



THE UNIVERSITY OF EDINBURGH
PROGRAMME SPECIFICATION FOR
M.Inf in Informatics with Study Abroad

- 1) **Awarding Institution:** University of Edinburgh
- 2) **Teaching Institution:** University of Edinburgh
- 3) **Programme accredited by:** Not yet accredited – the original MInf programme IS accredited by BCS, The Chartered Institute for IT. Will need to request accreditation for this version once approved by College.
- 4) **Final Award:** Master of Informatics (MInf Hons)
- 5) **Programme Title:** Informatics with Study Abroad (MInf)
- 6) **UCAS Code:** G500
Relevant QAA Subject Benchmarking Group(s): Computing
- 7) **Postholder with overall responsibility for QA:** Dr John Longley
- 8) **Date of production/revision:** November 2017
- 9) **External Summary** (200-250 words)

Informatics is the study of the structure, behaviour, and interactions of natural and engineered computational systems. It studies the representation, processing, and communication of information. It has computational, cognitive and social aspects. The central notion is the transformation of information – whether by computation or communication, whether by organisms or artifacts. Understanding informational phenomena – such as computation, cognition, and communication - enables technological advances. In turn, technological progress prompts scientific enquiry. The science of information and the engineering of information systems develop hand-in-hand. Informatics is the emerging discipline that combines the two. In natural and artificial systems, information is carried at many levels, ranging, for example, from biological molecules and electronic devices through nervous systems and computers and on to societies and large-scale distributed systems. It is characteristic that information carried at higher levels is represented by informational processes at lower levels. Each of these levels is the proper object of study for some discipline of science or engineering. Informatics aims to develop and apply firm theoretical and mathematical foundations for the features that are common to all computational systems.

10) Educational aims of programme:

The principal aims of the degree are to:

- develop graduates possessing a thorough understanding of the theoretical and practical aspects of Informatics and of their interrelationships
- equip students with advanced scientific, engineering and analytical skills from across the breadth of Informatics
- provide a programme of study that benefits from our research strengths across the School of Informatics

- enable students to develop communication skills, initiative, professionalism and the ability to work independently as well as with others
- provide graduates with the knowledge and skills necessary for their professional careers or for postgraduate study
- provide students with a multi-institutional, international educational experience, exposing them to different academic cultures, and to allow them to benefit from different research strengths in different universities.

11) Programme outcomes:

11a) Knowledge and understanding

- understand the concept of abstraction and its importance in the representation, processing, and communication of information
- understand the principles and mechanisms underlying various kinds of intelligent processes
- understand some of the underlying mathematical concepts used to reason about computers and computer-based systems
- understand how to represent and reason about knowledge in a computer
- have an awareness of the philosophical issues that arise within Informatics
- have a knowledge and understanding of the principles of operation of computers from application programs down through system software to hardware and of computer networks
- describe and explain the main theoretical, empirical and modeling approaches to understanding cognitive agents (both natural and artificial)
- understand how to deal more effectively with natural intelligence using Informatics tools and techniques
- understand the key aspects of the software development process
- have an awareness of the social, professional, ethical and legal issues involved in the use of computing systems
- have an awareness of key issues in Informatics that will continue to challenge researchers in the future.

11b) Graduate attributes: Skills and abilities in Research and Enquiry

The ability to:

- identify problems requiring a combination of techniques from across Informatics
- understand theoretical ideas and how they are realised in practice using computers
- apply the methodologies (formal, empirical and computational modelling) employed by the disciplines that contribute to Informatics
- formulate appropriate assessment criteria and evaluate computer-based systems

11c) Graduate Attributes: Skills and abilities in Personal and Intellectual Autonomy

The ability to:

- specify and design intelligent and traditional computer-based systems, using formal design procedures where appropriate
- derive abstract representations and formulate appropriate solutions for problems
- adapt to different cultural contexts and to participate in different institutional environments

11d) Graduate Attributes: Skills and abilities in Communication

The ability to:

- work effectively as part of a team
- provide and accept peer evaluation

- communicate effectively through a variety of media including oral, visual, written, diagrammatic and on-line

11e) Graduate Attributes: Skills and abilities in Personal Effectiveness

The ability to:

- deploy logical, analytical, and problem solving skills and to synthesise solutions
- show self-direction and time management skills when working independently
- make effective use of learning materials and to acquire and apply knowledge from a variety of sources.

11f) Technical/practical skills

The ability to:

- develop and implement intelligent and traditional computer-based systems
- use support tools from across Informatics during the development process
- operate computing equipment and software systems effectively

12 Programme structure and features

The programme structure and features are identical to the existing MInf programme (UTINFMT) with the single exception that the third year is required to be spent abroad undertaking a year of studies in Informatics, Computer Science, Artificial Intelligence, Cognitive Science or some similarly-named subject, at one of the universities with which the University of Edinburgh operates an exchange programme.

Transfers in: Students taking the existing MInf programme who complete a year abroad in their third year would be allowed to transfer into this programme. There are existing transfer routes from single and joint honours BSc degrees into the existing MInf programme, and these would apply here for students who complete a year abroad in their third year.

Transfers out: Acceptance on exchange programmes is competitive. Students who do not qualify for an exchange would revert to the existing MInf programme. Exit routes from the existing MInf programme into the BSc Honours and BSc Ordinary would also apply here.

Variations: By means of a concession, students could complete the year abroad in their fourth or fifth year of study. This would require individual consideration in order to ensure that the year abroad involves a substantial individual project as required in the fourth and fifth years of the MInf programme.

13 Teaching and Learning Methods and Strategies

Teaching contact through lectures, scheduled tutorials and laboratory sessions is supplemented with additional supervised drop-in laboratory time for several courses. Formative exercises are often included in the delivery of a course to direct learning to meet learning outcomes. INFBase provides learning support for Informatics students where they can access course tutors out with scheduled tutorial times.

14 Assessment Methods and Strategies

Methods of assessment of intended learning outcomes include written examinations, online programming examinations and summative course work assignments. Students complete individual and group projects as part of their degree programme, culminating in the integrated masters project in the final year.

The final degree classification of the programme is based on performance in fourth and fifth years in the ratio 50:50. Degrees are classified according to the University's standard marking scale with boundaries at 70%, 60%, 50% and 40%.

15 Career Opportunities

Computers are now ubiquitous in modern life. The most interesting opportunities in the future are open to those who really know about computing, software and information systems. Our graduates can choose from a wide range of opportunities in industry, commerce, government and academia; the majority of Informatics graduates enter employment relating to their degree, while others decide to continue within academia to pursue their research interests. By spending a year studying abroad, graduates acquire additional experience that make them attractive to employers offering careers involving an international dimension.

16 Other Items