

## Course Specification

<b>Published Date:</b>	03-Jun-2021
<b>Produced By:</b>	Oliver Jones
<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>	CV017K23UV	Sandwich	5 Years
<b>UCAS Code:</b>	H204		
<b>Course Title:</b>	MEng (Hons) Civil Engineering with Sandwich Placement		
<b>Hierarchy of Awards:</b>	Master in Engineering with Honours Civil Engineering, having satisfactorily completed a sandwich placement Bachelor of Engineering with Honours Civil Engineering, having satisfactorily completed a sandwich placement Bachelor of Engineering Civil Engineering, having satisfactorily completed a sandwich placement Bachelor of Engineering Civil Engineering Diploma of Higher Education Civil Engineering Certificate of Higher Education Civil Engineering University Statement of Credit University Statement of Credit		
<b>Language of Study:</b>	English		
<b>Date of DAG approval:</b>	30/May/2018		
<b>Last Review:</b>	2017/8		
<b>Course Specification valid from:</b>	2017/8		
<b>Course Specification valid to:</b>	2022/3		

## Academic Staff

<b>Course Leader:</b>	Shashank Gupta
<b>Head of Department:</b>	Mr Peter Mills

# Course Information

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<b>Location of Delivery:</b>	University of Wolverhampton
<b>Category of Partnership:</b>	Not delivered in partnership
<b>Teaching Institution:</b>	University of Wolverhampton
<b>Open / Closed Course:</b>	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)

MEng direct entry to first year, a minimum of 120 UCAS tariff points, which must include A level maths.

Applicants with extensive work experience or alternative qualifications will be assessed on an individual basis and may be required to attend an interview and complete a bridging maths programme.

Advanced entry to year 2 will be considered for candidates with equivalent level 4 qualifications, such as an HNC Civil Engineering, with a GPA of over 70% and a maths bridging programme will be required.

Latest advanced entry will be at the start of level 6, subject to satisfactory mapping of all level 4 and 5 modules. Transfers from a BEng course will need to have a GPA equivalent to at least a 2:1 classification, in addition to the relevant module mapping

## Distinctive Features of the Course:

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This course has been designed to prepare our graduates to meet the challenges of the future that will require innovative ideas from Engineers who are well educated in the principles of the traditional civil engineering disciplines, but who are also creative leaders and inventors.

To prepare our graduates for such challenges they will be exposed to individual and group work to solve complex real world challenges. Solutions are expected to demonstrate an integrated or systems approach to solving engineering problems and will take into account: research and professional activities; the natural environment; social and environmental considerations; ethics as well as a high level of technical understanding.

The course is delivered by a blend of active and respected academics as well as Chartered Engineers with relevant inputs from industrial practitioners.

## Educational Aims of the Course:

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The main aim is to develop graduates who are ready to tackle the problems that they will encounter during their careers. Such problems may well be quite different from the challenges today. The course aims to produce graduates that will be able to demonstrate leadership qualities and practical, analytical and creative intelligence.

This course has been designed to fully meet the educational base required to become a Chartered Civil Engineer. As such it has been developed taking full cognisance of the requirements of the four professional bodies that make up the Joint Board of Moderators (JBM): The Institution of Civil Engineers (ICE); the Institution of Structural Engineer (IStructE); the Chartered Institution of Highways and Transportation (CIHT) and the Institute of Highway Engineers (IHE).

## 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
2021/2	H	Full Time / Sandwich	£9250.00
2021/2	Overseas	Full Time / Sandwich	£12950.00

### PSRB:

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None

### Course Structure:

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## September (Sandwich)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

### 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)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

### 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)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

### Year 3

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

## September (Sandwich)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

### 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

## September (Sandwich)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

### Year 5

Module	Title	Credits	Period	Type
7AT003	Building Information Modelling (Theory and Application)	20	SEM1	Core
7CV017	Hydraulic Structures and Coastal Engineering	20	SEM1	Core
7CV020	Intelligent Transportation Systems	20	SEM2	Core
7CN018	Financial Management of Projects	20	SEM2	Core
7CV019	Industrial Design Project	20	YEAR	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).

There is no compensation permitted at Level 7.

APPROVED by AFRSC on 16/5/2019.

AFRSC 20/76a

Section 4.3.3 - Exemption in accordance with the standards of the Professional Body. Students are permitted one additional re-sit attempt only.

Effective Date: September 2021

APPROVED at AFRSC meeting on 22/04/2021.

### Reference Points:

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Quality Code - [Part A: Setting and Maintaining Academic Standards](#). Including :

[Qualifications Frameworks](#)

[Characteristics Statements](#)

[Credit Frameworks](#)

[Subject Benchmark Statements](#)

Quality Code - [Part B: Assuring and Enhancing Academic Quality](#)

[University Policies and Regulations](#)

Equality Act (2010)

Accreditation of Higher Education Programmes, [AHEP3] (3rd Edition), Engineering Council, 2014

JBM Guidelines for Developing Degree Programmes January 2018, (Version 1-Rev 2).

