



**UNIVERSITY  
CENTRE**  
SOUTH DEVON

**IN  
PARTNERSHIP  
WITH  
PLYMOUTH  
UNIVERSITY**

# **PROGRAMME QUALITY HANDBOOK 2017-18**

## **BSc (Hons) Civil Engineering**

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# 1. Welcome and Introduction to BSc (Hons) Civil Engineering

Welcome to the BSc (Hons) Civil Engineering delivered at University Centre South Devon College.

**Study:** This programme exists as a progression route for students who have studied up to level-5 (FdSc, HND or DipHE) on a Civil Engineering programme, or for those who may follow Plymouth University's regulations for Accredited Prior Learning<sup>1</sup>. Study may be part-time or full-time, and will include half of the programme being delivered at Plymouth University, Drakes Circus, Plymouth, PL4 8AA.

**Location:** Half (60 credits) of this level-6 (final year) top-up will be delivered from South Devon College's University Centre South Devon, Long Road, Paignton, TQ4 7EJ. Module Soud3045, Work Based Project Management, consists of a proportion of learning through delivered sessions at the College; however, the work based learning element will be held at an address as provided by the employer. Where full-time students, not in suitable employment, require work based learning experience this will be facilitated by the College through liaison with industry. Where suitable experience cannot be attained within industry the college will look to provide suitable simulated experience provided directly on campus.

**Course Focus:** Focus is on flexibility of delivery with a bias towards leadership and management disciplines within the civil engineering sector. The programme will also provide an opportunity for employers to 'up skill' their employees from a level 5 to a level 6 by studying part-time. It also aims to meet the need of local employers who are looking for skilled technical engineers that have inter-disciplinary management and leadership skills.

This programme has been designed to equip you with the skills and knowledge base required to work in your chosen specialism or other graduate opportunities. It is also a platform from which you can undertake additional vocational and academic qualifications.

This Programme Quality handbook contains important information including:  
The approved programme specification  
Module records

Note: The information in this handbook should be read in conjunction with the current edition of:

- Your Institution & University Student Handbook which contains student support based information on issues such as finance and studying at HE
  - o Available in University News & Information on Moodle.
- Plymouth University's Student Handbook
  - o available at:

<https://www.plymouth.ac.uk/your-university/governance/student-handbook>

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<sup>1</sup> <https://www.plymouth.ac.uk/student-life/your-studies/essential-information/regulations>

## 2. Programme Specification

### **Plymouth University**

Academic Partnerships

Delivering Institutions:

South Devon College

### **Programme Specification**

BSc (Hons) Civil Engineering<sup>2</sup>

SDC F/T: 6055

SDC F/T: 6056

Date: September/2017

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<sup>2</sup> Level-6 only top-up. The honours project and one technical module (total = 60 credits) to be delivered by the School of Engineering, Faculty of Science and Engineering, Plymouth University  
2016 – 2017 Edition

## 1. BSc (Hons)

**Final award title: BSc (Hons) Civil Engineering**

**Level 6 Intermediate award title: BSc Civil Engineering (ordinary degree)**

**UCAS code: 141C**

**JACS code: H200**

**2. Awarding Institution: University of Plymouth**

**Teaching institutions:<sup>3</sup>**

- **South Devon College**
- **Plymouth University**

## 3. Accrediting body(ies)

This BSc (Hons) Civil Engineering (top-up) is not in itself an accredited programme.

Graduates from this BSc (Hons) Civil Engineering programme wishing to apply as individuals for Incorporated Engineer (IEng) accreditation are guided to the Engineering Council:

<http://www.engc.org.uk/ieng>

Summary of specific conditions/regulations

The following module, delivered by the School of Engineering, Plymouth University, being part of the accredited BEng (Hons) Civil Engineering programme, the pass requirements differ to the other modules:

- STAD324: has a pass requirements of 35% in each element of assessment with overall mark of 40%. The module is non-compensatable and every single assessment must receive a minimum of 25%.

Date of re-accreditation: 2020/21 for the BEng (Hons) Civil Engineering

## 4. Distinctive Features of the Programme and the Student Experience

**Study:** This programme exists as a progression route for students who have studied up to level-5 (FdSc, HND or DipHE) on a Civil Engineering programme, or for those who may follow Plymouth University's regulations for Accredited Prior Learning<sup>4</sup>. Study may be part-time or full-

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<sup>3</sup> The approval produced two almost identical programmes for both City College Plymouth and South Devon College. These both have their own programme codes, college modules and programme specifications.

<sup>4</sup> <https://www.plymouth.ac.uk/student-life/your-studies/essential-information/regulations>

time, and will include half of the programme being delivered at Plymouth University, Drakes Circus, Plymouth, PL4 8AA.

**Location:** Half (60 credits) of this level-6 (final year) top-up will be delivered from South Devon College's University Centre South Devon, Long Road, Paignton, TQ4 7EJ. Module SOUD3045, Work Based Project Management, consists of a proportion of learning through delivered sessions at the College; however, the work based learning element will be held at an address as provided by the employer. Where full-time students, not in suitable employment, require work based learning experience this will be facilitated by the College through liaison with industry. Where suitable experience cannot be attained within industry the college will look to provide suitable simulated experience provided directly on campus.

**Course Focus:** Focus is on flexibility of delivery with a bias towards leadership and management disciplines within the civil engineering sector. The programme will also provide an opportunity for employers to 'up skill' their employees from a level 5 to a level 6 by studying part-time. It also aims to meet the need of local employers who are looking for skilled technical engineers that have inter-disciplinary management and leadership skills.

