



THE UNIVERSITY OF EDINBURGH

PROGRAMME SPECIFICATION FOR Postgraduate Certificate / PPD in Informatics by Distance Learning¹

- 1) **Awarding Institution:** University of Edinburgh
- 2) **Teaching Institution:** University of Edinburgh / School of Informatics
- 3) **Programme accredited by:** University of Edinburgh
- 4) **Final Award:** Postgraduate Certificate in Informatics by Distance Learning
- 5) **Programme Title:** Postgraduate Certificate in Informatics by Distance Learning
- 6) **UCAS Code:** not relevant (postgraduate course)
Relevant QAA Subject Benchmarking Group(s): Computing
(See: QAA's Master's degrees in computing 2011)
- 7) **Postholder with overall responsibility for QA:** Robert Fisher
- 8) **Date of production/revision:** 18 February 2017

Preliminary Note: The proposed programme is nearly identical to the existing MSc in Informatics, except in 2 respects: 1) this proposal is for a Distance Learning version of the programme, and 2) this proposal is for only a Postgraduate Certificate / Postgraduate Professional Development programme (and therefore is only a subset of the full MSc in Informatics).

In order to not duplicate existing approved text, this proposal refers to the DRPS Degree Programme Specification for the full MSc in Informatics, and each of the sections below will contain only supplementary material relevant to the Distance Learning programme. This proposal should be read in conjunction with the DRPS DPS of the MSc/Diploma in Informatics:

<http://www.drps.ed.ac.uk/16-17/dps/ptmscinfmt1f.htm>

- 9) **External Summary** (200-250 words)
 - Research in Informatics promises to take information technology to a new level, and to place information at the heart of 21st century science, technology and society. The proposed part-time distance education programme will help to make these developments more accessible to a wider pool of learners, in particular: 1) company employees who wish to enhance their technical skills, and 2) people who are unable to come to Edinburgh.
- 10) **Educational aims of programme:**
 - As with the MSc in Informatics, with the additional goal of enabling access to our courses.
- 11) **Programme outcomes:**
 - 11a) **Knowledge and understanding**
As with the MSc in Informatics.
 - 11b) **Graduate attributes: Skills and abilities in Research and Enquiry**

¹ The information contained in this Programme Specification should be used as a guide to the content of a degree programme and should not be interpreted as a contract.

The PgCert / PPD does not have an explicit project phase, so these skills are not delivered as in the MSc in Informatics. The students will learn advanced technical methods as part of the programme's courses, that could then be applied in future research practice.

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

As with the MSc in Informatics, however, as there is no project phase, there is less opportunity for experience of extended work under higher level supervision.

11d) Graduate Attributes: Skills and abilities in Communication

As with the MSc in Informatics, except there is no project and dissertation.

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

As with the MSc in Informatics.

11f) Technical/practical skills

As with the MSc in Informatics.

12 Programme structure and features

The section presents the structure of the programme in relation to the University's Curriculum Framework.

The PgCert consists of 60 credits of taught courses, delivered over semesters 1 and 2, from a pool of 90+ credits of distance education courses. Students are required to complete 60 credits of coursework. There is no project for this degree.

Seventy credits of the courses are identical to courses taught for on-campus students by the School of Informatics. The remaining 20 credits are taught only for distance students by the EPCC. Sixty credits of the courses have been developed already and we expect to develop 1 or more additional courses over the remainder of 2017. General Postgraduate Certificate regulations require at least 40 of the 60 credits to be at level 11.

Title	Course code	Cred	Sem	Lvl	Coursework:Exam assessment	Owning School
Agent Based Systems	INFR10049 & INFR10071	10	2	10	25:75	Informatics
Advanced Vision	INFR11031 & INFR11127	10	2	11	30:70	Informatics
Introductory Applied Machine Learning	INFR10069 & INFR11139	20	1	10	25:75	Informatics
Introduction to Java Programming	INFR09021 & INFR09048	10	1	9	100 : 0	Informatics
Introduction to Vision and Robotics	INFR09019 & INFR11126	10	1	9	40:60	Informatics
Practical Introduction to Data Science	PGPH11092	20	2	11	100:0	EPCC
+1 or 2 courses		10	?	11	?	Informatics

Students entering the course must satisfy the normal entry requirements for the MSc in Informatics.

Course sustainability is addressed through aligning the distance courses with the on campus versions. More general sustainability, social responsibility, equality and diversity

are addressed using the same content as the on campus course. As largely technological courses, these issues do not figure greatly; the Advanced Vision course has a short Ethics topic.

There is no additional assessment beyond that occurring in the context of the individual courses; assessment of the courses is aligned to their individual learning outcomes.

