

## Course Specification

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<b>Produced By:</b>	Laura Clode
<b>Status:</b>	Validated

## Core Information

<b>Awarding Body / Institution:</b>	University of Wolverhampton		
<b>School / Institute:</b>	School of Architecture and Built Environment		
<b>Course Code(s):</b>	CV001K23UV	Sandwich	4 Years
<b>UCAS Code:</b>	H203		
<b>Course Title:</b>	BEng (Hons) Civil Engineering with Sandwich Placement		
<b>Hierarchy of Awards:</b>	<p>Bachelor of Engineering with Honours Civil Engineering, having satisfactorily completed a sandwich placement Accredited as meeting the educational base to become an Incorporated Engineer</p> <p>Bachelor of Engineering Civil Engineering, having satisfactorily completed a sandwich placement Accredited as meeting the educational base to become an Incorporated Engineer</p> <p>Bachelor of Engineering with Honours Civil Engineering, having satisfactorily completed a sandwich placement Accredited as meeting the educational base to become an Incorporated Engineer</p> <p>Diploma of Higher Education Civil Engineering</p> <p>Certificate of Higher Education Civil Engineering</p> <p>University Statement of Credit University Statement of Credit</p>		
<b>Language of Study:</b>	English		
<b>Date of DAG approval:</b>	25/Sep/2017		
<b>Last Review:</b>	2015/6		
<b>Course Specification valid from:</b>	2009/0		
<b>Course Specification valid to:</b>	2021/2		

## Academic Staff

<b>Course Leader:</b>	Dr Alaa Hamood
<b>Head of Department:</b>	Mr Peter Mills

# Course Information

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Location of Delivery:	University of Wolverhampton
Category of Partnership:	Not delivered in partnership
Teaching Institution:	University of Wolverhampton
Open / Closed Course:	This course is open to all suitably qualified candidates.

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## Entry Requirements:

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Entry requirements are subject to regular review. The entry requirements applicable to a particular academic year will be published on the University website (and externally as appropriate e.g. UCAS)

### 2017 Entry

- A Levels with a minimum grade of AA or CCC, including Mathematics.
- BTEC National Diploma grade MMM, BTEC National Certificate grade DD
- BTEC QCF Extended Diploma grade MMM, BTEC QCF Diploma grade DD
- Applicants will normally be expected to hold GCSE English and Maths at grade C+/4 or equivalent
- Applicants holding/studying an Access to HE Diploma may be considered on an individual basis.
- If you've got other qualifications or relevant experience, please contact [The Gateway](#) for further advice before applying.
- International entry requirements and application guidance can be found [here](#)
- Candidates may only progress from the BSc (Hons) Science and Engineering with Foundation Year or any other Foundation Year programme with a grade point average in excess of 70%, which must include a minimum grade of 70% in mathematics.
- Candidates from an International Foundation Year in Science and Mathematics will be individually reviewed to ensure a high standard of mathematics.

### Other Requirements

Students must have studied a minimum of two years post GCSE level. However, it is expected that some applicants will be mature students with work experience, who wish to further their career development. These applicants will be processed through standard procedures, which may involve an interview as part of the process. Please see <http://wlv.ac.uk/mature> for further information.

Those who do not meet the entry requirements may be offered an alternative course.

### Distinctive Features of the Course:

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A degree in civil engineering is the starting point for an exciting career that can see you shaping the world we live in; locally, nationally and internationally. Civil Engineering is all about creating, improving and protecting the sophisticated environment that surrounds us. Civil Engineers are responsible for the design, management and construction of major infrastructure projects such as dams, reservoirs, transport projects, bridges, tunnels, major buildings, water supply, sewage, harbours and sea defences.

Lecturers on this course are a blend of respected academics, with a track record of high quality research, and experienced professionals with the associated professional qualifications. The civil engineering department has excellent links with civil engineering companies as well as the professional bodies.

The BEng (Hons) Civil Engineering reflects a growing trend within the civil engineering industry to produce graduates with a detailed understanding of the principles of civil engineering as well as competent high level analytical skills. In addition, graduates from the BEng course will have the ability to manage a project taking into consideration social, commercial and environmental issues.

Your final year design project will culminate in the production of a working design for a given civil engineering project. The design will require the consideration of various options, the analysis of the chosen

option and the production of an integrated solution covering structural, geotechnical and environmental aspects as well as a detailed programme of works and anticipated costs.

Your final year individual dissertation will pull together the information retrieval skills that have been developed in levels four and five. You will produce a research report containing original data and be expected to critically analyse the results obtained. A formal written document will be produced as well as an oral presentation.

