion cost of individual people in the North is much greater than that in the South: 80 per cent of the world’s resource consumption is by 20 per cent of the people. This 20 per cent live mainly in the North. Since many resources are transferred (at prices favourable to the purchaser) from the South to the North, much of the cost is paid in the South.” (Kirby et al, 1995 p.4)

Note the addition of the appropriate page number to the reference above, this will help a reader to locate the exact quote. Where some text is removed from a quotation this should be shown explicitly with an ellipsis (...) and where you add some of your own words to a quotation this is shown using square brackets. Thus the small earlier example might end up as ‘this ... [small] quotation (anonymous source 2014)’.

- Do attribute all ideas to their original authors by appropriate acknowledgement and referencing. Written ideas are the product that authors produce. You would not appreciate it if other people passed off your ideas as their own, and that is what plagiarism rules are intended to prevent. A good rule of thumb is that each idea or statement that you write should be attributed to a source unless it is your personal idea or it is common knowledge. (If you are unsure if something is common knowledge, ask other students: if they don’t know what you are talking about, then it is not common knowledge!)

As you can see, it is most important that you understand what is expected of you when you prepare and produce assignments and that you always observe proper academic conventions for referencing and acknowledgement, whether working by yourself or as part of a team. In practice, there are a number of acceptable styles of referencing depending, for example, on the particular discipline you are studying, so if you are not certain what is appropriate, ask your tutor or the course unit coordinator for advice! This should ensure that you do not lay yourself open to a charge of plagiarism inadvertently, or through ignorance of what is expected. It is also important to remember that you do not absolve yourself from a charge of plagiarism simply by including a reference to a source in a bibliography that you have included with your assignment; you should always be scrupulous about indicating precisely where and to what extent you have made use of such a source.

So far, plagiarism has been described as using the words or work of someone else (without proper attribution), but it could also include a close paraphrase of their words, or a minimally adapted version of a computer program, a diagram, a graph, an illustration, etc taken from a variety of sources without proper acknowledgement. These could be lectures, printed material, the Internet or other electronic/AV sources. Note: Plagiarism includes not only text but also other written matter including computer programs and diagrams.

Remember: no matter what pressure you may be under to complete an assignment, you should never succumb to the temptation to take a short cut and use someone else’s material inappropriately. No amount of mitigating circumstances will get you off the hook, and if you persuade other students to let you copy their work, they risk being disciplined as well (see below).

### **10.3.1 Collusion**

Collusion is any agreement to hide someone else’s individual input to collaborative work. Where proved, it will be subject to penalties similar to those for plagiarism. Similarly, it is also collusion to allow someone to copy your work when you know that they intend to submit it as though it were their own and that will lay both you and the other student open to a charge of academic malpractice. You should ensure that:

- You do not leave work on printers.
- You do not give passwords to other students.
- You do not allow other students to use your home computer without taking adequate precautions.
- You do not show your coursework to other students.

It is vitally important that when you discuss coursework with others you do so in very general terms and are not so specific that it leads to the same piece of coursework being submitted. The school will use whatever means it sees fit to test coursework for breaches of this regulation. This may include the use of software that checks submissions against each other. The school reserves the right to insist on electronic submission in specified formats.

### **10.3.2 Collaboration**

On the other hand, collaboration is a perfectly legitimate academic activity in which students are required to work in groups as part of their course of research or in the preparation of projects and similar assignments. If you are asked to carry out such group work and to collaborate in specified activities, it will always be made clear how your individual input to the joint work is to be assessed and graded. Sometimes, for example, all members of a team may receive the same mark for a joint piece of work, whereas on other occasions team members will receive individual marks that reflect their individual input.

If it is not clear on what basis your work is to be assessed, to avoid any risk of unwitting collusion (see Section 10.3.1) you should always ask for clarification before submitting any assignment.

### **10.3.3 Fabrication or falsification of results**

For many students, a major part of their studies involves laboratory or other forms of practical work, and they often find themselves undertaking such activity without close academic supervision. If you are in this situation, you are expected to behave in a responsible manner, as in other aspects of your academic life, and to show proper integrity in the reporting of results or other data. Hence you should ensure that you always document clearly and fully any research course or survey that you undertake, whether working by yourself or as part of a group. Results or data that you or your group submit must be capable of verification, so that those assessing the work can follow the processes by which you obtained them. Under no circumstances should you seek to present results or data that were not properly obtained and documented as part of your practical learning experience. Otherwise, you lay yourself open to the charge of fabrication or falsification of results.

### **10.3.4 Penalties: Bad Practice vs. Malpractice**

The University has strict rules for the handling of malpractice cases. The markers of your work will report any suspect work to one of the school's Plagiarism Officers. The Plagiarism Officer will decide whether they believe there is a case of either malpractice (the most serious), bad practice or that there is no problem with the suspected student assignment. In all cases, penalties for Submission of Improper Coursework will be applied in line with University policy. Students have a right of appeal as detailed in the University policy. Initially appeals should be discussed with the school. However, if needed, an appeal should be made to faculty within 10 days for work and attendance matters. See Section 10.4.

<http://documents.manchester.ac.uk/DocuInfo.aspx?DocID=1872>

Suspected first offences of malpractice in coursework will be heard by a panel within the school who will listen to the case against the student(s), to any defence presented by the student(s) and will examine the evidence. If malpractice is found to have taken place then typically the work will have to be re-done and resubmitted. Again, typically, the resubmitted work when assessed will have the mark capped at an appropriate level determined by the panel such as 40%. The school also normally offers some re-training in correct presentation of work to students accused of malpractice. If a second or subsequent offence is suspected or the offence is in the final Masters dissertation then the case is passed to Faculty to deal with and any penalty is likely to be more severe.