## 5. Relevant QAA Subject Benchmark Group(s)

- QAA Subject Benchmark Statement Engineering February 2015
- Engineering Council Accreditation of Higher Education Programmes: UK Standards for Professional Engineering Competence, Third Edition, 2016

## 6. Programme Structure

BSc (Hons) Civil Engineering Level-6 Top-Up								
Full Time South Devon College				Assessment % (or Pass/Fail)				
Code	Title	Cr edi ts	When/Whe re	E 1	T 1	C1	P 1	
PRCE3 10	Individual Project	40	All Year, semester 1 & 2 (PU)			10 0%		
STAD3 24	Structural Engineering 4	20	Semester 2 (PU)		5 0 %	50 %		
SOUD 3044	Leadership and Enterprise in Civil Engineering	20	Semester 1, SDC			50 %	5 0 %	
SOUD 3045	Work Based Project Management	20	All Year, SDC			50 %	5 0 %	

SOUND 3046	Professional Development and the Contemporary Civil Engineering Sector	20	Semester 2, SDC			50 %	5 0 %	
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<b>BSc (Hons) Civil Engineering Level-6 Top-Up</b>								
<b>Part Time South Devon College</b>				<b>Assessment % (or Pass/Fail)</b>				
Code	Title	Cr edi ts	When/Whe re	E 1	T 1	C1	P 1	
SOUND 3044	Leadership and Enterprise in Civil Engineering	20	Yr 1, Semester 1, SDC			50 %	5 0 %	
SOUND 3045	Work Based Project Management	20	Yr 1, All Year, SDC			50 %	5 0 %	
SOUND 3046	Professional Development and the Contemporary Civil Engineering Sector	20	Yr 1, 2 <sup>nd</sup> Semester, SDC			50 %	5 0 %	
STAD3 24	Structural Engineering 4	20	Yr 2 Semester 2 (PU)		5 0 %	50 %		
PRCE3 10	Individual Project	40	Yr 2, All Year, (PU)			10 0%		

## 7. Programme Aims

To provide structured teaching, learning and assessment to enable students' development to be assessed in line with their<sup>5</sup>:

Aim 1. use of logical and practical steps within a pragmatic and systematic approach to turn, often complex, concepts into reality

Aim 2. flexible use of their skills, knowledge and understanding to develop strategies for creative and innovative approaches to civil engineering problem solving and the seeking of sustainable solutions

Aim 3. use of numerical, computational, analytical and technical skills and appropriate tools to both describe and build existing and infer and develop potential engineering solutions

<sup>5</sup> Closely paraphrased from: QAA Subject Benchmark Engineering, February 2015, section 3 'The characteristics of engineering graduates'

- Aim 4. awareness of ethical, social, cultural, environmental, health and safety, and wider professional responsibilities such as engagement with developing technologies, including being risk, cost and value-conscious
- Aim 5. familiarity of the nature of business and enterprise in their economic and social value, and appreciation of the global dimensions of civil engineering, commerce and communication
- Aim 6. ability to formulate and operate within appropriate codes of conduct, when faced with an ethical issue
- Aim 7. Industry focused transferable skills, including team working, communication and their exercising of responsibility and sound management approaches, and their reflection on how these contribute to the work-place and wider industry.

## 8. Programme Intended Learning Outcomes

### Knowledge and Understanding:

**ILO #1. Science and Mathematics:** directly using the Engineering Council definitions for degrees accredited for IEng registration<sup>6</sup>, students will need to have evidenced:

- 1.1 Knowledge and understanding of scientific principles underpinning relevant current technologies, and their evolution
- 1.2 Knowledge and understanding of mathematics and an awareness of statistical methods necessary to support application of key engineering principles.

**ILO #2. Economic, Legal, Social, Ethical and Environmental Context:** directly using the Engineering Council definitions for degrees accredited for IEng registration, students will need to have evidenced:

- 2.1 Understanding of the need for a high level of professional and ethical conduct in engineering and a knowledge of professional codes of conduct
- 2.2 Knowledge and understanding of the commercial, economic and social context of engineering processes
- 2.3 Knowledge of management techniques that may be used to achieve engineering objectives
- 2.4 Understanding of the requirement for engineering activities to promote sustainable development
- 2.5 Awareness of relevant legal requirements governing engineering activities, including personnel, health & safety, contracts, intellectual property rights, product safety and liability issues
- 2.6 Awareness of risk issues, including health & safety, environmental and commercial risk.

### Cognitive and Intellectual Skills:

**ILO #3. Engineering Analysis:** directly using the Engineering Council definitions for degrees accredited for IEng registration, students will need to have evidenced:

- 3.1 Ability to monitor, interpret and apply the results of analysis and modelling in order to bring about continuous improvement

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<sup>6</sup> Engineering Council Accreditation of Higher Education Programmes: UK Standards for Professional Engineering Competence, Third Edition, 2016



- 3.2 Ability to apply quantitative methods in order to understand the performance of systems and components
- 3.3 Ability to use the results of engineering analysis to solve engineering problems and to recommend appropriate action
- 3.4 Ability to apply an integrated or systems approach to engineering problems through know-how of the relevant technologies and their application.

### Key Transferable Skills:

- ILO #4. Additional General Skills:** directly using the Engineering Council definitions for degrees accredited for IEng registration, students will need to have evidenced the following skills in addition to those general skills included in other learning outcomes:
- 4.1 Apply their skills in problem solving, communication, information retrieval, working with others and the effective use of general IT facilities
  - 4.2 Plan self-learning and improve performance, as the foundation for lifelong learning/CPD
  - 4.3 Plan and carry out a personal programme of work
  - 4.4 Exercise personal responsibility, which may be as a team member

### Employment Related Skills:

- ILO #5. Design:** directly using the Engineering Council definitions for degrees accredited for IEng registration, students will need to employ the following Knowledge and Understanding, Cognitive Skills, Key Transferable Skills in order to evidence the Employment Related engineering skills that result in the creation and development of an economically viable product, process or system to meet a defined need:
- 5.1 Be aware of business, customer and user needs, including considerations such as the wider engineering context, public perception and aesthetics
  - 5.2 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
  - 5.3 Work with information that may be incomplete or uncertain and be aware that this may affect the design
  - 5.4 Apply problem-solving skills, technical knowledge and understanding to create or adapt design solutions that are fit for purpose including operation, maintenance, reliability etc
  - 5.5 Manage the design process, including cost drivers, and evaluate outcomes
  - 5.6 Communicate their work to technical and non-technical audiences.

