

University of Plymouth

Faculty of Science and Engineering
School of Engineering Computing and Maths

Programme Specification

MEng (Hons) Civil & Coastal Engineering - 2224

September 2022

1. Master of Engineering with Honours Civil & Coastal Engineering

Final award title	MEng (Hons) Civil & Coastal Engineering
Level 4 Intermediate award title	Certificate of Higher Education (CertHE)
Level 5 Intermediate award title	Diploma of Higher Education (DipHE)
Level 6 Intermediate award title	BEng (Hons) in Civil & Coastal Engineering

UCAS code: H251

HECOS code: 100148 (65 %), 100544 (35 %)

2. Awarding Institution: University of Plymouth

Teaching institution: University of Plymouth

3. Accrediting bodies

- The following 4 bodies form the Joint Board of Moderators (JBM) which recommends courses for accreditation.
- Institution of Civil Engineers (ICE)
- Institution of Structural Engineers (IStructE)
- Institute of Highway Engineers (IHE)
- The Chartered Institution of Highways & Transportation (CIHT)



MEng Accredited CEng (Full)

This degree is accredited as fully satisfying the educational base for a Chartered Engineer (CEng).

See www.jbm.org.uk for further information.

The programme is studied full time over a 4 year period (5 years with placement).

The University of Plymouth Civil and Coastal Engineering programmes are currently accredited by the JBM. They are re-accredited every 5 years. The date of the next re-accreditation is 2021.

4. Distinctive Features of the Programme and the Student Experience

- This accredited MEng (Hons) Civil & Coastal Engineering fully meets the academic requirement for registration as a Chartered Engineer.
- The course is taught by professionally qualified staff, many of whom are active in research in key aspects of both civil engineering and coastal engineering.
- A broad base of general Engineering context is given in Stage 1, spanning a range of subjects.
- In subsequent years of the course key subjects important for both Civil Engineers and Coastal Engineers are studied including Structures, Materials and Geotechnics. The course also covers Hydraulics and Construction Management.
- Highways related material is incorporated throughout the programme, including in the surveying, materials, geotechnics, construction management, hydraulics (drainage) and structures modules.
- Specialist teaching is given in the subject of Coastal Engineering, including study of waves, tides, currents, sediment transport, coastal defences, and both physical and numerical modelling.
- An optional placement year, making use of our excellent links with the Civil Engineering and Coastal Engineering Industries, provides an opportunity to enhance knowledge and experience as a practicing Civil or Coastal Engineer.
- The final year of the MEng includes 'advanced' technical modules in coastal engineering modelling and coastal structure design, alongside advanced modules in hydraulics and geotechnics.
- The final MEng year includes an 'Interdisciplinary Design Project', simulating a real project environment.
- Site visits to venues relevant to both coastal engineers and civil engineers are incorporated. Field trips and visiting speakers and lectures are used to enhance the industrial relevance of the course.
- Plymouth offers a world leading facility for coastal engineering and wave energy research in the COAST facility. This is complemented by excellent laboratory facilities for practical work relating to structures, materials, geotechnics and hydraulics.
- Individual projects and design projects are used to develop professional skills that include communication, self-management, team working and leadership.
- During the project module (and also elsewhere in the course) students have the opportunity to engage in learning and research work with staff involved in specialist research areas at Plymouth, including the COAST Engineering Research Group.

The Programme delivery is underpinned by the [University of Plymouth Education and Student Experience Strategy 2018-2023](#), specifically:

- a) to be externally recognised for the high quality of our educational provision.
- b) to support and inspire our students to achieve their potential and ambitions.
- c) to nurture a sustainable and collaborative community of scholars recognising the significance of research and evidence-based pedagogy.
- d) to provide an infrastructure and inclusive learning environment that supports our students and staff.

5. Relevant QAA Subject Benchmark Group

The [QAA Engineering Subject Benchmark \(2015\)](#) statement defines the academic standard expected of graduates with an engineering degree

The defined learning outcomes are those published by the [Engineering Council](#) in the UK Standard for Professional Engineering Competence (UK-SPEC): [The accreditation of Higher Education Programmes - Third edition](#).

