BSc (Honours) Computing and Information Systems (Distance Learning)

Programme Specification

Primary Purpose:
Course management, monitoring and quality assurance.

Secondary Purpose:
Detailed information for students, staff and employers. Current students should refer to the related Course Handbook for further detail.

Disclaimer:
The University of Portsmouth has checked the information given in this Programme Specification and believes it to be correct. We will endeavour to deliver the course in keeping with this Programme Specification but reserve the right to change the content, timetabling and administration of the course whilst maintaining equivalent academic standards and quality.

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Programme Specification

1. Named Awards
Computing and Information Systems

2. Course Code (and UCAS Code if applicable)
C1898

3. Awarding Body
University of Portsmouth

4. Teaching Institution
University of Portsmouth

5. Accrediting Body
NA

6. QAA Benchmark Groups
Computing

7. Document Control Information
R 1.4 July 2012
R 1.5 July 2013
R 1.6 July 2014
R 1.7 August 2015

8. Effective Session
2015-16

9. Author
Kathy Parker

10. Faculty
Faculty of Technology

11. Department
School of Computing

12. Educational Aims
This is a part-time level 3 top-up programme which enables students who have reached Dip HE or HND level, or equivalent, the opportunity to obtain an honours degree by on-line distance learning. It offers academic coherence and supports the widening participation agenda in that it facilitates the access to higher education of students who cannot travel to the University. The course aims to combine a deep understanding of the significance of information systems with a robust development of problem solving and computational skills that will prepare students for professional posts in the computing industry. Students will bring their existing skills to the framework of units, where their
talents will be exercised and directed towards theoretical understanding and practical implementation of knowledge gained. The programme offers two entry points a year (in September and February).

In addition the course aims to:
- Provide a challenging, stimulating and rewarding study environment.
- Develop a range of keys skill by means of opportunities provided in the study units.
- Accommodate student needs in relation to maximising their career potential by enabling them to develop knowledge, understanding and skills.

13. Reference Points
The major reference points are University of Portsmouth Undergraduate 2012 Curriculum Framework (2011), the University policy on Key Skills, Code of Practice for Work-based and Placement Learning (October 2010), Computing 2007 Benchmark Statement, National Qualification Framework and QAA Codes of Practice.

The Computing 2007 Subject Benchmark states (section 2.9) that there are three key ideas which constitute a certain ethos that can be expected to characterise any honours degree programme in computing:

i. the concept of computational thinking, the recognition of its main elements and the relevance of these to everyday life
ii. the computing system (and this includes systems such as information systems), and the process of developing or analysing it is important; understanding of the system and its operation will go deeper than a mere external appreciation of what the system does or the way(s) in which it is used.
iii. there is a balance of practice and theory, appropriate to the aims of the particular degree programme, such that practical activity can be supported by an understanding of underlying principles.

The programme has been designed with four areas drawing on the following Computing 2007 benchmark elements:

**Hardware** – Computer Based Systems.

**Software** – project management software, Information Retrieval, Systems Requirements, SQL, the client server model and cycle models. Post-implementation review. Performance measurement and assessment. (S)

**Practice** – professionalism, codes of practice and ethics, software design, evaluation of software and systems, project management, Web links to databases, e-commerce strategies and threats, developing the business case, practical design considerations, Presentation and report writing, Team building and quality assurance issues. (P)

**Communication and Interaction** – Computer Communications over networks and Web based computing. Networks and client/server models: wired, wireless and optical. Commercial networks, protocols, addressing and routing, signals and encoding, Network security, encryption and message transmission protocols, proxy servers and firewalls. (CI)

**Theory** – Information system development, e-commerce. Database modelling: normalisation, relational and OO forms, concurrency and transaction control and recovery issues. (T)
14. Learning Outcomes

A. Knowledge and Understanding of:
1. Tools and Techniques for Information Systems (IS) application development, building and management. (S, P)
2. A range of selected technical aspects that underpin computing and information systems. (C)
3. The theory & practice of application design & development using a pattern based software engineering approach. (P, T)
4. Relevant project management practices and techniques needed for information systems development. (CI)
5. The design, construction and use of database systems and derived Web related applications. (S, P)
6. Codes of practice and ethical considerations in information systems building and management. (CI)

Learning and Teaching Strategies and Methods
Core knowledge is acquired mainly through on-line notes and exercises and directed computer practical work. Additionally, learning is supported by directed reading, study guides, tutorial questions, worked examples and larger case study based exercises. Regular self-assessment of work and the use of appropriate software support knowledge attainment. The business, social and ethical context is developed by directed reading and supported by online intra-student discussions moderated by tutor involvement.

