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>Biohealth Informatics</td>
<td>1 Year</td>
<td>Full Time (Blended Learning)</td>
</tr>
<tr>
<td>MSc</td>
<td>Biohealth Informatics</td>
<td>2 Years</td>
<td>Part Time (Blended Learning)</td>
</tr>
<tr>
<td>MSc</td>
<td>Biohealth Informatics</td>
<td>3-4 years</td>
<td>Modular</td>
</tr>
<tr>
<td>PG Diploma</td>
<td>Biohealth Informatics</td>
<td>1 Year</td>
<td>Full Time (Exit award only)</td>
</tr>
<tr>
<td>PG Diploma</td>
<td>Biohealth Informatics</td>
<td>2-3 Years</td>
<td>Part Time (Exit award only)</td>
</tr>
<tr>
<td>PG Certificate</td>
<td>Biohealth Informatics</td>
<td>2 Semesters</td>
<td>Full Time (Exit award only)</td>
</tr>
<tr>
<td>PG Certificate</td>
<td>Biohealth Informatics</td>
<td>2 Years</td>
<td>Part Time (Exit award only)</td>
</tr>
<tr>
<td>PG Certificate</td>
<td>Biohealth Informatics</td>
<td>2 years</td>
<td>Modular (exit award only)</td>
</tr>
</tbody>
</table>

School: School of Computer Science  
Faculty: Engineering and Physical Sciences  
Awarding Institution: The University of Manchester  
Programme Accreditation: None Applicable  
Relevant QAA benchmark(s): None Applicable

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

The programme aims to:

01. Equip students from diverse backgrounds with a strong foundation in the multidisciplinary issues that straddle the boundaries between advanced computer science and bio-, clinical and public health informatics.

02. Produce high quality professionals and researchers with the skills and knowledge needed to design, develop, understand or use computational and informatics systems across a wide range of applications and activities from basic biology or medical research through drug discovery, medical treatment and population epidemiology.

03. Create additional capacity of trained researchers to support the expansion of an established interdisciplinary platform for collaborative training and research between the Medical School, Life Sciences and the School of Computer Science.

04. Meet the need of international industry and public sector concerns for graduates capable of leading service and research development in a rapidly developing field.

05. (MSc Only) Equip students with the theoretical, practical, ethical, critical and communication skills required to make a significant contribution to scientific research generally at MSc level or beyond.
### 3. INTENDED LEARNING OUTCOMES OF THE PROGRAMME(S) (must include separate outcomes for PG Certificate and PG Diploma awards)

#### A. Knowledge & Understanding

**Students should be able to:**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>A1</td>
<td>Acquire knowledge of the history, current status and recent advances in bio-and health informatics</td>
</tr>
<tr>
<td>A2</td>
<td>Appreciate the wide scope of the knowledge and technologies required to practice biohealth informatics, and acquire detailed knowledge of a subset of these.</td>
</tr>
<tr>
<td>A3</td>
<td>Understand the particular opportunities and hazards inherent in biohealth informatics</td>
</tr>
<tr>
<td>A4</td>
<td>Understand the issues relating to the rights of other researchers, of research subjects, and of others who may be affected by the research, e.g. confidentiality, ethical issues, attribution, copyright, malpractice, ownership of data and the requirements of the Data Protection Act</td>
</tr>
<tr>
<td>A5</td>
<td>Show a broad understanding of the national and international contexts in which research takes place, is funded, evaluated and exploited</td>
</tr>
</tbody>
</table>

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

- Lectures / Seminars / Practicals (A1-5)
- Tutor directed or problem-based, self-directed reading (A1-5)
- Problem-based group work and discussion (A1-5)
- On-line asynchronous moderated discussion (A1-5)
- Project (MSc Only)

**Assessment** (of intended learning outcomes)

- Written assignments (A1-5)
- Oral presentations at student seminars with audience questions (A1-3)
- Module exit examinations (variety of formats including open book, MCQ, short answer) (A1-5)
- Dissertation (MSc Only) (A1-4)