### Practical Skills:

- ILO #6. Engineering Practice:** directly using the Engineering Council definitions for degrees accredited for IEng registration, students will need to employ knowledge and skills to evidence their practical application of engineering skills in the field of civil engineering. The types of knowledge, understanding and skills *can* include:
- 6.1 *Knowledge of contexts in which engineering knowledge can be applied (eg operations and management, application and development of technology, etc)*
  - 6.2 *Understanding of and ability to use relevant materials, equipment, tools, processes, or products*
  - 6.3 *Knowledge and understanding of workshop and laboratory practice*
  - 6.4 *Ability to use and apply information from technical literature*
  - 6.5 *Ability to use appropriate codes of practice and industry standards*
  - 6.6 *Awareness of quality issues and their application to continuous improvement*
  - 6.7 *Awareness of team roles and the ability to work as a member of an engineering team.*

## 9. Admissions Criteria, including APCL, APEL and DAS arrangements

**NB The following table is a draft exemplar for an undergraduate programme**

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

<b>Entry Requirements for BSc (Hons) Civil Engineering (level-6 only top-up)</b>	
A-level/AS-level	N/A
BTEC National Diploma/QCF Extended Diploma	N/A
Access to Higher Education at level 3	N/A
Welsh Baccalaureate	N/A
Scottish Qualifications Authority	N/A
Irish Leaving Certificate	N/A
International Baccalaureate	N/A
Progression from Extended Science	N/A
Progression from Level-5 Study	<p>Progression is approved for students who successfully achieve the following programmes at either City College Plymouth or South Devon College:</p> <ul style="list-style-type: none"> <li>- FdSc Civil Engineering (City College Plymouth)</li> <li>- FdSc Civil and Coastal Engineering (South Devon College)</li> </ul> <p>Students may also apply from other level 5 programmes. These will be considered by admissions tutors on individual merit.</p>
APEL/APCL <sup>7</sup>	<p>APEL/APCL will be considered as per Plymouth University regulations, which includes the possibility to APL 240 credits against a 360 credit BSc (Hons) degree. For mapping, learning outcomes should be considered against the LOs of CCP and SDC's Fd programmes listed above.</p>

## 10. Progression criteria for Final and Intermediate Awards

<sup>7</sup> Accredited Prior Learning and Accredited Prior Certificated Learning  
2016 – 2017 Edition

Relevant programmes within Plymouth University's partnership may seek progression into this programme through formal minor change request. The resultant progression agreement will be held with each Foundation Degree or HND. Careful consideration will follow due process in reviewing the content of each programme.

## **11. Exceptions to Regulations**

Stad324 and Prce310, have existing exceptions to regulations on their pass requirements. Accreditation required 35% in each element of assessment with an overall pass of 40%. Stad324 is non-compensatable; with, a minimum of 25% required in each individual assessment.

## **12. Transitional Arrangements**

**N/A**

## **13. Mapping and Appendices:**

### **13.1. ILO's against Modules Mapping (Template attached)**

**13.2. Assessment against Modules Mapping**  
**Provided within the structure diagrams above**

**13.3. Skills against Modules Mapping**  
**Combined in the single map below**

### **13.4. Appendices**

Appendix – Learning Outcomes map

LEVEL 4				
FHEQ Descriptors	Subject Benchmark(s)	Programme Aims	Programme Outcomes	Core Modules linked to outcomes
<p><b><i>Students will have demonstrated:</i></b>            Knowledge of the underlying concepts and principles associated with their areas of study;</p> <p>Ability to evaluate and interpret these within the context of that area of study;</p> <p>Ability to present, evaluate and interpret qualitative and quantitative data;</p>	<p>QAA Subject Benchmark Statement Engineering February 2015</p> <p>N.B. Due to alignment with IEng accreditation, This programme's ILOs are directly taken from:            Engineering Council Accreditation of Higher Education Programmes: UK Standards for Professional Engineering Competence, Third Edition, 2016</p> <p>Therefore for mapping purposes please refer simply to the Programme Outcomes column</p>			
<p><b><i>Students will be able to:</i></b>            Evaluate the appropriateness of different approaches to solving problems related to their area of study;</p>				

	LEVEL 4			
FHEQ Descriptors	Subject Benchmark(s)	Programme Aims	Programme Outcomes	Core Modules linked to outcomes
Communicate the results of their study accurately and reliably and with structured and coherent argument				
Undertake further training and develop new skills within a structured and managed environment				
<b><i>Students will also have:</i></b> The qualities and transferable skills necessary for employment requiring the exercise of some personal responsibility				

LEVEL 5

FHEQ Descriptors	Subject Benchmark(s)	Programme Aims	Programme Outcomes	Core Modules linked to outcomes
<p><b><i>Students will have demonstrated:</i></b>                      Knowledge and critical understanding of the well-established principles of their area of study and the way in which those principles have developed;</p> <p>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;</p> <p>Knowledge of the main methods of enquiry in the subject relevant to the named award, and ability to evaluate critically the appropriateness of different approaches to solving problems in the field of study;</p> <p>An understanding of the limits of the</p>				

LEVEL 5				
FHEQ Descriptors	Subject Benchmark(s)	Programme Aims	Programme Outcomes	Core Modules linked to outcomes
<p>knowledge, and how this influences analyses and interpretations based on that knowledge</p>				
<p><b><i>Students will be able to:</i></b></p> <p>Use a range of established techniques to initiate and undertake critical analysis of information, and to propose solutions to problems arising from that analysis;</p> <p>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;</p> <p>Undertake further training, develop existing skills and acquire new competences that will enable them to assume significant responsibility</p>				