There has been industrial input in the design of the BEng (Hons) Civil Engineering and strong links are maintained through guest lectures, site visits, work placements and the formal Industrial Advisory Board.

The BEng (Hons) Civil Engineering has been awarded two-year accreditation for the 2016-2017 and 2017-2018 intakes. PSRB are scheduled to visit the university during the summers of 2018 and 2019 to view the level 5 and level 6 outputs.

A placement can be undertaken anywhere; local, national or even, in some instances, international. During a placement, you will be doing similar work to a normal employee of the organisation giving you a unique insight into your chosen profession or sector, the opportunity to acquire crucial personal skills and also the opportunity to build a network of useful contacts. Many companies that employ graduates use placement programmes as a method of recruitment so you could be fast tracked into employment or onto one of their graduate schemes if you impress them.

The team at [The Workplace](#) constantly search for new placement opportunities but if you find an opportunity that interests you or you have been successful in securing one yourself, contact them for further information and support.

## Educational Aims of the Course:

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The BEng (Hons) Civil Engineering course is intended as your first step towards becoming a Chartered Civil Engineer and a practitioner in the global community. Chartered Engineers are variously engaged in technical and commercial leadership and possess effective interpersonal skills as well as digital literacy. Civil Engineers are responsible for the design, management and construction of major infrastructure projects such as dams, reservoirs, transport projects, bridges, major buildings, water supply, sewage, harbours and sea defences.

The aim of the course is to develop graduates who are practical, articulate, numerate, literate, imaginative, versatile, confident and inquisitive. Thus the course will :

- provide you with a broadly based education, with a detailed understanding of the principles of civil engineering, allowing scope for continued development into a wide range of disciplines within the civil engineering and construction related areas
- address industry's demand for graduates who can develop an ability to identify, define and solve complex problems from first principles, whilst simultaneously demonstrating an awareness of the ethical, environmental and business aspects of projects
- Enable you to pursue professional careers in civil engineering at a level which requires the exercise of sound judgement, initiative, and the ability to make informed decisions in complex circumstances that reflect a responsible, ethical and socially aware outlook
- furnish you with an understanding of health and safety issues and the need to design and operate safe systems of work, and an appreciation of the value of design and of good practice in the reduction of risk
- require you to participate in a group design project where the project team members will each have a specific area of civil engineering to focus on, and will all be responsible for combining the various aspects to produce a compatible solution
- develop your ability to research a civil engineering subject, assess the available literature, apply appropriate research methods and critically analyse the results obtained
- develop your ability to communicate effectively, formally, informally, written and oral.

Intakes:

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September

Major Source of Funding:

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Office for Students (OFS)

Tuition Fees:

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Tuition fees are reviewed on an annual basis. The fees applicable to a particular academic year will be published on the University website.

Year	Status	Mode	Amount
2020/1	H	Full Time / Sandwich	£9250.00
2020/1	Overseas	Full Time / Sandwich	£12250.00

PSRB:

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CV001K23UV (Sandwich)

Professional Accreditation Body:  
Chartered Institute of Highways & Transportation (CIHT)

Accrediting Body:  
Chartered Institute of Highways and Transportation (CIHT)

Accreditation Statement:  
Accredited by the Chartered Institution of Highways and Transportation (CIHT) on behalf of the Engineering Council for the purposes of fully meeting the academic requirement for registration as an Incorporated Engineer and partially meeting the academic requirement for registration as a Chartered Engineer.

Approved	Start	Expected End	Renewal
14/Oct/2016	14/Oct/2016	31/Aug/2021	01/Sep/2021

CV001K23UV (Sandwich)

Professional Accreditation Body:  
Institute of Highway Engineers (IHE)

Accrediting Body:  
Institute of Highway Engineers (IHE)

Accreditation Statement:  
Accredited by the Institute of Highway Engineers (IHE) on behalf of the Engineering Council for the purposes of fully meeting the academic requirement for registration as an Incorporated Engineer and partially meeting the academic requirement for registration as a Chartered Engineer.

Approved	Start	Expected End	Renewal
14/Oct/2016	14/Oct/2016	31/Aug/2021	01/Sep/2021

CV001K23UV (Sandwich)

Professional Accreditation Body:  
Institution of Civil Engineers (ICE)

Accrediting Body:  
Institution of Civil Engineers (ICE)

Accreditation Statement:

Accredited by Institution of Civil Engineers (ICE) on behalf of the Engineering Council for the purposes of fully meeting the academic requirement for registration as an Incorporated Engineer and partially meeting the academic requirement for registration as a Chartered Engineer.