#### B. Intellectual Skills

**Students should be able to:**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>Recognise problems and devise appropriate solutions</td>
</tr>
<tr>
<td>B2</td>
<td>Demonstrate original independent thinking, and an ability to develop theoretical concepts</td>
</tr>
<tr>
<td>B3</td>
<td>Critically analyse and evaluate one’s findings and those of others</td>
</tr>
<tr>
<td>B4</td>
<td>(MSc Only) Understand relevant research methodologies and techniques and their appropriate application to research</td>
</tr>
<tr>
<td>B5</td>
<td>(MSc Only) Justify the principles and experimental techniques used in one’s own research</td>
</tr>
</tbody>
</table>

**Learning & Teaching Processes**

- Tutor directed or problem-based, self-directed reading (B1-5)
- Problem-based group work and discussion (B1-5)
- On-line asynchronous moderated discussion (B1-5)
- Project (MSc Only) (B1-5)

**Assessment**

- Written assignments (B1-3)
- Oral presentations at student seminars with audience questions (B1-3)
- Summative module exams (variety of formats including open book, MCQ, short answer) (B2,3)
- Dissertation (MSc Only) (B1-5)
### C. Practical Skills

**Students should be able to:**

- **C1.** (MSc Only) Organise and pursue a scientific or industrial research project
- **C2.** Use, manipulate or create large biohealth information systems
- **C3.** Perform independent information acquisition and management
- **C4.** Handle and analyse biohealth informatics data

### Learning & Teaching Processes

<table>
<thead>
<tr>
<th><strong>Learning &amp; Teaching Processes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Project (MSc Only) (C1-2)</td>
</tr>
<tr>
<td>Individual data analysis practicals (C2)</td>
</tr>
<tr>
<td>Mini-practicals within seminars (C2)</td>
</tr>
</tbody>
</table>

### Assessment

<table>
<thead>
<tr>
<th><strong>Assessment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissertation (MSc Only) (C1-2)</td>
</tr>
<tr>
<td>Student assignments (C2)</td>
</tr>
<tr>
<td>Practical Assignments (C2)</td>
</tr>
</tbody>
</table>

### D. Transferable Skills and Personal Qualities

**Students should be able to:**

- **D1.** Identify and access appropriate bibliographical resources, archives, and other sources of relevant information to investigate a topic
- **D2.** Prepare, present and effectively communicate and defend complex ideas in documents and oral presentations
- **D3.** Write dissertations (MSc Only) and reports (all) to a professional standard
- **D4.** Demonstrate flexibility, open-mindedness, self-awareness, self-discipline, motivation and thoroughness
- **D5.** Work independently, but identify training needs and draw on support or collaboration as necessary
- **D6.** Set personal goals, summarise, document, report and reflect on progress

### Learning & Teaching Processes

<table>
<thead>
<tr>
<th><strong>Learning &amp; Teaching Processes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem-based, self-directed reading (D1)</td>
</tr>
<tr>
<td>Writing assignments (D2, D4, D6)</td>
</tr>
<tr>
<td>Problem-based group work and discussion (D2, D4)</td>
</tr>
<tr>
<td>Project (MSc Only) (D1-6)</td>
</tr>
<tr>
<td>Writing dissertation (D3, D5, D6)</td>
</tr>
</tbody>
</table>

### Assessment

<table>
<thead>
<tr>
<th><strong>Assessment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Written assignments (D1,2,4,5,6)</td>
</tr>
<tr>
<td>Oral presentations at student seminars with audience questions (D2)</td>
</tr>
<tr>
<td>Summative module exams (variety of formats including open book, MCQ, short answer) (D2)</td>
</tr>
<tr>
<td>Dissertation (MSc Only) (D1-6)</td>
</tr>
</tbody>
</table>

