THE UNIVERSITY OF MANCHESTER
Postgraduate Programme Specification

1. GENERAL INFORMATION

<table>
<thead>
<tr>
<th>Award</th>
<th>Programme Title</th>
<th>Duration</th>
<th>Mode of study</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSc</td>
<td>Advanced Computer Science</td>
<td>1 year</td>
<td>Full-time</td>
</tr>
<tr>
<td>MSc</td>
<td>Advanced Computer Science</td>
<td>2 - 4 years</td>
<td>Part-time</td>
</tr>
<tr>
<td>MSc</td>
<td>Advanced Computer Science</td>
<td>3-4 years</td>
<td>Modular</td>
</tr>
<tr>
<td>PG Diploma</td>
<td>Advanced Computer Science</td>
<td>1 year</td>
<td>Full-time (exit award only)</td>
</tr>
<tr>
<td>PG Diploma</td>
<td>Advanced Computer Science</td>
<td>2-3 years</td>
<td>Part-time</td>
</tr>
<tr>
<td>PG Diploma</td>
<td>Advanced Computer Science</td>
<td>2-3 years</td>
<td>Modular</td>
</tr>
<tr>
<td>PG Certificate</td>
<td>Advanced Computer Science</td>
<td>1 year</td>
<td>Full-time (exit award only)</td>
</tr>
<tr>
<td>PG Certificate</td>
<td>Advanced Computer Science</td>
<td>2 years</td>
<td>Part-time (exit award only)</td>
</tr>
<tr>
<td>PG Certificate</td>
<td>Advanced Computer Science</td>
<td>2 years</td>
<td>Modular (exit award only)</td>
</tr>
</tbody>
</table>

School: Computer Science
Faculty: Engineering & Physical Sciences
Awarding Institution: The University of Manchester
Programme Accreditation: BCS & IEE
Relevant QAA benchmark(s): N/a – currently only at undergraduate level

2. AIMS OF THE PROGRAMME(S) (must include separate aims for PG Certificate and PG Diploma awards)

The programme aims to: (NB PG Cert is exit award only):

01. At PG Diploma level: Produce the highest quality of computing professionals and researchers across a broad range of Computer Science

02. Provide a vehicle for dissemination of leading-edge knowledge and skills, focusing on the research strengths of a large School covering most major topics in Advanced Computer Science and its applications

03. Continue to attract the highest-quality students from the UK and overseas

04. Provide an opportunity to engage in a small research project in Advanced Computer Science

05. At MSc level: As above 01 – 03 together with 05 and 06:
Offer the opportunity to focus on one of a range of specialisations.

06. Provide high quality training and experience in research in Advanced Computer Science
THE UNIVERSITY OF MANCHESTER
Postgraduate Programme Specification

3. INTENDED LEARNING OUTCOMES OF THE PROGRAMME(S) (must include separate outcomes for PG Certificate and PG Diploma awards)

<table>
<thead>
<tr>
<th>A. Knowledge &amp; Understanding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will be able to:</td>
</tr>
<tr>
<td>A1. (At all levels) Acquire a knowledge of a range of advanced topics in Computer Science beyond undergraduate level and at the forefront of research</td>
</tr>
<tr>
<td>A2. (At all levels) Understand, apply and develop leading-edge technologies in one or more of: high performance computing, formal foundations of Computer Science, computer engineering and electronic instrumentation, software engineering, advanced applications, artificial intelligence.</td>
</tr>
<tr>
<td>A3. (MSc &amp; PG Diploma) Have a knowledge &amp; understanding of research methodology &amp; practice</td>
</tr>
</tbody>
</table>

**Learning & Teaching Processes** (to allow students to achieve intended learning outcomes)

At MSc, PG Diploma & PG Certificate levels.
Because of the very wide range of topics and content, each advanced course unit utilises methods appropriate to the subject matter.

At MSc, PG Diploma & PG Certificate levels
Small group lectures, supervised laboratory work, mini-projects (group & individual) and independent preparatory learning are the main vehicles for dissemination of knowledge & understanding during the first half of the programme.

Following the taught part of the programme, students undertake a programme of supervised individual research, leading to a 90 cr dissertation at MSc level and a 30 cr dissertation at PG Diploma level.

**Assessment** (of intended learning outcomes)

A1 – A3 are assessed by a mixture of written examinations, computer-based practical work, and a range of coursework assessments including assessed miniprojects, group projects, reports, essays etc.

