



## Course Handbook

### **MEng & BEng (Hons) Civil Engineering**

**2019-20**

**Julie Marsh  
Course Leader  
School of Engineering**



Please read this Handbook in conjunction with the University's Student Handbook.

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## 1. Welcome to the course

Welcome to Civil Engineering at UCLan. We hope to provide you with an interesting and challenging education, and to develop competences appropriate to Civil Engineering. Please read the handbook carefully as it is a source of information on the academic, administrative and operational aspects of your course and it is intended to explain what is required of you. Feel free to discuss any aspects with myself or any member of the course team.

Enjoy your time studying with us!

Julie Marsh – Course Leader for MEng/BEng (Hons) Civil Engineering.

### 1.1 Rationale, aims and learning outcomes of the course



The MEng/BEng (Hons) Civil Engineering course aim is to develop graduates with a broad understanding of current technology and practice in civil engineering, covering the relevant aspects of civil infrastructure, systems, design and analysis.

The course is three years (BEng) or four years (MEng) in duration. The Civil Engineering programmes are designed:

- To provide a focused education at an academic level appropriate for the target awards: MEng/BEng (Hons) Civil Engineering, as well as the exit awards.
- To meet the requirements for accreditation of the programme by the Joint Board of Moderators/Engineering Council.
- To provide an extended, enhanced, and industrially relevant Integrated Master's programme of study in preparation for professional practice.
- To produce resourceful, competent, clear-thinking professional engineers with a range of skills and experience relevant to today's engineering industry.
- To equip graduates of the programme with knowledge, skills, experience, and understanding which underpin a professional career in engineering.
- To allow a student registered as a Degree Apprentice to become an Incorporated Engineer soon after completing the BEng Degree course.

The discipline of Civil Engineering encompasses a wide skills base and the emphasis of this course is placed on system-level design rather than that of individual component devices. By concentrating on the principles fundamental to multi-system integration, the course equips graduates with the knowledge, skills and confidence to thrive in the rapidly evolving field of civil engineering, produce designs suitable for a variety of applications and the transferrable skills to find employment in a diverse set of industrial and commercial sectors.

The full program specifications, including learning outcomes, are referenced in the Appendices.

## 1.2 Course Team

Names and contact details of the key members of the team.

Paul Watson	BSc(Eng), PhD, MCIHT (Institution of Highways and Transport) <i>Academic Lead for Construction and Civil Engineering</i>  E-mail: <a href="mailto:PDJWatson@uclan.ac.uk">PDJWatson@uclan.ac.uk</a> , Ext 3320, Room HB316
Julie Marsh	BEng, CEng, MICE (Institution of Civil Engineers) <b>Course Leader for MEng/BEng(Hons) Civil Engineering</b> <i>Senior Lecturer in Civil Engineering</i>  E-mail: <a href="mailto:JMarsh6@uclan.ac.uk">JMarsh6@uclan.ac.uk</a> , Ext 3585, Room HB1.18a
Godfaurd John	BEng, MSc, PhD (Construction Management), FHEA <i>Senior Lecturer for MEng/BEng(Hons) Civil Engineering and Construction Project Management</i>  E-mail: <a href="mailto:GAJohn@uclan.ac.uk">GAJohn@uclan.ac.uk</a> , Ext 3227, Room HB240
John Pescatore	BSc, MSc, PhD, PE <i>Lecturer for hydraulics and water engineering.</i>  E-mail: <a href="mailto:JPescatore@uclan.ac.uk">JPescatore@uclan.ac.uk</a> , Ext 3267, Room HB1.18a
Michael Gerges	BEng (Hons), MSc, MSc, PGcert HE, FHEA, MCIQB, MIET, MASCE <i>Lecturer in Civil Engineering/Course Leader BEng (Hons) Civil Engineering and Construction Management.</i>  E-mail: <a href="mailto:MGerges1@uclan.ac.uk">MGerges1@uclan.ac.uk</a>
Alison Robinson	BSc, FHEA <i>Senior lecturer in Geology and Hydrogeology</i>  E-mail: <a href="mailto:AJRRobinson@uclan.ac.uk">AJRRobinson@uclan.ac.uk</a> , Ext 3520, Room KM103
John Ashton-Yamnikar	BSc, MCIQB, MRICS (Chartered Surveyor) <i>Senior lecturer in Construction</i>  E-mail: <a href="mailto:JLAshton-yamnikar@uclan.ac.uk">JLAshton-yamnikar@uclan.ac.uk</a> , Ext 3228, Room HB240
Fiona Wallbank-Blakey	BSc, MRICS (Chartered Surveyor) <i>Lecturer in Civil Engineering Technology and Design</i>  E-mail: <a href="mailto:FMWallbank-blakey@uclan.ac.uk">FMWallbank-blakey@uclan.ac.uk</a> , Ext 5787, Room HB302

Adbulkadni Ganah      BEd, MSc, MA, PhD, ICIOB  
*Senior Lecturer in Architecture*

E-mail: [AGanah@uclan.ac.uk](mailto:AGanah@uclan.ac.uk), Ext 5788, Room HB233

John Picken              BSc (Hons), MSc, PGCE, FCIOB  
*Lecturer in Quantity Surveying*

E-mail: [JPicken1@uclan.ac.uk](mailto:JPicken1@uclan.ac.uk)

Campus Admin Services is located in the Computer and Technology Building. Hub contact details are as follows:

☎ 01772 89 1994 or 01772 89 1995, ✉ [CandThub@uclan.ac.uk](mailto:CandThub@uclan.ac.uk).

### 1.3 Expertise of staff

All of the tutors on your course will be from professional or academic backgrounds or a combination of the two. They will endeavour to bring to the course aspects reflecting their interests and specialisms.

### 1.4 Academic Advisor

You will be assigned an Academic Advisor who will provide additional academic support during the year. They will be the first point of call for many of the questions that you might have during the year. Your Academic Advisor will be able to help you with personal development, including developing skills in self-awareness, reflection and action planning.



### 1.5 Administration details

Campus Admin Services provides academic administration support for students and staff and are located in the following hubs which open from 8.45am until 5.15pm Monday to Thursday and until 4.00pm on Fridays. The hub can provide general assistance and advice regarding specific processes such as extenuating circumstances, extensions and appeals.

#### Allen Building

Medicine

Dentistry

telephone: 01772 895566

email: [AllenHub@uclan.ac.uk](mailto:AllenHub@uclan.ac.uk)

#### Harris Building

Lancashire Law School

Humanities and the Social Sciences

Centre for Excellence in Learning and Teaching

telephone: 01772 891996/891997

email: [HarrisHub@uclan.ac.uk](mailto:HarrisHub@uclan.ac.uk)

### **Foster Building**

Forensic and Applied Sciences  
Pharmacy and Biomedical Sciences  
Psychology  
Physical Sciences  
telephone: 01772 891990/891991  
email: [FosterHub@uclan.ac.uk](mailto:FosterHub@uclan.ac.uk)

### **Computing and Technology Building**

Art, Design and Fashion  
Computing  
Journalism, Media and Performance  
Engineering  
telephone: 01772 891994/891995  
email: [CandTHub@uclan.ac.uk](mailto:CandTHub@uclan.ac.uk)

### **Greenbank Building**

Sport and Wellbeing  
Management  
Business  
telephone: 01772 891992/891993  
email: [GreenbankHub@uclan.ac.uk](mailto:GreenbankHub@uclan.ac.uk)

### **Brook Building**

Community, Health and Midwifery  
Nursing  
Health Sciences  
Social Work, Care and Community  
telephone: 01772 891992/891993  
email: [BrookHub@uclan.ac.uk](mailto:BrookHub@uclan.ac.uk)

## **1.6 Communication**



The University expects you to use your UCLan email address and check regularly for messages from staff. If you send us email messages from other addresses they risk being filtered out as potential spam and discarded unread.

There is a Blackboard course level space, Engineering@UCLan:

[https://portal.uclan.ac.uk/webapps/blackboard/content/listContent.jsp?course\\_id](https://portal.uclan.ac.uk/webapps/blackboard/content/listContent.jsp?course_id)

There you will find documentation relating to your course – for example student handbooks, support and advice regarding student placements and job hunting, along with other useful information.

Finally, it is important to keep all your contact details up to date as you may be contacted by post, email, or telephone.

## 1.7 External Examiner

The University has appointed an External Examiner to your course who helps to ensure that the standards of your course are comparable to those provided at other higher education institutions in the UK. The External Examiners are Dr Steve Mitchell and Dr.Ramesh Marasini.

