

PROGRAMME SPECIFICATION

Bachelor of Science with Honours in Civil Engineering

Awarding institution	LJMU
Teaching institution	Oryx Universal College WLL
JACS Code	
Programme Duration	Part-Time: 4 Years
Language of Programme	All LJMU programmes are delivered and assessed in English
Subject benchmark statement	Engineering (2015)
Programme accredited by	
Description of accreditation	
Validated target and alternative exit awards	Bachelor of Science with Honours in Civil Engineering Diploma of Higher Education in Civil Engineering

Link Tutor

Educational aims of the programme

The BSc(Hons) is designed to develop a high level of technical expertise together with the leadership skills needed to practice successfully as a professional engineer in the modern international civil engineering environment. The knowledge and skills gained from this programme are designed to enable graduates to make an immediate contribution to their employers, and to enable them to achieve the highest positions within the civil engineering profession.

The educational aims of the BSc(Hons) in Civil Engineering are to:

1. Provide a programme of study that fully meets the academic requirements for potential registration as a Chartered Engineer.
2. Provide a well-balanced education which allows the student to achieve his/her full academic potential and in doing so to facilitate the development of independent logical thought and judgement.
3. Enable the student to develop his/her intellectual, analytical and critical abilities in order that he/she might exercise those abilities within civil engineering.
4. Deliver an educational experience for the students which enables them to develop their knowledge of those scientific, mathematical and computational principles and methods relevant to civil engineering.
5. Develop the students' ability to apply engineering concepts and tools to the solution of civil engineering problems.
6. Facilitate the development of design capability, from the understanding of customer needs through to the development and evaluation of innovative designs.
7. Encourage and enable students to develop the full range of communication skills.
8. Enable students to solve technical and intellectual challenges within the field of civil engineering, taking into consideration business, social, ethical and sustainability issues.
9. Provide the opportunities for students to combine theory with practice through the practical application of engineering skills.
10. Provide graduates with a range of highly relevant transferable skills such as team working, problem solving, self-learning as a foundation for lifelong CPD, and the ability to exercise initiative and personal responsibility.
11. Provide students with an extended period of work experience at an approved partner that will complement their programme of study. This will give the students the opportunity to develop professional skills relevant to their programme of study, as well as attitude and behaviours necessary for employment in a diverse and changing environment.
12. Develop skills to ensure that the graduate will operate within a sound Health and Safety framework as provided by the regulatory framework of the industry.
13. Develop critical awareness of all aspects of sustainability to ensure that graduates operate responsibly within

their chosen discipline, and make positive choices in this context.

14. Encourage students to engage with the development of employability skills by completing a self-awareness statement.

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

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

Apply the analytical and evaluation skills attained to a deeper knowledge of the principles and concepts of civil engineering and related subjects. Students will also be able to apply these principles widely within the context of the civil engineering profession.

Critically evaluate the appropriateness of different approaches to design and problem solving with civil engineering.