LEVEL 5				
FHEQ Descriptors	Subject Benchmark(s)	Programme Aims	Programme Outcomes	Core Modules linked to outcomes
within organisations.				
<p><b><i>Students will also have:</i></b></p> <p>The qualities and transferable skills necessary for employment requiring the exercise of personal responsibility and decision-making</p>				



LEVEL 6				
FHEQ Descriptors	Subject Benchmark(s)	Programme Aims	Programme Outcomes	Core Modules linked to outcomes
<p><b>Students will have demonstrated:</b> A systematic understanding of key aspects of their 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;</p> <p>An ability to deploy accurately established techniques of analysis and enquiry within a discipline;</p> <p>Conceptual understanding to enable them to (a) devise and sustain arguments and/or solve problems, using ideas and techniques, some of which are at</p>	<p>Due to alignment with IEng accreditation:</p> <p>This programme's aims are closely paraphrased from the QAA Subject Benchmark Statement Engineering February 2015</p> <p>And its ILOs directly taken from the Engineering Council Accreditation of Higher Education Programmes: UK Standards for Professional Engineering Competence, Third Edition, 2016</p> <p>Therefore for mapping purposes please refer simply to the Aims</p>	<p><b><u>K&amp;U and its use underpins all of the Programme Aims.</u></b></p> <p><b><u>Specific acquisition of K&amp;U aligns with the aims:</u></b></p> <p>Aim 4. awareness of ethical, social, cultural, environmental, health and safety, and wider professional responsibilities including being risk, cost and value-conscious</p> <p>Aim 5. familiarity of the nature of business and enterprise in their economic and social value, and appreciation of the global dimensions of civil engineering, commerce and</p>	<p>ILO #1: Science and Mathematics: <u>All ALOs</u></p> <p>ILO #2: Economic, Legal, Social, Ethical and Environmental Context: <u>All ALOs</u></p> <p>ILO #3: Engineering Analysis: <u>3.2, 3.3 &amp; 3.4</u></p> <p>ILO #4: Additional General Skills: <u>4.2, 4.3 &amp; 4.4</u></p> <p>ILO #5: Design: <u>5.1, 5.2, 5.3, 5.4,</u></p> <p>ILO #6: Engineering Practice: <u>6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7</u></p>	<p>PRCE310 Individual Project (PU) ALO#s 1 (Demonstrate specialist engineering/discipline knowledge) 2 (Show knowledge and understanding of the methodological and ethical implications of their research method) 3 (Integrate their findings/conclusions within the context of the current state of art of civil engineering knowledge)</p> <p>STAD324 Structural Engineering 4 (PU) ALO#s 1 (Evaluate a structure and identify the principle structural elements ...) 2 (Assess the overall structure envelope in terms of stability, robustness, sensitivity and second order effects in line with the current codes of practice) 4 (Demonstrate an understanding of the significance of CDM and the role of the designer ...)</p> <p>College Module CITY3014/SOUD3</p>

LEVEL 6				
FHEQ Descriptors	Subject Benchmark(s)	Programme Aims	Programme Outcomes	Core Modules linked to outcomes
<p>the forefront of a discipline; (b) describe and comment upon particular aspects of current research or equivalent advanced scholarship in the discipline;</p> <p>An appreciation of the uncertainty, ambiguity and limits of knowledge; The ability to manage their own learning and to make use of scholarly reviews and primary sources;</p>	and Programme Outcomes columns	<p>communication</p> <p><b><u>Specific deployment, conceptual understanding and appreciation of the parameters of knowledge align with the aims:</u></b></p> <p>Aim 1. use of logical and practical steps within a pragmatic and systematic approach to turn, often complex, concepts into reality</p> <p>Aim 2. flexible use of their skills, knowledge and understanding to develop strategies for creative and innovative approaches to civil engineering problem solving and the seeking of</p>		<p>044 Leadership and Enterprise in Civil Engineering:</p> <p>1 Demonstrate critical knowledge and understanding of the breadth of sustainable, legislative, business leadership (including teams) and management (including quality) considerations appropriate to the Civil Engineering sector.</p> <p>2 Demonstrate critical knowledge and understanding of the breadth of contexts of the Civil Engineering sector, including professional conduct, the needs of its customers and environmental and commercial risk.</p>

LEVEL 6				
FHEQ Descriptors	Subject Benchmark(s)	Programme Aims	Programme Outcomes	Core Modules linked to outcomes
		<p>sustainable solutions</p> <p>Aim 3. use of numerical, computational, analytical and technical skills and appropriate tools</p> <p>Aim 6. ability to formulate and operate within appropriate codes of conduct, when faced with an ethical issue</p> <p>Aim 7. Industry focused transferable skills, including team working, communication and their exercising of responsibility and sound management approaches</p>		
			<p>ILO#3: Engineering Analysis: <u>all ALOs</u></p> <p>ILO#4: Additional General Skills:</p>	<p>PRCE310 Individual Project ALO#s 3 (Integrate their findings/conclusions within the context of the current state of art of civil</p>
		<p><b>Students will be able to:</b> Apply the methods and techniques that they have learned to review,</p>		

LEVEL 6				
FHEQ Descriptors	Subject Benchmark(s)	Programme Aims	Programme Outcomes	Core Modules linked to outcomes
<p>consolidate, extend and apply their knowledge and understanding, and to initiate and carry out projects;</p> <p>Critically evaluate arguments, assumptions, abstract concepts and data, to make judgements, and to frame appropriate questions to achieve a solution or a range of solutions to a problem;</p> <p>Communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.</p>			<p><u>ILO4.1,</u> <u>ILO4.4</u></p>	<p>engineering knowledge) 4 (Communicate their methodology, findings and conclusions through and extended written report)</p> <p>STAD324 Structural Engineering 4 (PU) ALO#s 1 (...perform an appropriate form of analysis to validate structure) 2 (Assess the overall structural envelope ...) 3 (Design a range of individual structural elements that utilise different materials and forms, adopting a practice lead approach to the design) 4 (...Critically evaluate a structural scheme and perform a detailed CDM appraisal, identifying those elements that have a residual risk) 5 (...and demonstrate their design intent to a wider audience)</p> <p>College Module CITY3015/SOUD3 045 Work Based Project Management:</p>