External Examiner reports for the Engineering courses can be accessed electronically via the Engineering@UCLan Blackboard pages.



## 2. Structure of the course

### 2.1 Overall structure

Table 1 and Table 2 in section 2.2 illustrate the programme structure for BEng (Hons) and MEng (Hons) courses respectively. These courses exist as part of the Modular Credit Accumulation and Transfer Scheme (MODCATS).

The award requires that a student pass 360 credits total for BEng (Hons), or 480 credits for MEng (Hons).

Each full-time year of study requires you to pass modules to the value of 120 credits. Most modules on the programmes are standard sized and worth 20 credits, although the first year modules are all 30 credits. There are examples of modules worth 10, 30 and 40 credits. Both the BEng(Hons) and MEng courses are accredited by the CIOB so students must pass each assessment within each module with at least 35%. Undergraduate modules must be passed overall by 40% and level 7 (MEng level) modules must be passed overall by 50%. Students wishing to follow part time study can apply to study for one day per week.

Please note that the programme structures may be subject to minor modifications to reflect improvements/developments in the course or within industry. If this is the case your current year of study will not be affected and you will be notified of the changes for future year(s) of study.

#### *Specific credit requirements for the target awards:*

*MEng (Hons)* requires 480 credits with a minimum of 360 at level 5 or above, 220 at level 6 or above, 120 at level 7 and a minimum of 360 credits studied at this University.

*BEng (Hons)* requires 360 credits including a minimum of 220 at level 5 or above and a minimum of 100 at level 6.

#### *Specific credit requirements for the exit awards:*

*BEng* requires 320 credits, including a minimum of 180 at level 5 or above and a minimum of 60 at level 6.

*Diploma of Higher Education* requires 240 credits, including a minimum of 100 at Level 5 or above

*Certificate of Higher Education* requires 120 credits, including a minimum of 100 at Level 4 or above.

### *Specific assessment requirements for the exit awards of Degree Apprentice*

This End Point Assessment Plan ensures that successful apprentices will have satisfied the requirements for registration as an Incorporated Engineer with the relevant Professional Engineering Institution and the Engineering Council.

The assessment requires a CPD record to be kept throughout the course and then, usually after the BEng degree is awarded, the student can move towards the preparing for Stage of the assessment. This is a written report based on the knowledge, skills and behaviours they will have encountered through the course. Stage 2 is an interview where the apprentice gives a presentation highlighting achievement and other aspects of their work plus a written examination.



## 2.2 Modules available

Each module is a self-contained block of learning with defined aims, learning outcomes and assessment. A standard module is worth 20 credits. It equates to the learning activity expected from one sixth of a full-time undergraduate year. Modules may be developed as half or double modules with credit allocated up to a maximum of 120 credits per module.

<b>Year 1</b>	<b>Level Four</b>		
	<b>Module code</b>	<b>Module title</b>	<b>Credit value</b>
	<b>Compulsory modules</b>		
	ER1010	Engineering Analysis	30
	ER1430	Civil Engineering Design and Technology	30
	ER1432	Civil Engineering Hydraulics and Materials	30
	ER1433	Civil Engineering Structures and Geotechnics	30

<b>Year 2</b>	<b>Level Five</b>		
	<b>Module code</b>	<b>Module title</b>	<b>Credit value</b>
	<b>Compulsory modules</b>		
	BN2105	Management and Project Planning	20
	BN2501	Structural Analysis and Element Design	30
	BN2506	Soil Mechanics	20
	BN2564	Engineering Analysis B	10
	BN2507	Civil Engineering Design and CAD	20
BN2508	Hydraulic Engineering and Materials	20	

<b>Year 3</b>	<b>Level Six</b>		
	<b>Module code</b>	<b>Module title</b>	<b>Credit value</b>
	<b>Compulsory modules</b>		
	BN3504	Engineering Design Project	20
	BN3501	Structural Engineering	20
	BN3506	Geotechnical Engineering	20
	BN3509	Water Resources Engineering	20
	NT3048	Engineering Dissertation	20
	BN3010	Project Management & BIM	20

**Table 1 BEng Civil Engineering Programme Structure**

<b>Year 1</b>	<b>Level Four</b>		
	<b>Module code</b>	<b>Module title</b>	<b>Credit value</b>
	<b>Compulsory modules</b>		
	ER1010	Engineering Analysis	30
	ER1430	Civil Engineering Design and Technology	30
	ER1432	Civil Engineering Hydraulics and Materials	30
	ER1433	Civil Engineering Structures and Geotechnics	30

<b>Year 2</b>	<b>Level Five</b>		
	<b>Module code</b>	<b>Module title</b>	<b>Credit value</b>
	<b>Compulsory modules</b>		
	BN2105	Management and Project Planning	20
	BN2501	Structural Analysis and Element Design	30
	BN2506	Soil Mechanics	20
	BN2564	Engineering Analysis B	10
	BN2507	Civil Engineering Design and CAD	20
BN2508	Hydraulic Engineering and Materials	20	

<b>Year 3</b>	<b>Level Six</b>		
	<b>Module code</b>	<b>Module title</b>	<b>Credit value</b>
	<b>Compulsory modules</b>		
	BN3504	Engineering Design Project	20
	BN3501	Structural Engineering	20
	BN3506	Geotechnical Engineering	20
	BN3509	Water Resources Engineering	20
	NT3048	Engineering Dissertation	20
BN3010	Project Management & BIM	20	

<b>Year 4</b>	<b>Level Seven</b>		
	<b>Module code</b>	<b>Module title</b>	<b>Credit value</b>
	<b>Compulsory modules</b>		
	BN4206	Risk and value Management	20
	BN4410	Health and Safety Management	20
	BN4520	Advanced Structural Engineering	20
	BN4522	Integrated Design Project	40
	<b>Optional modules</b>		
	BN4400	Advanced Construction Technology	20
	NT4009	Waste Treatment Technologies	20
	NT4033	Environmental Pollution and Control	20
	NT4037	Energy Production and Distribution	20
	MP4708	Renewable Energy Technology	20

**Table 2 MEng Civil Engineering Programme Structure**



## 2.3 Course requirements

The programme specifications in appendix 8 gives you a list of the modules that form your course. A student who has not passed any modules or has an average mark below 40% is normally recommended as fail/withdraw from programme depending on your circumstances.

Where a core module has not been passed after referral and repeat study then a student will either receive an exit award or counselling on the options to achieving an exit award.

Students who successfully complete Year 1 of the BEng Civil Engineering degree may apply for transfer to Year 2 of the MEng Civil Engineering if they have an overall average mark of at least 60% in all Level 4 units.

Students who successfully complete Year 2 of the BEng Civil Engineering degree may transfer to Year 3 of the MEng Civil Engineering if they have an overall average mark of at least 60% in all Level 4 and 5 units.

MEng Civil Engineering students that have failures remaining at the end of their year of study requiring them to repeat failed elements are automatically transferred onto the appropriate year of the BEng Civil Engineering.

Successful graduates on the BEng Civil Engineering are not permitted to transfer to Year 4 of the MEng Civil Engineering.

A request from a student to transfer between courses would result in a meeting with a member of the course team and a subsequent discussion with the course leader and then a decision on the transfer. The Engineering Council Institutions require that at least two years of study are completed at the Institution that awards a degree for IEng and CEng exemption. In addition, entry to the course is usually from appropriate courses that are accredited by institutions within the Engineering Council.

Courses that are accredited by the Joint Board of Moderators (JBM) meet the requirements of the UK Standard for Professional Engineering Competence (UK-SPEC), published by the Engineering Council on behalf of the UK engineering profession.

The original document defining the requirements of UK-SPEC is available from the Engineering Council:

<http://www.engc.org.uk/professional-qualifications/standards/uk-spec>

## 2.4 Module Registration Options

Discussions about your progression through the course normally take place in February each year. It is an opportunity for you to make plans for your study over the next academic year.

If either you or the academic team do not feel that you are capable of completing your chosen course of study then advice may be given on alternative routes or exit awards. However, it is not usually prudent to make decisions about this until results are known in June. Most likely you will be advised to finish all your modules to the best of your abilities and to seek advice once results are available.

**If you wish to discuss your progression, or discuss a change of programme (e.g. from BEng to MEng) you should speak to your course leader or another member of the course team.**

## 2.5 Study Time

### 2.5.1 Weekly timetable

A timetable will be available once you have enrolled on the programme, through the student portal.

### 2.5.2 Expected hours of study

As outlined in the school handbook the normal amount of work involved in achieving a successful outcome to your studies is to study for 10 hours per each credit you need to achieve – this includes attendance at UCLan and time spent in private study.