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PG Programme Specification 2007-2008
4. THE STRUCTURE OF THE PROGRAMME(S)

<table>
<thead>
<tr>
<th>Programme structure and credits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COMPULSORY CORE UNITS</strong></td>
<td>45 Total</td>
</tr>
<tr>
<td>(All Students, All Pathways And Awards)</td>
<td></td>
</tr>
<tr>
<td>BIOL61061  Introduction to Bioinformatics (eLearning unit)</td>
<td>15</td>
</tr>
<tr>
<td>MEDN70991  Introduction to Health Informatics (direct taught unit)</td>
<td>15</td>
</tr>
<tr>
<td>COMP60302  Introduction to BioHealth Informatics (direct taught unit)</td>
<td>15</td>
</tr>
<tr>
<td><strong>COMPULSORY CORE UNITS</strong></td>
<td></td>
</tr>
<tr>
<td>(MSc Award Only)</td>
<td></td>
</tr>
<tr>
<td>COMP60992  Research Skills and Professional Issues</td>
<td>30</td>
</tr>
<tr>
<td><strong>COMPULSORY UNITS</strong></td>
<td>Maximum</td>
</tr>
<tr>
<td>(All students, All Pathways And Awards depending on prior skills)</td>
<td>15</td>
</tr>
<tr>
<td>MEDN60051  Introduction to Human Biology</td>
<td>15</td>
</tr>
<tr>
<td><em>All students with zero or weak previous biology qualifications</em></td>
<td></td>
</tr>
<tr>
<td>MEDN70001  JAVA1</td>
<td>15</td>
</tr>
<tr>
<td><em>All students with zero or weak previous computing qualification or expertise</em></td>
<td></td>
</tr>
<tr>
<td><strong>OPTIONAL MODULES</strong></td>
<td>30 or 45</td>
</tr>
<tr>
<td>(All Students, All Pathways And Awards)</td>
<td></td>
</tr>
</tbody>
</table>
## Bioinformatics

- BIOL61010 An Introduction to Microarray Data Analysis (eLearning unit)
- BIOL61092 Biocomputing (eLearning unit)
- BIOL60120 Theory and Applications in Bioinformatics (eLearning unit)
- BIOL60570 Molecular modelling and structure-based drug design (eLearning unit)
- BIOL60460 An Introduction to Ontologies for the Biosciences (eLearning unit)

## Public Health Informatics

- MEDN60991 Fundamentals in Epidemiology (eLearning unit)
- MEDN60182 Advanced Epidemiology (eLearning unit)
- MEDN60982 Biostatistics (eLearning unit)

## Clinical Informatics

- MEDN61182 Medical Imaging
- MEDN61192 Computer Vision
- MEDN60172 Clinical Decision Support

## Medical Sciences

- MEDN61082 Nuclear Medicine

## Advanced Computer Science

- COMP60162 Knowledge Representation and Reasoning
- COMP60242 Mobile Computing
- COMP60362 Advanced Database Management Systems
- COMP60431 Machine Learning
- COMP60461 The Semantic Web – Ontologies and OWL
- COMP60370 Semi-structured Data and the Web
- COMP60022 Grid Computing and eScience
- BMAN61102 Decision Analysis and Decision Support Systems

## 5. STUDENT INDUCTION, SUPPORT AND DEVELOPMENT

(in order to deliver the intended learning outcomes, including dissertation support and guidance)

**Induction**

The first fortnight of the academic year forms an introduction to the programme. It includes an Introduction to the School of Computer Science and the Faculties of Medicine and Life Science, as well as an introduction to the wider University and its student support services.

An overview of the subject of biohealth informatics is provided, together with an explanation of the specific programme learning goals, and the general principles and processes by which students are assessed in their progress towards such learning goals.

The individual module tutors for the core modules are introduced, together with members of the supporting administration team.