## **10.4 Complaints Procedure**

In essence, most complaints can be dealt with quickly and informally. Complaints should be made promptly, orally or in writing, to an appropriate member of staff, such as your Course Unit Leader, Project Supervisor or Programme Director. If your complaint is of a general nature it might be best to mention it to your student representative so that he/she can raise it at the relevant school committee.

If you are dissatisfied with the response, you should put the complaint in writing to the Director of Postgraduate Studies. If you are still dissatisfied, then the complaint should be sent to the Head of School. If, having pursued the matter informally, you are still dissatisfied you should follow the university's formal complaints procedure: <http://documents.manchester.ac.uk/DocuInfo.aspx?DocID=1893>. Please note that this regulation also describes what it does *not* cover, where other mechanisms should be used.

If you need help using the procedure or guidance on where to refer your complaint, you can seek advice from any of the following: the Students' Union Advice Centre or the Student Atrium Advice Service located in the Atrium, University Place.

# Appendix A

## Guide to MSc Projects

### A.1 Introduction

The MSc project is the most important single component of the MSc course. It provides the opportunity for you to demonstrate independence and originality, to plan and organise a large project over a long period, and to put into practice the techniques you have been taught throughout the course. Whatever your level of academic achievement so far, you can show your individuality and inspiration in this project. It should be the most satisfying piece of work in your course.

### A.2 Choosing a project

The idea for your project may be a proposal from a member of staff or your own, or perhaps a combination of the two. After project proposals are published, you should consult with staff about the projects that interest you. Not every project is suitable for every student; some may be specifically tailored to a particular degree and some may only suit students with a very specific set of interests or background knowledge and skills. Project proposals originating outside the school are encouraged, but you must provide clear details of what the project involves and have the approval of the Programme Director. In exceptional cases permission may be given to do the project work in another institution or country, subject to suitable arrangements for regular contact with your supervisor in the school being made and approved. If you have your own idea for an MSc project it is your responsibility to find a member of staff who both approves of the proposed project and is willing to supervise it. External projects cannot be approved unless a suitable internal supervisor can be found. Not all project ideas are suitable for an MSc project since certain academic requirements have to be met. The project coordinator will assist you in finding a supervisor, but for an external project you cannot assume that one can be found in every case.

### A.3 Allocation

You must submit your project choices online by a given deadline, usually in mid December. If you choose from the published proposals your first choice of project cannot be guaranteed since individual supervisors can only take responsibility for a limited number of projects. In some cases you may be allocated the project but another member of staff will be assigned to supervise it. Failing this, you may be allocated your second or subsequent choices. When considering a project, you must consult the prospective supervisor—ideally during our *Project Open House*—and provide them with a short CV, so that you agree on pre-requisites, background and project aims and objectives. If you are enrolled in a specific MSc course you must make sure that your project is approved by the Course Director as suitable for the course.

We recognise that very occasionally on starting a project a student realises that their project was not the most appropriate choice. The process, whereby students are required to contact and discuss projects with potential supervisors prior to selecting a project, is designed to address this concern. If, and only if, students have followed this procedure and both the supervisor and student agree that a change of project would be in the best interests of the student will such a request be considered. Any new project will require the approval of the new supervisor and no guarantees as to the availability of alternative projects are given. Approval of both the project coordinator and relevant Programme Director will be required. Any transfer must be complete prior to the preparation and submission of the first piece of course work. Under no circumstances will a change of project be grounds for granting an extension to the submission dates for any piece of work.

## **A.4 Assessment**

General requirements: All MSc projects are required to contain some element of original work. This does not mean that they have to produce ground-breaking, innovative research results (although some do). It means that they have to cover some new ground. An implementation project could develop a complex application which does not already exist, or enhance some existing application or method to improve its functionality or performance. Projects which are predominantly survey reports can be backed up with experimentation, implementation, theoretical or conceptual analysis, new illustrative examples, etc. Your supervisor will advise on how to develop your project appropriately. A Distinction level project involves a combination of sound background research, a solid implementation or piece of theoretical work, and a well-structured and well presented dissertation detailing the project's background, objectives and achievements.

Assessment: For the purpose of the MSc degree (including Distinctions and Merits), the only thing that can be taken into consideration about your project is the quality of your Project Progress Report and your final Dissertation. Formally, your project work is assessed on the basis of your dissertation/reports and the group report if applicable, only. You cannot compensate for a poor write-up by a well-conducted project. You cannot get credit for ideas or experiments not included in the dissertation/reports. Dissertations not meeting minimal standards of presentation will not be accepted for award of the MSc degree, no matter how good the project work itself.

Other considerations: Remember that your attitude to, and performance in, the individual project is taken very seriously by prospective employers and other institutions to which you may be applying. Your project work is usually reported in some detail in academic references provided for you by your supervisor or other staff members. In this respect you do obtain credit for the way in which you approach your project.

## **A.5 Equipment**

You are permitted to develop software (or hardware, if appropriate) on your own equipment, provided that you can give a demonstration to your supervisor. However, you should prepare a fall-back position in case your equipment misbehaves. If you wish to use software which is not currently provided in the School please inform your supervisor immediately. A request can then be made to purchase it if an acceptable alternative is not available. A purchase request will need the support of your supervisor and is not guaranteed to be approved. Please note that there is no excuse for failing to keep adequate backups on your home computer. If you lose your program or your data or your report because of a system failure no allowance can be made. Extensions will not be given at the end of the project for you to re-type a lost report, for example. All students should equip themselves with a Laboratory Workbook in which they record their progress, the development of ideas, results of discussions with supervisor and decisions made as the project progresses. This will provide a source book for writing the dissertation and also provides a record of your progress through the project.