This translates to a total of 6 hours per 20 credit module per week. We expect that you commit 36 hours study per week (pro-rata for part-time students and/or semester-based modules), inclusive of your contact hours. So for a typical module you may have a 2 hour lecture, and a 1 hour tutorial, leaving you approximately 3 hours for self-directed study (further reading, tutorial questions, assignments, revision). This is thinking time. Sometimes you will be working in groups for practical work and you should try and arrange to meet up outside the scheduled class times. You will also need to use equipment such as computer and laboratory facilities for practical work, again sometimes outside the scheduled class times.



### 2.5.3 Attendance Requirements

You are required to attend all timetabled learning activities for each module. Notification of illness or exceptional requests for leave of absence must be made to the following:

Notification of illness should be made to the Campus Admin Services:

☎ +44 1772 891994 or 01772 891995 | ✉ [CandThub@uclan.ac.uk](mailto:CandThub@uclan.ac.uk)

Exceptional absence requests are made to Paul Watson (Academic Lead for Civil Engineering):

☎ +44 1772 893320 | ✉ [pdjwatson@uclan.ac.uk](mailto:pdjwatson@uclan.ac.uk)

You are encouraged to seek the advice of your Academic Advisor and/or Course Leader if your personal circumstances make it difficult to meet your study obligations.

## 3. Approaches to teaching and learning

### 3.1 Learning and teaching methods

Civil Engineering programmes use a number of different assessment techniques that will allow you to demonstrate your understanding of concepts and issues covered. These may be broadly categorised as ‘examination’ and ‘coursework’, but several different types are used,

(e.g. open-book exams, closed-book exams, laboratory reports, practical assessments in the laboratory, computer simulation and analysis, project documentation, written reports etc).

Evidence of achievement, upon which assessment will be based, will be gained through a programme of practical exercises, assignments and exams. Each week you may be involved in some practical work such as a laboratory exercise, a computer-based

assignment, group or individual project work etc. You will often work in groups and make group presentations but you will write up and submit work individually so that you gain credit for your contribution, not that of somebody else.

It should be emphasised that the purpose of assessment is to not only grade you, and provide information to facilitate management of the course, but also to provide feedback to you. In this way you can monitor your own progress, refine your own judgement of your abilities and regulate it accordingly.

You should keep all the returned work in a file and you may have to submit this at the end of the year for the external examiners to assess.

## **Individual module leaders will distribute information on the methods of assessment used, and their weighting, at the start of each module**

### **3.2 Study skills**

There are a variety of services to support students and these include:  
WISER <http://www.uclan.ac.uk/students/study/wiser/index.php>



### **3.3 Learning resources**

#### **3.3.1 Learning Information Services (LIS)**

Extensive resources are available to support your studies provided by library and IT staff. Take advantage of the free training sessions designed to enable you to gain all the skills you need for your research and study.

#### **3.3.2 Electronic Resources**

LIS provide access to a huge range of electronic resources – e-journals and databases, e-books, images and texts. Materials, such as ICE, IStructE and other relevant guides, can be accessed from the library data base.

### **3.4 Personal development planning**

Personal development planning is closely related to the acquisition of personal transferable skills and developing such skills is an integral part of the course. Academic skills alone are clearly insufficient to meet the demands of Civil Engineers. The development of additional interpersonal qualities is essential to enable you to initiate, plan, direct and control events effectively. To help achieve this objective, much of the tutorial and assignment work in modules will provide you with the opportunity for practical project work and the development of problem solving skills.

Self and peer assessments form part of your group projects, presentation exercises and the final year project, as it is important to remember that when you leave education, it will be crucial that you have the ability and confidence to rely on your own judgement of yourself and your peers.

Employers do not simply look for basic competences such as in numeracy, literacy and communication skills, but also for motivation, time management, decision making, reliability, team work and leadership skills. Your programme of study has been designed to help you to develop all of the above mentioned skills and more.



### 3.5 Preparing for your career

Your future is important to us, so to make sure that you achieve your full potential whilst at university and beyond, your course has been designed with employability learning integrated into it at every level. This is not extra to your degree, but an important part of it which will help you show future employers just how valuable your degree is. These “Employability Essentials” take you on a journey of development that will help you to write your own personal story of your time at university:

- To begin with, you will explore your identity, your likes and dislikes, the things that are important to you and what you want to get out of life.
- Later, you will investigate a range of options including jobs and work experience, postgraduate study and self-employment.
- You will then be ready to learn how to successfully tackle the recruitment process.

It's your future: take charge of it!

Careers offers a range of support for you including:- career and employability advice and guidance access to work placements, internships, voluntary opportunities, part-time employment and live projects workshops, seminars, modules, certificates and events to develop your skills business start-up, freelance and self-employment advice. The Careers Award is a University Certificate which formally recognises your employability and enterprise achievements whilst at UCLan. For more information, come along and visit the team or access our careers and employability resources via [www.uclan.ac.uk/careers](http://www.uclan.ac.uk/careers)

The School has strong links with industries and often we do receive vacancies from companies requiring graduate engineers. That information will be forwarded to the students who are seeking employment and in most cases they are successful in securing a job before graduation.

## 4. Student Support

The following section outlines any course specific support that is available whilst studying at UCLan.



### 4.1 Academic Advisors

Academic Advisors provide help for students with problems and are responsible for overseeing the progress of students, their welfare, academic counseling and guidance. Your Academic Advisor is allocated when you enrol. You must see your Academic Advisor when requested and meet at least once per semester. Ensure they know you and have your current email address.

Please seek help relating to lecture material and practical classes from the module tutor in the first instance. If necessary, make an appointment to seek additional support. Please remember that academic staff are busy people and may not be able to give you instant help.

Although Academic Advisors and Course Leaders will deal with most of the day-to-day questions which arise, the Academic Lead in Construction and Civil Engineering section (PDWatson) is always willing to see students and an appointment can be made through the Student Hub. Advice relating to administrative issues may be obtained from the Student Hub.

## 4.2 Students with disabilities

Students with disabilities are supported on the course should you require further information. Please contact the course leader in the first instance, or let one of the course team know as soon as possible.

If you have a disability that may affect your studies, you can also contact the Disability Advisory Service - [disability@uclan.ac.uk](mailto:disability@uclan.ac.uk). With your agreement, information will be passed on to the Disability Advisory Service. The University will make reasonable adjustments to accommodate your needs and to provide appropriate support for you to complete your study successfully. Where necessary, you will be asked for evidence to help identify appropriate adjustments.

## 4.3 Students' Union

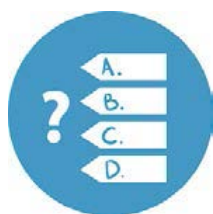
The Students' Union offers thousands of volunteering opportunities ranging from representative to other leadership roles. We also advertise paid work and employ student staff on a variety of roles. You can find out more information on our website: <http://www.uclansu.co.uk/>

The Students' Union is a student-led, democratic organisation that exists to enhance UCLan student experience at University. The Union is all about you taking the opportunities that are offered and making the most of them. The SU offers you the chance to engage in the sport you love, share your passion or hobby with like-minded people, or represent your peers as a Course Representative.

We hope your time at UCLan is trouble free, but we know that sometimes you might come up against problems ranging from academic situations or finding a job, to dealing with debt and claiming the benefits you're entitled to. Check SU Advice on-line for impartial advice on a whole range of issues, or email [suadvice@uclan.ac.uk](mailto:suadvice@uclan.ac.uk). Call in at the Student's Union, or visit the website at [www.uclansu.co.uk](http://www.uclansu.co.uk) for more information.

Students are advised to find out about all the latest part-time jobs and information through visiting Futures or the SU Job Shop website.

## 5. Assessment



### 5.1 Assessment Strategy

The assessment strategy for each module will be outlined within the module. The modules will be assessed either as coursework or by a combination of coursework and examinations with the weightings reflecting the course content (theory/practical). Each of the assessments that you complete will assess a series of learning outcomes defined in the modules. Note that within some modules you may complete assessments that do not carry marks, these are termed formative and are an opportunity for you to gain feedback on your progress that will help you in your summative (mark carrying) assessments.

### 5.2 Notification of assignments and examination arrangements

You will be notified of assessments by your module tutors. They will advise you of the requirements, the marking criteria and of the respective submission dates or exam arrangements, during one or more of the timetabled sessions. In general, the examination arrangements are available from the University web site. These arrangements are not generally made by the module tutors.