6. Programme Structure

MEng Civil & Coastal Engineering (2022/23)

				Assessment %							
				Semester	Credits	E1 - Exam	C1 - Coursework	T1 - Test	P1 - Practical	Compensatory?	
CORE MODULES											
Level 4	Stage 1	Year 1	ENGR101	Engineering Design	1+2	20		70	30		Y
			ENGR102	Engineering Practice		20		100			Y
			ENGR103	Engineering Science	1	20	50	50			Y
			ENGR104	Engineering Maths		20	50	50			Y
			ENGR105	Eng Mechanics & Structures	2	20	50	50			Y
			ENGR106	Engineering Materials		20	50	50			Y
Level 4					120	33	62	5	0		
Level 5	Stage 2	Year 2	CIVL201	Civil Engineering Practice	1+2	20		50	50		N
			STAD200	Structural Analysis & Design 1		20		70	30		N
			GEEN200	Geotechnical Engineering 1	1	20	70	30			N
			MATH200	Engineering Analysis		20	70	30			N
			HYFM200	Hydraulic & Coastal Eng	2	20	50	50			N
			MGMT223	Construction Management		20	50	50			N
Level 5					120	40	47	13	0		
Level 6	Stage 4	Year 3	PRCE300	Individual Project (Coastal)	1+2	40		100			N
			HYFM300	Water Engineering	1	20	70	30			N
			STAD300	Structural Analysis & Design 2		20	30	70			N
			GEEN314	Geotechnical Engineering 2	2	20	70	30			N
			COUE300	Coastal Eng Analysis & Design		20	50	50			N
Level 6					120	37	63	0	0		
Level 7	Stage 5	Year 4	GEEN502	Advanced Geotechnical Eng	1	20	70	30			N
			HYFM501	Advanced Hydraulic Eng		20		100			N
			COUE506	Port & Harbour Engineering		20	70	30			N
			ENBS542	Proj. Man. & Prof. Practice	2	20		85		15	N
			PRCE508	Interdisciplinary Design Project		20		100			N
			COUE508	Advanced Coastal Eng Modelling		20		100			N
Level 7					120	23	74	0	3		

Optional Placement (Stage 3) modules (0 credits)

Stage 1	BPIE114	Placement preparation	
Stage 2	BPIE214	Placement preparation	
Stage 3	BPIE340	Engineering Related Placement	Pass/ fail based on final report

Note that the project in Stage 4 (Year 3) must be aligned to a 'Coastal Engineering' theme. Stage 3 is an optional 'Industrial Placement Year'. The programme is 'full time'. No formal part-time programme is offered but part-time study mode is possible and must be discussed with the programme manager first.

7. Programme Aims

The fundamental aim of the programme is to produce high quality graduates, equipped with the necessary skills to work in the both the Civil Engineering industry, and also in the Coastal Engineering specialism within Civil Engineering. Students are equipped to work both in the construction and design sides of the industry.

The programme aims to cover fundamental theoretical and practical approaches used in civil engineering and coastal engineering, including surveying, geotechnics, structural design, Computer Aided Design, construction management, and coastal engineering principles.

The MEng final year aims to extends the work done up to BEng level, through detailed study in technical disciplines including advanced structural analysis and design, advanced geotechnics, advanced hydraulics.

The MEng programme aims to synthesize the students skills through a detailed interdisciplinary design project. Professional and project management skills are developed at an advanced level, towards industry application.

The MEng, combined with Chartered CEng status is highly respected in the Engineering community. As such, students with the MEng qualification have greatly enhanced employability and significantly enhanced career potential in the long term.

The programme aims to provide both a foundation for leadership and a wider appreciation of the economic, legal social, ethical and environmental context of both civil engineering and coastal engineering.

8. Programme Intended Learning Outcomes (PLO)

The overarching learning outcome of this degree programme is that its graduates should be able to demonstrate competence and commitment at a level commensurate with that of a MEng (Hons) Accredited CEng engineering degree as defined in the UK-SPEC: [The accreditation of Higher Education Programmes \(Third edition\)](#).

In the Civil Engineering context, the Learning Outcomes required by the accrediting body, the Joint Board of Moderators (JBM), are in line with those identified by the AHEP3 standard. (<https://jbm.org.uk/Files/JBMSite/89/89888f7b-cc37-4769-ab2f-2a6729fa1a8b.pdf>)

An acceptable threshold level of competence is indicated by the award, with a spectrum of competence reflected in the degree classification of any individual graduate.