Approved	Start	Expected End	Renewal
14/Oct/2016	14/Oct/2016	31/Aug/2021	01/Sep/2021

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CV001K23UV (Sandwich)

Professional Accreditation Body:  
Institution of Structural Engineers (IStructE)

Accrediting Body:  
Institution of Structural Engineers (IStructE)

Accreditation Statement:

Accredited by the Institution of Structural Engineers (IStructE) on behalf of the Engineering Council for the purposes of fully meeting the academic requirement for registration as an Incorporated Engineer and partially meeting the academic requirement for registration as a Chartered Engineer.

Approved	Start	Expected End	Renewal
14/Oct/2016	14/Oct/2016	31/Aug/2021	01/Sep/2021

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CV001K23UV (Sandwich)

Professional Accreditation Body:  
Association of Building Engineers

Accrediting Body:  
Chartered Association of Building Engineers (CABE)

Accreditation Statement:

Accredited by the Chartered Association of Building Engineers (CABE).

Approved	Start	Expected End	Renewal
17/Mar/2014	17/Mar/2014	31/Aug/2019	31/Aug/2019

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Course Structure:

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## September (Sandwich)

Year 1

Module	Title	Credits	Period	Type
4MM018	Core Techniques in Mathematics	20	SEM1	Core
4CV013	Design Studies	20	SEM2	Core
4CV012	Engineering Mechanics and Materials	20	SEM1	Core
4CV014	Soil Mechanics and Geology	20	SEM1	Core
4CV009	Site Surveying	20	SEM2	Core
4CV011	Fundamentals of Transport Engineering	20	SEM2	Core

## September (Sandwich)

### Year 2

Module	Title	Credits	Period	Type
5CV016	Fluid Mechanics	20	YEAR	Core
5CV017	Integrated Design	20	YEAR	Core
5CV002	Structural Analysis I	20	SEM1	Core
5CV010	Geotechnical Analysis	20	SEM1	Core
5CV004	Civil Engineering Analysis	20	SEM2	Core
5CV015	Highway Engineering and Materials	20	SEM2	Core

## September (Sandwich)

### Year 3

Module	Title	Credits	Period	Type
5CN025	Industrial Placement	40	CRYRA	Core

## September (Sandwich)

### Year 4

Module	Title	Credits	Period	Type
6CV020	Research & Design Project	20	YEAR	Core
6CV021	Dissertation	20	YEAR	Core
6CV006	Structural Analysis II	20	SEM1	Core
6CV009	Geotechnical Design	20	SEM1	Core
6CV018	Transport Planning and Modelling	20	SEM2	Core
6CV019	Water Engineering	20	SEM2	Core

Please note: Optional modules might not run every year, the course team will decide on an annual basis which

options will be running, based on student demand and academic factors, to create the best learning experience.

## Learning, Teaching and Assessment

### Academic Regulations Exemption:

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Section 4.4.4 - Exemption in accordance with Professional Body (Engineering Council) requirements. Compensation will be limited to no more than 20 credits overall with no additional third attempts (repeats will be allowed).

APPROVED by AFRSC on 16/5/2019.

### Reference Points:

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- The Accreditation of Higher Education Programmes, UK Standard for Professional Engineering Competence, Third edition, 2014, (AHEP3).
- Joint Board of Moderators: Accreditation Guidance and Documentation.
- Cognisance made of Engineering Council UK-Spec 2013.
- QAA National Qualifications Framework
- QAA Subject Benchmark Statement for Engineering
- School E&D policy
- [Equality Act 2010](#)

### Learning Outcomes:

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#### CertHE Course Learning Outcome 1 (CHECLO1)

Demonstrate knowledge of the underlying concepts and principles associated with your area(s) of study, and an ability to evaluate and interpret these within the context of that area of study.

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#### CertHE Course Learning Outcome 2 (CHECLO2)

Demonstrate an ability to present, evaluate and interpret qualitative and quantitative data, in order to develop lines of argument and make sound judgements in accordance with basic theories and concepts of your subject(s) of study.

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#### CertHE Course Learning Outcome 3 (CHECLO3)

Evaluate the appropriateness of different approaches to solving problems related to your area(s) of study and/or work.

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#### CertHE Course Learning Outcome 4 (CHECLO4)

Communicate the results of your study/work accurately and reliably, and with structured and coherent arguments.

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#### CertHE Course Learning Outcome 5 (CHECLO5)

Demonstrate the qualities and transferable skills necessary for employment requiring the exercise of some personal responsibility.

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#### DipHE Course Learning Outcome 1 (DHECLO1)

Demonstrate knowledge and critical understanding of the well-established principles of your area(s) of study, and of the way in which those principles have developed with an understanding of the limits of your knowledge, and how this influences analyses and interpretations based on that knowledge.