**Project and Dissertation**

Towards the end of the taught modules in semester two, all MSc students must attend a one-week module on Research and Professional Skills. This is presented in collaboration with representatives from the Careers Service, the Post-Experience Vocational Education Unit, Programme Directors, Research Staff and Groups, and Industrial Consultants.

During the project and dissertation phase each student is assigned a personal research tutor who will meet with them twice a month (or more frequently as necessary) to monitor and guide progress, as well as being available by email for informal support.
6. CURRICULUM MAP OF COURSE UNITS AGAINST INTENDED LEARNING OUTCOMES OF THE PROGRAMME

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Unit title</th>
<th>Knowledge &amp; Understanding</th>
<th>Intellectual Skills</th>
<th>Practical Skills</th>
<th>Transferable Skills &amp; Personal Qualities</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDN60051</td>
<td>An Introduction to Human Biology</td>
<td>(C)</td>
<td></td>
<td>DA</td>
<td></td>
</tr>
<tr>
<td>BIOL6120</td>
<td>Theory and Applications in Bioinformatics</td>
<td>O</td>
<td>DA</td>
<td>DA</td>
<td>DA</td>
</tr>
<tr>
<td>BIOL60460</td>
<td>An Introduction to Ontologies for the Biosciences</td>
<td>O</td>
<td></td>
<td>DA</td>
<td></td>
</tr>
<tr>
<td>COMP60162</td>
<td>Knowledge Representation and Reasoning</td>
<td>O</td>
<td>DA</td>
<td>DA</td>
<td>DA</td>
</tr>
<tr>
<td>COMP60242</td>
<td>Mobile Computing</td>
<td>O</td>
<td>DA</td>
<td>DA</td>
<td>DA</td>
</tr>
<tr>
<td>COMP60302</td>
<td>Advanced Database Management Systems</td>
<td>O</td>
<td>DA</td>
<td>DA</td>
<td>DA</td>
</tr>
<tr>
<td>COMP60431</td>
<td>Machine Learning</td>
<td>O</td>
<td>DA</td>
<td>DA</td>
<td>DA</td>
</tr>
<tr>
<td>COMP60461</td>
<td>The Semantic Web – Ontologies and OWL</td>
<td>O</td>
<td>DA</td>
<td>DA</td>
<td>DA</td>
</tr>
<tr>
<td>BMAN61102</td>
<td>Decision Analysis and Decision Support Systems</td>
<td>O</td>
<td>DA</td>
<td>DA</td>
<td>DA</td>
</tr>
<tr>
<td>PROJECT AND DISSERTATION</td>
<td></td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>

Legend for cells

- **D** = intended learning outcomes of the programme are taught or developed by students within this course unit
- **C** = compulsory course unit
- **(C)** = compulsory unit for selected students
- **DA** = intended learning outcomes of the programme are delivered and assessed within this course unit
- **O** = optional course unit
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:

The programme is aimed at students with backgrounds in either (1) computer science, (2) biology or (3) medicine or health-care. It expects a mixed intake and is designed to make maximum use of the synergy between students’ existing skills. The range of optional modules allows students to concentrate on those areas outside their area of original training while benefiting from a strong research oriented unit focused on interdisciplinary issues.

English Language Requirements are those for the School of Computer Science.

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.

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 University of Manchester  
Postgraduate Programme Specification

The assessment regulations for the following programmes are given below.
- MSc in Advanced Computer Science
- MSc in Advanced Computer Science and 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](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/pqt-regulations-june2007.doc](http://www.campus.manchester.ac.uk/medialibrary/tlao/pqt-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 awarded 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.

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),
assembled 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**
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 normally set. This normally means that the
student needs to interrupt her/his studies and retake the examinations in the next year. It is not possible to
continue with the project until the taught part of the programme has been passed. There is no resit for
COMP60992 (see regulations Section 6.3). If a candidate satisfies the criteria for a Diploma or Certificate,
they may, at the discretion of the Examiners, be given the option to re-register accordingly. 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.
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