PROGRAMME SPECIFICATION

Bachelor of Science with Honours in Computer Science

Awarding institution	LJMU
Teaching institution	Oryx Universal College WLL
JACS Code	
Programme Duration	Full-Time: 3 Years
Language of Programme	All LJMU programmes are delivered and assessed in English
Subject benchmark statement	Computing (2007)
Programme accredited by	
Description of accreditation	
Validated target and alternative exit awards	Bachelor of Science with Honours in Computer Science
	Diploma of Higher Education in Computer Science
	Certificate of Higher Education in Computer Science
Link Tutor	Syed Naqvi

Educational aims of the programme

The overall aim of the course is to provide a balanced, integrated and practical based education in all aspects of computing and the underlying science behind it for utilisation in organisations where IT and computing is a major activity.

The specific aims of the course are as follows:

-To provide students with a full, systematic understanding of current and developing Computer Science.

-To enable the student to acquire the skills needed in applying computer science to practical development.

-To bring the student to an understanding of the mathematical and scientific concepts that underpin modern computing.

-To encourage students to fully engage with the development of employability skills by completing a self-awareness statement.

-To enable students to explore the issues surrounding Computer Science in Industrial contexts.

-To facilitate students in the development of expertise and interest in topic areas of direct and complementary relevance to their work or planned career.

-To encourage students to become advanced autonomous learners.

-To provide students with a comprehensive understanding, critical awareness and ability to conduct evaluation of current Computer Science research issues.

-To further develop students originality in applying analytical, creative, problem solving and research skills.

-To provide advanced, conceptual understanding, underpinning career development, innovation and further study.

Alternative Exit/ Interim Award Learning Outcomes - Certificate of Higher Education

A student who is eligible for this award will be able to:

Investigate the development of computer programs using elementary constructs from computer science.

Apply web science and a variety of tools for website design.

Discuss the technical challenges of social computer science and investigate the ethical, commercial and economic issues within this field.

Discuss a range of practical aspects of computer science and apply the associated tools and techniques used in them.

Discuss computer architecture at the hardware and software levels and basic security concepts.

Understand the basic concepts of computer science.

Understand the different approaches required to solve computer-based problems.

Communicate their ideas and take personal responsibility for their learning.

Alternative Exit/ Interim Award Learning Outcomes - Diploma of Higher Education

A student who is eligible for this award will be able to:

Understand the practical application of computer science.

Use formal methods and the scientific principles of programming and correctness.

Use object-oriented design in formulating an implementation.

Appreciate the fundamentals of algorithm and language design.

Understand relationships, and their relevance to databases, whilst also being able to create and maintain a database.

Identify the professional skills required within the computing industry.

Demonstrate a range of skills including problems-solving as an individual or as part of a group

A student who successfully completes a placement year will be eligible for the Sandwich award and will, in addition to the above, be able to demonstrate the professional and personal skills necessary for effective employment within a professional environment.

Target award Learning Outcomes - Bachelor of Science with Honours

A student successfully completing the programme of study will have acquired the following subject knowledge and understanding as well as skills and other attributes.

A student who is eligible for this award will be able to:

1. Be critically aware of current and developing principles and practices within Computer Science.

2. Have widened and deepened conceptual and practical knowledge and skills in the areas of Computer Science.

3. Have been exposed to and applied a range of advanced tools and techniques used in the specification of complex computer based systems.

4. Have critically analysed a range of development domains.

5. Have a clear understanding of how to effectively and creatively manage Computer Science projects.

6. Use knowledge with originality and be innovative in Computer Science.

7. Comprehensively and critically understand current research issues in the relevant aspects of Computer Science.

8. Study independently at an advanced level and have developed effective methodology skills for original research.

9. Demonstrate systematic and comprehensive knowledge and understanding of Computer Science concepts, principles and theories.