## **A.6 Research Skills and Professional Issues Course Unit - COMP60990**

The 30-credit weighted course unit on Research Skills and Professional Issues, as well as covering issues arising in a professional career, acts as a foundation for your Research Project and you will undertake the initial part of your project as part of this course unit. The course unit covers various aspects of research skills, including the process of undertaking research, managing a research project, conduct during your MSc project, preparation for dissertation writing and the skills associated with professional and research writing. In addition, you will have regular meetings with your project supervisor and start work on your project at the beginning of the second Semester. This work includes all required background and preparatory work, reading related literature, learning to use software/hardware systems required for the project, and extensive project planning including its scope, aims, objectives and timetable. This work is to be written up as a Project Progress Report and submitted before the end of the second Semester (exact deadline to be announced).

## **A.7 Supervision**

The relationship between yourself and your supervisor is critical to the success of the project. You must make sure that you arrange regular meetings with your supervisor. The meetings may be brief once your project is under way but your supervisor needs to know that your work is progressing. If you need to talk to your supervisor between meetings and cannot locate him/her in their office, leave a note, or send electronic mail, asking them to suggest a time when they will be available. When you go to see your supervisor you should have prepared a written list of points you wish

to discuss. Take notes during the meeting so that you do not forget the advice you were given and the conclusions that were reached.

Most importantly, you need to maintain a good working relationship with your supervisor, which includes in particular that you inform them openly if you feel you lack understanding, have not made enough progress, or are experiencing any form of problem that prevent you from working properly on your project (you don't need to mention any details - in particular when these are confidential).

**The Supervisor** Each student is allocated an individual supervisor who is normally a member of the academic staff of the School to oversee the progress of the project. The role of the supervisor is to provide intellectual guidance and offer advice on the planning and progress of the project – it is the role of the student to carry out the project.

**Responsibility of the supervisor** A supervisor offers the following supervision, which students may or may not make use of (e.g. a student may prefer fortnightly meetings to weekly ones).

- A weekly meeting, scheduled for at least half an hour, during the whole of the project period, i.e. semester 2 and the summer period between the end of exams and the submission deadline, except when the supervisor is absent or otherwise unavailable.
- If a supervisor expects to be absent or otherwise unavailable, (s)he should inform the student well in advance. If (s)he expects to be unavailable for a significant period of time (e.g. 3 weeks or more) (s)he should consider making alternative temporary supervision arrangements.
- Some additional and/or longer meetings may be scheduled to give detailed feedback on student's work. Feedback on students' work should be timely and is normally expected to be within 7 working days.
- A supervisor should answer all reasonable requests for advice, in particular regarding plagiarism issues and general advice on academic writing, and look out for possible malpractice.
- For each segment (e.g. a chapter) of either the dissertation or the progress report, the supervisor should read it carefully and provide detailed feedback. This includes some correction of the English where necessary, but does not include full proof reading. If the student's English is too poor to be routinely corrected, they should be advised on appropriate remedial action, for example a University Language Centre tutorial.
- Where appropriate, a supervisor may also, at their discretion:
  - Do a second round of detailed feedback on parts of the dissertation or progress report which are problematic, particularly for students with English problems. However, repeated detailed correction is not allowed as this would give the student an unfair advantage.
  - Arrange additional and/or longer meetings with a student where the purpose of these meeting is clearly defined; e.g. a meeting with a research group to discuss the problem the student is working on, or a pastoral meeting to help the student with problems.
- Other responsibilities of the supervisor are:
  - To ensure the project matches the student's ability/expectations and can be completed within the available time,
  - To assist the student in formulating a viable project plan,
  - To direct students to source material and give guidance on computer systems,
  - To give guidance in conducting research,
  - To give guidance in managing the timetable and progress of the project,
  - To assist the student in identifying problems and possible solutions,
  - To identify any health and safety issues,
  - To make the student aware when work is falling below the expected standard and give corrective advice,
  - To advise students regarding ethical policies and regulations relating to the conduct of research.

## A.8 Student Responsibility

Students should note that they are responsible for their work and that the role of the supervisor is to provide guidance and advice. Students may **not** expect their supervisors to provide detailed feedback on more than one draft of each chapter or to correct spelling, grammar, punctuation, use of English etc.

It remains the sole responsibility of the student to ensure that all requirements of the dissertation are met.

The responsibilities of the student normally include:

- arranging meetings with his/her supervisor(s) (taking account of any periods of holiday or work-related absence during the supervision period).
- keeping appointments with his/her supervisor(s), or informing his/her supervisor(s) where this is not possible.
- discussing any plans for vacations before commitments are made, to ensure that these are realistic in the light of deadlines and grade aspirations.
- discussing with his/her supervisor(s) the type of guidance and comments s/he finds most helpful.
- maintaining a professional attitude to his/her work and to the supervision process at all times.
- maintaining a suitable record of supervision meetings, including dates, action agreed and deadlines set.
- preparing adequately for meetings with his/her supervisor(s).
- attending and participating fully in any courses related to the dissertation element of the course provided by the School.
- discussing issues arising from feedback and taking appropriate action.
- maintaining the progress of the work as agreed with his/her supervisor(s).
- raising problems or difficulties with his/her supervisor(s).
- making his/her supervisor(s) aware of any circumstances likely to affect his/her work.
- giving his/her supervisor(s) due warning and adequate time for reading any drafts. It is the student's responsibility to make sure that they understand the supervisor's advice and the feedback on early drafts, and to generalise from specific pieces of advice and feedback.
- being familiar with University / Faculty / School regulations and policies that affect him/her.
- submitting the dissertation title and ethical approval form to the relevant office by the due date specified.
- ensuring that the final dissertation is written in accordance with requirements relating to the correct use of English language and presentation of tables, references, figures etc.
- where necessary, arranging for the completed dissertation to be proof-read, ensuring that this is done in adequate time to allow submission by the required date.
- checking the completeness and accuracy of the text of the dissertation / project submitted.
- ensuring that submitted work is their own (i.e. avoiding plagiarism and other disciplinary offences).
- ensuring adequate time for the binding of the dissertation.
- submitting the dissertation to the appropriate office by the submission date specified.