LEVEL 6				
FHEQ Descriptors	Subject Benchmark(s)	Programme Aims	Programme Outcomes	Core Modules linked to outcomes
				<p>1 Define a Civil Engineering problem and identify project constraints</p> <p>3 .... Critical evaluation of the application of project management in line with project management theory.</p>
<p><b>Students will also have:</b></p> <p>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.</p>			<p>ILO #3: Cognitive and Intellectual Skills: <u>ILO3.4</u></p> <p>ILO #4: Key Transferable Skills: <u>ILO4.1</u>, <u>ILO4.2</u> &amp; <u>ILO4.4</u></p> <p>ILO #5: Employment Related Skills: <u>ILO5.1</u>, <u>ILO5.2</u>, <u>ILO5.3</u>, <u>ILO5.5</u>, <u>ILO5.6</u></p> <p>ILO #6: Practical Skills: <u>ILO6.1</u></p>	<p>STAD324 Structural Engineering 4 (PU) ALO#s</p> <p>5 (Develop effective management, team working and communication skills ...)</p> <p>College Module CITY3015/SOUD3045 Work Based Project Management: All ALOs</p> <p>College Module CITY3016/3046 Professional Development and the Contemporary Civil Engineering Sector: All ALOs</p>





### 3. Module Records

#### PLYMOUTH UNIVERSITY MODULE RECORD

**SECTION A: DEFINITIVE MODULE RECORD.** *Proposed changes must be submitted via Faculty Quality Procedures for approval and issue of new module code.*

**MODULE CODE:** SOUD3044

**MODULE TITLE:** Leadership and Enterprise in Civil Engineering

**CREDITS:** 20

**FHEQ LEVEL:** 6

**JACS CODE:** N200

**PRE-REQUISITES:**  
None

**CO-REQUISITES:**  
None

**COMPENSATABLE:** Y

**SHORT MODULE DESCRIPTOR:** *(max 425 characters)*

This module focuses on the leadership and enterprise context of Civil Engineering as an industry. This involves development of critical knowledge and understanding of leadership practices. With a critical evaluation of the commercial, economic and social context in which the Civil Engineering sector inhabits.

<b>ELEMENTS OF ASSESSMENT [Use HESA KIS definitions] – see <a href="#">Definitions of Elements and Components of Assessment</a></b>					
<b>E1</b> (Examination)		<b>C1</b> (Coursework)	50%	<b>P1</b> (Practical)	50%
<b>E2</b> (Clinical Examination)		<b>A1</b> (Generic assessment)			
<b>T1</b> (Test)					

**SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Technology

**Professional body minimum pass mark requirement:** N/A

**MODULE AIMS:**

Develop students' knowledge and understanding about the theories and practices of leadership and management and the differences between the two within the civil engineering sector, and the ability to critically evaluate in context. Critique the multidimensional the (social, political, cultural and structural) role of leadership, exploring a range of leadership and management techniques to aid in decision making and communication.

**ASSESSED LEARNING OUTCOMES:** (additional guidance below)

At the end of the module the learner will be expected to be able to:

1. Demonstrate critical knowledge and understanding of the breadth of sustainable, legislative, business leadership (including teams) and management (including quality) considerations appropriate to the Civil Engineering sector. ILO#2.1 / ILO#2.3 / ILO#2.4 / ILO#6.6 / ILO#6.7
2. Demonstrate critical knowledge and understanding of the breadth of contexts of the Civil Engineering sector, including professional conduct, the needs of its customers and environmental and commercial risk and communication methods. ILO#2.1 / ILO#2.2 / ILO#5.1 / ILO#6.1
3. Critically evaluate the breadth of knowledge and understanding developed in this module in relation to the Civil Engineering sector.



4. Communicate critical knowledge and understanding through both written and verbal communication. ILO#5.6

<b>DATE OF APPROVAL:</b> 05 /2017	<b>FACULTY/OFFICE:</b> Academic Partnerships
<b>DATE OF IMPLEMENTATION:</b> Sept 2017	<b>SCHOOL/PARTNER:</b> South Devon College
<b>DATE(S) OF APPROVED CHANGE:</b> XX/XX/XXXX	<b>SEMESTER:</b> Semester 1 (SDC)

## PLYMOUTH UNIVERSITY MODULE RECORD

Additional notes (for office use only):

### Additional Guidance for Learning Outcomes:

To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards

- Framework for Higher Education Qualifications  
<http://www.qaa.ac.uk/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
- Subject benchmark statements  
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- SEEC level descriptors <http://www.seec.org.uk/academic-credit/seec-credit-level-descriptors-2010>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

## PLYMOUTH UNIVERSITY MODULE RECORD

### SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

***Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.***

**ACADEMIC YEAR: 2017-18**

**NATIONAL COST CENTRE: 118**

**MODULE LEADER: Andrew Faulkner**

**OTHER MODULE STAFF:**

**Summary of Module Content**

- Leadership and management's traits and theories, roles and behaviours
- Leadership styles
- Professional conduct, sustainability, risk and legislation
- Teams
- Decision making and communication

<b>SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]</b>		
<b>Scheduled Activities</b>	<b>Hours</b>	<b>Comments/Additional Information</b>
Lectures	40	
Tutorials	5	Including formative assessment in the form of discussion groups
Directed Individual Study	30	Task directed activities, such as specific reading/VLE activities
Self-Directed Individual Study	125	Background reading to develop critical understanding of theory, and assessment work.
<b>Total</b>	<b>200</b>	<b>(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc)</b>

<b>Category</b>	<b>Element</b>	<b>Component Name</b>	<b>Component weighting</b>	<b>Comments Include links to learning objectives</b>
Written exam	E_		% % % 100%	
	T_		% %  100%	
Coursework	C1	Business Management and the Civil Engineering sector Essay	100 %  100%	ALO1, ALO2 & ALO4  3000 word essay providing cited evidence to gather a breadth of theoretical knowledge and models and knowledge of legislation together in line with the sector. In essence in the form of a literature review.

