

PROGRAMME SPECIFICATION

Bachelor of Science with Honours (SW) in Computer Studies

Awarding institution	Liverpool John Moores University
Teaching institution	Liverpool John Moores University
JACS Code	I100
Programme Duration	
Language of Programme	All LJMU programmes are delivered and assessed in English
Subject benchmark statement	Computing (2007)
Programme accredited by	British Computer Society
Description of accreditation	CITP (Full Fulfilment), CEng and CSci (Partial Fulfilment) http://www.engc.org.uk/education--skills
Validated target and alternative exit awards	Bachelor of Science with Honours in Computer Studies Bachelor of Science with Honours (SW) in Computer Studies Bachelor of Science in Computer Studies Bachelor of Science (SW) in Computer Studies Diploma of Higher Education in Computer Studies Certificate of Higher Education in Computer Studies
Programme Leader	Denis Reilly

Educational aims of the programme

The programme aims to produce graduates who are able to play a significant role in the provision of information in a business environment by the development of effective and reliable computer-based systems. Therefore, the overall educational aim is to provide an integrated, coherent and practically based education in the theory, methods, tools and techniques of such information system provision. Sufficient depth is provided in the programme to allow the development of specialisms within the subject while the breadth of study ensures the balance of the programme. The specific aims of the programme are:

- To understand the underlying concepts, formal foundations and theory of computer-based information systems
- To develop the knowledge, skills and abilities necessary for the investigation, analysis, design and development of large scale software systems
- To provide an educational underpinning that both addresses leading edge developments in the industry and provides for future professional development, equipping students with the appropriate knowledge and skills for a wide variety of employment and/or further study
- To encourage students to fully engage with the World of Work programme, including World of Work Skills Certificate and, as a first step towards this, to complete Bronze (Self Awareness) Statement.

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

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

Develop computer programs using elementary programming constructs. Apply a variety of tools and techniques for website design including Human-Computer Interaction (HCI) principles. Discuss the technical challenges of social computing and investigate the ethical, commercial and economic issues within this field. Discuss a range of practical aspects of computing and apply the associated tools and techniques used in them. Discuss computer architecture at the hardware and software levels and basic security concepts. On the completion of Level 4 of the programme, the student will have a good understanding of the basics of the field of computing. They will understand the different approaches required to solve computer-based problems. They will have the skills and ability to 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:

Analyse the requirements of a business system using structured techniques. Evaluate and apply ethical theories to IT activities. Understand and explain the fundamentals of object-oriented programming. Create object-oriented applications. Use mathematical notations to model aspects of computing systems. Develop logical schema and create and manipulate data held in a database system. Plan and design a computer network to meet business requirements. Identify and demonstrate their employability skills.

Target award Learning Outcomes - Bachelor of Science with Honours (SW)

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 of selected areas of Computer Systems technologies.
2. Have widened and deepened conceptual and practical knowledge and skills in selected areas of Computer Systems, in a wide range of domains.
3. Have been exposed to and applied a range of tools and techniques used in the development of complex computer based systems.
4. Have critically analysed a range of computer systems and application domains.
5. Have a clear understanding of how to effectively and creatively manage computer systems.
6. Be able to use knowledge with originality and be innovative in solving computer systems problems.
7. Demonstrate systematic and comprehensive knowledge and understanding of computer systems concepts, principles and theories.
8. Use such knowledge with originality in system modelling, requirements analysis and design of Computer Systems and Applications in selected areas from a wide range of domains.
9. Perform critical evaluation and testing for computer based systems in selected areas from a wide range of domains.
10. Deploy appropriate methods and tools creatively for the development of a complex computer based system.
11. Develop and evaluate computer based systems in selected areas from a wide range of domains.
12. Manage computer based projects.
13. Use a wide range of computing facilities effectively.
14. Work individually and/or as a team member.
15. Use information technology, e.g. Web and internet, for effective information retrieval.
16. Apply numerical skills to cases involving a quantitative dimension.
17. Communicate effectively by written or verbal means.
18. 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, practicals and guided independent study. Independent study is used where appropriate resource material is available and increases as the programme progresses.

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 promoted via lectures, tutorials, individual and group practical work and course work assignments.

Learning to apply these thinking skills is obtained via tutorials, practical laboratory sessions, individual and group assignments.

Cognitive skills are partly assessed via formal examinations, but mainly through course work assessment.

The final year project assessment involving a major report and oral presentation allows a student to demonstrate his/her thinking skills to the highest level.

Practical skills are developed throughout the programme. The basic skills are provided at the lower levels. These are supplemented at higher levels by more advanced tools and techniques. Some of these skills are practiced in the placement year. Specialist software is available in School labs or from specified PCs in the Library.

Assessment is normally by course work.

The placement year is assessed on a pass/fail basis dependent on satisfactory Company and University Supervisor reports and the students' own report.

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 is modular in construction. Modules are normally 12, 24 or 36 credits (equivalent to 120/240/360 hours of study). Students normally study 120 credits per level. There are core (compulsory) modules at each level, plus a number of optional modules at level 6. Students will normally undertake a professional placement year between levels 5 and 6. Students successfully completing the placement year are eligible for a Sandwich award.