## A.9 The Dissertation/Reports

The dissertation and reports are extremely important. We give advice below on how to structure and present your dissertation and progress report.

The dissertation serves to show what you have achieved and should demonstrate that:

- You understand the wider context of your work by relating your choice of project, and the approach you take, to existing products or research.



- You can apply the theoretical and practical techniques taught in the course to the problem you are addressing, and that you understand their relevance to the wider subject area.
- You are capable of criticising your own work objectively and making constructive suggestions for improvements or further work based on your experiences so far.
- You can explain your thinking and working processes clearly and concisely to third parties who may not be experts in the field in which you are working.

Remember that second markers, and other readers, will not have followed the project as it progressed. Make the presentation of the dissertation reasonably self-contained. State the objectives clearly; provide sufficient background material particularly for the progress report.

Many students underestimate the importance of the dissertation/reports. You should consider that the aim of the project is to produce a good dissertation and that software, hardware, theory etc. that you develop during the project are merely a means to this end. Do not make the mistake of leaving the write-up to the last minute. Ideally you should produce the bulk of the report as you go along and use the last few weeks to bring it together into a coherent document.

A typical length for a dissertation is 60-100 pages, which equates to approximately 15,000 to 20,000 words. It should be emphasised that this a guideline and not a requirement as individual projects and dissertations will be different.

Remember that quantity does not automatically guarantee quality. Conciseness, clarity and elegance are invaluable qualities in report writing, just as they are in programming, and will be rewarded appropriately. Also, it is important to appreciate that the appropriate size and structure of a report can vary significantly from one project to the next. Despite these variations, however, most good reports have the components below in common.

**Presentation** Below we give an outline of how the dissertation/reports should be presented. This is **for guidance only**: University regulations for the dissertation can be found at <http://documents.manchester.ac.uk/DocuInfo.aspx?DocID=2863>. These regulations should be followed exactly. The dissertation must be bound in the university approved manner. The University Library offers a binding service, as do other local binderies.

**Title page** This must be in the standard form described in University regulations.

**Acknowledgements** It is usual to thank those individuals who have provided particularly useful assistance, technical or otherwise, during your project. Your supervisor will obviously be pleased to be acknowledged as he or she will have invested quite a lot of time overseeing your progress.

**Contents page** This should list the main chapters and (sub) sections of your dissertation. Choose self-explanatory chapter and section titles and use double spacing for clarity. You should include page numbers indicating where each chapter/section begins. The table of contents should not have more than two levels of headings (say chapters and sections within chapters).

**Abstract** The abstract is a very brief summary of the report's contents. It should be about half a page long. Somebody unfamiliar with your project should have a good idea of what it is about having read the abstract alone and will know whether it will be of interest to them.

**Introduction** This is one of the most important components of the report. It should begin with a clear statement of what the project is about so that the nature and scope of the project can be understood by the reader. It should summarise everything you set out to achieve, provide a clear summary of the project's background and relevance to other work and give pointers to the remaining sections of the report which contain the bulk of the technical material.

**Background** The background section of the report should set the project into context by relating it to existing published work (or unpublished work) on which the project builds. The background section is sometimes included as part of the introduction but more usually is a separate chapter, or collection of chapters if the project involved an extensive amount of research. The background for the dissertation is expected to rely heavily on the work done for the progress report. The published work may be in the form of research papers, articles, text books, technical manuals, or even existing software or hardware of which you have had experience. You must acknowledge the sources of your inspiration; you are expected to have seen and thought about other people's ideas; your contribution will be putting them into practice or developing them in some new direction. One rule is clear: if you present another person's work as your own and do not cite your sources of information/inspiration you are cheating. When referring to other pieces of work, cite the sources at the point they are referred to or used, rather than just listing them at the end.

The University takes a very strict line on plagiarism, as described at <http://www.tlso.manchester.ac.uk/plagiarism/>. Reusing sections of the progress report in the dissertation is not regarded as plagiarism since both are part of the same body of work.

**Body of report** The central part of the report usually consists of three or four chapters detailing the technical work undertaken during the project. The structure of these chapters is highly project dependent. Usually they reflect the chronological development of the project, e.g. design, implementation, experimentation, optimisation, although this is not always the best approach. However you choose to structure this part of the report, you should make it clear how you arrived at your chosen approach in preference to the other alternatives documented in the background. For implementation projects you should describe and justify the design of your program at some high level, e.g. using pseudocode, class diagrams, etc., and should document any interesting problems with, or features of, your implementation. Integration and testing are a critical part of most projects and should be described thoroughly. Your supervisor will advise you on the most suitable structure for these middle sections.

**Conclusions and future work** All projects should conclude with an objective evaluation of the project's successes and failures and suggestions for future work which can take the project further. Even the very best pieces of work have their limitations. You will not have time, and you should not try, to tie up every loose end. You are expected to provide a proper critical appraisal of what you have done. Your assessors are bound to spot the limitations of your work and you are expected to be able to do the same.