Programme learning outcomes are separated into sections of: Knowledge and Understanding; Cognitive and Intellectual skills; Key and Transferable skills; Employment related skills; Practical Skills; and Additional General Skills. Learning outcomes that are met in the first 3 taught years are identified with a letter 'b', as students graduating with BEng will also meet these learning outcomes. Learning outcomes relating to the MEng have a letter 'm', and may be met at any point in the 4 years. Other learning outcomes (no 'b' or 'm') are not specific to BEng or MEng.

8.1 Knowledge and understanding (Science & Maths)

Fundamental to both Civil Engineering and Coastal Engineering is the knowledge and understanding of *Science and Mathematics*. Knowledge and understanding of science and mathematics is clearly required by the relevant accrediting professional engineering institutions. On completion, graduates will have achieved:

SM1b

Knowledge and understanding of scientific principles and methodology necessary to underpin their education in Civil & Coastal Engineering, to enable appreciation of its scientific and engineering context, and to support their understanding of relevant historical, current and future developments and technologies.

SM1m

A comprehensive knowledge and understanding of the scientific principles and methodology necessary to underpin their education in Civil & Coastal Engineering, and an understanding and know-how of the scientific principles of related disciplines, to enable appreciation of the scientific and engineering context, and to support their understanding of relevant historical, current and future developments and technologies.

SM2b

Knowledge and understanding of mathematical and statistical methods necessary to underpin their education in Civil & Coastal Engineering and to enable them to apply mathematical and statistical methods, tools and notations proficiently in the analysis and solution of engineering problems.

SM2m

Knowledge and understanding of mathematical and statistical methods necessary to underpin their education in Civil & Coastal Engineering and to enable them to apply mathematical and statistical methods, tools and notations proficiently in the analysis and solution of engineering problems.

SM3b

Ability to apply and integrate knowledge and understanding of other engineering disciplines to support study of Civil & Coastal Engineering.

SM3m

Ability to apply and integrate knowledge and understanding of other engineering disciplines to support study of Civil & Coastal Engineering and the ability to evaluate them critically and to apply them effectively.

SM4m

Awareness of developing technologies related to Civil & Coastal Engineering.

SM5m

A comprehensive knowledge and understanding of mathematical and computational models relevant to Civil & Coastal Engineering, and an appreciation of their limitations.

SM6m

Understanding of concepts from a range of areas, including some outside engineering, and the ability to evaluate them critically and to apply them effectively in engineering projects

8.2 Cognitive and intellectual skills (Engineering Analysis)

Cognitive and intellectual skills, in both the Civil Engineering and Coastal Engineering context, are of key importance in *Engineering Analysis*. This involves the application of engineering concepts and tools for the solution of engineering problems. On completion graduates will have developed:

EA1b

Understanding of Civil & Coastal Engineering principles and the ability to apply them to analyse key engineering processes.

EA1m

Understanding of Civil & Coastal Engineering principles and the ability to apply them to undertake critical analysis of key engineering processes.

EA2

Ability to identify, classify and describe the performance of systems and components through the use of analytical methods and modelling techniques.

EA3b

Ability to apply quantitative and computational methods in order to solve civil and coastal engineering problems and to implement appropriate action.

EA3m

Ability to apply quantitative and computational methods, using alternative approaches and understanding their limitations, in order to solve civil and coastal engineering problems and implement appropriate action.

EA4

Understanding of, and the ability to apply, an integrated or systems approach to solving engineering problems.

EA5m

Ability to use fundamental knowledge to investigate new and emerging technologies.

EA6m

Ability to extract and evaluate pertinent data and to apply engineering analysis techniques in the solution of unfamiliar problems.

8.3 Key and transferable skills (Design)

Design at this level is a key skill and competence of both the Civil Engineer and the Coastal Engineer. It involves the creation and development of an economically viable solution, process or system to meet a defined need. It involves significant technical and intellectual challenges and integrates all engineering understanding, knowledge and skills to the solution of real Civil or Coastal Engineering problems. The rigorous skills learned are transferable to many other applications. On completion, graduates in Civil & Coastal Engineering should have developed the knowledge, understanding and skills to:

D1

Understand and evaluate business, customer and user needs, including considerations such as the wider engineering context, public perception and aesthetics.