A1 - A3 is also assessed via the research project which includes an oral presentation of the research, and examination of the dissertation.

<table>
<thead>
<tr>
<th>B. Intellectual Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will be able to:</td>
</tr>
<tr>
<td>B1. Develop original ideas in a research context (MSc and PG Diploma levels only)</td>
</tr>
<tr>
<td>B2. Use methodologies for development of computational systems at an advanced level (All)</td>
</tr>
<tr>
<td>B3. Perform problem-solving in academic and industrial environments (All)</td>
</tr>
</tbody>
</table>

**Learning & Teaching Processes**

B1. is mainly demonstrated during the research project, and the Research Skills & Professional Issues unit (COMP60992).

**Assessment**

B1. & B3 are developed and assessed during the research project through presentation of a seminar and examination of the dissertation, as well as the Preliminary Project Report (COMP60992).
The intellectual ability B2. is learned through small-group lecturing and practical lab exercises designed to put theoretical knowledge into practice. B2. is assessed through laboratory exercises, either marked on-line or by written report.

B3. is mainly demonstrated during the research project, mini-projects and problem-based learning in teams. B3 is also assessed by reports from mini-projects (individual & group).

C. Practical Skills

Students will at MSc, PG Diploma & PG Certificate levels be able to:

C1. Develop applications to satisfy given requirements
C2. Organise & pursue a scientific or industrial research project (MSc and PG Diploma only)
C3. Use, manipulate and develop large computational systems
C4. Perform independent information acquisition and management

Learning & Teaching Processes

C1. and C3. are demonstrated in practical lab exercises and mini-projects, as well as during the research project.
C2. and C4. are demonstrated during the research project. C4. is also present in many course units.
The practical skill C4. is demonstrated in the preliminary preparation for each course unit

Assessment

C1. and C3. are assessed through laboratory exercises, either marked on-line or by written report.
C2. and C4. are developed and assessed during the Research Skills and Professional Issues unit and the Research Project through presentation of a seminar and examination of the dissertation
C4. is assessed by COMP60992, the Research Project and by a report or marked presentation in some course units.

D. Transferable Skills and Personal Qualities

Students will be able to:

D1. Work effectively as a team member (MSc, PG Diploma & PG Certificate)
D2. Prepare and present seminars to a professional standard (MSc level only)
D3. Write theses and reports to a professional standard (MSc and PG Diploma)
D4. Perform independent and efficient time-management (MSc, PG Diploma & PG Certificate)

Learning & Teaching Processes

D1. is evident in team practical project used in a number of course units

Assessment

D1. is assessed through reports and marked presentations.
### 4. THE STRUCTURE OF THE PROGRAMME(S)

#### Programme structure and credits

<table>
<thead>
<tr>
<th>Please indicate both compulsory units and optional units (including Choice of _ from _), as well as requirements for exit awards and any specified pathways.</th>
</tr>
</thead>
<tbody>
<tr>
<td>For more details about all course units available, please see web-page at: <a href="http://www.cs.man.ac.uk/Study_subweb/Postgrad/">http://www.cs.man.ac.uk/Study_subweb/Postgrad/</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>September</th>
<th>Introductory week. Introductory talks for each course unit offered. Option of specialisation in one of the following topics: High Performance Computing, Formal Methods, Software Engineering, Advanced Applications, Artificial Intelligence. The allocation of course units to specialisations is shown in the Curriculum map and in the handbook.</th>
</tr>
</thead>
<tbody>
<tr>
<td>September – January</td>
<td>Students usually take 60 credits-worth of course units in the 1st semester, i.e. four of the course units identified in the table at 6. below.</td>
</tr>
<tr>
<td>January – May</td>
<td>Students usually take 30 credits-worth of course units in the 2nd semester i.e. two of the course units identified in the table below. To continue towards the research project for MSc award, students need to pass the taught component in this Semester. Students also undertake COMP60992 Research Skills and Professional Issues (30 credits) and its assessment the Project Background Report. In addition to passing the taught course units, the mark awarded to the Project Background Report must be at least 50%. If the Report receives marks of 40% or above, but below 50%, the student exits the programme with a Postgraduate Diploma. Exit with a Postgraduate Certificate is determined by the assessment regulations.</td>
</tr>
<tr>
<td>Jan – September</td>
<td>Assessment by Project Background Report and dissertation (or Group and Individual Reports for group projects).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
<tr>
<td>60</td>
</tr>
<tr>
<td>30</td>
</tr>
<tr>
<td>30+60 (MSc)</td>
</tr>
<tr>
<td>30 (PG Dip exit with 90+30 credits)</td>
</tr>
</tbody>
</table>

### 5. STUDENT INDUCTION, SUPPORT AND DEVELOPMENT (in order to deliver the intended learning outcomes, including dissertation support and guidance)
The Induction phase introduces students to a broad range of advanced topics in Computer Science. Opportunity to make informed choice of course units. Opportunity to plan a proposed specialism - students must take at least half their course units from their proposed specialism as well as a suitable research project.

