PROGRAMME SPECIFICATION

Bachelor of Engineering with Honours in Civil Engineering

Awarding institution	Liverpool John Moores University
Teaching institution	LJMU
JACS Code	H200
Programme Duration	Part-Time: 5 Years
Language of Programme	All LJMU programmes are delivered and assessed in English
Subject benchmark statement	Engineering (2015)
Programme accredited by	Joint Board of Moderators (JBM) on behalf of: the Institution of Civil Engineers (ICE), the Institution of Structural Engineers (IStructE), the Chartered Institution of Highways and Transportation (CIHT) and the Institute of Highway Engineers (IHE).
Description of accreditation	This degree is accredited as fully satisfying the educational base for an Incorporated Engineer (IEng); and partially satisfying the educational base for a Chartered Engineer (CEng).
Validated target and alternative exit awards	Bachelor of Engineering with Honours in Civil Engineering Diploma of Higher Education in Civil Engineering Certificate of Higher Education in Civil Engineering
Programme Leader	Edward Loffill

Educational aims of the programme

The BEng (Hons) in Civil Engineering fulfils all the academic requirements for Incorporated Engineer status. It 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 progress to an MSc or PhD in Civil Engineering.

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

Provide a programme of study that fully meets the academic requirements for registration as an Incorporated Engineer and partially meets the academic requirements for registration as a Chartered Engineer.

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.

Enable the student to develop his/her intellectual, analytical and critical abilities in order that he/she might exercise those abilities within civil engineering.

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.

Develop the students' ability to apply engineering concepts and tools to the solution of civil engineering problems.

Facilitate the development of design capability, from the understanding of customer needs through to the development and evaluation of innovative designs.

Encourage and enable students to develop the full range of communication skills.

Enable students to solve technical and intellectual challenges within the field of civil engineering, taking into consideration business, social, ethical and sustainability issues.

Provide the opportunities for students to combine theory with practice through the practical application of engineering skills.

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.

Offer the student the opportunity for integrating knowledge and understanding in the workplace with theory learnt in the classroom via Work Based Learning.

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.

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.

Encourage students to engage with the development of employability skills by completing a 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:

Demonstrate a sound knowledge of the basic concepts of civil engineering related subjects and have learned how to take different approaches to solving engineering problems.

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

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

Demonstrate analytical and evaluation skills and be able to apply them 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.

Target award Learning Outcomes - Bachelor of Engineering 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, 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).

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 involve verbal and visual presentations to a panel of experts, backed 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.

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.

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. 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. Tracking of key skills and civil engineering attainments.

Programme structure - programme rules and modules

The programme is offered in part-time attendance mode. Entry to the programme is normally at level 4 for suitably qualified candidates.

Students will study modules as follows, with cohort A being the order for part time students starting level 4 in September of even numbered years, and cohort B for those starting in odd numbered years.

Cohort A:

Year 1: modules 4200CIV, 4203CIV, 4205CIV, 4202CIV

Year 2: modules 4201CIV, 4204CIV, 4206CIV

Year 3: modules 5205CIV, 5203CIV, 5200CIV, 5202CIV, 5206CIV, 5207CIV

Year 4: modules 5201CIV, 5204CIV, 6200CIV, 6202CIV

Year 5: modules 6205CIV, 6201CIV, 6203CIV

Cohort B:

Year 1: modules 4201CIV, 4204CIV, 4206CIV

Year 2: modules 4200CIV, 4203CIV, 4205CIV, 4202CIV

Year 3: modules 5201CIV, 5204CIV, 5200CIV, 5206CIV, 5207CIV

Year 4: modules 5205CIV, 5203CIV, 5202CIV, 6201CIV, 6203CIV

Year 5: modules 6200CIV, 6202CIV, 6205CIV

Level 6	Potential Awards on completion	Bachelor of Engineering with Honours
Core	Option	Award Requirements
6200CIV ADVANCED MATERIALS, RIVER AND COASTAL ENGINEERING (20 credits) 6201CIV INFRASTRUCTURE, HIGHWAYS DESIGN AND INNOVATION (20 credits) 6202CIV ADVANCED GEOTECHNICS AND DESIGN (20 credits) 6203CIV STRUCTURAL DESIGN AND RISK MANAGEMENT (20 credits) 6205CIV 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
5200CIV MATERIALS (20 credits) 5201CIV SURVEYING, HIGHWAYS AND TRANSPORTATION (20 credits)	5206CIV CIVIL ENGINEERING PROJECT (20 credits) 5207CIV WORK BASED LEARNING (20 credits)	100 core credits at level 5 20 option credits at level 5

5202CIV APPLIED MATHEMATICS (10 credits) 5203CIV GEOTECHNICS (10 credits) 5204CIV WATER ENGINEERING (20 credits) 5205CIV STRUCTURAL ANALYSIS AND DESIGN (20 credits)		

Level 4	Potential Awards on completion	
Core	Option	Award Requirements
4200CIV ENGINEERING MATHEMATICS (20 credits) 4201CIV STRUCTURES AND MATERIALS (20 credits) 4202CIV INFRASTRUCTURE (10 credits) 4203CIV SURVEYING AND CAD (20 credits) 4204CIV INTRODUCTION TO GEOTECHNICS (20 credits) 4205CIV HYDRAULICS (10 credits) 4206CIV DESIGN AND SKILLS PROJECT (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)

To put the students' learning into appropriate vocational contexts project modules at all levels are assessed in realistic, industrially relevant contexts. At each level of the course students participate in cross disciplinary project modules and a major design project in the final year, mentored by industry, develops this further.

Students have the option, at level 5, to undertake a Work Based Learning module. This allows students working in the civil engineering profession to integrate their academic and professional learning.

Criteria for admission

A/AS Level
Level 4: 112 UCAS points: Minimum Two A2 levels

Irish Leaving Certificate
Level 4: 112 UCAS points; minimum 3 subjects at Higher level

Scottish Higher
Level 4: 112 UCAS points; minimum 2 subjects at Advanced Higher level

International Baccalaureate
Level 4: 24 IB points

Higher national diploma
HNC/HND (Cognate)

Level 4 Entry: Pass

Level 5 Entry: Pass with an average mark of at least 60%

Overseas qualifications
Overseas student applicants must have the equivalent qualifications as UK students. In addition they must have achieved an IELTS score of at least 6.

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.