Submission of coursework assignments is through the Blackboard site for the module, usually using the Turnitin software.

### 5.3 Referencing

For most of your assignments you will be expected to do some further reading, and you are required to think and produce increasingly original work around the work of others. Do not fall into the 'plagiarism trap' either deliberately or by accident. You need to give suitable credit to those that have produced the work that you are using.

The default referencing is the Harvard referencing system (a guide to this system can be found on the Engineering@UCLan course space, accessed through the student portal). Please use this unless you are directed differently within your assignment brief.

### 5.4 Confidential material

As a student on UCLan course, you may be required to access personal records, confidential or sensitive information for completing your assignment. You have an ethical and legal responsibilities to respect confidentiality and maintain the anonymity of individuals. You must be committed to do what is right and honourable in using such information as part of the academic fraternity. Your ethical and legal responsibilities also include compliance with applicable laws, regulations, and standards in the United Kingdom, and compliance with all the organisational rules and policies. One must also hold others accountable and report violations of the ethical and legal responsibilities.

### 5.5 Cheating, plagiarism, collusion or re-presentation

Please refer to the information included in section 7.6 of the University Student Handbook for full definitions. The University uses an online Assessment Tool called Turnitin. A pseudo-Turnitin assignment will be set up using the School space on Blackboard to allow students to check as many drafts as the system allows before their final submission to the 'official' Turnitin assignment. Students are required to self-submit their own assignment on Turnitin and will be given access to the Originality Reports arising from each submission. In operating Turnitin, Schools must take steps to ensure that the University's requirement for all summative assessment to be marked anonymously is not undermined and therefore Turnitin reports should either be anonymised or considered separately from marking. Turnitin may also be used to assist with plagiarism detection and collusion, where there is suspicion about individual piece(s) of work.

## 6. Classification of Awards

The University publishes the principles underpinning the way in which awards and results are decided in [Academic Regulations](#). Decisions about the overall classification of awards are made by Assessment Boards through the application of the academic and relevant course.



### 7. Student Feedback

You can play an important part in the process of improving the quality of this course through the feedback you give.

Students are encouraged to voice their opinions, this can be done with Academic Advisors, course leaders or module tutors. You will also have an opportunity to feedback your experience with student surveys during the academic year.

### 7.1 Student Staff Liaison Committee meetings (SSLCs)



Details of the Protocol for the operation of SSLCs is included in section 8.2 of the University Student Handbook.

The purpose of a SSLC meeting is to provide the opportunity for course representatives to feedback to staff about the course, the overall student experience and to inform developments which will improve future courses. These meetings are normally scheduled once per semester. Your Course Leader will facilitate the meetings using Guidelines and provide a record of the meeting with any decisions and / or responses made and / or actions taken as a result of the discussions held. The meetings include discussion of items forwarded by course representatives, normally related to the following agenda items (dependent on time of year). Your Student Liaison Officer will be invited to attend and support the resolution of any issues. The course team encourage student feedback in all areas and recognise that additional items:

- Update on actions completed since the last meeting
- Feedback about the previous year – discussion of external examiner's report; outcomes of National /UCLan student surveys.
- Review of enrolment / induction experience;
- Course organisation and management (from each individual year group, and the course overall);
- Experience of modules - teaching, assessment, feedback;
- Experience of academic support which may include e.g. Personal Development Planning, personal tutoring arrangements and The Card;
- Other aspects of University life relevant to student experience e.g. resources, IT, library;
- Any other issues raised by students or staff.

Course representatives are elected at the beginning of the Academic year. Usually students either come forward or get nominated by other members of the class. Usually, and depending on the size of the class, one or two student reps can be elected, and where the class is a mixture of full and part timers one for each will represent the class.

Student-staff Liaison meetings take place twice a year; once in each semester. Students will be notified by e-mail about the date, time and place of the scheduled meetings. Thereafter, an action plan will be drafted and students will receive feedback about actions taken as a result of discussions held within 15 working days.

## 8. Appendices

### 8.1 Programme Specification(s)

#### UNIVERSITY OF CENTRAL LANCASHIRE

#### Programme Specification

This Programme 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.

***Sources of information on the programme can be found in Section 17***

<b>1. Awarding Institution / Body</b>	University of Central Lancashire
<b>2. Teaching Institution and Location of Delivery</b>	University of Central Lancashire Main Campus
<b>3. University School/Centre</b>	Engineering
<b>4. External Accreditation</b>	The Chartered Institute of Building (CIOB)
<b>5. Title of Final Award</b>	BEng(Hons) Civil Engineering
<b>6. Modes of Attendance offered</b>	Part Time Full Time Sandwich
<b>7a) UCAS Code</b>	7P46
<b>7b) JACS and HECOS Code</b>	H200 100148
<b>8. Relevant Subject Benchmarking Group(s)</b>	QAA Engineering (2010)
<b>9. Other external influences</b>	Professional Body Accreditation guidance documentation UK Engineering Council (EC-UK) QAA Academic Infrastructure Joint Board of Moderators
<b>10. Date of production/revision of this form</b>	May 2018

## 11. Aims of the Programme

- To provide students with a suitable basis in the fundamentals and principles of Civil Engineering to cope with the future developments during the student's career.
- To enable students to undertake independent critical thought, enhancing and extending their intellectual development whilst becoming conversant with the nature of the civil engineering industry, thereby developing the ability to arrive at optimal solutions to civil engineering and technological problems.
- To develop knowledge and understanding of structures, geotechnics, materials, surveying, hydraulics, construction management to underpin the development of professional competence.
- To encourage students to approach their academic and subsequent professional careers as creative and innovative individuals
- To prepare students for the vocational problems they will encounter in civil engineering industry generally, and hence develop the potential to adapt and contribute to changes.
- To provide a basis from which students can continue their intellectual and professional development by academic study to a higher degree and/or professional qualifications, enhancing employability
- To ensure that successful graduates will have the potential to contribute to significant advances in engineering and technological issues associated with their chosen industry.

## 12. Learning Outcomes, Teaching, Learning and Assessment Methods

### A. Knowledge and Understanding

- A1. Demonstrate a sound knowledge and understanding of the impact of civil engineering solutions in a global, economic, environmental, and societal context.
- A2. Demonstrate the ability to apply the conceptual knowledge of mathematics, science, and engineering to solve societal problems that they encounter in their daily interaction with the community.
- A3. Demonstrate an understanding of professional and ethical responsibility in the context of civil engineering in the execution of their duties.
- A4. The student should have the ability to understand and explain the importance of professional licensure.

### Teaching and Learning Methods

Outcomes A1, A2, A3 and A4 are all achieved by completion of the respective subject based modules at level 4 and 5, using project based assignments and examination papers based upon solving techniques of given problems.

Lectures, Seminars and Tutorials	A1, A2, A3
Active Learning	A3, A4
Practical Sessions	A1, A2
Supervised Workshops	n/a
Project Reviews	A1, A2

### Assessment methods

The assessments for this course are designed for maximum validity in terms of learning outcomes and learning processes, and are specific to the type of subject or module area involved by completion of assignments and problem based examinations in the engineering and related modules throughout the programme. At level 4 and 5, the students knowledge and analysis of subject matter will be assessed through graded problem solving techniques.

Written Exam	A1, A2
Coursework	A1, A2, A3
Practical assessment	A1, A2, A3

## **B. Subject-specific skills**

- B1. Develop the ability to use subject specific techniques, skills, and modern engineering tools necessary for civil engineering professional practice.
- B2. Demonstrate the ability to identify, formulate, and solve engineering problems using physical, computational and digital modelling.
- B3. Demonstrate the ability to design and conduct experiments, as well as to analyze and interpret data that are related to environmental, structural and transportation problems.
- B4. Demonstrate the ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability

## **Teaching and Learning Methods**

1. Learning outcome B1 is achieved across the course modules. At level 6 and 7 the use of design project and dissertation modules which focus upon individual study and group based activities enables outcome B2.
2. The importance of the design project modules which run throughout the programme is emphasised in outcomes B3 and B4.

Lectures, Seminars and Tutorials	B1, A2, A3
Active Learning	B3, B4
Practical Sessions	B1
Supervised Workshops	n/a
Project Reviews	B1, B2

## **Assessment methods**

Assessed by presentations, professional reports and design based projects

Written Exam	B1, B2
Coursework	B1, B2, B3, B4
Practical assessment	B1, B2

## **C. Thinking Skills**

At the end of the course the student will:

- C1. Demonstrate an ability to identify, analyse and design and conduct experiments, as well as to analyze and interpret data that will solve the prevailing civil engineering problems encountered.
- C2. Demonstrate a knowledge of contemporary issues that impacts on the lives of the society in which the professional will be engaged with during his career.
- C3. Demonstrate an ability to be recognised as critical, creative, and independent thinker, applying underlying concepts and principles outside the context in which they were first studied.
- C4. Demonstrate an understanding of the limits of their knowledge and how this influences analyses and interpretations based on this knowledge.