Assessment
Testing of the core knowledge and practical application is through a combination of coursework and portfolio activities.

B. Cognitive (Intellectual or Thinking) Skills, able to:
1. Demonstrate a sense of professional conduct in relation to society's increasing dependence on technology. (C)
2. Critically analyse an application domain in order to identify issues and formulate software or network requirements. (S,P)
3. Select and review appropriate and effective methodologies and tools for the development of information systems. (S, P)
4. Evaluate software or hardware systems in relation to their intended purpose with regard to their efficiency and effectiveness. (H)
5. Demonstrate critical skills with regard to literature searching, appraising and evaluating from a variety of sources and synthesising the results.
6. Plan, manage, undertake and report on a Computing/Information Systems project. (C)

Learning and Teaching Strategies and Methods
Analytical skills are introduced in on-line lectures and developed through the use of worked exercises and case study material. Much is based on individual learning though group learning will be encouraged via synchronous and asynchronous chat rooms. The critique of professional codes of conduct is covered through directed reading and appropriately constructed individual exercises. The ability to produce computer-based artefacts is acquired through a range of practical-based exercises and case study work and the final self managed project.

Assessment
Use is made of coursework reports for assessing intellectual and analytical skills, together with submission of coursework artefacts, learning journals and portfolios for project-based skills.
C. Practical (Professional or Subject) Skills, able to:

1. Specify, assess and use in a discriminating manner industry standard and specialist software in the design of application systems. (C)
2. Use judgement with regard to efficiency and effectiveness in the selection of software components and their integration to form a complex application. (C)
3. Demonstrate a critical understanding of computer hardware and network configurations with regard to the integration of software applications. (C)
4. Project manage simulated complex software developments. (C)

Learning and Teaching Strategies and Methods
Practical computer-based exercises are used to develop skills with the aid of case studies and project work.

Assessment
Work is generally assessed by submission of course work.

D. Transferable (Graduate and Employability) Skills, able to:

1. Deal with complex information or network system specifications in a focused and lucid manner. (C)
2. Use information technology to handle data, and assist with design, development and testing. (C)
3. Review achievements against firm evidence in order to facilitate professional and intellectual development.
4. Formulate personal and professional management strategies to achieve agreed goals.
5. Communicate effectively in writing using appropriate forms of presentation.

Learning and Teaching Strategies and Methods
The emphasis is generally on individual learning though group learning will be encouraged via synchronous and asynchronous chat rooms. Written reports, data appreciation, and familiarity with IT, are fundamental to the nature of the course. Use of problem solving and review progress.

Assessment
The ability to work effectively is assessed through individual coursework activities. Data skills are assessed through the database unit. IT skills are assessed as part of virtually all the units.

15. Course Structure, Progression and Award Requirements

The course is a part-time level 6 top up course. The standard profile for admission is the successful completion of an HND Computing or HND Software Engineering or similar qualifications such as Advanced Diplomas. This is augmented by a comprehensive list of equivalent qualifications. This list matches those that are used for recruitment of overseas students to attend the home programmes in the Computing area. Where students apply with qualifications that do not fall in the standard list, the applications are forwarded to the relevant admissions tutor in the School of Computing for consideration and decision.

The programme is typically of 18 months duration, part time, and with the inclusion of the holiday periods for Christmas, Easter and summer, this equates to 2 academic years. The programme consists of 20 credit units plus a 40-credit project, where 20 credits represent 200 hours of study time and usually includes 6 hours of synchronous online instruction with a facilitator. The programme comprises a total of 120 Level 6 credit points. In view of the breadth of the potential curriculum relevant to the title Computing and Information Systems, subjects such as networking, database management and project management provide students with the knowledge and skills to understand and manage complex information systems in a business environment.
Students also carry out a final year major project. This can either be an engineering project or a research project. The difference rests primarily on whether the project aims to produce and report on the development of an artefact or not. The two styles permit students to direct their efforts at either the more technical or the business/societal aspects of the subject area.