D2

Investigate and define the problem, identifying any constraints including environmental and sustainability limitations; ethical, health, safety, security and risk issues; intellectual property; codes of practice and standards.

D3b

Work with information that may be incomplete or uncertain and quantify the effect of this on the design.

D3m

Work with information that may be incomplete or uncertain, quantify the effect of this on the design and, where appropriate, use theory or experimental research to mitigate deficiencies

D4

Apply advanced problem-solving skills, technical knowledge and understanding, to establish rigorous and creative solutions that are fit for purpose for all aspects of the problem including production, operation, maintenance and disposal.

D5

Plan and manage the design process, including cost drivers, and evaluate outcomes.

D6

Communicate their work to technical and non-technical audiences.

D7m

Demonstrate wide knowledge and comprehensive understanding of design processes and methodologies and the ability to apply and adapt them in unfamiliar situations

D8m

Demonstrate the ability to generate an innovative design for products, systems, components or processes to fulfil new needs

8.4 Employment related skills (Economic, Legal, Social, Ethical, Environmental)

Employment related skills in Civil Engineering and Coastal Engineering areas include *Economic, Legal, Social, Ethical, Environmental awareness*. Both civil and coastal engineering activity can have impacts on the environment, on commerce, on society and on individuals. On successful completion, Civil & Coastal Engineering graduates should possess the skills to manage their activities and to be aware of the various legal and ethical constraints under which they should operate, including:

EL1

Understanding of the need for a high level of professional and ethical conduct in engineering and a knowledge of professional codes of conduct.

EL1m

Understanding of the need for a high level of professional and ethical conduct in engineering, a knowledge of professional codes of conduct and how ethical dilemmas can arise.

EL2

Knowledge and understanding of the commercial, economic and social context of Civil and Coastal Engineering processes.

EL3b

Knowledge and understanding of management techniques, including project management, that may be used to achieve engineering objectives.

EL3m

Knowledge and understanding of management techniques, including project and change management, that may be used to achieve engineering objectives, their limitations, and how they may be applied appropriately.

EL4

Understanding of the requirement for engineering activities to promote sustainable development and ability to apply quantitative techniques where appropriate.

EL5b

Awareness of relevant legal requirements governing engineering activities, including personnel, health & safety, contracts, intellectual property rights, product safety and liability issues.

EL5m

Awareness of relevant legal requirements governing engineering activities, including personnel, health & safety, contracts, intellectual property rights, product safety and liability issues, and an awareness that these may differ internationally.

EL6b

Knowledge and understanding of risk issues, including health & safety, environmental and commercial risk, and of risk assessment and risk management techniques.

EL6m

Knowledge and understanding of risk issues, including health and safety, environmental and commercial risk, risk assessment and risk management techniques and an ability to evaluate commercial risk.

EL7m

Understanding of the key drivers for business success, including innovation, calculated commercial risks and customer satisfaction

8.5 Practical Skills

'Practical Skills' in Civil Engineering and Coastal Engineering relate to the practical application of skills gained, combining theory and experience, and the use of relevant knowledge and competences in *Engineering Practice*. On successful completion Civil Engineering graduates should have developed:

P1

Understanding of contexts in which engineering knowledge can be applied (for example operations and management, application and development of technology, etc.)

P2b

Knowledge of characteristics of particular materials, equipment, processes or products.

P2m

Knowledge of characteristics of particular equipment, processes or products, with extensive knowledge and understanding of a wide range of Civil & Coastal Engineering materials and components

P3

Ability to apply relevant practical and laboratory skills.

P4

Understanding of the use of technical literature and other information sources.

P5

Knowledge of relevant legal and contractual issues.

P6

Understanding of appropriate codes of practice and industry standards.

P7

Awareness of quality issues and their application to continuous improvement.

P8

Ability to work with technical uncertainty.

P9m

A thorough understanding of current practice and its limitations, and some appreciation of likely new developments

P10m

Ability to apply engineering techniques taking account of a range of commercial and industrial constraints

P11b

Understanding of, and the ability to work in, different roles within an engineering team.