**Teaching and Learning Methods**

Outcome C1 is achieved by the use of design based modules which involve individual and team based design activities. Outcome C2 is achieved in the level 5 modules using case based scenario assignments and examination papers. Outcomes C3 and C4 are achieved by the development of increasing levels of application and investigation at level 6 and level 7.

Lectures, Seminars and Tutorials	C1, C2, C3
Active Learning	C3, C4
Practical Sessions	C1
Supervised Workshops	n/a
Project Reviews	C1, C2

**Assessment methods**

Assignment and examination, and the student's reflective feedback on the marked assessed work.

Written Exam	C1, C2
Coursework	C2, C3, C4
Practical assessment	C1

**D. Other skills relevant to employability and personal development**

At the end of the course the student will:

- D1. Demonstrate an ability to explain basic concepts in management, business, public policy, and leadership.
- D2. Demonstrate the ability to function on multi-disciplinary teams, in a cooperative, collaborative environment to produce sustainable results that the world increasing requires.
- D3. Demonstrate the ability to communicate effectively in work and to the wider community.
- D4. Demonstrate an ability to recognise the need for, and an ability to engage in life-long learning in his professional life.

**Teaching and Learning Methods**

These skills are embedded in all programme modules, with specific reference in the mathematics, computing and project based modules. Empathy skill will be developed through design project group work.

Lectures, Seminars and Tutorials	D1, D2, D3
Active Learning	D3, D4
Practical Sessions	D1
Supervised Workshops	n/a
Project Reviews	D1, D2

**Assessment methods**

Student presentations, group work, design projects, examination and dissertation.

Written Exam	D1, D2
Coursework	D3, D4
Practical assessment	D1, D2

13. Programme Structures*				14. Awards and Credits*
Level	Module Code	Module Title	Credit rating	
Level 6	BN3504	Engineering Design Project	20	<b>BEng(Hons) in Civil Engineering</b> Requires 360 credits including a minimum of 240 at Level 5 or above and 100 at Level 6
	BN3501	Structural Engineering	20	
	NT3048	Engineering Dissertation	20	
	BN3509	Water Resources Engineering	20	
	BN3506	Geotechnical Engineering	20	
	BN3010	Project Management & BIM	20	
Level 5	MP2899	Industrial placement: (required for sandwich award)	120	Students who successfully complete MP2899 Industrial Placement will receive the award 'with Sandwich'.
Level 5	BN2564	Engineering Analysis B	10	<b>Diploma of Higher Education in Civil Engineering</b> Requires 240 credits including a minimum of 100 at Level 5 or above
	BN2501	Structural Analysis and Element Design	30	
	BN2105	Management and Project Planning	20	
	BN2506	Soil Mechanics	20	
	BN2508	Hydraulic Engineering and Materials	20	
	BN2507	Civil Engineering Design and CAD	20	
Level 4	ER1010	Engineering Analysis	30	<b>Certificate of Higher Education</b> Requires 120 credits at Level 4 or above.
	ER1430	Civil Engineering Design and Technology	30	
	ER1432	Civil Engineering Hydraulics and Materials	30	
	ER1433	Civil Engineering Structures and Geotechnics	30	
Foundation Entry	ERC001	Study Skills	20	Requires completion of 120 credits at Level 3. Successful completion of the course leads to progression onto the BEng (Hons) Civil Engineering. Students who exit after the Foundation Entry year will receive a transcript of their modules and grades.
	ERC002	Basic Mathematics	20	
	ERC003	Information and Communications Technology	20	
	ERC004	Practical Skills	20	
	ERC005	Design Studies	20	
	ERC006	Analytical Studies	20	

## 15. Personal Development Planning

Personal development planning (PDP) is closely related to the acquisition of core discipline skills as well as personal transferable skills. Academic skills and knowledge alone are not going to be enough to the demand required of an engineer in society. Students are expected to develop additional interpersonal qualities that are essential to enable them to initiate and actively participate in team based discussions and decision making effectively. Such transferable skills include: team work, communication skills, time management, problem solving and decision making, information management and leadership qualities.

To help students develop these skills, many of the learning activities and much of the assignment work will provide them with the opportunity for practical project work in a group setting, the development of problem solving skills as well as critical appraisal skills. Such project work will involve, where possible other student disciplines (i.e. architectural students, quantity survey students, etc.) within the school to create a realistic project scenario.

Students will be required to make oral presentations and present design work in 'reviews' at intervals throughout the course. In some instances staff will record presentations on video, which gives the student instant feedback on their performance. Group discussion on contentious points will be encouraged especially for 'interviews' held 'in camera.'

The course team will encourage students to organise their PDP on the same structure as the 'professional diary' or daily 'log book' that will be undertaken if on a 'year out' and the final MEng examination. On completion of each assessment students will receive a feedback form with tutor feedback graded. They will be expected to complete the reflection element of the form and roll-forward personal development targets to the next assessment.

Students will be encouraged to record their PDP progress in a student progress file. This file in conjunction with a student's portfolio will provide the basis for discussions with the personal tutor about the 'year out' placements following completion of the BEng (Hons) in Civil Engineering.

## 16. Admissions criteria

Programme Specifications include minimum entry requirements, including academic qualifications, together with appropriate experience and skills required for entry to study. These criteria may be expressed as a range rather than a specific grade. Amendments to entry requirements may have been made after these documents were published and you should consult the University's website for the most up to date information.

Students will be informed of their personal minimum entry criteria in their offer letter.

The minimum entry requirements onto Year 1 of the course are:

CCC at A2 including Mathematics and one other science subject (such as Physics, Further Math, Chemistry, Biology).

MMM in BTEC extended diploma.

Applicant will have GCSE maths C and English C

Equivalent qualifications are welcome including UCLan's foundation courses.

Applicants who do not satisfy the standard minimum entry requirements can be admitted, subject to interview, on the basis of equivalent prior experience or learning, details of which can be found at: <http://www.uclan.ac.uk/information/services/sss/accreditation/index.php>.

Applications from individuals with non-standard qualifications or relevant work/life experience who can demonstrate the ability to cope with and benefit from degree-level studies are welcome.

Applicants who have not studied recently may need to undertake a Foundation Entry programme first.

Applicants who have non-standard qualifications will be required to attend an open day and an interview.

The course is subject to the University's Admissions Policy & Code of Practice which can be accessed at the following link: <http://www.uclan.ac.uk/information/services/sss/admissions/index.php>.

The minimum entry requirements onto the Foundation Year (Year 0) of the course are:

DDD at A2.

MMP in BTEC extended diploma.

Applicant will have GCSE maths C and English C.

Applications will be considered for advanced entry to level 5 (Year 2 of the full-time and Year 3 of the part-time of the programme) where students have completed an HNC/D or a Foundation Degree in Civil Engineering or similar.

Typically applicants will be invited to attend an applicant's open day

For international Students: IELTS 6.5 overall with minimum 6.0 in each component (listening, speaking, writing and reading).