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DipHE Course Learning Outcome 2 (DHECLO2)

Demonstrate the ability to apply underlying concepts and principles outside the context in which they were first studied, including, where appropriate, the application of those principles in an employment context.

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DipHE Course Learning Outcome 3 (DHECLO3)

Demonstrate knowledge of the main methods of enquiry in the subject(s) relevant to the named award, and ability to evaluate critically the appropriateness of different approaches to solving problems in the field of study.

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DipHE Course Learning Outcome 4 (DHECLO4)

Use a range of established techniques to initiate and undertake critical analysis of information, and to propose solutions to problems arising from that analysis.

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DipHE Course Learning Outcome 5 (DHECLO5)

Effectively communicate information, arguments and analysis in a variety of forms to specialist and non-specialist audiences, and deploy key techniques of the discipline effectively.

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DipHE Course Learning Outcome 6 (DHECLO6)

Demonstrate the qualities and transferable skills necessary for employment, requiring the exercise of personal responsibility and decision-making and undertake further training, developing existing skills and acquire new competences that will enable them to assume significant responsibility within organisations.

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Ordinary Degree Course Learning Outcome 1 (ORDCLO1)

Demonstrate knowledge and understanding of geotechnical engineering, structural analysis and design, including material properties.

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Ordinary Degree Course Learning Outcome 2 (ORDCLO2)

Apply knowledge and understanding of civil engineering to group and individual project work, taking account of social, ethical, environmental and business issues at both the project planning and implementation stages.

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Ordinary Degree Course Learning Outcome 3 (ORDCLO3)

Propose and evaluate a range of solutions to civil engineering problems, drawn from a detailed understanding of civil engineering principles demonstrating creativity and innovation.

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Ordinary Degree Course Learning Outcome 4 (ORDCLO4)

Evaluate and apply appropriate mathematical methods to solve civil engineering problems.

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Ordinary Degree Course Learning Outcome 5 (ORDCLO5)

Critically appraise the results from appropriate software packages for the analysis, design and management of civil engineering projects.

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Ordinary Degree Course Learning Outcome 6 (ORDCLO6)

Demonstrate relevant personal and interpersonal skills, and thinking critically and creatively during problem solving especially when faced with engineering challenges.

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Honours Degree Course Learning Outcome 1 (DEGCLO1)

Demonstrate knowledge, understanding and abilities in science and mathematics that underpin civil engineering.

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Honours Degree Course Learning Outcome 2 (DEGCLO2)

Apply engineering concepts and tools to the solution of engineering problems (engineering analysis).

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Honours Degree Course Learning Outcome 3 (DEGCLO3)

Integrate engineering understanding, knowledge and skills to the design of solutions for real and complex problems.

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Honours Degree Course Learning Outcome 4 (DEGCLO4)

Demonstrate the skills to manage civil engineering activities whilst showing an awareness of the legal, ethical, environmental and commercial impacts such activities can have on society.

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Honours Degree Course Learning Outcome 5 (DEGCLO5)

Undertake the practical application of engineering skills, combining theory and experience, and use of other relevant knowledge and skills.

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Honours Degree Course Learning Outcome 6 (DEGCLO6)

The development of transferable skills, including lifelong learning, which will be of value in a wide range of situations.

Overview of Assessment:

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Module	Title	Course Learning Outcomes
4CV009	Site Surveying	CHECLO5
4CV011	Fundamentals of Transport Engineering	CHECLO5
4CV012	Engineering Mechanics and Materials	CHECLO1, CHECLO2
4CV013	Design Studies	CHECLO4
4CV014	Soil Mechanics and Geology	CHECLO3
4MM018	Core Techniques in Mathematics	CHECLO4
5CN025	Industrial Placement	DHECLO2, DHECLO4, DHECLO6
5CV002	Structural Analysis I	DHECLO1, DHECLO2
5CV004	Civil Engineering Analysis	DHECLO1, DHECLO2
5CV010	Geotechnical Analysis	DHECLO1, DHECLO2, DHECLO4
5CV015	Highway Engineering and Materials	DHECLO3, DHECLO5
5CV016	Fluid Mechanics	DHECLO1, DHECLO2, DHECLO5, DHECLO6
5CV017	Integrated Design	DHECLO1, DHECLO3, DHECLO5
6CV006	Structural Analysis II	DEGCLO1, DEGCLO2, ORDCLO1, ORDCLO2
6CV009	Geotechnical Design	DEGCLO1, DEGCLO2, DEGCLO3, DEGCLO5, ORDCLO1, ORDCLO2, ORDCLO3, ORDCLO5
6CV018	Transport Planning and Modelling	DEGCLO2, DEGCLO3, DEGCLO4, DEGCLO5, ORDCLO2, ORDCLO3, ORDCLO4, ORDCLO5
6CV019	Water Engineering	DEGCLO2, DEGCLO3, DEGCLO4, DEGCLO5, ORDCLO2, ORDCLO3, ORDCLO4, ORDCLO5
6CV020	Research & Design Project	DEGCLO1, DEGCLO2, DEGCLO3, DEGCLO4, DEGCLO5, DEGCLO6, ORDCLO1, ORDCLO2, ORDCLO3, ORDCLO4, ORDCLO5, ORDCLO6
6CV021	Dissertation	DEGCLO2, DEGCLO3, DEGCLO4, DEGCLO5, DEGCLO6, ORDCLO2, ORDCLO3, ORDCLO4, ORDCLO5, ORDCLO6