**September – January**

Course units are taught in an intensive mode: 1 day a week for 5 weeks are ‘taught’ days consisting of lectures, supervised practicals etc., 2.5 days a week for 5 weeks are practical exercises and 2.5 days of a coursework completion week are also practical exercises. Some of the practical exercises may be assessed work. Most course units are assessed through coursework (66%) and end-of-semester examination (34%). However, flexibility is allowed in the delivery and assessment, allowing methods appropriate for each subject. Further information is available at: [http://intranet.cs.man.ac.uk/Intranet_subweb/Postgrad/infocurrentstudents.php](http://intranet.cs.man.ac.uk/Intranet_subweb/Postgrad/infocurrentstudents.php)

**January – May**

To continue towards the research project for MSc award, students need to pass the taught component and the COMP60992 assessment. For PG Certificate exit award, students need to pass 60 credits of taught course units. For PG Diploma, students need to pass the taught component at the 40% level and the COMP60992 assessment at the 40% level. MSc and Diploma students select their research project from a wide range of proposed projects, and also by individual agreement with supervisors.

**May – September**

There is a seminar to supervisor, internal examiner & research group, in June. Feedback on presentation skills and a progress report are provided for the student at this point. The thesis is assessed by two internal examiners by report and moderated by one external examiner.

Students have access to the Programme Director throughout the programme. They are encouraged to contact the Director when problems arise and are informed of this during the introductory period. The Department also has a drop-in Advice Centre for lunch-time help-sessions. During the period of the second Semester and the research project, an individual assigned supervisor is also available. Relationship with the supervisor is outlined in the Programme Handbook and the Research Skills and Professional Issues course unit COMP60992.
6. CURRICULUM MAP OF COURSE UNITS AGAINST INTENDED LEARNING OUTCOMES OF THE PROGRAMME

<table>
<thead>
<tr>
<th>Course Unit Title and Code</th>
<th>Knowledge &amp; Understanding (A)</th>
<th>Intellectual Skills (B)</th>
<th>Practical Skills (C)</th>
<th>Transferable Skills &amp; Personal Qualities (D)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A1</td>
<td>A2</td>
<td>A3</td>
<td>A4</td>
</tr>
<tr>
<td>COMP 60001 Introduction</td>
<td>C</td>
<td>D</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>COMP 60012 Future Multi-Core Computing</td>
<td>O</td>
<td>A</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>COMP 60022 SE/HPC/AA – Grid Computing &amp; e-Science</td>
<td>C/O</td>
<td>A</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>COMP 60032 HPC/CPTL – High Performance Computing in Science &amp; Engineering</td>
<td>C/O</td>
<td>A</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>COMP 60042 HPC – Low Power System Design</td>
<td>C/O</td>
<td>A</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>COMP 60051 HPC – Visualization for HPD</td>
<td>C/O</td>
<td>A</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>COMP 60071 CPTL – Introduction to Computational Science</td>
<td>C/O</td>
<td>A</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>COMP 60081 HPC/CPTL – Fundamentals of High Performance Execution</td>
<td>C/O</td>
<td>A</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>COMP 60121 FM/Al - Automated Reasoning</td>
<td>C/O</td>
<td>A</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>COMP 60162 FM/Al/SE– Knowledge Representation &amp; Reasoning</td>
<td>C/O</td>
<td>A</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>COMP 60242 AA – Mobile Computing</td>
<td>C/O</td>
<td>A</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>COMP 60312 AA – Computational Biology</td>
<td>C/O</td>
<td>A</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>COMP 60321 SE/AA Computer Animation</td>
<td>C/O</td>
<td>A</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>COMP 60362 SE/AA/&amp;IT – Advanced Database Management Systems</td>
<td>C/O</td>
<td>A</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>COMP 60391 AA/&amp;IT – Computer Security</td>
<td>C/O</td>
<td>A</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>COMP 60431 AI – Machine Learning</td>
<td>C/O</td>
<td>A</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>COMP 60440 AI /AA– Advanced Machine Vision</td>
<td>C/O</td>
<td>A</td>
<td>A</td>
<td>D</td>
</tr>
</tbody>
</table>
## THE UNIVERSITY OF MANCHESTER
### Postgraduate Programme Specification