The learning environment is based on an established and sophisticated virtual learning environment (VLE). Access to the VLE is through a web browser, which is easily accessible via modem or network. This environment provides an integrated communication mechanism among students and facilitators regardless of their geographical location including chat-rooms, bulletin boards and private e-mail. Because units are available across the web students may choose to sequence the units in several different ways. However, there are clearly advantages in doing some units together and in normal circumstances students will study two units in each study session. However, students will always be given advice as to the most educationally desirable sequence of units for them to take.

16. Employability Statement

Graduates from this programme are expected to become capable practitioners in the development of business information systems and the associated technical management. Within this environment graduates should be able to display creativity in dealing with systems that are related to the operation of commercial and other organisations. They will be expected to show the ability to exercise initiative and personal responsibility; to be capable of decision-making in complex and unpredictable contexts; and to have the learning ability needed to undertake appropriate further training of a professional or equivalent nature.

Careers education material is reachable over the web from the University Careers service. It is anticipated that for many of the students the main reason for engaging with this programme in particular is so that study can be pursued in parallel with existing work within the IT industry, and as such, cooperation and communication between the students would provide a significant link with a range of employers, as well as a range of opportunities to discuss career opportunities in different environments. The main focus of the degree programme is on enhancing employability.

The School of Computing has regular meetings with an Industrial Advisory Group, which inform the ongoing development of the curriculum and course profile.

17. Support for Student Learning

- The course is managed by a Course Leader. The online environment is managed by a dedicated team within the school of Computing
- Extensive induction programme introduces the student to the University and their course.
- Online Student Centre provides day to day help and advice.
- Excellent online library facilities.
- Student course and unit handbooks provide information about the course structure and University regulations etc.
- Written feedback is provided for all assessments.
- Online chat rooms and bulletin boards give easy access to Facilitators.

18. Admissions Criteria

A. Academic Admissions Criteria

- An advanced standing of 240 CATS points based on the award of a pass or higher grade for the EdExcel HND Computing or Software Engineering or equivalent. Advanced Diploma courses with significant computing content will be considered by the relevant University of Portsmouth admissions tutor.
- Be proficient in the use of the English language (e.g. IELTS band 6 or TOEFL Score 550)
B. Disability
The University makes no distinction in its admissions policy with regard to disability and will
endeavour to make all reasonable adjustments in order to make it possible for students to study at
Portsmouth on a course of their choice.

19. Evaluation and Enhancement of Standards and Quality in Learning and Teaching

A. Mechanisms for Review and Evaluation

- Course Leader’s Annual Standards and Quality Evaluative Review.
- Head of School’s Annual Standards and Quality Evaluative Review.
- Unit and Course Level student feedback considered at Board of Studies.
- Unit Assessment Board consideration of student performance for each programme.
- Annual Standards and Quality Reports to Board of Studies, including consideration of Subject
  and Award External Examiner Reports.
- Periodic Programme Review.
- Student Representatives and Student/Staff Consultative Committees.
- National Student Survey.
- Staff Performance and Development Review.
- Peer Review and Development Framework.
- Faculty Learning and Teaching Committee.

B. Responsibilities for Monitoring and Evaluation

- Unit Co-ordinators for unit content and delivery.
- Course Leader for day-to-day running of course.
- Board of Studies with overall responsibilities for operation and content of course.
- Head of School.
- Associate Dean (Academic).
- Associate Dean (Students).
- Quality Assurance Committee.
- Unit, Award and Progression Board of Examiners.

C. Mechanisms for Gaining Student Feedback

- Student Representation on Board of Studies.
- Student Staff Consultative Committees.
- Unit and Course level student feedback questionnaires.
- University participates in external student surveys, e.g. National Student Survey (NSS),
  Postgraduate Research Experience Survey (PRES) and International Student Barometer (ISB).