**Bibliography** This consists of the books, articles, manuals etc. used in the project but not directly referenced. often a bibliography is not needed as the material is included in the references.

**References** This section is compulsory and is a list of all the books, articles, manuals etc. referred to in the dissertation.

**Appendix** The appendices contain information which is peripheral to the main body of the report. Information typically included are things like program listings, tables, proofs, graphs or any other material which would break up the flow of the text if it appeared. Large program listings are rarely required.

**User guide** For projects which result in a new piece of software you should provide a proper User Guide providing easily understood instructions on how to use it. A particularly useful approach is to treat the User Guide as a walk-through of a typical session, or set of sessions, which collectively display all the features of your package. Technical details of how the package works are rarely required. Keep it concise and simple. The use of figures illustrating the package in action can often be effective. A user guide is sometimes included as a chapter in the main body of the report, but is often better as an appendix to the main report. Do not include user guides for simple pieces of code where these are not the main subject of the dissertation.

**Internal Chapter Structure** Each chapter should have an introduction stating its purpose within the dissertation and why it is placed at that point, and outlining what is to be covered in the chapter and why. Each chapter should finish with a summary describing what it has presented and what is to follow. Chapters should not be overly long – it is important to show summaries of ideas and not simply repeat everything that has been read. A chapter of longer than 20 pages should usually be avoided. When a chapter is more than 30 pages it should generally be split into two (or more) chapters.

**Proof Reading & Quality of English** It is extremely important that you carefully proof read your work. This should catch most typing errors that are not spelling errors, for example form instead of from.

Proof reading means also checking for inconsistencies, disparities, missing paragraphs, unintelligible sentences, bad formatting of text, graph and drawings, etc.

The dissertation is expected to be written in English as practised by a native speaker. If English is not your first language then you should consult your supervisor to determine if you need additional help in this regard. This may involve outside help.

Note: the quality of the English in your dissertation/reports is solely your responsibility. If you require, the English Language Teaching Centre organises classes in academic writing.

**Spelling and Grammar Checking** You must spell check all parts of the dissertation. A number of tools are available for spell checking, for example in Word. Such tools should be used where available.

Note: this is not instead of proof-reading but as well as!

Additional guidelines include: In general, the text should be left and right justified; chapter/(sub)section headings should be in bold-font with increasingly less eye-catching presentation; figures/tables should be numbered and included in the table of contents; tables/figures must be referenced in the text and the author should not normally refer to him/herself explicitly in the first person, i.e. we should read *the author*, etc. instead of *I, my*, etc.

## A.9.1 Referencing and Citing

**Referencing** When researching a piece of written work you will frequently read other peoples ideas, theories or data that you will want to make reference to in your own work.

**Citing** Making reference to other authors in your own work is called citing. The names of the authors who are cited in your text are listed in alphabetical order at the end of the written work. This is a reference list.

The process of citing authors and producing a reference list can be done in one of two common styles the Harvard style or the Numeric style. A consistent approach to references must be adopted when citing in the text and in the reference section. This guide describes the Harvard Referencing System as it is the mostly commonly used, but you may use other standard systems.

**Why reference?** To show evidence of the breadth and depth of your reading. To acknowledge other people's ideas correctly. To allow the reader of your work to locate the cited references easily, and so evaluate your interpretation of those ideas. To avoid plagiarism.

**What is the difference between a Reference List and a Bibliography?** A reference list provides all the information about the published works - books, journals and newspaper articles etc., you have mentioned within your text. In the Harvard style, it is organised alphabetically by the family names of the authors (or originators). The list appears at the end of the work and gives full details of the author's name, what the work is called, the date of publication and where it was published.

A bibliography provides a list of important works read in the course of understanding the background to the project but not explicitly referenced. Not all dissertations will have a bibliography as the relevant material will be covered in the references.

**Citing in your text** The Harvard System (sometimes called the Name and Date System) uses the family name of the author of the work you wish to cite and the date it was published. These are incorporated into the text of your work each time you make reference to that person's ideas.

**Citing a single author** The author and the date of publication are provided. For example, *Smith (1993) has suggested that ...* or *Some commentators suggest that ... (Smith, 1993), whilst others ....*

**Citing more than one author** If there are two authors, the names of both should be given in the text and in the reference list. When citing and referencing use the same format for both, and words are preferable to symbols. For example, Smith and Jones not Smith & Jones.

If there are more than two authors, the name of the first author only should be given in the text, followed by the abbreviation *et al.* (meaning *and others* in Latin).

For example: Bennet *et al.* (1997) showed that ...

Note that *et al.* is in italics and is followed by a full stop. However, in your reference list, you will normally list all the authors who comprise the *et al.*

For example:

Bennet, S., McRobb, S. and Farmer, R. (2002) Object-Oriented Systems Analysis and Design. London: McGraw Hill.

Note that in the reference list the family name and initial are swapped.

**Distinguishing several publications in the same year by an author** Sometimes you will find that an author has published two or more books, journal articles, etc. in a given year. It is important to distinguish between the different publications by adding letters (a, b, c, etc.) to the date in the text.

For example:

Johnson (1991a) has progressed both experimental and practical aspects of software technology to the point where they provide a serious challenge to Pacific Belt dominance (Johnson, 1991b).

In the reference list the articles are presented alphabetically: 1991a, then 1991b and so on.

For example:

Johnson, C. (1991a) Software: The way ahead .

Johnson, C. (1991b) Changing Global Markets .