For the award of Diploma of Higher Education (SW), students must also 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. Demonstrate their knowledge and understanding of essential facts, concepts, theories and principles of civil engineering, and its underpinning science and mathematics.
2. Demonstrate their knowledge and understanding of historical, current and future developments and technologies within civil engineering.
3. Apply a range of mathematical and statistical methods in the solution of civil engineering problems and demonstrate an understanding of their limitations.
4. Demonstrate an understanding of concepts from a range of areas including some outside engineering, and the ability to apply them effectively in civil engineering projects.
5. Demonstrate an understanding of relevant codes of practice and the regulatory framework.
6. Demonstrate an understanding of construction materials, including novel and innovative materials.
7. Demonstrate their understanding of the international nature of civil engineering and apply this to the design and evaluation of civil engineering projects.
8. Demonstrate an understanding of Building Information Management (BIM).
9. Demonstrate their knowledge and understanding of risk assessment and risk management methods.
10. Apply advanced problem solving skills, technical knowledge and understanding, to establish rigorous and creative solutions that are fit for purpose for all aspects of a problem.
11. Evaluate risk issues, including environmental and commercial risk.
12. Demonstrate an extensive knowledge and understanding of management and business practices, and their limitations, and how these may be applied appropriately to strategic and tactical issues.
13. Demonstrate an understanding the requirement for engineering activities to promote sustainable development.
14. Demonstrate an awareness of the framework of relevant legal and quality requirements governing engineering activities, including personnel, health, safety, and risk (including environmental risk) issues.
15. Identify and classify the performance of systems, and apply a systems approach to solving complex problems.
16. Undertake and evaluate research and communicate the results of the research.
17. Use a range of land surveying equipment effectively for setting out engineering works and for collecting site data for the production of engineering plans.
18. Apply practical engineering skills acquired through, for example, work carried out in laboratories, to the design of civil engineering projects.
19. Work effectively within a group to design, analyse and evaluate civil engineering projects.
20. Demonstrate a thorough understanding of current and developing civil engineering practice and its limitations and some appreciation of likely new developments.

21. Apply an extensive knowledge and understanding of a wide range of engineering materials and components to civil engineering design.
22. Demonstrate a wide knowledge and comprehensive understanding of design processes and methodologies and the ability to apply and adapt them in unfamiliar situations.
23. Illustrate an understanding of client and user needs and the importance of considerations such as aesthetics.
24. Evaluate the sustainability of a civil engineering project, and design effectively within the constraints of the 'triple bottom line' (social, environmental and economic).
25. Generate an innovative design for construction, products, systems, components or processes to fulfil new needs.
26. Demonstrate an understanding of the need for a high level of professional and ethical conduct in civil engineering and a knowledge of professional codes of conduct.
27. Manage the design process and evaluate outcomes.
28. Apply their skills in problem solving, communication, and working with others, as well as the effective use of general IT facilities and information retrieval skills.
29. Use technical literature and other information sources effectively.
30. Demonstrate entrepreneurial competencies to include creativity, personal influence, personal branding and negotiation.
31. Exercise initiative and ethical personal responsibility both as a leader and as a team member.
32. Plan self-learning and improve performance, as the foundation for lifelong learning.
33. Work with limited or contradictory information.
34. Communicate effectively through the media of the written word, engineering drawings, clear use of mathematical notation, orally and through the effective use of IT.
35. Monitor and adjust a personal programme of work.

Teaching, Learning and Assessment

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

Lectures, tutorials, problem solving sessions, seminars, workshops, laboratory and computer sessions, off-site learning activities (including a surveying field course), participation in a group projects. Case studies from industry practitioners, and the use of real examples from within civil engineering add to the student knowledge and understanding. Specific work based modules will require the students to analyse and comment on their own work experiences and the techniques and practices to which they are exposed. The main vehicle for the skills development will be through the projects which involves verbal and visual presentations to a panel of experts, backing up by written reports.

Unseen examinations, open book examinations, assignments, preparation of reports, design tasks, oral presentations, Visual presentations, workshops, peer review, computer-based exercises, work placement reports.

Lectures, tutorials, problem solving sessions, seminars, workshops, laboratory and computer sessions, off-site learning activities, participation in a group projects.

Unseen examinations, open-book examinations, assignments, preparation of reports, design tasks, oral presentations, visual presentations, workshops, peer review, computer-based exercises, work placement reports.

Lectures, tutorials, problem solving sessions, workshops, laboratory and computer sessions, off-site learning activities, participation in group projects and individual investigational/research project. The major vehicles for practical skills are laboratory work, field work including the surveying field course week, and the research project at level 6.

Unseen examinations, assignments, preparation of reports, design tasks, oral presentations, workshops, peer review, computer-based exercises, work placement reports. Assessment of field work and laboratory work also includes practical tests in situ.

