

## PROGRAMME SPECIFICATION

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### Higher National Certificate in Civil Engineering

<b>Awarding institution</b>	Liverpool John Moores University
<b>Teaching institution</b>	LJMU
<b>JACS Code</b>	H200
<b>Programme Duration</b>	Part-Time: 2 Years
<b>Language of Programme</b>	All LJMU programmes are delivered and assessed in English
<b>Subject benchmark statement</b>	Engineering 2015
<b>Programme accredited by</b>	
<b>Description of accreditation</b>	
<b>Validated target and alternative exit awards</b>	Higher National Certificate in Civil Engineering
<b>Programme Leader</b>	Rafal Al-Mufti

### Educational aims of the programme

To provide a well-balanced education which allows the student to achieve their full academic potential at HNC level and in doing so to facilitate the development of independent logical thought and judgement.

To enable the student to develop their intellectual, analytical and critical abilities in order that they might exercise those abilities within the disciplines which constitute Built Environment studies.

To produce a basis for general professional experience and to encourage awareness of the professional, business and commercial environment.

To facilitate the development of transferable and graduate employability skills and an awareness of the need to plan, develop and record lifelong learning.

To provide the framework within which students can achieve the level of attainment, appropriate to their abilities in the context of the programme of study that provides recognition of that level.

To provide a medium for students to explore the potential of their acquired knowledge and to pursue those aspects which they find most stimulating.

To widen access to the programmes by recognising and allowing credits for credit transfer or the recognition of prior (experiential) learning - RP(E)L. Credit transfer or RPL is usually more straightforward providing the study maps against the learning outcomes of the modules / level of study.

### Target award Learning Outcomes - Higher National Certificate

*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. Use appropriate mathematical methods.
2. Apply science appropriate to civil engineering.
3. Demonstrate principles of ITC relevant to civil engineering.
4. Apply general principles of design.
5. Demonstrate civil engineering design.
6. Understand the characteristics of engineering materials and construction materials.
7. Apply management and business practice.

8. Recognise the moral and ethical issues of construction, sustainability, the environment, and scientific enquiry and experimentation.
9. Demonstrate civil engineering practice.
10. Apply codes of practice and the regulatory framework.
11. Understand the requirements for safe operation.
12. Demonstrate the ability to select and apply appropriate mathematical methods for modelling and analyzing engineering problems.
13. Use scientific principles in the development of proven engineering solutions to practical problems.
14. Use scientific principles in the modelling and analysis of standard civil engineering structures, systems and processes.
15. Demonstrate the ability to select and apply appropriate computer based methods for modelling and analysing civil engineering problems.
16. Demonstrate the ability to undertake elements of commercial and technical risk evaluation.
17. Demonstrate the ability to produce solutions to problems through the application of engineering knowledge and understanding.
18. Use appropriate mathematical methods for modelling and analysing civil engineering problems.
19. Use relevant test and measurement equipment.
20. Carry out experimental laboratory work.
21. Use engineering IT tools.
22. Demonstrate the design of civil engineering structures and systems.
23. Research for information for the development and appraisal of ideas.
24. Demonstrate the ability to operate in commerce and industry in a range of situations, individually and as part of a team.
25. Undertake project management.
26. Demonstrate the manipulation and sorting of data.
27. Present data in a variety of ways.
28. Use scientific evidence based methods in the solution of problems.
29. Use general IT tools.
30. Use creativity and innovation in problem solving.
31. Work with limited or contradictory information.
32. Demonstrate effective communication.
33. Engage in life-long learning.
34. Use an engineering approach to the solution of problems.
35. Demonstrate time and resource management.
36. Engage in teamwork and demonstrate leadership.
37. Have an awareness of climate change and the role Civil Engineers will play in mitigating it.

## 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, participation in group projects and individual investigational work.

Unseen examinations, assignments, preparation of reports, design tasks, oral presentations, workshops, peer review, computer-based exercises.

## Programme structure - programme rules and modules

The Higher National Certificate (HNC) is currently offered on a part-time basis. The part-time programme is normally of two years duration.

On successful completion of the HNC students will be eligible to apply for entry at level 5 to one of the civil

engineering degree programmes offered by LJMU.

Year one will comprise 4400CIVH DESIGN PRINCIPLES (20 credits), 4403CIVH SCIENCE MATERIALS AND APPLIED MATHEMATICS (20credits) & 4405CIVH STRUCTURAL ANALYSIS AND DESIGN (20 credits)

Year two will comprise 4401CIVH ENGINEERING GEOLOGY AND SOIL MECHANICS (20 credits), 4402CIVH HYDRAULICS GROUP PROJECT (20 credits) & 4404CIVH SITE SURVEYING PROCEDURES (20 credits)

Level 4	Potential Awards on completion	Higher National Certificate
Core	Option	Award Requirements
<a href="#">4400CIVH</a> Design Principles (20 credits) <a href="#">4401CIVH</a> Engineering Geology and Soil Mechanics (20 credits) <a href="#">4402CIVH</a> Hydraulics Group Project (20 credits) <a href="#">4403CIVH</a> Science Materials and Applied Mathematics (20 credits) <a href="#">4404CIVH</a> Site Surveying Procedures (20 credits) <a href="#">4405CIVH</a> Structural Analysis and Design (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)

The Hydraulics Group Project and Site Surveying Procedures modules will introduce students to work related learning activities in civil engineering. During the programme of study students will attend site visits and there will be off-site learning activities relevant for a career as a civil engineer.

## Criteria for admission

### A/AS Level

80 UCAS points.

### BTEC National Diploma

Diploma and Extended Diploma.

### Mature entry

Mature students with construction / property work experience and / or an NVQ Level 3 may be made an offer subject to interview, satisfactory references, employer support and availability of places.

### 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](http://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.*