**The Required Information** You will find all the information that you need to build up a reference from the title page of the book or document you are citing. Remember to

- Keep the order of authors names the same as on the title page.
- Cite the first named place of publication.
- Note that when citing the place of publication the following applies: If a text was referenced as published in Manchester it would be assumed this was in the UK. If a text was published in the US it would be referenced as Manchester, N.H. (abbreviation for New Hampshire).

Note that edition dates are not reprint dates (new editions will have new text and must be cited as such). The copyright sign will often indicate the date of production.

If the work to be referenced has not originated from a commercial publisher and lacks obvious title page data for example, papers presented at conferences but not published then the appropriate information should be obtained from any part of the document. A book's editor is referenced in exactly the same way as an author, adding (ed.).

For example:

Cibora, C.U. (ed.) (1996) Groupware and teamwork: invisible aid or technical hindrance?. Chichester:Wiley.

or

Grosz, B.J., Sparck Jones, K. and Webber, B.L. (eds.) (1986) Readings in Natural Language Processing. Los Altos: Morgan Kaufman.

Note, the capitalisation of the title should be the same as on the source.

**Corporate Authors** Sometimes it is not possible to name an individual as an author. For example, where there has been a shared, corporate responsibility for the production of the material. In such cases the corporate name becomes the author (often called the corporate author). Corporate authors can be government bodies, companies, professional bodies, clubs or societies, international organisations.

For example:

Institute of Waste Management (1995) Ways to Improve Recycling. Northampton: Institute of Waste Management.

The corporate author' appears in the text in the same way as authors.

**Chapters in edited books** An edited book will often have a number of authors for different chapters. To refer to a specific authors ideas (from a chapter), cite him or her in the text, not the editors. In the reference list indicate the chapter details and the book details from which it was published.

For example:

Whitehead, C. (1991) Charismatic Leadership. In: W. Harrison and D. Cole (eds.) Recent Advances in Leadership Theory. London: Waverley. pp. 73-89.

Note the use of in to link the chapter to the book, and the use of page numbers. Whiteheads name would appear as the author in your text, and in the reference list. The year of publication is only given once in the reference list.

**Secondary sources** A journal article or book someone else cites that you have not seen is called a secondary source. You should try and find the bibliographic details of the source yourself (for example, by using the bibliographic services available in the University of Manchester library) and cite them in the normal way. It is important that when citing ideas you do it first hand.

If you are unable to locate the bibliographic details of the secondary source, you may cite it in your text using the text that is your primary source.

In your text and reference list you must link these two items with the term cited in.

The format is: Author of original works family name, initials, (Year of original publication), Title of original work. Place of publication: Publisher. Cited in Author/editor surname, initials. (Year) Title. Place of publications: Publisher.

For example:

A change in family circumstances can affect a child's emotional stability (Pollock, 1995) cited in Jones (1996).

Pollock, T. (1995) *Children in Contemporary Society*. Cited in Jones, P. (1996) *A Family Affair*. London: Butterworth.

Note that only the primary source title is italicised and both years are included.

**No publication details given** Occasionally you will find documents that lack basic publication details. It is common practice to indicate that this information is not available by using a series of generally accepted abbreviations:

author/corporate author not given	use (Anon.)
no date	use (n.d.)
no place (sine loco)	use (s.l.)
no publisher (sine nomine)	use (s.n.)
not known	use (n.k.)

**Quotations** If you quote from a publication directly, then you must place the page number within the citation. In the reference list, however, it is not necessary to indicate the page number.

**Short Quotations** Short quotations, meaning the use of a phrase or part of a sentence. Short quotations used within the text require the use of single quotation marks.

For example:

Whilst it is possible that poor parenting has little effect on primary educational development, it more profoundly affects secondary or higher educational achievement (Healey, 1993, p. 22).

**Longer Quotations** Quotations that are one sentence or more should be distinguished from the rest of the text by indenting the quotation by an equal amount from both side margins and placing in single space format (as opposed to the rest of the text which should be in 1.5 or double spaced format). Note the example below of a long quotation set with text. You may also use a smaller font size to further distinguish the quoted text.

Indented quotations should still be placed in quotation marks.

For example:

The rise of capitalism and the expansion of the world market have made international trade an essential part of modern society. The industrialised core has developed, and continues to maintain its lifestyle, by exploiting the labour and resources of the periphery. Because the developed countries hold the power they dictate the terms, not only with regard to pricing but also the uses to which resources are put.

The resource depletion cost of individual people in the North is much greater than that in the South: 80 per cent of the world's resource consumption is by 20 per cent of the people. This 20 per cent live mainly in the North. Since many resources are transferred (at prices favourable to the purchaser) from the South to the North, much of the cost is paid in the South. (Kirby et al, 1995 p.4)

This uneven development is the central argument of the neo-Marxist point of view.

Never split a quotation in your text. If it does not fit completely on a page then start a new one so that the whole quotation is kept together.

**Format.** The University requires that dissertations/reports are submitted in a certain format whose description is available in Section A.9 and on the University's policies webpage <http://documents.manchester.ac.uk/DocuInfo.aspx?DocID=2863>.

Make sure that your dissertation/reports is/are in the required format (there are various 'style files' to help with this), otherwise it may not be accepted at submission time.

**Submission.** All dissertations and Group Reports are to be submitted electronically via Blackboard.

Note: Project Progress Reports, due in April/May, are also submitted electronically via Blackboard. All electronic submissions are available for automated plagiarism checking. You should make sure that your submissions are free of plagiarised material before you submit.

## A.9.2 Scientific Writing

The Project Progress Report, Masters Dissertation and Diploma Report should have a purpose and tell a story. Similarly each chapter should have a purpose which contributes to the Project Progress Report, Masters Dissertation or

Diploma Reports purpose; each section should contribute to the chapters purpose; each paragraph to the section; and each sentence to the paragraph.