At level 6 students must select one 24 credit option and one 12 credit option. The 24 credit option should be selected from the following:

6048COMP INNOVATIONS IN SOFTWARE DEVELOPMENT

6056COMP IT MANAGEMENT

6057COMP MOBILE AND WIRELESS SYSTEMS

6066COMP NETWORK SECURITY

The 12 credit option should be selected from the following:

6037COMP COMPUTING IN EDUCATION

6038COMP WORK PLACEMENT EVALUATION

6046COMP CLOUD COMPUTING

6053COMP EMPLOYABILITY AND THE WORKPLACE

6055COMP GREEN AND SUSTAINABLE COMPUTING

6061COMP TECHNOLOGY ENTREPRENEURSHIP

6067COMP MAINFRAME COMPUTING

Level 6	Potential Awards on completion	Bachelor of Science with Honours (SW)
Core	Option	Award Requirements
6001PROJ SOFTWARE	6037COMP COMPUTING IN	84 core credits at level 6

DEVELOPMENT PROJECT (36 credits) 6045COMP BUSINESS SYSTEMS: ANALYSIS & EVOLUTION (24 credits) 6062COMP USABILITY ENGINEERING (24 credits)	EDUCATION (12 credits) 6038COMP WORK PLACEMENT EVALUATION (12 credits) 6046COMP CLOUD COMPUTING (12 credits) 6048COMP INNOVATIONS IN SOFTWARE DEVELOPMENT (24 credits) 6053COMP EMPLOYABILITY AND THE WORKPLACE (12 credits) 6055COMP GREEN AND SUSTAINABLE COMPUTING (12 credits) 6056COMP IT MANAGEMENT (24 credits) 6057COMP MOBILE AND WIRELESS SYSTEMS (24 credits) 6061COMP TECHNOLOGY ENTREPRENEURSHIP (12 credits) 6066COMP NETWORK SECURITY (24 credits) 6067COMP MAINFRAME COMPUTING (12 credits)	36 option credits at level 6
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Level 5	Potential Awards on completion	
Core	Option	Award Requirements
5019COMP DATABASE DESIGN, APPLICATIONS AND MANAGEMENT (24 credits) 5040COMP PRINCIPLES OF COMPUTING AND COMMUNICATIONS (24 credits) 5044COMP ENTERPRISE SYSTEMS DEVELOPMENT (24 credits) 5046COMP OBJECT ORIENTED SOFTWARE DEVELOPMENT (24 credits) 5070COMP ADVANCED WEB DEVELOPMENT (24 credits)		120 core credits at level 5 0 option credits at level 5

Level 4	Potential Awards on completion	
Core	Option	Award Requirements
4000COMP WEB DESIGN AND HCI (24 credits) 4001COMP INTRODUCTION TO COMPUTER PROGRAMMING (24 credits) 4004COMP COMPUTING AND SOCIETY (24 credits) 4005COMP COMPUTING IN PRACTICE (24 credits) 4008COMP COMPUTER SYSTEMS (24 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)

Industrial Placement - Students are encouraged to undertake a 12 month placement (including statutory holiday entitlement) in the programme-related area that is part of the Sandwich degree.

To pass the industrial placement:

- The University Tutor must award at least a pass grade (the mid-point on a five point scale)
- The Company Tutor must award at least a pass grade (the mid-point on a five point scale)
- The University Tutor must award at least a pass grade (the mid-point on a five point scale) to the Professional Placement Report written by the student

-The student must complete a period of no less than 12 continuous months (including statutory holiday entitlement) of approved professional training.

Level 6:- 6038COMP Computing in Education (Option) - Students who are interested in a career in teaching can apply for consideration at a position with a local school or college, attending one half day per week. This gives them first-hand experience of teaching computing in schools or colleges and allows them to develop their World of Work skills.

Level 6:- 6037COMP Work Placement Evaluation (Option) - This option module allows the student to reflect on their work placement in greater depth than their placement report, evaluate their development of graduate skills during the placement year, and plan their future learning requirements to enhance their employability.

Level 6:- 6053COMP Employability and the Workplace (Option) - LJMU's WoW initiative has been recognised as an innovative approach to improving the employability skills of graduates. This module operates in conjunction with a development programme at LJMU's Graduate Development Centre and enables students to critically evaluate their own employability skills and further improve on these via the GDC WoW certification process if desired.

Level 6:- 6061COMP Technology Entrepreneurship (Option) - This module prepares those students who wish to enter the world of self-employment upon graduation by examining the production of a business plan to support their own idea. With on-going support from the team at the University's Centre for Entrepreneurship, students will be guided in developing their idea through the initial stages of business development.

Level 6:- 6067COMP Mainframe Computing (Option) - This module prepares those students who wish to undertake possible future professional accreditation in the field of mainframe computing. Delivered in conjunction with IBM, this module provides hands-on theory and experience in using mainframe technologies and follows the IBM certificated curriculum.

Further information about Graduate Skills can be found at:

<http://www.ljmu.ac.uk/worldofwork/123832.htm> (The World of Work Careers Centre website)

<http://www.ljmu.ac.uk/eaqs/128262.htm> (Methods of Practice - Section 5 Work Related Learning and Additional Information)

Criteria for admission

A/AS Level

280 UCAS points to include 2 A-levels or Double Award

BTEC National Diploma

280 UCAS points

AVCE

280 UCAS points

Irish Leaving Certificate

280 UCAS points

Scottish Higher

280 UCAS points

International Baccalaureate

25 points

Access

Pass

Higher national diploma

Pass

Other

In addition to 280 UCAS points applicants should have five GCSEs at grade C or above including GCSE

Mathematics grade C and English Language grade C

Mature entry

Without the necessary qualifications but relevant experience are encouraged to apply and may be requested to attend an interview and aptitude test

Overseas qualifications

Offers will be based on individual qualifications and experience. All applicants should have achieved IELTS 6.0

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.