10. Use such knowledge with originality in system modelling, requirements analysis and design.

11. Perform critical evaluation and testing for a computer-based system.

12. Deploy appropriate methods and tools creatively for the specification of a complex computer-based system.

13. Apply appropriate research methods critically to conduct original Computer Science related research.

14. Develop and evaluate Computer Science projects.

15. Manage Computational projects.

16. Use a wide range of computing tools, facilities and techniques effectively.

17. Work individually and/or as a team member.

18. Use information technology, e.g. Computer Science tools.

19. Apply numerical and formal methods skills to cases involving a quantitative dimension.

20. Communicate effectively by written or verbal means.

21. Plan and manage learning and development.

Teaching, Learning and Assessment

The methods used to enable outcomes to be achieved and demonstrated are as follows:

Core knowledge and understanding is acquired via lectures, tutorials, practical work, workshops and guided independent study. Independent study is used where appropriate resource material is available and increases as the programme progresses. Specifically, acquisition of 1 is via a combination of lectures, projects, seminars, and guided independent study. Acquisition of 2, 3, 4, 5 and 6 is via a mixture of lectures, tutorials, laboratory work, coursework, and projects. Acquisition of 7 and 8 is via lectures, coursework, projects, seminars, and guided independent study. Students are given feedback on all work produced.

Assessment methods are specified in each module specification. All learning outcomes in a module are assessed and the type of assessment specified for each outcome. Each module is assessed by examination and/or course work. The nature of the course work varies for each module.

Cognitive skills are developed throughout the programme via tutorial, group discussion, teamwork, coursework, projects and presentations. Specifically, skill 1 is developed through tutorial group discussion, teamwork, coursework, projects, and presentations. Skills 2, 3 and 4 are developed through laboratory work, coursework, and projects. Skill 5 is developed through coursework, projects, and guided independent study.

Assessment of cognitive skills is through written examinations, laboratory work, coursework reports, project work, reports and presentations. Specifically, written examinations (1, 2), laboratory work (2-4), coursework reports (1-5), and/or project work, reports and presentations (1-5).

Practical skills are developed throughout the programme. Coursework and projects are designed to provide practical opportunities for students to work independently or in groups. Specifically, skills 1, 2 and 3 are developed through laboratory work, coursework, and project work. Skill 4 is developed through individual and group coursework, laboratory work, and project work.

Assessment is normally by course work.

The placement year is assessed, by portfolio, on a pass / fail basis.

Key skills are developed throughout the programme in a variety of forms. Specifically through a combination of research related coursework, guided independent study and projects, examinations, group work and presentations. Skill 1 is developed through a combination of research-related coursework, guided independent study, and projects. Skill 2 is developed through study of technical methods, examinations, coursework, and projects. Skill 3 is developed through report writing for coursework and projects, written examinations, teamwork, presentations, and group discussion. Skill 4 is developed via the management of learning tasks and deadlines for coursework and projects.

Key skills are assessed as part of coursework (1-4), projects (1-4), written examinations (2,3) and presentations (3).

Programme structure - programme rules and modules

The programme will be studied in full time mode

Level 6	Potential Awards on completion	Bachelor of Science with Honours
Core	Option	Award Requirements
6500CSQR PROJECT (40 credits) 6519CSQR COMPUTER SCIENCE APPLICATIONS (20 credits) 6520CSQR GRAPHICS AND DATA VISUALISATION (20 credits) 6521CSQR PARALLEL ALGORITHMS (20 credits) 6522CSQR VIRTUALISED COMPUTING ARCHITECTURES (20 credits)		120 core credits at level 6 0 option credits at level 6

Level 5	Potential Awards on completion	
Core	Option	Award Requirements

Core		Award Requirements
5500CSQR RESEARCH SKILLS (10 credits) 5501CSQR PROFESSIONAL ISSUES (10 credits) 5502CSQR DATABASE SYSTEMS (20 credits) 5504CSQR OBJECT ORIENTED SYSTEMS DEVELOPMENT (20 credits) 5520CSQR ALGORITHM DESIGN (20 credits) 5521CSQR COMPILER DESIGN (20 credits) 5522CSQR KNOWLEDGE-BASED SYSTEMS (20 credits)		120 core credits at level 5 0 option credits at level 5