An excessive number of internal dependencies, forward or backward, within the text are usually indicative of a poor structure. In this case the structure should be reviewed.

All opinions and conclusions must be justified by you or referenced to their source, results should be fully presented and discussed, and experiments should be presented in enough detail to be repeatable by the reader.

When approaches and results are being evaluated this must be done based on given criteria, thus results are only good with reference to stated criteria. Similarly one approach is better than another only with reference to stated criteria. As far as possible these criteria should be measurable and quantifiable.

Sentences should be short and to the point; the use of subjective adjectives (e.g. nice) should be avoided. Long sentences often lead to misunderstanding or ambiguity and should be avoided.

## A.10 Assessment of the Dissertation/Reports

The *Progress Report* is assessed on the following criteria:

**Abstract and introduction.** This should include a description and motivation of the research question(s) and research objectives. The abstract should be self-contained, providing a high level summary of the project and progress made.

**Background.** This category covers both general background reading and background specific to the project. These may be covered on one chapter or two depending on what is appropriate for the project.

**Project progress.** Progress means some practical work (not just background reading) which directly contributes towards the program, system, experiment, case study, framework, formalism or mathematical development that the student set out to design and/or produce in the project.

**Project plan.** The plan should clearly state the way the student intends to go about the project (including research methodology where appropriate) as well as specifying milestones and deliverables. The plan should be consistent with the progress made to date.

**Writing style.** The report should be written in correct, formal English with appropriate use of figures and tables. There should be good balance and flow, and the presentation should be clear and consistent with correctly formatted references.

Dissertations are assessed using broadly similar but not identical criteria:

**Abstract, introduction and background.** These sections should include a description and motivation of the research question(s) and research objectives. The abstract should be self-contained, providing a high level summary of the project and progress made. The background should cover both general background reading and background specific to the project. These may be covered on one chapter or two depending on what is appropriate for the project. It is expected that for the dissertation, the background section will normally be closely modelled on that produced for the progress report and will not require significant additional work. NOTE: that as the progress report and dissertation are considered components of the same work, you are free to reuse parts of the progress report in the dissertation (assuming there were no plagiarism issues). It is not our intention that you write the background section twice.

**Theory and design.** This assesses your general approach, the clarity of your objectives, and your understanding of topic/problems. It also covers your awareness of solutions to the technical/scientific challenges and your ability to relate the significance of your achievements to the state-of-the-art.

**Technical quality and evaluation.** This assesses the main technical output from the project including the correctness, elegance, usability etc. of the final product, theoretical or practical, and the techniques employed. This section covers steps taken to evaluate, test or compare the work. As examples, if the work is a piece of software, what steps were taken to check its functionality and robustness. If the work was literature or survey based how do the results compare with the work of others.

**Summary and conclusions.** This covers the conclusion, summary of achievements, reflection, identification of improvements and/or further work.

**Presentation, structure and language.** This assesses the quality of the written material itself: the organisation of the material, quality of the prose, clarity of explanations, spelling, punctuation, legibility, relevance of figures, proper use and formatting of references etc. Note that dissertations falling below minimum acceptable standards will not be accepted.

Finally... Remember that one of your supervisors main responsibilities is to advise on how to write-up your project results. You are not expected to be able to produce a perfect dissertation without help. You should discuss with your supervisor all aspects of the dissertation, but particularly its structure and how to present the material. You might find it useful to look at MSc dissertations from previous years, a selection of which are available at <http://studentnet.cs.manchester.ac.uk/pgt/2014/COMP60990/resources.php>.

## A.11 Pitfalls

Why do some projects go wrong? Here are some of the common causes of failure:

**Choosing or starting the project too late** . Submit your project request form on time and start the project as soon as you can. The longer you leave it the harder it is to get motivated, especially when all your friends seem to be flying ahead. You should aim to have completed most of the project by early August, thus leaving sufficient time to fill in gaps and write the dissertation.

**Failing to meet your supervisor regularly.** If you arrange a meeting with your supervisor, turn up at the agreed time. If you are stuck for any reason and you have no meeting arranged, contact him or her immediately. You gain no sympathy from anyone if you lose contact with your supervisor and produce a poor project as a result. Your supervisor will be happy to help you but he or she can do nothing if they are unaware that you are having trouble. Also, make sure that you are prepared for each meeting with your supervisor. This may take the form of a completed piece of work that you have done ready to demonstrate to your supervisor; or it may be that you have hit some problem, in which case come along prepared to explain the problem so that you both can attempt to solve it. Always bring your laboratory workbook and any results you have to each supervision.

**Allowing too little time for the report.** You should try to produce as much of your report as you can as you go along, even though you don't know in advance its exact structure. Written work along the way has two forms: (1) written accounts which describe a piece of work you have completed along the way. Write these at the time that each stage is completed – it is much easier then; and (2) an evolving plan of your dissertation – chapters, sections and their contents. This changes as the project evolves, but will provide guidance to the overall structure. The last two weeks of the project should be dedicated to pulling together the material you have accumulated and producing a polished final product.

**Failing to plan a fall-back position.** Try to plan your project in stages so that if things go wrong in a later stage you have a completed stage to fall back on.

**External distractions.** For example, if you try and satisfy an external customer at the expense of your academic work. Do not let any outside interests interfere with your work. The guidance for your project should come from your supervisor, not your prospective employer.

**Over- or under-ambition.** Try to be realistic about what you can achieve in the time available. A good project requires a lot of input from you and should prove to be technically challenging throughout. At the same time, however, it is better to do a small job well than it is to fail to do a big job. Your supervisor will advise you on his or her expectations of the project and this will help you to set your sights accordingly.