P11m

Understanding of different roles within an engineering team and the ability to exercise initiative and personal responsibility, which may be as a team member or leader

8.6 Additional General Skills

On successful completion, Civil & Coastal Engineering graduates must have developed transferrable skills, and competences, that will be of value in a wide range of employment situations. These should include the ability to:

G1

Apply their skills in problem solving, communication, information retrieval, working with others and the effective use of general IT facilities.

G2

Plan self-learning and improve performance, as the foundation for lifelong learning/CPD.

G3b

Plan and carry out a personal programme of work, adjusting where appropriate.

G3m

Monitor and adjust a personal programme of work on an on-going basis.

G4

Exercise initiative and personal responsibility, which may be as a team member or leader.

9. Admissions Criteria for MEng (Hons) Civil & Coastal Engineering

All applicants must have GCSE (or equivalent) Maths and English at Grade C or above.

A Level

Offers will be made in the range 120 to 136 points, depending on predicted A-level grades. A minimum of 2 A Levels is required, and should include grade B in A-Level Maths. While Maths is the primary A-level requirement, applicants must also be studying a second relevant subject (see second subject list below). An A Level in the 'Use of Maths' is NOT accepted in lieu of Maths but is acceptable as a second subject. (ii) General studies is not accepted. If no second science/technology subject has been taken, applicants need to contact the Admissions Tutor.

BTEC

BTEC QCF Level 3 or RQF Extended Diploma in Engineering (equivalent to 3 GCE A levels) is accepted for the MEng course provided it is in combination with an A level. BTEC level DDD (to include all Maths units with Distinction) must be achieved, plus Grade C in A Level Maths (Core Maths is not accepted).

Access to HE (in Engineering or Mathematics)

This is not acceptable as a stand-alone qualification, but can accept as 'add-on' points, provided the applicant has relevant Maths qualification

International Baccalaureate

30-32 points overall is required. This must include 5 at Higher Level Maths, and a second relevant science/technology based subject (see second subject list below). Standard Level Maths is NOT acceptable in lieu of Higher Level. English is accepted within IB at Higher Level (4) or Standard Level (5). If the applicant is from overseas and not studying English within IB, they must have IELTS: 6.0 overall, with 5.5 in each element.

European Baccalaureate

A mark of 78% overall is required, and must include 8.5 in Mathematics and 7.5 in English or other language.

Irish Highers

Grades must be achieved in 6 subjects of at least H1 H2 H2 H2 H3 H3, including Maths, plus a second relevant subject (see second subject list below). Maths and English must be achieved at O1-O4 (GCSE equivalent) or H1-H7.

Welsh Baccalaureate

Not acceptable as a stand-alone qualification, but can accept as 'add-on' points, provided the applicant has relevant Maths qualification.

Scottish Qualifications Authority Highers

Applicants must achieve an equivalent of 120 UCAS points, including Higher level maths, and an equivalent of grade C in a relevant second subject (see second subject list below).

Greek Apolyterion

Pass 18.5/20 overall, including 18.5 in Maths and a pass (10) in a second relevant subject (see second subject list below). Students must achieve an IELTS score of 6.0.

List of Acceptable second subjects

- Applied ICT
- Applied Science
- Applied Science (DA)
- Biology
- Chemistry
- Computing
- Design and Technology (Product Design Resistant Materials)
- Design and Technology (Systems & Control Technology)
- Design and Technology Product Design (Textiles Technology)
- Electronics
- Engineering
- Environmental Science
- Geography
- Geology
- Further Maths/Use of Maths
- Statistics
- Music Technology
- Physics
- Technology & Design

Direct Entry

Direct entry to Stage 2 or Stage 4 is possible, provided that previous equivalent study at the appropriate levels can be demonstrated to the satisfaction of the Programme Manager.

10. Progression criteria for Final and Intermediate Awards

- 120 credits at Level 4 are required for the award of Certificate of Higher Education (CertHE).
- 120 credits at Level 4 plus 120 credits at Level 5 are required for the award of Diploma of Higher Education (DipHE).