Lectures, tutorials, problem solving sessions, seminars, workshops, laboratory and computer sessions, off-site learning activities, participation in a group project.

Unseen examinations, assignments, preparation of reports, design tasks, oral presentations, workshops, peer review, computer-based exercises, work placement reports. Tracking of key skills and civil engineering attainments. World of Work.

Programme structure - programme rules and modules

Normally entry to this programme will be at level 6 and the programme will be studied over two years. Entry to this programme will be permitted if an applicant can demonstrate that they have achieved the learning outcomes for levels 4 and 5 of the Oryx delivered, LJMU validated, BSc(Hons) full time programme, code 36392. Candidates will apply to Oryx who will advise whether entry may be given. Oryx will then map the qualification the applicant has previously been awarded to ensure that it is equivalent to 120 level 4 and 120 level 5 credits, and that the curriculum adequately maps against the full time programme curriculum. Applications will be sent to LJMU via the Link Tutor, who will submit them to the Faculty Recognition Group (FRG). If FRG approve the application, the applicants can be offered a place on the programme.

Exceptionally, entry to level 5 of the programme will be allowed if a candidate can demonstrate that they have previously achieved the equivalent of 120 level 4 credits, mapped against level 4 of programme 36392. If entry is at level 5, the programme duration will be 4 years on a part time basis.

This programme will be studied in part time mode.

For level 6:

Modules 6500CVQR, 6501CVQR and 6502CVQR will be delivered in the first stage of the part time programme.

Modules 6503CVQR and 6505CVQR will be delivered in the second stage of the part time programme.

For level 5:

Modules 5500CVQR, 5501CVQR, 5502CVQR and 5503CVQR will be delivered in the first stage of the part time programme.

Modules 5504CVQR, 5505CVQR and 5506CVQR will be delivered in the second stage of the part time programme.

Level 6	Potential Awards on completion	Bachelor of Science with Honours
Core	Option	Award Requirements
6500CVQR ADVANCED MATERIALS, RIVER AND COASTAL ENGINEERING (20 credits) 6501CVQR INFRASTRUCTURE, HIGHWAYS DESIGN AND INNOVATION (20 credits) 6502CVQR ADVANCED GEOTECHNICS AND DESIGN (20 credits) 6503CVQR STRUCTURAL DESIGN AND RISK MANAGEMENT (20 credits) 6505CVQR RESEARCH PROJECT (40 credits)		120 core credits at level 6 0 option credits at level 6

Level 5	Potential Awards on completion	
Core	Option	Award Requirements
5500CVQR MATERIALS (20 credits) 5501CVQR SURVEYING, HIGHWAYS AND TRANSPORTATION (20 credits) 5502CVQR APPLIED MATHEMATICS (10 credits) 5503CVQR GEOTECHNICS (10 credits) 5504CVQR WATER ENGINEERING (20 credits) 5505CVQR STRUCTURAL ANALYSIS AND DESIGN (20 credits) 5506CVQR CIVIL ENGINEERING PROJECT (20 credits)		120 core credits at level 5 0 option credits at level 5

Information about assessment regulations

All programmes leading to LJMU awards operate within the University's Academic Framework.

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

This programme will be studied by students that are already working in the civil engineering industry and as such they will be able to apply the knowledge they have obtained in the workplace to their studies.

Work-related learning is also included within this programme, so students will have the opportunity to engage in real world projects and activities

Work-related learning may take different forms, the most common being simulations of workplace activity; and employer-driven case studies.

Criteria for admission

Overseas qualifications

Entry to level 6 of the programme will be permitted if an applicant can demonstrate that they have achieved the learning outcomes for levels 4 and 5 of the Oryx delivered, LJMU validated, BSc(Hons) full time programme, code 36392. Exceptionally, entry to level 5 of the programme will be allowed if a candidate can demonstrate that they have previously achieved the equivalent of 120 level 4 credits, mapped against level 4 of programme 36392.

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.