Programme Structure

In semester 1 full-time students take 2 lectured courses, do background research on their research area and develop a master class in F21SM on a related topic. In semester 2 they do 2 further lectured courses, research and plan their project in F22RM and then start working on it. In semester 3 (May-August) they continue on their research full-time, which they write up in a thesis of 20000 to 30000 words. It may either be submitted for assessment to complete their MSc or used as evidence to ask for transfer to the second year of a PhD instead.

Introduction

The aim of this Research Masters degree is to enable good Computer Science graduates to investigate the state of the art in an advanced topic in Computer Science and to develop an innovative solution to one of its challenges.

The full-time MSc degree starts in mid September, lasts 1 year and consists of 3 semesters of study. Part-time study for the MSc over 2 years is also possible by arrangement with the MSc director.

Students submit a 2 or 3 page research proposal with their MSc application. This is used to find two research supervisors with expertise in that area, who negotiate a research topic with the student.

The majority of the programme consists of supervised research in various forms but students also study 4 lectured courses offered on taught MSc programmes in the Computer Science department.

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
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<tbody>
<tr>
<td>F21SM  Software Engineering Master Class  Supervised research (150 effort hours)</td>
<td>F22RM Research Methods in Computer Science  Supervised research (150 effort hours)</td>
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<tr>
<td>Course option</td>
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Options:

- F21MA  3D Graphics and Animation
- F21BC  Biologically Inspired Computation
- F21CN  Computer Network Security
- F21DF  Databases & Information Systems
- F21DL  Data Mining & Machine Learning
- F21DV  Data Visualisation and Analytics
- F21SC  Industrial Programming
- F21IF  Information Systems Methodologies
- F21RO  Intelligent Robotics
- F21RS  Rigorous Methods for Software Engineering
- F21SF  Software Engineering Foundations
- F21SA  Statistical Modelling and Analysis

Options:

- F21AD  Advanced Interaction Design
- F21AN  Advanced Network Security
- F21AS  Advanced Software Engineering
- F21BD  Big Data Management
- F21GP  Computer Games Programming
- F21CA  Conversational Agents and Spoken Language Processing
- F21DE  Digital and Knowledge Economy
- F21DP  Distributed & Parallel Technologies
- F21EC  e-Commerce Technology
- F21NA  Network Applications
SEMESTER 1 and 2 COURSES

F21SM Software Engineering Master Class
- To introduce students to the cutting edge of research in their field using the guidance and expertise of active research groups.
- To provide students with an opportunity to create and deliver a master class on a topic to their peers.
- To give students appreciation of how to appraise research presentations.

F22RM Research Methods in Computer Science
- To impart skills in critical analysis of the state of the art in a scientific problem domain in Computer Science.
- To instil appreciation of relevant methods and tools to use for researching the scientific literature to support scientific authorship.
- To develop skills in the art of writing research papers suitable for publication in the academic Computer Science literature.
- To enable students to gain skills in research project planning.
- To give students an awareness of legal, social, ethical and professional issues relevant for IT practitioners.
- To enhance students' employability by development of job seeking and career planning skills.

Research Interests of Computer Science Academics

We may alter the course options offered at any time. Some courses may not run every year. Not every course combination may be possible to take. Students must satisfy each course's prerequisites and their course choice must be agreed with the programme's director.
Post-Study Work Opportunities in Scotland

Opportunities exist for students who graduate in a specialism in demand in the Scottish economy to get employment here. The Scottish government is keen to help talented individuals from around the world come to study, work and live here. More information can be found at www.talentscotland.com

Career Prospects

Graduates from the programme can expect to be able to get employment with software houses, IT companies, research and development divisions of companies, financial services organisations, defence contractors or government IT agencies and as researchers or research students within universities.

Scholarships and Awards

International students can apply for a variety of scholarships from the Scottish executive, other bodies and our school. Please visit www.hw.ac.uk/study/scholarships/postgraduate-research.htm

Employment

First destinations of some of our recent taught MSc graduates:
- Software Engineer, Ion Concept Systems
- Software Engineer, Logica
- PhD Computer Science, Heriot-Watt University
- IT Manager, NCS
- Database Administrator, Pension Fund Commission
- System Specialist, UBS AG (Bank)
- Test Engineer, IBM
- Systems Engineer, GEC Marconi Avionics
- Graduate Software Engineering, Thomson Marconi Sonar Ltd
- Computer Programmer, Bull Europe
- Software Consultant, Absoft
- Software Engineer, Thales (UK)

Cost

The Scots/UK/EU fee for this one year full time MSc programme at Heriot-Watt university in Edinburgh starting in September 2019 is £7168. The overseas fee is £18680. The cost of living during one year of study in Edinburgh is estimated at £10800.

Entry Requirements

Applicants must have a first or higher second class honours degree in Computer Science or its equivalent. A taught MSc in Computer Science or Information Technology at 60% is also acceptable.

Applicants must submit a 2 or 3 page research proposal with their application. It is used to assess the applicant’s grasp of the nature of research. It is also used to match acceptable applicants with suitable research supervisors. Applicants should look at the research interests of academics and research groups in the Computer Science department before formulating their research proposal.

Non-native English speakers must also satisfy the university’s requirements for competency in English. This can be done with an IELTS score of 6.5, an ECCE certificate, Pearson Test of Academic English 58, Cambridge First Certificate in English A or B, level C in academic English from our English language teachers or by proving they have studied wholly in English at university level. English language training can be undertaken at Heriot-Watt University before starting the MSc.

Applicants requiring sponsorship for a tier 4 visa to study in the UK via a CAS letter must also satisfy the UK Borders Agency’s minimum English language requirements. They are IELTS 5.5 in reading, writing, speaking and listening.

How to apply

Apply online at www.hw.ac.uk/study/apply/uk/postgraduate.htm

Supporting documents including 2 academic references, degree certificates, transcripts of marks and English test results can be uploaded digitally to the online application facility.

Contact information

Room 1.24, Postgraduate Admissions Earl Mountbatten Building Department of Computer Science Heriot-Watt University, Riccarton, Edinburgh EH14 4AS, SCOTLAND
+44 (0) 131 451 8444
+44 (0) 131 451 3327
MACSpgenquiries@hw.ac.uk
www.macs.hw.ac.uk/cs/pgcourses

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