- The award of BEng (Hons) Civil and Coastal Engineering requires achievement in 360 credits, of which 120 are at Level 4, 120 are at Level 5, and 120 are at Level 6. Where a student does not achieve 360 credits, but achieves 320 credits, then a BEng degree can be awarded.

The Honours classification follows the standard University Regulations for Bachelors' Degrees with weightings as follows:

Level 4 (Stage 1): 10% (from the best 80 credits)

Level 5 (Stage 2): 30%

Level 6 (Stage 4): 60%

- The award of MEng (Hons) Civil and Coastal Engineering will be awarded to a student who has achieved 480 credits, of which 120 are at Level 4, 120 at Level 5, 120 at Level 6, and 120 at Level 7.

In this case, the Honours classification would follow the standard University Regulations for Integrated Master's Degrees with weightings as follows:

Level 4 (Stage 1): 10% (from the best 80 credits)

Level 5 (Stage 2): 20%

Level 6 (Stage 4): 30%

Level 7 (Stage 5): 40%

Transfer Routes

Stage 1 is common to a suite of BEng (Hons) and MEng (Hons) programmes. Students who achieve 120 credits at Stage 1 would normally progress to Stage 2 of their chosen programme but, if they wish, they could transfer to a different programme in the suite with the agreement of the Programme Manager(s).

Students on the MEng (Hons) programme are expected to achieve a minimum weighted average grade of 60% at each Stage. Students who do not achieve this standard may be advised to transfer to the same named BEng (Hons) programme.

Students on the MEng (Hons) programme who wish to leave the programme early, and exit with a BEng (Hons) award, should transfer to the same named BEng (Hons) programme by Easter in Stage 4. Students on Stage 5 of the MEng (Hons) programme who wish to leave the programme early, and exit with a BEng (Hons) award, will need to withdraw from the programme.

11. Exceptions to Regulations

There are a number of exceptions to the standard University Assessment Regulations in order to satisfy the professional accreditation requirements of the Joint Board of Moderators (JBM).

The following summarises the key exceptions:

- The minimum pass mark for an assessment element in levels 4 and 5 and 6 modules is 30% (or 40% at level 7).
- Up to 20 credits (ie. one module here) can be 'compensated' (allow marginal failure but award credit) in Stage 1 modules provided the overall module mark is at least 30%.

12. Part-time study

There will be no specific provision for part-time study (eg. 'day release'). However, students will be able to study one year of the full-time course over 3 years, typically requiring attendance for 2 half-days per week.

13. Transitional Arrangements

Students who need to repeat modules, possibly as a result of non-achievement, that become un-available at the time of course change (2019-20, or 2020-21) will be given the most appropriate equivalent module(s) from the new programme (see table below).

MEng/BEng Civil and Coastal Engineering Referral Modules reference table

	If this module is failed...		...repeat with this module	
Year 1	CIVL103	Civil Engineering Practice	ENGR101	Engineering Design
	SURV100	Civil Engineering Surveying	ENGR102	Engineering Practice
	CIVL104	Introduction to Hydraulics and Geotechnics	ENGR103	Engineering Science
	MATH187	Engineering Mathematics	ENGR104	Engineering Mathematics
	STAD117	Structural Analysis and Design 1	ENGR105	Eng'ng Mechanics & Structures
	MATS123	Materials for Civil Engineering and Construction	ENGR106	Engineering Materials
Year 2	CIVL200	Civil Eng'ng Design and Construction	CIVL201	Civil Engineering Practice
	STAD215	Structural Analysis & Design 2	STAD200	Structural Analysis & Design 1
	MATH238	Engineering Analysis	MATH200	Engineering Analysis
	MGMT222	Construction Management	MGMT223	Construction Management
	GEEN213	Geotechnical Engineering	GEEN200	Geotechnical Engineering 1
	HYFM232	Hydraulic Coastal Engineering	HYFM200	Hydraulic & Coastal Engineering
Year 3	PRCE310	Individual Project	PRCE300	Individual Project
	HYFM321	Hydraulic Engineering 2	HYFM300	Water Engineering
	COUE318	Coastal Engineering Analysis and Design	STAD300	Structural Analysis & Design 2
	GEEN313	Civil Engineering Practice	GEEN314	Geotechnical Engineering 2
	COUE319	Coastal Engineering Design Project	COUE300	Coastal Eng'ng Analysis & Design
Year 4	GEEN501	Advanced Geotechnical Engineering	GEEN502	Advanced Geotechnical Engineering
	MGMT504	Engineering Business Management	ENBS542	Project Managemnt & Prof. Practice
	COUE506	Port & Harbour Engineering	COUE506	Port & Harbour Engineering
	HYFM504	Advanced Hydraulic Engineering	HYFM501	Advanced Hydraulic Engineering
	PRCE513	Interdisciplinary Design	PRCE508	Interdisciplinary Design Project
	MATH511	Advanced Engineering Analysis	CIVL500	Finite Element Modelling & Analysis