[http://www.jbm.org.uk/uploads/JBM117degreeguidelines\\_jan18.pdf](http://www.jbm.org.uk/uploads/JBM117degreeguidelines_jan18.pdf)

The JBM consist of : The Institution of Civil Engineers (ICE), Institution of Structural Engineers (IStructE), Chartered Institution of Highways & Transportation (CIHT) and the Institute of Highway Engineers (IHE).

## 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 Course Learning Outcome 1 (ORDCLO1)

Demonstrate a systematic understanding of key aspects of your field of study, including acquisition of coherent and detailed knowledge, at least some of which is at, or informed by, the forefront of defined aspects of a discipline with an appreciation of the uncertainty, ambiguity and limits of knowledge.

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Ordinary Course Learning Outcome 2 (ORDCLO2)

Demonstrate an ability to deploy accurately established techniques of analysis and enquiry within a discipline and apply the methods and techniques that they have learned to review, consolidate, extend and apply your knowledge and understanding, and to initiate and carry out projects.

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Ordinary Course Learning Outcome 3 (ORDCLO3)

Demonstrate conceptual understanding that enables the student: (a) to devise and sustain arguments, and/or to solve problems, using ideas and techniques, some of which are at the forefront of a discipline (b) to describe and comment upon particular aspects of current research, or equivalent advanced scholarship, in the discipline.

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Ordinary Course Learning Outcome 4 (ORDCLO4)

Demonstrate the ability to manage your own learning, and to make use of scholarly reviews and primary sources (for example, refereed research articles and/or original materials appropriate to the discipline) and communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

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Ordinary Course Learning Outcome 5 (ORDCLO5)

Critically evaluate arguments, assumptions, abstract concepts and data (that may be incomplete), to make judgements, and to frame appropriate questions to achieve a solution - or identify a range of solutions - to a problem.

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Ordinary Course Learning Outcome 6 (ORDCLO6)

Demonstrate the qualities and transferable skills necessary for employment requiring: (a) the exercise of initiative and personal responsibility (b) decision-making in complex and unpredictable contexts (c) the learning ability needed to undertake appropriate further training of a professional or equivalent nature.

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Honours Course Learning Outcome 1 (DEGCLO1)

Demonstrate a systematic understanding of key aspects of your field of study, including acquisition of coherent and detailed knowledge, at least some of which is at, or informed by, the forefront of defined aspects of a discipline with an appreciation of the uncertainty, ambiguity and limits of knowledge.

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Honours Course Learning Outcome 2 (DEGCLO2)

Demonstrate an ability to deploy accurately established techniques of analysis and enquiry within a discipline and apply the methods and techniques that they have learned to review, consolidate, extend and apply your

knowledge and understanding, and to initiate and carry out projects.

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Honours Course Learning Outcome 3 (DEGCLO3)

Demonstrate conceptual understanding that enables the student: (a) to devise and sustain arguments, and/or to solve problems, using ideas and techniques, some of which are at the forefront of a discipline (b) to describe and comment upon particular aspects of current research, or equivalent advanced scholarship, in the discipline.

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Honours Course Learning Outcome 4 (DEGCLO4)

Demonstrate the ability to manage your own learning, and to make use of scholarly reviews and primary sources (for example, refereed research articles and/or original materials appropriate to the discipline) and communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

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Honours Course Learning Outcome 5 (DEGCLO5)

Critically evaluate arguments, assumptions, abstract concepts and data (that may be incomplete), to make judgements, and to frame appropriate questions to achieve a solution - or identify a range of solutions - to a problem.

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Honours Course Learning Outcome 6 (DEGCLO6)

Demonstrate the qualities and transferable skills necessary for employment requiring: (a) the exercise of initiative and personal responsibility (b) decision-making in complex and unpredictable contexts (c) the learning ability needed to undertake appropriate further training of a professional or equivalent nature.

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Integrated Masters Course Learning Outcome 1 (IMACLO1)

Evaluate a comprehensive set of knowledge, understanding and abilities in science and mathematics that underpin civil engineering.

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Integrated Masters Course Learning Outcome 2 (IMACLO2)

Justify engineering concepts and tools to the innovative solution of complex engineering problems (engineering analysis).

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Integrated Masters Course Learning Outcome 3 (IMACLO3)

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

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Integrated Masters Course Learning Outcome 4 (IMACLO4)

Demonstrate leadership 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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Integrated Masters Course Learning Outcome 5 (IMACLO5)

Appraise the practical application of engineering skills, combining theory and experience, the use of other relevant knowledge and skills, and taking into account commercial constraints.