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP 60461</td>
<td>AA/FM/Al – The Semantic Web</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>COMP 60491</td>
<td>AI - Robotics</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>COMP 70042</td>
<td>CEESI – Low Power System Design (DL)</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>COMP 70212</td>
<td>CEESI – Self-Timed Logic (DL)</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>BMAN 61051</td>
<td>&amp;IT – IT Trends</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>BMAN 60112</td>
<td>&amp;IT – IT Systems &amp; Strategy</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>BMAN 61102</td>
<td>AI/AA/SE &amp;IT– Decision Analysis</td>
<td>D</td>
<td>D</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>MSEC 40001</td>
<td>&amp;IT – Entrepreneurial Commercialisation of Knowledge</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>COMP 60992</td>
<td>Research Skills &amp; Professional Issues</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>COMP 60900</td>
<td>Research Project</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>COMP 67310</td>
<td>IT Leadership Forum</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>COMP 67050</td>
<td>SE/AA - Patterns for e-Business</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>COMP 67370</td>
<td>SE/AA - Semi-Structured Data and the Web</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>COMP 67030</td>
<td>SE/AA Web Applications</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>COMP 60110</td>
<td>SE/FM - System Construction Using B</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
</tbody>
</table>

### Legend for cells

- **D** = intended learning outcomes of the programme are taught or developed by students within this course unit
- **A** = intended learning outcomes of the programme are assessed within this course unit
- **C** = compulsory course unit
- **O** = optional course unit

- **HPC** = High Performance Computing, **FM** = Formal Methods, **SE** = Software Engineering, **AA** = Advanced Applications, **AI** = Artificial Intelligence (specialisations within MSc in Advanced Computer Science).

For the MSc programmes indicated below, see the relevant MSc programme specification re additional learning outcomes for course units associated with that particular programme:

- **wICT** = ACSwithICT Management.
- **CPTL** – Computational Science & Engineering.
- **EIS** = Electronic Instrumentation Systems.
• CEESI = Low Power System Integration
7. CRITERIA FOR ADMISSION

Candidates must be able to satisfy the general admissions criteria of the University and of the School in at least one of the following ways:

Entry to the programme is by a 1st class or good 2nd class honours degree or its overseas equivalent in either Computer Science or a joint course with at least 50% Computer Science content. An honours degree in another subject together with sufficient relevant industrial experience is also acceptable. In exceptional circumstances, candidates without an honours degree but with considerable and relevant industrial and educational experience will be accepted. Candidates with a good Honours Degree or equivalent in a science (Non CS) subject may enter via the Foundation Route.

In addition, all students are required to be proficient in spoken and written English. In order to be accepted on an MSc programme in the School of Computer Science, applicants need to achieve an IELTS score of 6.5 (writing 6) or TOEFL 250cb/600pb/100ib (TWE/Essay 5.0/w24) or Cambridge Proficiency C or EAP B (Northern Consortium students). The final decision on the standard of English remains with the Admissions Tutor and other very strong evidence of proficiency may be acceptable.

Experience shows that even those students who have passed the required language test find it difficult sometimes to adjust to operating in English entirely. We therefore strongly recommend that all such students take additional measures, such as attending English language courses (the Language Centre at the University provides English Language programmes – see the website at http://www.langcent.manchester.ac.uk), reading English literature, speaking and writing English wherever possible.

8. PROGRESSION AND ASSESSMENT REGULATIONS

The defining regulations and procedures for the MSc programme are laid down in the University’s Ordinances and Regulations.

General Requirements
The assessment consists of two parts (1) an assessment of the taught course units undertaken, and (2) an assessment of the Research Project. In order to be allowed to complete the Research Project, students must pass the taught part of the programme. The award of an MSc is then made on the basis of the output from the Research Project.

Taught Part
Taught course units are normally assessed by coursework and examination.

Coursework
Coursework is likely to include practical laboratory exercises (individually or in groups), written 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.