14. Mapping and Appendices:

14.1 ILOs against Modules Mapping

See Appendix A.

Appendix A: MEng Civil & Coastal Engineering Learning Outcome maps 1 of 3

2020-2021

		Year 1						Year 2						Year 3					Year 4							
		ENGR105 (Eng Mechanics & Structures)	ENGR101 (Eng Design)	ENGR103 (Eng Science)	ENGR106 (Eng Materials)	ENGR102(Eng Practice & Exp'tl Techniques)	ENGR104(Eng Maths)	STAD215 (Structures)	GEEN213 (Geotechnics)	HYFM232 (Hydraulics)	MGMT223 (Management)	CIVL200 (Design and Const.)	MATH200 (Eng Analysis)	STAD300 (Structures)	COUE300 (Coastal Design)	GEEN314 (Geotechnics)	HYFM300 (Hydraulics)	PRCE300 (Individual Project)	COUE506 (Port & Harbour)	MATH511 (Anlysis & Model)	GEEN502 (Geotechnics)	HYFM501 (Hydraulics)	ENBS542 (Proj. Managemnt)	PRCE508 (Interdisciplinary Design Project)		
Credits	Comp?	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	40	20	20	20	20	20	20		
		Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
8.1 Knowledge & Understanding	SM1b	1		1	1	1		SM1b	1	1	1			SM1b	1		1	1		SM1b	1		1	1		
	SM1m	1		1	1	1		SM1m						SM1m	1		1	1		SM1m	1		1	1		
	SM2b	1		1			1	SM2b					1	SM2b						SM2b		1	1	1		
	SM2m	1		1			1	SM2m					1	SM2m						SM2m		1	1	1		
	SM3b	1			1			SM3b			1			SM3b						SM3b						1
	SM3m	1			1			SM3m						SM3m						SM3m						1
	SM4m						1	SM4m						SM4m						SM4m	1		1	1		
	SM5m							SM5m						SM5m						SM5m		1	1	1		
SM6m							SM6m						SM6m						SM6m					1	1	
8.2 Cognitive & Intellectual Skills	EA1b	1	1	1	1	1		EA1b	1	1	1			EA1b	1		1	1		EA1b	1		1	1		
	EA1m	1		1	1	1		EA1m						EA1m						EA1m	1		1	1		
	EA2	1			1		1	EA2	1	1	1		1	EA2	1		1	1		EA2		1	1	1		
	EA3b	1		1		1	1	EA3b	1	1	1		1	EA3b						EA3b	1		1	1		
	EA3m	1		1		1	1	EA3m					1	EA3m						EA3m	1		1	1		
	EA4		1					EA4						EA4		1				EA4						1
	EA5m							EA5m						EA5m						EA5m	1		1	1		
	EA6m					1		EA6m					19	EA6m						EA6m	1		1	1		