Practice	P1	Case Study Presentation	100%	ALO 3 & ALO4 A presentation of the critical evaluation of a case study through consideration of relevant aspects of knowledge and understanding gained through this module and evaluating the multi-dimensional role of leadership.
			100%	

<b>Updated by:</b> Dave Worthington Date: 19/07/17	<b>Approved by:</b> Dr Ross Pomeroy Date: 20/07/17
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### Reading List

Fasano, A. (2011) *Engineer Your Own Success: 7 Key Elements to Creating an Extraordinary Engineering Career*, Wiley: US

Bolden, R., Hawkins, B., Gosling, J. and Taylor, S (2011) *Exploring Leadership: Individual, organizational and societal perspectives*. OUP: Oxford.

Gill, R. (2015) *Theory and Practice of Leadership*, 2nd edition. Sage: London

Grint, K. (2005) *Leadership: Limits and Possibilities*, Palgrave Macmillan: Basingstoke

Jackson, B. & Parry, K. (2008) *Very Short, Fairly Interesting and Reasonably Cheap Book About Studying Leadership*, London: Sage.

Mintzberg, H. (2011) *Managing*, BK Publishers Inc: San Francisco

Northouse, P.G., (2010) *Leadership Theory and Practice*, Fifth Edition, Sage, LA

Pardey, D. (2007) *Introducing Leadership*, Butterworth-Heinemann: Oxford

Pierce, J.L and Newstrom, J.W. (2011), *Leaders and the Leadership Process*, Sixth Edition, McGraw-Hill.

Rees, G. & French, R. (2010) *Leading, Managing & Developing People*. CIPD: London

Watson, T., (2002) *Organising and Managing Work*. FT: Prentice Hall

Western, S. (2007) *Leadership A Critical Text*, Sage: London

## PLYMOUTH UNIVERSITY MODULE RECORD

**SECTION A: DEFINITIVE MODULE RECORD.** *Proposed changes must be submitted via Faculty Quality Procedures for approval and issue of new module code.*

**MODULE CODE:** SOUD3045

**MODULE TITLE:** Work Based Project Management

**CREDITS:** 20

**FHEQ LEVEL:** 6

**JACS CODE:** N213

**PRE-REQUISITES:**  
None

**CO-REQUISITES:**  
None

**COMPENSATABLE:** Y

**SHORT MODULE DESCRIPTOR:** *This module enables students to develop critical knowledge and understanding of project management theory and to employ that in evaluation of their experience of project management in a workplace.*

<b>ELEMENTS OF ASSESSMENT [Use HESA KIS definitions] – see <a href="#">Definitions of Elements and Components of Assessment</a></b>					
<b>E1</b> (Examination)		<b>C1</b> (Coursework)	50%	<b>P1</b> (Practical)	50%
<b>E2</b> (Clinical Examination)		<b>A1</b> (Generic assessment)			
<b>T1</b> (Test)					

**SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Technology

**Professional body minimum pass mark requirement:** N/A

### MODULE AIMS:

This module aims to develop critical knowledge and understanding and further develop skills in relation to project management through aligning theory and practice and encouraging critical evaluation. It also aims to develop communication skills through written reporting of process and verbal presentation of practice evaluated through relation to theory.

### ASSESSED LEARNING OUTCOMES: (additional guidance below)

At the end of the module the learner will be expected to be able to:

1. Define a Civil Engineering problem and identify project constraints. ILO5.1, ILO5.2, ILO5.3
2. Report professionally and on an application of project management. ILO3.4, ILO4.1, ILO5.5, ILO6.5
3. Evidence critical knowledge and understanding of project management principles through the critical evaluation of the application of project management. ILO4.4
4. Present verbally the critical evaluation of the application of project management in line with project management theory. ILO5.6

<b>DATE OF APPROVAL:</b> 05/2017	<b>FACULTY/OFFICE:</b> Academic Partnerships
<b>DATE OF IMPLEMENTATION:</b> Sept 2017	<b>SCHOOL/PARTNER:</b> South Devon College
<b>DATE(S) OF APPROVED CHANGE:</b> XX/XX/XXXX	<b>SEMESTER:</b> AY

# PLYMOUTH UNIVERSITY MODULE RECORD

Additional notes (for office use only):

## **Additional Guidance for Learning Outcomes:**

**To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards**

- Framework for Higher Education Qualifications  
<http://www.qaa.ac.uk/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
- Subject benchmark statements  
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- SEEC level descriptors <http://www.seec.org.uk/academic-credit/seec-credit-level-descriptors-2010>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

# PLYMOUTH UNIVERSITY MODULE RECORD

## SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

*Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.*

ACADEMIC YEAR: 2017-18

NATIONAL COST CENTRE: 118

MODULE LEADER: Dave  
Worthington

OTHER MODULE STAFF:

### Summary of Module Content

- Project management principles and theory
- Practical undertaking of project management
- Critical evaluation and reflection of practice

<b>SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]</b>		
<b>Scheduled Activities</b>	<b>Hours</b>	<b>Comments/Additional Information</b>
Lectures	10	
Tutorials	10	
Seminars	5	Guest speakers, e.g. large civil engineering projects
Directed Independent Learning	155	Directed reading/VLE tasks Directed project management
Self-Directed Independent Learning	20	Assessment prep
<b>Total</b>	<b>200</b>	<b>(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc)</b>

<b>Category</b>	<b>Element</b>	<b>Component Name</b>	<b>Component weighting</b>	<b>Comments Include links to learning objectives</b>
Written exam	E_			
	T_			
Coursework	C1	Report	100%	Report on Application of Project Management ALO1, ALO2
			100%	
Practice	P1	Presentation	100%	Presentation on Critical Evaluation of Project Management ALO3, ALO4
			100%	

## Reading List

Morris, P. (2002) Science, objective knowledge and the theory of project management. Proceedings of the Institute of Civil Engineers: Civil Engineering, May 2002, pages 82-90.