#### **17. Key sources of information about the programme**

- [www.uclan.ac.uk/courses](http://www.uclan.ac.uk/courses)
- [www.engc.org.uk](http://www.engc.org.uk)
- [www.qaa.ac.uk/en/Publications/Documents/Subjects-benchmark-statement-engineering-.pdf](http://www.qaa.ac.uk/en/Publications/Documents/Subjects-benchmark-statement-engineering-.pdf)
- [www.qaa.ac.uk/publications/information-and-guidance](http://www.qaa.ac.uk/publications/information-and-guidance)
- [www.jbm.org.uk](http://www.jbm.org.uk)
- [www.ice.org.uk](http://www.ice.org.uk)
- [www.see.ed.ac.uk](http://www.see.ed.ac.uk)



### 18. Curriculum Skills Map

Please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed

Level	Module Code	Module Title	Core (C), Compulsory (COMP) or Option (O)	Programme Learning Outcomes															
				Knowledge and understanding				Subject-specific Skills				Thinking Skills				Other skills relevant to employability and personal development			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
LEVEL 6	BN3010	Project Management and BIM	COMP	√	√	√	√	√	√	√	√		√	√	√	√	√	√	
	BN3501	Structural Engineering	COMP		√	√		√	√	√	√		√	√	√				
	BN3506	Geotechnical Engineering	COMP		√	√		√	√	√	√		√	√	√				
	BN3509	Water Resources Engineering	COMP		√	√		√	√	√	√		√	√	√				
	BN3504	Engineering Design Project	COMP					√	√	√	√		√	√	√	√	√	√	√
	NT3048	Engineering Dissertation	COMP	√	√	√	√	√	√	√	√		√	√	√		√	√	
LEVEL 5	BN2501	Structural Analysis and Element Design	COMP		√	√		√	√	√	√								
	BN2506	Soil Mechanics	COMP		√			√	√	√	√								
	BN2105	Management and Project Planning	COMP	√	√	√	√	√	√	√	√					√	√	√	√
	BN2507	Civil Engineering Design and CAD	COMP	√	√	√	√	√	√	√	√		√	√	√				
	BN2508	Hydraulic Engineering and Materials	COMP					√	√	√	√	√	√	√	√				
	BN2564	Engineering Analysis B	COMP	√	√			√	√	√	√								
	MP2899	Industrial Placement	O	√	√	√		√	√	√	√		√			√	√	√	



## 19. Learning Outcomes for Exit Awards

### BEng Civil Engineering

The learning outcomes for BEng Civil Engineering are the same as for the BEng (Hons) Civil Engineering and the award of BEng Civil Engineering is based on meeting most of the learning outcomes listed in Section 12.

### Industrial Placement

The learning outcomes for an award of BEng (Hons) Civil Engineering with Industrial Placement are the same as for BEng (Hons) Civil Engineering but in addition the module MP2899 must be passed. The learning outcomes for an award of BEng Civil Engineering with Industrial Placement are the same as for BEng Civil Engineering but in addition the module MP2899 must be passed.

### Diploma in Higher Education

The learning outcomes for the Diploma in Higher Education gained through this programme are as follows and the award is based on meeting the learning outcomes listed:

- A1.** Demonstrate a sound knowledge and understanding of the impact of civil engineering solutions in a global, economic, environmental, and societal context.
- A2.** Demonstrate the ability to apply the conceptual knowledge of mathematics, science, and engineering to solve societal problems that they encounter in their daily interaction with the community.
- A3.** Demonstrate an understanding of professional and ethical responsibility in the context of civil engineering in the execution of their duties.
- B1.** Develop the ability to use subject specific techniques, skills, and modern engineering tools necessary for civil engineering professional practice.
- B2.** Demonstrate the ability to identify, formulate, and solve engineering problems using physical, computational and digital modelling.
- B3.** Demonstrate the ability to design and conduct experiments, as well as to analyze and interpret data that are related to environmental, structural and transportation problems.
- C1.** Demonstrate an ability to identify, analyse and design and conduct experiments, as well as to analyze and interpret data that will solve the prevailing civil engineering problems encountered.
- C2.** Demonstrate a knowledge of contemporary issues that impacts on the lives of the society in which the professional will be engaged with during his career.
- C4.** Demonstrate an understanding of the limits of their knowledge and how this influences analyses and interpretations based on this knowledge.
- D1.** Demonstrate an ability to explain basic concepts in management, business, public policy, and leadership.
- D2.** Demonstrate the ability to function on multi-disciplinary teams, in a cooperative, collaborative environment to produce sustainable results that the world increasing requires.
- D3.** Demonstrate the ability to communicate effectively in work and to the wider community.

### Certificate in Higher Education

The learning outcomes for the Certificate in Higher Education gained through this programme are as follows and the award is based on meeting the learning outcomes listed:

- A2.** Demonstrate the ability to apply the conceptual knowledge of mathematics, science, and engineering to solve societal problems that they encounter in their daily interaction with the community.
- B2.** Demonstrate the ability to identify, formulate, and solve engineering problems using physical, computational and digital modelling.
- B3.** Demonstrate the ability to design and conduct experiments, as well as to analyze and interpret data that are related to environmental, structural and transportation problems.
- C1.** Demonstrate an ability to identify, analyse and design and conduct experiments, as well as to analyze and interpret data that will solve the prevailing civil engineering problems encountered.
- C4.** Demonstrate an understanding of the limits of their knowledge and how this influences analyses and interpretations based on this knowledge.
- D1.** Demonstrate an ability to explain basic concepts in management, business, public policy, and leadership.
- D2.** Demonstrate the ability to function on multi-disciplinary teams, in a cooperative, collaborative environment to produce sustainable results that the world increasing requires.
- D3.** Demonstrate the ability to communicate effectively in work and to the wider community.

## UNIVERSITY OF CENTRAL LANCASHIRE

### Programme Specification

This Programme 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.

***Sources of information on the programme can be found in Section 17***

<b>7. Awarding Institution / Body</b>	University of Central Lancashire
<b>8. Teaching Institution and Location of Delivery</b>	University of Central Lancashire Main Campus
<b>9. University School/Centre</b>	Engineering
<b>10. External Accreditation</b>	The Chartered Institute of Building (CIOB)
<b>11. Title of Final Award</b>	MEng (Hons) Civil Engineering
<b>12. Modes of Attendance offered</b>	Part Time Full Time Sandwich
<b>7a) UCAS Code</b>	B743
<b>7b) JACS and HECOS Code</b>	H200 100148
<b>8. Relevant Subject Benchmarking Group(s)</b>	QAA Engineering (2010)
<b>9. Other external influences</b>	Professional Body Accreditation guidance documentation UK Engineering Council (EC-UK) QAA Academic Infrastructure Joint Board of Moderators
<b>10. Date of production/revision of this form</b>	May 2018

## 11. Aims of the Programme

- To provide students with a suitable basis in the fundamentals and principles of Civil Engineering to cope with the future developments during the student's career.
- To enable students to undertake independent critical thought, enhancing and extending their intellectual development whilst becoming conversant with the nature of the civil engineering industry, thereby developing the ability to arrive at optimal solutions to civil engineering and technological problems.
- To develop knowledge and understanding of structures, geotechnics, materials, surveying, hydraulics, environmental engineering, construction management, and project management to underpin the development of professional competence.
- To encourage students to approach their academic and subsequent professional careers as creative and innovative individuals.
- To produce graduates that will be research active in pursuing, developing and pushing the boundaries of the knowledge areas of civil engineering that they are the specialist.
- To produce graduates with the competence to apply the concepts and principles of civil engineering, through their understanding, knowledge and critical thinking in new and innovative ways in the wider knowledge economy.
- To prepare students for professional careers in civil engineering requiring high levels of judgement, leadership, initiative, delegation and decision-making responsibilities.
- To provide a basis from which students can continue their intellectual and professional development by academic study to a higher degree and/or professional qualifications, enhancing employability
- To fulfil educational requirements for future progression to Chartered Engineer status.

## 12. Learning Outcomes, Teaching, Learning and Assessment Methods

### A. Knowledge and Understanding

- A1. Demonstrate a sound knowledge and understanding of the impact of civil engineering solutions in a global, economic, environmental, and societal context.
- A2. Demonstrate the ability to apply the conceptual knowledge of mathematics, science, and engineering to solve societal problems that they encounter in their daily interaction with the community.
- A3. Demonstrate an understanding of professional and ethical responsibility in the context of civil engineering in the execution of their duties.
- A4. The student should have the ability to understand and explain the importance of professional licensure.
- A5. Demonstrate a sound critical mindset that differentiates their abilities in the depth and breadth of critical thinking and evaluation.

### Teaching and Learning Methods

Outcomes A1, A2, A3 and A4 are all achieved by completion of the respective subject based modules at level 4 and 5, using project based assignments and examination papers based upon solving techniques of given problems.

Lectures, Seminars and Tutorials	A1, A2, A3
Active Learning	A3, A4, A5
Practical Sessions	A1, A2
Supervised Workshops	n/a
Project Reviews	A1, A2

**Assessment methods**

The assessments for this course are designed for maximum validity in terms of learning outcomes and learning processes, and are specific to the type of subject or module area involved by completion of assignments and problem based examinations in the engineering and related modules throughout the programme. At level 4 and 5, the students knowledge and analysis of subject matter will be assessed through graded problem solving techniques. Examination will be one of the assessment methods.

Written Exam	A1, A2
Coursework	A1, A2, A3
Practical assessment	A1, A2, A3

**B. Subject-specific skills**

- B1. Develop the ability to use subject specific techniques, skills, and modern engineering tools necessary for civil engineering professional practice.
- B2. Demonstrate the ability to identify, formulate, and solve engineering problems using physical, computational and digital modelling.
- B3. Demonstrate the ability to design and conduct experiments, as well as to analyze and interpret data that are related to environmental, structural and transportation problems.
- B4. Demonstrate the ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- B5. Develop a deeper and broader knowledge and understanding of more advanced theoretical principles and concepts in the different modules.