**Submission of preliminary drafts.** Do not submit your dissertation without letting your supervisor read drafts first. He or she will invariably have comments and suggestions for improvement. Don't leave this to the last moment. Give your supervisor at least 10 days to read and comment as he or she will possibly have several to look at, and it can take a while to read through a draft. You should normally expect to revise the complete draft at least once. Dissertations failing to meet minimum standards will not be accepted for award of the MSc degree.

The dissertation/reports have to be your own original work. Guidance on the use of the work of others and on plagiarism can be found elsewhere in this Handbook.

## A.12 Research Project Timetable

**In Semester 1.** Project proposals are posted on the web; students should go to the postgraduate information page and navigate from there. You should then see the supervisors of the projects that interest you to discuss the projects in detail. A project Open House is held in early December where you will have a chance to talk to a number of supervisors about the projects they are offering. Naturally not all supervisors will be able to attend the Open House and you should arrange to talk to these members of staff as soon as practical. It is important that you see your potential supervisor as you will not be assigned a project unless you have in contact with the supervisor first; without a project you cannot gain an MSc. Bear in mind that members of staff may be away even during term-time, so do not leave this until the last moment. When you have decided on the projects you would like to be considered for, you will complete the on-line project selection form. You are required to indicate three choices on the form (in order of preference). This is important: you may be given any of these, so do not select a project unless you are really prepared to do it! Of course, the allocation scheme will respect your preference order typically, every year around 70% of the students who submit a form by the deadline are allocated their first choice but clashes of one kind or another always happen

There are a large number of students in the School; all have to complete a project as part of their MSc course. To help you decide on a project there is a list of suggested projects supervised by different members of staff. But you can choose a project from this list or you can discuss with a member of staff completing a project you have developed yourself. Your chances of being allocated a project depend on the number of students wishing to undertake the project. For example, if you develop your own project, and this is agreed with a supervisor, then you will be allocated this project. However, if you and 5 other students all wish to undertake a particular project then your chances are 1 in 6. Some projects are very popular and whilst we try to match you with your preferred projects this can be difficult if projects are oversubscribed. To help us allocate projects we normally ask you to rank the projects you select in order of preference and we try to allocate you with your most preferred projects.

Please start thinking about a project immediately after the projects are announced. If you wish to arrange your own project then the earlier you can discuss this with a potential supervisor the better. Projects with industrial partners may also be available. Please note that there is no advantage if you complete the form early (but there is a disadvantage if you enter it late, after the deadline). The project coordinator will then collate the data and attempt, in discussion with Course Directors and supervisors, to give as many people as possible their first choices, or, failing that, one of their most preferred choices. There is a limit to the total number of projects that a staff member is capable of supervising. For these reasons, there is a strong likelihood of disappointment if you plump for popular projects/supervisors. Unfortunately there is no way of knowing the pattern of demand in advance (you might like to ask staff members about the level of interest in projects when you see them). If you are unsuccessful, there will be a further round of the process.

**Students select suitable MSc Projects** During the first semester, you will be making decisions about which project to undertake. Here there are more than 150 projects for students to select from, all with different requirements and outputs. Students are required to discuss projects with potential supervisors prior to selection. This is an important part of the selection process since occasionally students misinterpret or misunderstand project descriptions. It is also important that academic staff have confidence that an individual student is capable of undertaking the project. In order for you (the student) to make an informed decision about whether to proceed with a particular project selection, there are a few things you might want to discuss with the potential supervisor, specifically:

- explicitly what artefact has to be developed;
- what computing skills are required;
- what research must be undertaken; and
- what mathematics is involved in the project.

In making your decision you might want to consider, and discuss with the supervisor if necessary, the following:

- what competence the student has in the specific area the project addresses;
- what previous experience they have had of undertaking research in the project domain;
- what mathematical skill they have that aligns to those required for the project; and
- what high-level computing skills they presently have, and at what competence level.

MSc projects should be challenging for the students, but they should also be achievable. In discussing the project requirements with the supervisor beforehand you might be saving a great deal of time that might otherwise be required at a later date attempting to bring yourself up to scratch in research knowledge or mathematical/computing skills.



You should discuss the issues in a frank and open way, and ask what specific existing knowledge is required for the project domain. Remember, the main aim of this initial meeting is to make sure you are happy to undertake the project under the guidance of this particular supervisor; also you should make yourself fully aware of what the project entails. If you are happy that you are capable of undertaking the project and you fully understand what the project entails; then select the MSc the specific project you have discussed.

**Second Semester and Remainder of MSc year** After choosing your project at the turn of the year you will:

1. Complete the Research Skills & Professional Issues course unit in the second semester, alongside some taught course units.
2. Submit your Project Progress Report by the deadline before the end of the second semester. If you pass then:
3. Work full-time on your project and writing the dissertation until the deadline which is usually early to mid September.

**Warning:** Writing your dissertation may take much longer than you imagine. You should therefore allow at least 1 month (and probably longer) full-time to write, and also write-up parts of your work as they are completed so that the dissertation is part-way written before your project is completed.

**Mid Summer.** You must give prior notice of your intention to submit by completing a Notice of Submission Form. A fee is payable for late notice. The rules regarding the form of the dissertation are currently being made and will in due time appear on the University's policies webpage. You will be made aware of the rules regarding the form of the dissertations/reports, and you will also be told where to submit both, the Notice of Submission Form as well as the dissertation/reports.

**Early September.** The deadline for the submission of MSc dissertations varies from year to year but is usually in early September.

**Submitting late.** Late submission is normally only allowed where there are Mitigating Circumstances.