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Integrated Masters Course Learning Outcome 6 (IMACLO6)

Manage and self-appraise the development of transferable skills, including leadership qualities and lifelong learning, that 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	CHECLO3, CHECLO5
4CV011	Fundamentals of Transport Engineering	CHECLO1, CHECLO4
4CV012	Engineering Mechanics and Materials	CHECLO2
4CV013	Design Studies	CHECLO4, CHECLO5
4CV014	Soil Mechanics and Geology	CHECLO3
4MM018	Core Techniques in Mathematics	CHECLO1, CHECLO2
5CN025	Industrial Placement	DHECLO2, DHECLO6
5CV002	Structural Analysis I	DHECLO1, DHECLO2
5CV004	Civil Engineering Analysis	DHECLO1, DHECLO4
5CV010	Geotechnical Analysis	DHECLO3, DHECLO6
5CV015	Highway Engineering and Materials	DHECLO3, DHECLO4
5CV016	Fluid Mechanics	DHECLO1, DHECLO5
5CV017	Integrated Design	DHECLO2, DHECLO5, DHECLO6
6CV006	Structural Analysis II	DEGCLO2, ORDCLO2
6CV009	Geotechnical Design	DEGCLO3, DEGCLO5, ORDCLO3, ORDCLO5
6CV018	Transport Planning and Modelling	DEGCLO5, ORDCLO5
6CV019	Water Engineering	DEGCLO2, DEGCLO4, ORDCLO2, ORDCLO4
6CV020	Research & Design Project	DEGCLO1, DEGCLO3, DEGCLO6, ORDCLO1, ORDCLO3, ORDCLO6
6CV021	Dissertation	DEGCLO1, DEGCLO4, DEGCLO6
7AT003	Building Information Modelling (Theory and Application)	IMACLO1, IMACLO6
7CN018	Financial Management of Projects	IMACLO5, IMACLO6
7CV017	Hydraulic Structures and Coastal Engineering	IMACLO1, IMACLO2
7CV019	Industrial Design Project	IMACLO2, IMACLO3, IMACLO5
7CV020	Intelligent Transportation Systems	IMACLO2, IMACLO4, IMACLO5

## Teaching, Learning and Assessment:

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Learning activities will be a mixture of formal lectures with associated tutorial sessions, in-class discussions, laboratory activities, site visits, industrial guest lectures, self-learning, online blog forums.

Assessments will vary according to the module concerned but will comprise a blend of formative and summative: in-class tests, coursework, presentations, in-class and electronic feedback, design projects, group work, formal laboratory reports, practical work and formal examinations.

Support for learning will predominantly take the form of easy access to the lecturing staff, as is currently the case within the Department of Civil Engineering. Formal appointments will be available via the SAMS system.

All of the existing university support structures for students will be in place such as applications for

extensions within the Student Centre and all the counselling and advice available within the Student Enabling Centre.

## 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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General University support:

[University Learning Centres](#) are the key source of academic information for students. Learning Centres provide physical library resources (books, journal, DVDs etc.) and offer a range of study areas to allow students to study in the environment that suit them best: Social areas, quiet and silent areas. Learning Centres also provide access to wide range of online information sources, including eBooks, e-Journals and subject databases.

Learning Centres also provide students with academic skills support via the [Skills for Learning programme](#). Students on campus can attend workshops or ask for one-to-one help on a range of skills such as academic writing and referencing. Students can access a range of online skills material at: [www.wlv.ac.uk/lib/skills](http://www.wlv.ac.uk/lib/skills)

The [University Student Support website](#) offers advice on a variety of matters (careers, counselling, student union advice, etc.) Students can also access these services by booking appointment with the SU, careers, counselling services, etc.

### Course Specific Support

The Course has a dedicated Award Leader and each student will be assigned a personal tutor. Student and tutee will meet at least once per semester

## Employability in the Curriculum:

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Employability is embedded throughout the curriculum by various activities: presentations from the membership development officer of the ICE to encourage student membership, similarly student membership is encouraged with the IStructE and CIHT. Site visits are undertaken at all levels: Crossrail Project, M6 Smart motorways, Water Treatment Plants. Guest lectures are presented by various industrial practitioners; Tony Gee & Partners, Amey, Nolan Associates, Highways England, etc. The Civil Engineering Department hosts events put on by the West Midlands branch of the ICE Graduates and Students group.

Leadership qualities are developed throughout the course, particularly within the group based work of the design modules (4CV013, 5CV027, 6CV020 and 7CV019). Creativity is encouraged where design modules are present but also within the individual dissertation (6CV021), and the transport and water engineering modules (6CV018, 6CV019, 7CV017 and 7CV020).



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