**Teaching and Learning Methods**

3. Learning outcome B1 is achieved across the course modules. At level 6 and 7 the use of design project and dissertation modules which focus upon individual study and group based activities enables outcome B2.
4. The importance of the design project modules which run throughout the programme is emphasised in outcomes B3 and B4.

Lectures, Seminars and Tutorials	B1, A2, A3
Active Learning	B3, B4, B5
Practical Sessions	B1
Supervised Workshops	n/a
Project Reviews	B1, B2

**Assessment methods**

Assessed by presentations, professional reports and design based projects

Written Exam	B1, B2
Coursework	B1, B2, B3, B4
Practical assessment	B1, B2

### **C. Thinking Skills**

At the end of the course the student will:

- C1. Demonstrate an ability to identify, analyse and design and conduct experiments, as well as to analyze and interpret data that will solve the prevailing civil engineering problems encountered.
- C2. Demonstrate a knowledge of contemporary issues that impacts on the lives of the society in which the professional will be engaged with during his career.
- C3. Demonstrate an ability to be recognised as critical, creative, and independent thinker, applying underlying concepts and principles outside the context in which they were first studied.
- C4. Demonstrate an understanding of the limits of their knowledge and how this influences analyses and interpretations based on this knowledge.
- C5. Demonstrate an ability to do independent research that will lead to and make significant contribution to new ways of understanding existing or new phenomenon.

### **Teaching and Learning Methods**

Outcome C1 is achieved by the use of design based modules which involve individual and team based design activities. Outcome C2 is achieved in the level 5 modules using case based scenario assignments and examination papers. Outcomes C3 and C4 are achieved by the development of increasing levels of application and investigation at level 6 and level 7.

Lectures, Seminars and Tutorials	C1, C2, C3
Active Learning	C3, C4, C5
Practical Sessions	C1
Supervised Workshops	n/a
Project Reviews	C1, C2

### **Assessment methods**

Assignment and examination, and the student's reflective feedback on the marked assessed work.

Written Exam	C1, C2
Coursework	C2, C3, C4
Practical assessment	C1

### **D. Other skills relevant to employability and personal development**

At the end of the course the student will:

- D1. Demonstrate an ability to explain basic concepts in management, business, public policy, and leadership.
- D2. Demonstrate the ability to function on multi-disciplinary teams, in a cooperative, collaborative environment to produce sustainable results that the world increasing requires.
- D3. Demonstrate the ability to communicate effectively in work and to the wider community.
- D4. Demonstrate an ability to recognise the need for, and an ability to engage in life-long learning in his professional life.
- D5. Demonstrate an ability for project leadership; confidence, fluent and articulate in their engagement with the wider societal setting.



**Teaching and Learning Methods**

These skills are embedded in all programme modules, with specific reference in the mathematics, computing and project based modules. Empathy skill will be developed through design project group work.

Lectures, Seminars and Tutorials	D1, D2, D3
Active Learning	D3, D4, D5
Practical Sessions	D1
Supervised Workshops	n/a
Project Reviews	D1, D2

**Assessment methods**

Student presentations, group work, design projects, examination and dissertation.

Written Exam	D1, D2
Coursework	D3, D4
Practical assessment	D1, D2

13. Programme Structures*				14. Awards and Credits*	
Level	Module Code	Module Title	Credit rating		
Level 7	BN4522	Integrated Design Project	40	<b>MEng (Hons) in Civil Engineering</b> Requires 480 credits including a minimum of 360 at Level 6 or above with a minimum of 120 credits at Level 7	
	BN4520	Advanced Structural Engineering	20		
	BN4410	Health and Safety management	20		
	BN4206	Risk and Value Management	20		
	<b><u>OPTIONAL MODULES</u></b>				
	BN4400	Advanced Construction Technology	20		
	NT4009	Waste Treatment Technologies	20		
	NT4033	Environmental Pollution & Control	20		
	NT4037	Energy Production and Distribution	20		
MP4708	Renewable Energy Technology	20			
Level 6	BN3501	Structural Engineering	20	<b>BEng (Hons) in Civil Engineering</b> Requires 360 credits including a minimum of 240 at Level 5 or above and a minimum of 100 at Level 6.	
	BN3010	Project Management and BIM	20		
	BN3509	Water Resources Engineering	20		
	BN3506	Geotechnical Engineering	20		
	NT3048	Engineering Dissertation	20		
	BN3504	Engineering Design Project	20		
Level 5	MP2899	Industrial placement: (required for sandwich award)	120	Satisfactory completion of the Industrial Placement leads to a degree 'with Industrial Placement'.	
Level 5	BN2564	Engineering Analysis B	10	<b>Diploma of Higher Education in Civil Engineering</b> Requires 240 credits including a minimum of 100 at Level 5 or above.	
	BN2501	Structural Analysis and Element Design	30		
	BN2105	Management and Project Planning	20		

	BN2506	Soil Mechanics	20	
	BN2508	Hydraulic Engineering and Materials	20	
	BN2507	Civil Engineering Design and CAD	20	
Level 4	ER1010	Engineering Analysis	30	<b>Certificate of Higher Education</b> Requires 120 credits at Level 4 or above.
	ER1430	Civil Engineering Design and Technology	30	
	ER1432	Civil Engineering Hydraulics and Materials	30	
	ER1433	Civil Engineering Structures and Geotechnics	30	

### 15. Personal Development Planning

Personal development planning (PDP) is closely related to the acquisition of core discipline skills as well as personal transferable skills. Academic skills and knowledge alone are not going to be enough to the demand required of an engineer in society. Students are expected to develop additional interpersonal qualities that are essential to enable them to initiate and actively participate in team based discussions and decision making effectively. Such transferable skills include: team work, communication skills, time management, problem solving and decision making, information management and leadership qualities.

To help students develop these skills, many of the learning activities and much of the assignment work will provide them with the opportunity for practical project work in a group setting, the development of problem solving skills as well as critical appraisal skills. Such project work will involve, where possible other student disciplines (i.e. architectural students, quantity survey students, etc.) within the school to create a realistic project scenario.

Students will require to make oral presentations and present design work in 'reviews' at intervals throughout the course. In some instances staff will record presentations on video, which gives the student instant feedback on their performance. Group discussion on contentious points will be encouraged especially for 'interviews' held 'in camera.'

The course team will encourage students to organise their PDP on the same structure as the 'professional diary' or daily 'log book' that will undertake if on a 'year out' and the final MEng examination. On completion of each assessment students will receive a feedback form with tutor feedback graded. They will be expected to complete the reflection element of the form and roll-forward personal development targets to the next assessment.

Students will be encouraged to record their PDP progress in a student progress file. This file in conjunction with a student's portfolio will provide the basis for discussions with the personal tutor about the 'year out' placements following completion of the MEng (Hons) in Civil Engineering.

## 16. Admissions criteria

Programme Specifications include minimum entry requirements, including academic qualifications, together with appropriate experience and skills required for entry to study. These criteria may be expressed as a range rather than a specific grade. Amendments to entry requirements may have been made after these documents were published and you should consult the University's website for the most up to date information.

Students will be informed of their personal minimum entry criteria in their offer letter.

The minimum entry requirements onto Year 1 of the course are:

BBC at A2 including Mathematics and one other science subject (such as Physics, Further Math, Chemistry, Biology).

DDM in BTEC extended diploma.

Applicant will have GCSE maths C and English C

Applicants who do not satisfy the standard minimum entry requirements can be admitted, subject to interview, on the basis of equivalent prior experience or learning, details of which can be found at: <http://www.uclan.ac.uk/information/services/sss/accreditation/index.php>.

Applications from individuals with non-standard qualifications or relevant work/life experience who can demonstrate the ability to cope with and benefit from degree-level studies are welcome.

Applicants who have non-standard qualifications will be required to attend an open day and an interview.

The course is subject to the University's Admissions Policy & Code of Practice which can be accessed at the following link: <http://www.uclan.ac.uk/information/services/sss/admissions/index.php>.

Applications may be considered for advanced entry to level 5 (Year 2 of the full-time and Year 3 of the part-time of the programme) where students have completed an HNC/D or a Foundation Degree in Civil Engineering or similar.