D. Staff Development Priorities

- Academic staff undertake activities related to research, scholarship, teaching and learning and
  student support and guidance.
- Annual staff performance and development reviews match development to needs.
- Managers undertake a variety of management development programmes.
- All academic staff encouraged to seek Higher Education Academy membership.
- Academic staff new to teaching required to undertake Initial Professional Development
  Programme (iPROF).
- Support Staff are encouraged to attend short courses in areas such as minute taking, and
  specific IT packages.
20. **Assessment Strategy**

**Level 6**

The assessment approaches for the core units include coursework and portfolios. These have been selected to enable students to gain practical skills in working with information systems as well as demonstrate their understanding of the theoretical concepts. Activities are included in the online materials that allow students to check their understanding as they work through the materials. Help is provided from tutors through the discussion boards, and peer group discussion is encouraged. The project requires that students work independently to research, plan and develop an entire project, usually relative to their employment or field of expertise. The students will embed the knowledge, understanding and skills attained during the course delivery and apply the techniques, methodologies and principles learned, to an appropriate problem theme of their own choosing.

21. **Assessment Regulations**

Standard university rules apply (see Assessment and Regulations).

22. **Role of Externals**

Subject External Examiners who will:
- oversee unit assessment and usually attend Unit Assessment Boards;
- review unit assessment strategy;
- sample assessment artefacts;
- present report to Unit Assessment Boards.

Award External Examiners (usually also a Subject External Examiner) who will:
- oversee and attend Award/Progression Boards;
- scrutinise and endorse the outcomes of assessment;
- ensure that the standard of the award is maintained at a level comparable with that of similar awards elsewhere in the United Kingdom.

23. **Indicators of Standards and Quality**

**A. Professional Accreditation/Recognition**

NA

**B. Periodic Programme Review (or equivalent)**

The Periodic Programme Review March 2015 confirmed fitness of purpose for the course and effectiveness of annual review processes.

**C. Quality Assurance Agency**

QAA Higher Education Review, March 2015, judgements about standards and quality meet UK expectations (for full report see Higher Education Review of the University of Portsmouth, March 2015).

**D. Others**

None.

24. **Other Sources of Information**

Other sources of information may be found in

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1 www.qaa.ac.uk/en/ReviewsAndReports/Documents/University%20of%20Portsmouth/University-of-Portsmouth-HER-15.pdf
• Course Approval Document.
• Student Handbook.
• University of Portsmouth Curricula 2012 Framework.
• University of Portsmouth Undergraduate Prospectus.
• Assessment Regulations.
• University of Portsmouth (http://www.port.ac.uk/) and http://www.port.ac.uk/lookup/mydepartment/facultyoftechnology/schoolofcomputing/ websites.
## Unit Assessment Map

<table>
<thead>
<tr>
<th>UNITS</th>
<th>COURSEWORK</th>
<th>EXAMINATION</th>
</tr>
</thead>
<tbody>
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<td>Level</td>
<td>Name</td>
<td>Code</td>
</tr>
<tr>
<td>6</td>
<td>Advanced Database Concepts (DL)</td>
<td>U22389</td>
</tr>
<tr>
<td>6</td>
<td>Project Management(DL)</td>
<td>U22376</td>
</tr>
<tr>
<td>6</td>
<td>e-commerce - A Critical Evaluation of Technology(DL)</td>
<td>U22375</td>
</tr>
<tr>
<td>6</td>
<td>Advanced Networks(DL)</td>
<td>U22445</td>
</tr>
<tr>
<td>6</td>
<td>Final Year Major Project</td>
<td>U22357</td>
</tr>
</tbody>
</table>
## Unit Learning Outcomes Map

| Level | Name                                          | Code  | Credit | Delivery | Core/Option | A1 | A2 | A3 | A4 | A5 | A6 | B1 | B2 | B3 | B4 | B5 | B6 | C1 | C2 | C3 | C4 | D1 | D2 | D3 | D4 | D5 |
|-------|----------------------------------------------|-------|--------|----------|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 6     | Advanced Database Concepts (DL)             | U22389| 20     | Sep-Jan  | C            |    |    |    | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  |
| 6     | Project Management(DL)                      | U22376| 20     | Sep-Jan  | C            | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  |
| 6     | e-commerce - A Critical Evaluation of        | U22375| 20     | Feb-May  | C            | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  |
| 6     | Advanced Networks(DL)                       | U22445| 20     | Feb-May  | C            | Y  |    |    | Y  | Y  |    |    |    |    | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  |
| 6     | Final Year Major Project(DL)                | U22357| 40     | Yr       | C            | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  |

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2 A = Knowledge and Understanding; B = Cognitive (Intellectual) Skills; C = Practical (Subject Specific) Skills; D = Transferable Skills