

Foundation Degree - Computer Engineering P/T
For students entering Part 1 in 2009/0

UCAS code:

Awarding Institution:	University of Reading
Teaching Institution:	College of North West London
Relevant QAA subject Benchmarking group(s):	Foundation Degree qualification benchmark
Faculty:	Faculty of Science
Programme length:	3 years
Date of specification:	04/Sep/2009
Programme Director:	Prof David James
Programme Advisor:	Mr M Penton
Board of Studies:	Foundation Degrees in ICT and Computer Engineering
Accreditation:	

Summary of programme aims

The Foundation Degree (FD) provides a new model of vocational higher education based on close collaboration between employers and providers of higher education. The course is based on a coherent set of industry recognised and professional qualifications that are brought together to provide students with a FD level qualification.

The aim of the FD is develop the knowledge, skills and attributes of students already working in the computer engineering industry to enable them to develop into professional technicians able to play a disciplined and innovative role in development and maintenance across the industry.

Transferable skills

During the course of their studies at Reading, all students will be expected to enhance their academic and personal transferable skills in line with the University's Strategy for Learning and Teaching. In following this programme, students will have had the opportunity to develop such skills, in particular relating to communication, interpersonal skills, learning skills, numeracy, self-management, use of IT and problem-solving, and will have been encouraged to further develop and enhance the full set of skills through a variety of opportunities available outside their curriculum.

As part of this programme students are expected to have gained experience in the following transferable skills: IT (programming, databases and use of standard software), technical writing, oral presentations, team-working, problem-solving, use of library resources, time-management, career planning and management and business awareness.

Programme content

The programme is based around two inter-related strands:

- Technical skills
- Professional engineering

The technical skills include: Networking, PC Systems, Programming, Operating Systems, Internet Technology, Electronic Devices and Circuits, Digital Circuits and Design and Communication Systems.

The professional engineering strand includes: Professional Skills, Project Work and Independent Study.

Part 1 (three terms)

Compulsory modules

<i>Mod Code</i>	<i>Module Title</i>	<i>Credit</i>	<i>Level</i>
SE1XA0	Networking 1	10	4
SE0XB0	PC Systems 1	10	F
SE1XC0	Internet Technology 1	10	4
SE0XE0	Electronic Devices and Circuits	10	F
SE1XF0	Programming	20	4
SE1XG0	Operating Systems 1	10	4
SE1XH0	Professional Skills 1	10	4
SE1XI0	Work-based Independent Study	20	4
SE1XK0	Digital Circuits and Design	20	4

Part 2 (three terms)

Compulsory modules

<i>Mod Code</i>	<i>Module Title</i>	<i>Credit</i>	<i>Level</i>
SE2XL0	Networking 2	10	5
SE1XM0	PC Systems 2	10	4
SE2XN0	Internet Technology 2	10	5
SE1XT0	Communications Systems	10	4
SE2XP0	Advanced Programming and Databases	10	5
SE2XQ0	Operating Systems 2	10	5
SE2XR0	Professional Skills 2	20	5
SE2XS0	Work-based Project	40	5

Progression requirements

To gain a threshold performance at Part 1, a student shall normally be required to achieve an overall weighted average of 40% over the 120 credits taken in Part 1 and a mark of at least 30% in individual modules amounting to not less than 100 credits.

To progress from Part 1 to Part 2, students are required to gain threshold performance at Part 1.

To be eligible for the CertHE a student shall normally be required to achieve an overall average of 40% over modules worth 120 credits and to obtain a mark of at least 30% in individual modules amounting to not less than 100 credits at Level 4 or above.

To be eligible for the award of the Foundation Degree, a student shall normally be required to achieve an overall average of 40% over the 240 credits, and a mark of at least 30% in individual modules amounting to not less than 200 credits, and a mark of at least 40% in SE2XS0.

Summary of teaching and assessment

For the FD the relevance of skills and their application in a work-based environment, underpinned by academic knowledge and understanding is critical.

Teaching is organised in modules that typically involve lectures, work-based learning and practical work.

Teaching will be delivered by partner colleges, in conjunction with employers, using a mixture of face to face teaching; web-based and distance learning methods; self-directed studies; project work; and problem-based learning. Typically a student will study between 60 and 120 credits per year. Students will be able where appropriate to gain the industry recognised or professional qualification.

Work-based learning is central to the FD and students undertaking the course will need to be working in the computer engineering industry. However it is recognised that a particular employer may not be practicing in all of the technical themes and the work-based learning will be personalised to suit the particular student and employer's circumstances.

The assessment of the FD will be based on University approved assessments, which will include a mixture of assignments and formal examinations. Where appropriate both formative and summative assessments will be work-based. The employer will provide appropriate mentoring in conjunction with the college.