Typically applicants will be invited to attend an applicant's open day

For international Students: IELTS 6.5 overall with minimum 6.0 in each component (listening, speaking, writing and reading)

Students on the BEng (Hons) Civil Engineering course may apply at the end of level 4 or the end of level 5 to change to the MEng course.

## 17. Key sources of information about the programme

- [www.uclan.ac.uk](http://www.uclan.ac.uk)
- [www.engc.org.uk](http://www.engc.org.uk)
- [www.qaa.ac.uk/en/Publications/Documents/Subjects-benchmark-statement-engineering-.pdf](http://www.qaa.ac.uk/en/Publications/Documents/Subjects-benchmark-statement-engineering-.pdf)
- [www.qaa.ac.uk/publications/information-and-guidance](http://www.qaa.ac.uk/publications/information-and-guidance)
- [www.jbm.org.uk](http://www.jbm.org.uk)
- [www.ice.org.uk](http://www.ice.org.uk)
- [www.see.ed.ac.uk](http://www.see.ed.ac.uk)

## 18. Curriculum Skills Map

Please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed

Level	Module Code	Module Title	Core (C), Compulsory (COMP) or Option (O)	Programme Learning Outcomes																				
				Knowledge and understanding					Subject-specific Skills					Thinking Skills				Other skills relevant to employability and personal development						
				A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	D1	D2	D3	D4	D5	
LEVEL 7	BN4206	Risk & Value Management	COMP	√	√	√	√							√	√	√	√		√		√		√	
	BN4520	Advanced Structural Engineering	COMP	√	√	√	√		√	√	√	√	√										√	
	BN4522	Integrated Design Project	COMP					√	√	√	√	√	√					√	√	√	√	√		
	NT4009	Waste Treatment Technologies	O						√	√	√	√	√											
	BN4400	Advanced Construction Tech.	O						√	√	√	√	√		√	√	√							
	BN4410	Health & Safety Management	COMP	√	√	√	√	√	√	√	√	√	√		√	√	√		√	√		√	√	
	NT4033	Environmental Pollution & Control	O	√	√	√	√		√	√	√	√	√		√	√	√							
	NT4037	Energy Production and Distribution	O	√	√	√	√		√	√	√	√	√		√	√	√							
	MP4708	Renewable Energy Technology	O	√	√	√	√		√	√	√	√	√		√	√	√							
LEVEL 6	BN3010	Project Management & BIM	COMP			√			√	√	√	√		√	√	√		√	√	√				
	BN3501	Structural Engineering	COMP		√	√			√	√	√	√		√	√	√	√							
	BN3506	Geotechnical Engineering	COMP		√	√			√	√	√	√		√	√	√	√							
	BN3509	Water Resources Engineering	COMP		√	√			√	√	√	√		√	√	√	√							
	NT3048	Engineering Dissertation	COMP	√	√	√	√		√	√	√	√		√	√	√	√		√	√				
	BN3504	Engineering Design Project	COMP						√	√	√	√		√	√	√	√							



## 19. Learning Outcomes for Exit Awards

### Industrial Placement

The learning outcomes for an award of MEng (Hons) Civil Engineering with Industrial Placement are the same as for MEng (Hons) Civil Engineering but in addition the module MP2899 must be passed. The learning outcomes for an award of BEng (Hons) Civil Engineering with Industrial Placement or BEng Civil Engineering with Industrial Placement are the same as for BEng (Hons) Civil Engineering or BEng Civil Engineering but in addition the module MP2899 must be passed.

### Diploma in Higher Education

The learning outcomes for the Diploma in Higher Education gained through this programme are as follows and the award is based on meeting many of the learning outcomes listed:

- A1.** Demonstrate a sound knowledge and understanding of the impact of civil engineering solutions in a global, economic, environmental, and societal context.
- A2.** Demonstrate the ability to apply the conceptual knowledge of mathematics, science, and engineering to solve societal problems that they encounter in their daily interaction with the community.
- A3.** Demonstrate an understanding of professional and ethical responsibility in the context of civil engineering in the execution of their duties.
- B1.** Develop the ability to use subject specific techniques, skills, and modern engineering tools necessary for civil engineering professional practice.
- B2.** Demonstrate the ability to identify, formulate, and solve engineering problems using physical, computational and digital modelling.
- B3.** Demonstrate the ability to design and conduct experiments, as well as to analyze and interpret data that are related to environmental, structural and transportation problems.
- C1.** Demonstrate an ability to identify, analyse and design and conduct experiments, as well as to analyze and interpret data that will solve the prevailing civil engineering problems encountered.
- C2.** Demonstrate a knowledge of contemporary issues that impacts on the lives of the society in which the professional will be engaged with during his career.
- C4.** Demonstrate an understanding of the limits of their knowledge and how this influences analyses and interpretations based on this knowledge.
- D1.** Demonstrate an ability to explain basic concepts in management, business, public policy, and leadership.
- D2.** Demonstrate the ability to function on multi-disciplinary teams, in a cooperative, collaborative environment to produce sustainable results that the world increasingly requires.
- D3.** Demonstrate the ability to communicate effectively in work and to the wider community.

### Certificate in Higher Education

The learning outcomes for the Certificate in Higher Education gained through this programme are as follows and the award is based on meeting some of the learning outcomes listed:

- A2.** Demonstrate the ability to apply the conceptual knowledge of mathematics, science, and engineering to solve societal problems that they encounter in their daily interaction with the community.
- B2.** Demonstrate the ability to identify, formulate, and solve engineering problems using physical, computational and digital modelling.
- B3.** Demonstrate the ability to design and conduct experiments, as well as to analyze and interpret data that are related to environmental, structural and transportation problems.
- C1.** Demonstrate an ability to identify, analyse and design and conduct experiments, as well as to analyze and interpret data that will solve the prevailing civil engineering problems encountered.
- C4.** Demonstrate an understanding of the limits of their knowledge and how this influences analyses and interpretations based on this knowledge.
- D1.** Demonstrate an ability to explain basic concepts in management, business, public policy, and leadership.
- D2.** Demonstrate the ability to function on multi-disciplinary teams, in a cooperative, collaborative environment to produce sustainable results that the world increasing requires.
- D3.** Demonstrate the ability to communicate effectively in work and to the wider community.

### BEng (Hons) Civil Engineering

The award of BEng (Hons) Civil Engineering will be made if a student leaves at the end of Level 6 with 360 Credits and has completed the module NT3048 Engineering Dissertation. The learning outcomes for BEng Civil Engineering are the same as for the BEng (Hons) Civil Engineering. The award of BEng (Hons) Civil Engineering is based on meeting the learning outcomes listed in Section 12 apart from A5, B5, C5 and D5, whilst the award of BEng Civil Engineering is based on meeting most of those learning outcomes required for BEng (Hons) Civil Engineering, ie:

- A1.** Demonstrate a sound knowledge and understanding of the impact of civil engineering solutions in a global, economic, environmental, and societal context.
- A2.** Demonstrate the ability to apply the conceptual knowledge of mathematics, science, and engineering to solve societal problems that they encounter in their daily interaction with the community.
- A3.** Demonstrate an understanding of professional and ethical responsibility in the context of civil engineering in the execution of their duties.
- A4.** The student should have the ability to understand and explain the importance of professional licensure.
- B1.** Develop the ability to use subject specific techniques, skills, and modern engineering tools necessary for civil engineering professional practice.
- B2.** Demonstrate the ability to identify, formulate, and solve engineering problems using physical, computational and digital modelling.
- B3.** Demonstrate the ability to design and conduct experiments, as well as to analyze and interpret data that are related to environmental, structural and transportation problems.
- B4.** Demonstrate the ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- C1.** Demonstrate an ability to identify, analyse and design and conduct experiments, as well as to analyze and interpret data that will solve the prevailing civil engineering problems encountered.



- C2.** Demonstrate a knowledge of contemporary issues that impacts on the lives of the society in which the professional will be engaged with during his career.
- C3.** Demonstrate an ability to be recognised as critical, creative, and independent thinker, applying underlying concepts and principles outside the context in which they were first studied.
- C4.** Demonstrate an understanding of the limits of their knowledge and how this influences analyses and interpretations based on this knowledge
- D1.** Demonstrate an ability to explain basic concepts in management, business, public policy, and leadership.
- D2.** Demonstrate the ability to function on multi-disciplinary teams, in a cooperative, collaborative environment to produce sustainable results that the world increasing requires.
- D3.** Demonstrate the ability to communicate effectively in work and to the wider community.
- D4.** Demonstrate an ability to recognise the need for, and an ability to engage in life-long learning in his professional life.