### Teaching, Learning and Assessment:

- Attending, taking notes and asking questions in lectures,
- Using audio-visual learning materials
- Carrying out supervised practical work
- Discussing with fellow students and academic staff in seminars and workshops
- Discussing with academic staff in tutorials
- Reading articles, chapters and books
- Accessing appropriate sites on the internet
- Field trips to towns or cities, visiting buildings, construction sites and observing work in progress
- Interact with industry and industry professionals
- Interaction with the professional body
- Preparing appropriate documentation, to industry standards, including plans, specifications, cost information, based on realistic construction projects
- Performing group exercises and projects
- Making oral presentations
- Preparation of professional standard reports
- Supervised practical work such as surveying and laboratory tests
- Engaging in discussion with academic staff and fellow students in seminars, workshops and tutorials

- Preparing for examinations
- Using computer software for analysis and design
- Problem solving exercises, closed and open ended problems
- Information retrieval from articles, books and journals for assessment
- Critical examination of data.

## Assessment Methods:

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At the University of Wolverhampton, a variety of modes of assessment will be used to support and test your learning and progress and to help you develop capabilities that are valued beyond your University studies and into your working life. Your course may include a variety of assessment activities:

Written examinations (including online examinations, open and closed book examinations and quizzes)  
 Coursework (for example, essays, reports, portfolios, project proposals and briefs, CVs, poster presentation)  
 Practical (for example, oral and video presentations, laboratory work, performances, practical skills assessment)

In the final year of your undergraduate degree, and at the end of your postgraduate degree, you are likely to be expected to write an extended piece of work or research, such as a dissertation or a practice-based piece of research.

## Student Support:

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Enhanced learning support is provided in the following areas:

1. Support for mathematics and analytic based modules
2. Report writing and oral/presentation communications skills
3. Learning centre – literature searches and information searches
4. Practical/lab/experimental activities and reporting
5. Promotion of *independent learning* during tutorials, face-to-face sessions
6. Formative assessment opportunities
7. Face-to-face tutorial sessions

The University complements this by supporting your learning through the provision of generic study skills including communication and how to write academic assignments. In addition, there will be opportunities to develop your information seeking and information management skills. These may be in the form of seminars or workshops delivered by LIS staff and embedded into the curriculum or by following the programme of "InfoBite" workshops available in the Learning Centres.

## Employability in the Curriculum:

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Civil Engineering is all about creating, improving and protecting the sophisticated environment that surrounds us. Civil Engineers are responsible for the design, management and construction of major infrastructure projects such as dams, reservoirs, transport projects, bridges, major buildings, water supply, sewage, harbours and sea defences. Infrastructure projects may involve tall buildings and large structures together with bridges, roads, railways and tunnels.

There are many significant employment opportunities in Civil Engineering with graduates working for consultants, contractors, local authorities, government and public bodies, the armed forces, and academic and research establishments. Civil Engineering also offers opportunities to work both on a national and international basis on a variety of exciting infrastructure projects.

Graduates may wish to continue their studies at Masters or Doctorate level. This may either be in a technical

context or a more broadening context such as project management or construction law. The BEng (Hons) Civil Engineering provides a sound basis from which to develop a career, and progress to Incorporated Engineer (IEng) or Chartered Engineer (CEng) status (with further learning).

The completion of a Sandwich Year will enable you to gain valuable hands on experience in a relevant work environment. This will not only provide additional practical subject skills but it will also develop personal transferable skills such as communication skills, problem solving skills and demonstrate competency in working with other people. This will increase your employability and assist you in gaining employment in the future.



THE UNIVERSITY OF OPPORTUNITY