Library location First floor journals

Checkland, P. (1994) Systems theory and management thinking. American Behavioral Scientist, 38, 1, 75-91.

Cicmil, S. (2006) Understanding project management practice through interpretative and critical research perspectives. Project Management Journal. 37(2) pages 27 to 37

Walker, A. (2015) Project Management in Construction. Wiley-Blackwell; 6th Edition

CIOB (2014) Code of practice for project management for construction and development.

Wiley-Blackwell, Chichester

Winch, G. (2010) Managing construction projects: an information processing approach. Wiley-Blackwell, Chichester

# PLYMOUTH UNIVERSITY MODULE RECORD

**SECTION A: DEFINITIVE MODULE RECORD.** *Proposed changes must be submitted via Faculty Quality Procedures for approval and issue of new module code.*

**MODULE CODE:** SOUD3046

**MODULE TITLE:** Professional Development and the Contemporary Civil Engineering Sector

**CREDITS:** 20

**FHEQ LEVEL:** 6

**JACS CODE:** N215

**PRE-REQUISITES:** N

**CO-REQUISITES:** N

**COMPENSATABLE:** Y

**SHORT MODULE DESCRIPTOR:** *This module provides the opportunity for students to reflect on and evaluate their learning in higher education in line with their current and future professional development. Building in professional development planning and aligning this with contemporary and expected future developments in the civil engineering sector.*

<b>ELEMENTS OF ASSESSMENT [Use HESA KIS definitions] – see <a href="#">Definitions of Elements and Components of Assessment</a></b>					
<b>E1</b> (Examination)		<b>C1</b> (Coursework)	50%	<b>P1</b> (Practical)	50%
<b>E2</b> (Clinical Examination)		<b>A1</b> (Generic assessment)			
<b>T1</b> (Test)					

**SUBJECT ASSESSMENT PANEL Group to which module should be linked:** Technology

**Professional body minimum pass mark requirement:** N/A

## **MODULE AIMS:**

This module aims to provide learners with an understanding of professional development planning, goal setting and lifelong learning. Enabling them to plan strategically for their future careers through reflection on their current experience and learning and evaluation of the employment sectors relevant to Civil Engineers.

## **ASSESSED LEARNING OUTCOMES:** (additional guidance below)

At the end of the module the learner will be expected to be able to:

1. Evidence critical knowledge and understanding of the employment and/or entrepreneurial opportunities available to a Civil Engineer. ILO6.1
2. Reflect on own experiences and education in line with key employment skills and attributes. ILO4.4
3. Strategically plan for their future career(s), including aspects of lifelong learning and continued professional development. ILO4.2
4. Communicate verbally professional goals, well aligned with their experience and education. ILO6



<b>DATE OF APPROVAL:</b> 05/2017	<b>FACULTY/OFFICE:</b> Academic Partnerships
<b>DATE OF IMPLEMENTATION:</b> Sept 2017	<b>SCHOOL/PARTNER:</b> South Devon College
<b>DATE(S) OF APPROVED CHANGE:</b> XX/XX/XXXX	<b>SEMESTER:</b> Semester 2

### **Additional Guidance for Learning Outcomes:**

To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards

- Framework for Higher Education Qualifications  
<http://www.qaa.ac.uk/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
- Subject benchmark statements  
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- SEEC level descriptors <http://www.seec.org.uk/academic-credit/seec-credit-level-descriptors-2010>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

## **PLYMOUTH UNIVERSITY MODULE RECORD**

### **SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

*Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.*

**ACADEMIC YEAR: 2017-18**

**NATIONAL COST CENTRE: 118**

**Summary of Module Content**

- Describe the variety of roles within the civil engineering sector
- Evaluation of different skills required to meet those roles
- Likely future developments and emerging technologies
- Examples of entrepreneurialism in civil engineering
- Obligation for professionals to maintain and enhance their competence in contemporary civil engineering sector
- Relevance of professional membership and registration
- HE qualifications framework and routes to chartered status
- Constructing a personalised professional development plan
- Tailoring a CV for success at application to this industry

<b>SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]</b>		
<b>Scheduled Activities</b>	<b>Hours</b>	<b>Comments/Additional Information</b>
Lectures	30	
Tutorials	15	Including guidance with portfolios
Directed Individual Learning	60	Directed reading/VLE activity
Self-Directed Individual Learning	95	
<b>Total</b>	<b>200</b>	<b>(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc)</b>

<b>Category</b>	<b>Element</b>	<b>Component Name</b>	<b>Component weighting</b>	<b>Comments Include links to learning objectives</b>
Written exam	E_		% % % 100%	
	T_		% % 100%	
Coursework	C1	Personal Development Portfolio	100 %  100%	ILO1, ILO2, ILO3 To include detailed professional analysis of personal career and studies to date and planned CPD that aligns with career aspirations.
Practice	P1	Professional Interview	100%  100%	ILO3, ILO4 A professional interview in line with a chosen (from provided list) of appropriate Civil Engineering and wider

				sector graduate jobs. To include a presentation from the student that should align their own developmental trajectory with that of the sector of the industry they are applying to enter.
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<b>Updated by:</b> Dave Worthington Date: 19/07/2017	<b>Approved by:</b> Dr Ross Pomeroy Date: 20/07/2017
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**Reading List:**