Please refer to Section 11 for important coursework issues pertaining to different types of coursework and plagiarism.

Discipline and conduct
The University’s policy on student ‘Discipline and Conduct’ is also available on the policies webpage.

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 information page for MSc students.
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.

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

Pass Rules
The assessment for the MSc consists of two parts: (1) an assessment of the taught course units undertaken and (2) an assessment of the project (and group and individual reports in the case of group-based projects). In order to be allowed to progress to the research project, students must successfully pass the taught part of the programme and the COMP60992 unit. The award of an MSc is then dependent upon passing the assessment of the project.

The assessment regulations for the following programmes are given below.

- MSc in Advanced Computer Science
- MSc in Advanced Computer Science with IT Management
- MSc in BioHealth Informatics
- MSc in Computational Methods and Imaging in Medicine

Including Diplomas and PG Certificates

Taught Course Units
Each student will be assessed on 90 credits’ worth of coursework and/or examination questions. Coursework is likely to include practical laboratory exercises (individually or in groups), written essays, seminar presentations, and/or other forms appropriate to each individual course unit; for each full course unit, this usually carries two-thirds of the mark. The examinations usually consist of a two-hour paper for each course unit, carrying one third of the marks, and take place after the teaching in each Semester. The University regulations are at: http://www.campus.manchester.ac.uk/medialibrary/tlao/pgt-regulations-june2007.doc

Individual Course Units
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 sufficient.
A candidate is required for the MSc degree to register for 90 credits’ worth of taught course units, and will normally be considered as passing the units if all course units have been passed at 50% or more. The failed course units can be re-sat once and the maximum mark to be awarded for re-submitted coursework or re-taken examination will normally be 50%.

Compensated pass:
Students may be awarded a compensated pass for a Masters degree when they fail no more than 30 credits and receive a mark between 40 and 49% for those failed credits. The student must also have gained an overall average for all taught credits of 50% or more in order to be granted a compensated pass.

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 final decision on whether a student passes is taken by the MSc Examination Board.

**Pass rules for Postgraduate Diploma and Certificate**

**Postgraduate Diploma**
The University regulations are at: [http://www.campus.manchester.ac.uk/medialibrary/tlao/pgt-regulations-june2007.doc](http://www.campus.manchester.ac.uk/medialibrary/tlao/pgt-regulations-june2007.doc). It is awarded to a student who has been assessed on 90 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 student must also have gained an overall average for all taught credits of 40% or more in order to be granted the compensated pass.

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 maximum mark to be awarded for re-submitted coursework or re-taken examination will normally be 40%.

In addition, for the Diploma, students are required to successfully complete the Project Background Assessment and achieve a mark of 40% or more.

**Postgraduate Certificate**
The University regulations are at: [http://www.campus.manchester.ac.uk/medialibrary/tlao/pgt-regulations-june2007.doc](http://www.campus.manchester.ac.uk/medialibrary/tlao/pgt-regulations-june2007.doc). This is awarded to students who have successfully taken 60 credits’ worth of coursework & examination questions with a result of 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. The student must also have gained an overall average for all taught credits of 40% or more in order to be granted the compensated pass.

**MSc Project**
The MSc Project comprises two parts:

- **Part 1** – Background research, specification, design studies (February to May/June)  
  Assessment: Project Background Report
- **Part 2** – Completion of MSc project (June to early September)  
  Assessment: Dissertation (and Group Report for group projects) (60 credits)

**Project Background Report (COMP60992)**
The assessment for COMP60992 (Research Skills and Professional Issues) is through the Project Background Report in the case of an individual MSc Research Project, and a group report and individual report in case of a group based MSc Research Project. The precise content of the report depends upon the nature of the Research Project, but typically will include (1) Description of the project and its context and aims, (2) Survey of relevant literature, (3) Study of relevant research methods, design methodology, and implementation tools, (4) Requirements and specification, (5) Criteria of success, and (6) Project plan for overall project.

The report(s) will be assessed according to the standards expected of the Masters Dissertation with respect to substance, soundness of contents, and quality of presentation. The report is/are assessed in the same way. The supervisor and a second marker make independent assessments. The individual MSc Dissertation, and group report are assessed internally, see Section 10.3 below.

The report(s) contribute(s) 30 credits to the MSc. The report(s) is/are assessed and, in order to be allowed to complete the Research Project and gain an MSc the report(s) must pass at the 50% level. If the report(s) receive(s) marks of 40% or above, but below 50%, the student exits the programme with a Postgraduate Diploma. No resit of COMP60992 is allowed, except where mitigating circumstances have been approved.