Appendix A: MEng Civil & Coastal Engineering Learning Outcome maps 2 of 3

2020-2021

		Year 1						Year 2						Year 3					Year 4							
		ENGR105 (Eng Mechanics & Structures)	ENGR101 (Eng Design)	ENGR103 (Eng Science)	ENGR106 (Eng Materials)	ENGR102 (Eng Practice & Exp'tl Techniques)	ENGR104 (Eng Maths)	STAD215 (Structures)	GEEN213 (Geotechnics)	HYFM232 (Hydraulics)	MGMT223 (Management)	CIVL200 (Design and Const.)	MATH200 (Eng Analysis)	STAD300 (Structures)	COUE300 (Coastal Design)	GEEN314 (Geotechnics)	HYFM300 (Hydraulics)	PRCE300 (Individual Project)	COUE506 (Port & Harbour)	MATH511 (Analysis & Model)	GEEN502 (Geotechnics)	HYFM501 (Hydraulics)	ENBS542 (Proj. Managemnt)	PRCE508 (Interdisciplinary Design Project)		
Credits		20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	40	20	20	20	20	20	20		
Comp?		Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
8.3 Key & Transferable Skills	D1		1					D1			1			D1		1				D1						1
	D2		1					D2			1	1		D2		1				D2						1
	D3b		1					D3b						D3b		1				D3b						1
	D3m		1					D3m						D3m						D3m						1
	D4		1					D4			1	1		D4		1				D4						1
	D5		1		1			D5			1			D5		1				D5						1
	D6		1		1			D6			1			D6		1				D6						1
	D7m		1					D7m						D7m						D7m						1
D8m		1					D8m						D8m						D8m						1	
8.4 Employment Related Skills	EL1		1					EL1			1			EL1		1				EL1					1	1
	EL1m		1					EL1m			1			EL1m		1				EL1m					1	1
	EL2		1					EL2			1			EL2		1				EL2					1	1
	EL3b							EL3b			1			EL3b		1				EL3b					1	1
	EL3m							EL3m			1			EL3m		1				EL3m					1	1
	EL4		1		1			EL4			1			EL4		1				EL4					1	1
	EL5b							EL5b			1	1		EL5b						EL5b					1	1
	EL5m							EL5m			1		20	EL5m						EL5m					1	1
	EL6b							EL6b			1	1		EL6b		1				EL6b					1	1
	EL6m							EL6m			1			EL6m		1				EL6m					1	1
EL7m							EL7m			1			EL7m						EL7m					1	1	

Appendix A: MEng Civil & Coastal Engineering Learning Outcome maps 3 of 3

2020-2021

		Year 1						Year 2						Year 3					Year 4																												
		ENGR105 (Eng Mechanics & Structures)		ENGR101 (Eng Design)		ENGR103 (Eng Science)		ENGR106 (Eng Materials)		ENGR102 (Eng Practice & Exp'tl Techniques)		ENGR104 (Eng Maths)		STAD215 (Structures)		GEEN213 (Geotechnics)		HYFM232 (Hydraulics)		MGMT223 (Management)		CIVL200 (Design and Const.)		MATH200 (Eng Analysis)		STAD300 (Structures)		COUE300 (Coastal Design)		GEEN314 (Geotechnics)		HYFM300 (Hydraulics)		PRCE300 (Individual Project)		COUE506 (Port & Harbour)		MATH511 (Analysis & Model)		GEEN502 (Geotechnics)		HYFM501 (Hydraulics)		ENBS542 (Proj. Management)		PRCE508 (Interdisciplinary Design Project)	
Credits		20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	40	20	20	20	20	20	20																							
Comp?		Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N																							
8.5 Practical Skills	P1			1	1			P1						P1	1		1	1		P1	1		1	1																							
	P2b	1			1	1		P2b				1		P2b						P2b																											
	P2m					1		P2m				1		P2m						P2m																											
	P3		1			1		P3				1		P3						P3																											
	P4				1	1		P4	1	1	1			P4					1	P4																											
	P5							P5			1	1		P5						P5					1																						
	P6		1			1		P6						P6	1		1	1		P6																											
	P7							P7			1	1		P7						P7					1																						
	P8		1					P8						P8	1		1	1		P8	1		1	1																							
	P9m							P9m						P9m						P9m	1		1	1																							
	P10m							P10m						P10m						P10m					1	1																					
	P11b		1			1		P11b				1		P11b		1				P11b						1																					
	P11m		1					P11m				1		P11m		1				P11m						1																					
8.6 General skills	G1		1					G1	1	1	1	1		G1	1		1	1	1	G1					1	1																					
	G2					1		G2				1		G2					1	G2					1	1																					
	G3b							G3b				1	1	G3b		1				G3b					1	1																					
	G3m							G3m				1	21	G3m		1				G3m					1	1																					
	G4		1			1		G4				1		G4		1				G4																											