13 Teaching and Learning Methods and Strategies

All of the courses identified above are delivered in pure online (Practical Introduction to Data Science) or flipped mode, where students access the main course content online, e.g. web pages and videos, and have a variety of supplementary activities: online discussions, skype or email interactions with tutors, streamed classroom discussions, facebook groups, etc.

All courses have substantial online materials. Both local and distance students have access to demonstrators/tutors to support the students. Some courses have collaborative teamwork, and the distance students participate by skype, email, and messaging.

Distance students have electronic access to the library and journal subscriptions; however, much course content is online, with the remainder in easily accessible textbooks. Distance students have access to all of the computing resources in the School by remote access to the School's local network.

Distance students do not generally have access to activities during the Festival of Creative Learning.

14 Assessment Methods and Strategies

The programme assessment is based on the assessment of the individual courses. The general forms of course assessment are: practical assignments where students construct software components, use software packages to capture, explore and analyse data, write critical essays on the use of the technology, and exam questions on the more theoretical aspects.

The distance students do the same coursework and exams as the on campus students. Most coursework is submitted electronically, and any demonstrations of that coursework can be done be, eg. Collaborate/skype screen sharing. Some coursework is by interaction with quizzes in Learn. For courses that have exams, the exam questions are identical with that for the local students (in the case that the students are within +/- 3 time zones, which runs from Brazil through the Middle East). The exams are prepared and delivered using Blackboard QuestionMark, and invigilated using the remote monitoring service ProctorU. Students which are in North America or the Far East have an additional exam set which covers the same materials, but with different questions.

15 Career Opportunities

The distance students have the same opportunities and will have access to the same facilities as the on-campus students, including the Careers Service. It is expected that many of the distance students will already be in employment and are aiming to upgrade their professional skills.

16 Other Items

The School of Informatics wishes to expand and broaden its reach by providing quality educational experiences to students who may not be able or may not wish to take on-campus courses in Edinburgh. We will further develop staff skills in distance education and educational programmes to deliver online materials and student support mechanisms suitable for distance education delivery.

The proposed Postgraduate Certificate in Informatics by Distance Education will be a part of the School of Informatics Distance Education Initiative and will build on the expertise obtained by collaborating with the existing distance degrees in Data Science, Technology & Innovation. In

addition, the staff involved will receive training, support, oversight and management thus ensuring a long-term emphasis on distance education is in place.

The School of Informatics has had a strong focus on realising impact from its research through a number of knowledge exchange and commercialisation activities. The proposed course will build on established industry relationships with a wide range of large blue chip companies through to SMEs and will aim to attract students from a wide range of backgrounds. Ultimately, distance education will play a significant role in establishing new relationships across industry, the public sector and academia.

In 2014 we obtained market insight for distance education opportunities in some aspects of the Informatics subject area. A market analysis by Ninette Premdas, focused on a subset of Informatics, and concluded that, out of the approximately 1000 people participating, there were 300-600 people interested in each of the 40-50 courses surveyed. The proposed Certificate is now more broadly based in Informatics as a whole than the survey, so is likely to be more broadly attractive as well.

We will market the individual courses and Certificate offerings to the wide range of small and large businesses and government agencies we collaborate and interact with through our various initiatives, commercialisation unit, centres for doctoral training and innovation centres. We anticipate eventually hundreds of students taking individual modules, with a good number being encouraged to combine those to obtain a Certificate qualification. Should student take up merit it, we expect to expand the degree offering to a Diploma and an MSc. Flexible routes will be available to tempt students to continue their studies.

A Learning Technologist (0.5 FTE) will work with the current course lecturers to adapt their materials for online delivery. S/he will assist Informatics teaching staff to adapt their current course content for online delivery.

A Coordinator for Distance Education will establish and work with a Steering Group and the senior academics responsible the Certificate programme to define and work towards delivery of the courses, define appropriate means to promote them to potential students, agree on the allocation of the project resources for specific module development to best fit the agreed priorities, monitor and report on progress, and address the various identified risks as the programme is refined and rolled out.

We plan a rich and well-resourced level of engagement between distance education students and world-leading Informatics teaching and research staff. The 'Learn' virtual learning environment and social platform will be used. The intent is to use the same mechanisms for all students, whether distant or local. For example, students can still complete assignments in pairs; however using skype rather than face-to-face. Assessed remote coursework demonstrations can use skype as well. While not face-to-face, the feedback is still person-to-person. Structured discussion activities involving the lecturer as well as students are planned (as is the case with the existing 'inverted' courses). The intent is to maximise the opportunities available for a student to join in and to feel a part of the Edinburgh Community and to bring the world to Edinburgh virtually.