**Research Project and Dissertation**

**Individual MSc Dissertation**
The general requirements for presentation of an individual dissertation are set out in the University’s Ordinances and Regulations. 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 Plagiarism (Section 17.3).

Group-Based MSc Projects
The assessment of group–based MSc projects is based on:

- The group report 40%
- The individual report 60%

The group report is prepared by the group as a whole. The group report should include a brief description of the organisation of the project tasks, how decisions were reached and a summery of all joint and individual contributions to various aspects of the group report (typically this will include contribution to the specification and design, research, program code, program documentation, project management logs, minutes of meetings, editorship of group report). The group report, together with any supporting documents which are prepared jointly, should be submitted as a separate document under joint ownership. Each member of the group will normally get the same group report mark.

Each member of the group should prepare and submit an individual dissertation which should follow the University’s guidance on the presentation of taught Masters dissertations. http://www.campus.manchester.ac.uk/medialibrary/researchoffice/graduateeducation/g-pres-diss-pgt.pdf

The Individual dissertation must include the following:
Details about the individual contribution to the project and a summary of the other group member’s contributions to the project.

A suitably formulated declaration about authorship. The declaration should state that the work referred to in the dissertation was completed as part of a group project, what portion of the work referred to in the dissertation has been (or will be) submitted by which members other members of the group, and what portion (possibly none) of the work referred to in the dissertation has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

Dissertation Examination
The MSc dissertation/reports is/are 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 November.

The MSc Project Mark is the credit-weighted average of the marks for the Project Background Report (rated 30 credits) and the MSc dissertation, and Group Project Report were applicable (rated 60 credits). A pass for the project is awrded for a project mark of 50% or above.

At the recommendation of the board of examiners, students will normally be allowed one resubmission of a failed dissertation or group project report and this will normally be within four months of the date of the publication of the result. Resubmission will not be allowed if the mark is below 40%.

Students who achieve a MSc project mark mark of between 40-49% may accept the award of Postgraduate Diploma with no further work required or resubmit the dissertation/reports on one occasion, at the discretion of the Board of Examiners. A student achieving a mark below 50% for a resubmitted dissertation/reports will be awarded a Postgraduate Diploma.

The maximum mark to be awarded for resubmitted dissertations or projects will normally be 50% for the Masters degree and 40% for the Postgraduate Diploma.

The project reports for the Diploma is assessed by the same procedure, applied to a project of 30 credits (instead of 90 credits) and the minimum pass mark is 40%.
Awards by Credit Accumulation

As well as the one-year MSc programme, the School offers a 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.

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 level the credit weighted average of the course units must be 40% or more and no more than 30 credits shall fall below the 40% mark, and these failed credits should be between 30% and 39%. The selection of these 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).

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, with a credit weighted average of 50%. The selection of these course units must fulfil the same criteria as selection for the MSc programme and a research project of 30 credits.

The Postgraduate Certificate is awarded to students who have successfully taken 60 taught credits (4 course units) with a result of 40% or more in each course unit.

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.

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.

MSc with Distinction

An MSc with Distinction is awardable under the following circumstances:

The student must have passed the assessment for course units with an overall mark of at least 70% with no mark below 50% in any course unit.

The examiners award a project mark of at least 70%. The recommendation is then passed to the External Examiner, who must agree to the recommendation for the award of a Distinction to be granted by the Faculty's MSc Panel.

Students who have had to resit any unit(s) or have been granted a compensated pass will not be eligible for the award of distinction.

Diploma students can gain a Distinction if they satisfy the same rules.

MSc with Merit

An MSc with Merit is awardable under the following circumstances:

The student must have passed the assessment for course units with an overall mark of at least 60% with no mark below 50% in any course unit.

The examiners award a project mark of at least 60%.

Students who have had to resit any unit(s) or who have been granted a compensated pass will not be eligible for the award of merit.

Diploma students can gain a Merit if they satisfy the same rules.

MSc with Pass

To obtain a pass for an MSc degree, the student is required both to pass the taught course units at Masters level as described above and to achieve at least 50% as a project mark.

Procedures for Students Who Fail
<table>
<thead>
<tr>
<th>Date of original production:</th>
<th>30th July 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of current version:</td>
<td>11th August 2008</td>
</tr>
</tbody>
</table>