Level 4	Potential Awards on completion	
Core	Option	Award Requirements
4500CSQR INTRODUCTION TO PROGRAMMING (20 credits) 4501CSQR COMPUTER SYSTEMS (20 credits) 4503CSQR PERSONAL AND PROFESSIONAL DEVELOPMENT (10 credits) 4504CSQR DATA MODELLING (10 credits) 4515CSQR DISCRETE MATHEMATICS (20 credits) 4516CSQR COMPUTER SCIENCE WORKSHOP (20 credits) 4522CSQR INTRODUCTION TO INTERNET AND WEB DEVELOPMENT (20 credits)		120 core credits at level 4 0 option credits at level 4

Information about assessment regulations

All programmes leading to LJMU awards operate within the University's Academic Framework.
https://www.ljmu.ac.uk/about-us/public-information/academic-quality-and-regulations/academic-framework

Opportunities for work-related learning (location and nature of activities)

Level 4: Personal and Professional Development - this module provides students with an opportunity to consider their future role as a computing professional and develop a plan to enable them to progress in their chosen career.

Level 5: Professional Issues – this module provides further insight into developing the role of the student becoming a computing professional.

Criteria for admission

Mature entry
Mature applicants will be considered on a case-by-case basis.

Overseas qualifications
Qatar Associate Degree C/2.75 GPA

Advanced entry from Bachelors degree – entry after year 1 of Qatari degree 2.75 GPA, and having completed around 30 credit hours

Qatar Academic Bridge Programme with minimum pass mark of 55%

Students that have studied other qualifications that are equivalent to 120 level 3 UK credits may be offered a place on the programme, if Oryx do an assessment of the subjects studied as part of the programme to be a suitable foundation to ensure success in the programme.

English language:

IELTS 6.0 overall with a minimum 5.5 in each component.

Any English qualifications that are different from the above, but are equivalent will be accepted if Oryx can provide evidence of equivalence. The Faculty Recognition Group will review the evidence and agree this equivalence before students are admitted onto the programme.

External Quality Benchmarks

All programmes leading to LJMU awards have been designed and approved in accordance with the UK Quality Code for Higher Education, including the Framework for Higher Education Qualifications in the UK (FHEQ) and subject benchmark statements where applicable.

The University is subject to periodic review of its quality and standards by the Quality Assurance Agency (QAA) Published review reports are available on the QAA website at www.qaa.ac.uk

Programmes which are professionally accredited are reviewed by professional, statutory and regulatory bodies (PSRBs) and such programmes must meet the competencies/standards of those PSRBs.

Support for students and their learning

The University aims to provide students with access to appropriate and timely information, support and guidance to ensure that they are able to benefit fully from their time at LJMU. All students are assigned a Personal Tutor to provide academic support and when necessary signpost students to the appropriate University support services.

Students are able to access a range of professional services including:

- Advice on practical aspects of study and how to use these opportunities to support and enhance their personal and academic development. This includes support for placements and careers guidance.

- Student Advice and Wellbeing Services provide students with advice, support and information, particularly in the areas of: student funding and financial matters, disability, advice and support to international students, study support, accommodation, health, wellbeing and counselling.

- Students studying for an LJMU award at a partner organisation will have access to local support services

Methods for evaluating and improving the quality and standards of teaching and learning

Student Feedback and Evaluation

The University uses the results of student feedback from internal and external student surveys (such as module evaluations, the NSS and PTES), module evaluation questionnaires and meetings with student representatives to improve the quality of programmes.

Staff development

The quality of teaching is assured through staff review and staff development in learning, teaching and assessment.

Internal Review

All programmes are reviewed annually and periodically, informed by a range of data and feedback, to ensure quality and standards of programmes and to make improvements to programmes.

External Examining

External examiners are appointed to programmes to assess whether:

- the University is maintaining the threshold academic standards set for awards in accordance with the FHEQ and applicable subject benchmark statements

- the assessment process measures student achievement rigorously and fairly against the intended outcomes of the programme(s) and is conducted in line with University policies and regulations

- the academic standards are comparable with those in other UK higher education institutions of which external examiners have experience

- the achievement of students are comparable with those in other UK higher education institutions of which the external examiners have experience

and to provide informative comment and recommendations on:

- good practice and innovation relating to learning, teaching and assessment observed by external

examiners

- opportunities to enhance the quality of the learning opportunities provided to students

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, teaching, learning and assessment methods of each module can be found in module and programme guides.