Admission requirements

Entrants to this programme are normally required to have obtained:

Grade C or better in English in GCSE, but otherwise each application will be treated on its merits

Admissions Tutor: J Newton

Support for students and their learning

University support for students and their learning falls into two categories. Learning support includes IT Services, which has several hundred computers, and the University Library, which across its three sites holds over a million volumes, subscribes to around 4,000 current periodicals, has a range of electronic sources of information and houses the Student Access to Independent Learning (S@il) computer-based teaching and learning facilities. There are language laboratory facilities both for those students studying on a language degree and for those taking modules offered by the Institution-wide Language Programme. Student guidance and welfare support is provided by Personal Tutors, School Senior Tutors, the Students' Union, the Medical Practice and the Student Services Centre. The Student Services Centre is housed in the Carrington Building and includes the Careers Advisory Service, the Disability Advisory Service, Accommodation Advisory Team, Student Financial Support, Counselling and Study Advisors. Student Services has a Helpdesk available for enquiries made in person or online, or by calling the central enquiry number on (0118) 378 5555. Students can get key information and guidance from the team of Helpdesk Advisers, or make an appointment with a specialist

adviser; Student Services also offer drop-in sessions on everything from accommodation to finance. The Carrington Building is open between 8:30 and 17:30 Monday to Thursday (17:00 Friday and during vacation periods). Further information can be found in the Student Diary (given to students at enrolment) or on the Student website.

All students on this FD will be members of the University of Reading and able to use the facilities of the University. Student guidance and welfare support is provided by the College.

Career prospects

The FD in Computer Engineering is designed to be industry oriented, for students who are already in employment. It is expected that graduates will continue to work within the Computer Engineering industry in a development and support role as a professional engineer.

Opportunities for further study

Students who pass the Foundation Degree will be eligible to enter Part 2 of the BSc in Information Technology at the University of Reading. Those who pass the Foundation Degree with a mark of at least 60% will also be eligible for the BSc(Hons) Information Communication Technology top-up degree at the University of Reading.

Opportunities for study abroad or for placements

N/A

Programme Outcomes

Knowledge and Understanding

A. Knowledge and understanding of:

1. The well-established principles in Computer Engineering, including:
 - a. Networking, b. PC Systems, c. Programming, d. Internet Technology, e. Electronic Devices and Circuits, f. Operating Systems, g. Digital Circuits and Design, h. Communication Systems
2. The way in which those principles have developed
3. The main methods of enquiry in computer engineering
4. Their own limitations and how this influences their field of study and is applicable in a work context.

Teaching/learning methods and strategies

The areas 1a. to 1h. will be covered in the respective first and second year modules associated with the technical skills theme.

Areas 2.-4. will be covered in each theme, in addition the Professional engineering strand modules will reinforce 3. and 4.

Assessment

Knowledge is tested through a mix of examination and practical work.

Skills and other attributes

B. Intellectual skills - able to:

1. Demonstrate knowledge and understanding related to aspects outlined above
2. Apply such knowledge and understanding to information systems, including those used in a work context
3. Critically evaluate and test a computer system
4. Recognise and conform to appropriate professional, ethical and legal practices
5. Reflect and communicate

Teaching/learning methods and strategies

By applying cognitive theoretical skills to problem solving work related and case studies in each technical skill

The Professionals engineering modules will also address these issues. 4. will be particularly focussed on in Professional skills 2.

Assessment

Skills and other attributes are tested through a mix of examination and practical work. The work-based individual project provides a major piece of work where by students can demonstrate all of these skills.

C. Practical skills - able to:

Teaching/learning methods and strategies

1. Specify, design and construct Computer based systems, including those used in a work context
2. Evaluate systems
3. Recognise Risks and Safety aspects
4. Operate computer equipment effectively

By demonstrating and applying theoretical skills and practical approaches to problem solving in the form of coursework and practical work. The Software Engineering module will particularly address 1. While all the technical skills themes will support this. Evaluation skills (2.) are featured in all level C. and I. modules. 3. will be covered in the Professional engineering strand. 4. will be a feature of the themes within the technical skills strand.

Assessment

Practical skills and other attributes are tested through a mix of examination and practical work.

D. Transferable skills - able to:

1. Effectively retrieve information.
2. Present cases in a quantitative dimension.
3. Manage own learning and development.
4. Appreciate the need for continuing professional development (CPD), be able to plan and execute their own CPD
5. Organise and work as part of a team.
6. Plan and manage their own careers.
7. Communicate in a manner appropriate to the situation.
8. Effectively use Information Technology.

Teaching/learning methods and strategies

These skills will be taught as part of the professional engineering strand modules, particularly in the Professional Skills 1 and 2.

Assessment

By a mix of examination and practical work. The work-based individual projects will demonstrate the majority of these skills.

Please note - This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of each module can be found in the module description and in the programme handbook. The University reserves the right to modify this specification in unforeseen circumstances, or where the process of academic development and feedback from students, quality assurance process or external sources, such as professional bodies, requires a change to be made. In such circumstances, a revised specification will be issued.