MacDonald Steels, H. (2011) Initial Professional Development for Civil Engineers. Ice Publishing, ICE Virtual Library

ICE (2015) Civil Engineering Procedure 7e. Ice Publishing, ICE Virtual Library

Waterhouse, P. & MacDonald Steels, H. (2015) Successful Professional Reviews for Civil Engineers, 4th Edition: Ice Publishing, ICE Virtual Library

**SECTION A: DEFINITIVE MODULE RECORD. Proposed changes must be submitted via Faculty Quality Procedures for approval and issue of new module code.**

**MODULE CODE: PRCE310**

**MODULE TITLE: Individual Project**

**CREDITS: 40**

**FHEQ LEVEL:6**

**JACS CODE:X210**

**PRE-REQUISITES:**  
none

**CO-REQUISITES:**  
none

**COMPENSATABLE: N**

**SHORT MODULE DESCRIPTOR: (max 425 characters)**

The individual project enables the student to research an approved topic related to civil or coastal engineering. It comprises a critical review of background literature and current knowledge that allows the student to identify a focus for their inquiry. Guided by an academic supervisor, the ensuing investigation comprises theoretical development, experimental and / or computational work, and a final analysis.

<b>ELEMENTS OF ASSESSMENT [Use HESA KIS definitions]</b>					
<b>E1</b> (Examination)		<b>C1</b> (Coursework)	100%	<b>P1</b> (Practical)	
<b>E2</b> (Clinical Examination)		<b>A1</b> (Generic assessment)			
<b>T1</b> (Test)					

**SUBJECT ASSESSMENT PANEL Group to which module should be linked: CIV A**

**Professional body minimum pass mark requirement: 40% passmark.**

**MODULE AIMS:**

- To develop an in-depth knowledge and understanding of a research topic through research
- To develop an understanding of the methodological and ethical implications of the chosen research method(s).
- To develop skills in critical evaluation and analysis
- To develop skills in independent study, initiative and creative thinking and communication through a written report.

**ASSESSED LEARNING OUTCOMES:**

At the end of the module the learner will be expected to be able to:

1. Demonstrate specialist engineering/disciplinary knowledge.
2. Show knowledge and understanding of the methodological and ethical implications of their research method.
3. Integrate their findings/conclusions within the context of the current state of art of civil engineering knowledge.
4. Communicate their methodology, findings and conclusions through an extended written report.

Additional notes (for office use only):

<b>DATE OF APPROVAL:</b>	<b>FACULTY/OFFICE: SciEng</b>
<b>DATE OF IMPLEMENTATION:</b>	<b>SCHOOL/PARTNER: SoMSE</b>
<b>DATE(S) OF APPROVED CHANGE:</b> XX/XX/XXXX	<b>SEMESTER: Semester 1 &amp; 2</b>

**Additional Guidance for Learning Outcomes:**

**3.1. To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards**

- Framework for Higher Education Qualifications  
[http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/FH\\_EQ08.pdf](http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/FH_EQ08.pdf)
- Subject benchmark statements  
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECTGUIDANCE/Pages/Subject-benchmark-statements.aspx>
- SEEC level descriptors <http://www.seec.org.uk/academic-credit/seec-creditlevel-descriptors-2010> (scroll to pdf link at bottom of page)
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code  
<http://www.qaa.ac.uk/AssuringStandardsAndQuality/qualitycode/Pages/default.aspx>

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT** *Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.*

ACADEMIC YEAR: 2016-17

NATIONAL COST CENTRE:118

MODULE LEADER: Liz OTHER MODULE STAFF: programme Hodgkinson team

**3.2. Summary of Module Content**

Develop or refine the research problem or question

State aims and objectives

Conduct in-depth search of literature relating to the project topic.

Identify, design and undertake an investigative study of the subject matter.

Analyse data and interpret research findings.

Produce a written report, to include application of engineering knowledge.

<b>SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]</b>		
<b>Scheduled Activities</b>	<b>Hours</b>	<b>Comments/Additional Information</b>
Introductory lecture	2	Guidance on how to do the research project
Computer workshop	1	Workshop on finding information using library resources
Project supervision	24	Meetings with project supervisor
Independent study	373	Self-study
<b>Total</b>	<b>400</b>	<b>(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc)</b>

<i>teg</i>	<i>Elem</i>	<i>Compon Na</i>	<i>Compon weightin</i>	<i>Commen Include li to learnin objective</i>
Written exam	E_			

	T <sub>-</sub>			
Coursework	C1	Literature Review	10%	Demonstrate progress with background research, skills in critical evaluation and disciplinary knowledge (ALO 1)
		Written Report	90%	Synthesise the work as a coherent whole
			100%	(ALOs 1, 2, 3 and 4)
Practice	P <sub>-</sub>			

<b>Updated by:</b> Date: 12/07/2016	Liz Hodgkinson	<b>Approved by:</b> Date: XX/XX/XXXX
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## 4. PLYMOUTH UNIVERSITY MODULE RECORD

**SECTION A: DEFINITIVE MODULE RECORD.** *Proposed changes must be submitted via Faculty Quality Procedures for approval and issue of new module code.*

**MODULE CODE:** STAD324

**MODULE TITLE:** Structural  
Engineering 4

**CREDITS:** 20

**FHEQ LEVEL:** 6

**JACS CODE:** H210

**PRE-REQUISITES:**  
NONE

**CO-REQUISITES:** NONE  
**COMPENSATABLE:** N

**SHORT MODULE DESCRIPTOR:** *(max 425 characters)*

This module introduces students to standard industry design practices and builds on their previous knowledge by introducing them to bridges and complex low rise / multi storey building structures. The module provides students with the opportunity to develop their conceptual design skills and adopt a holistic approach to structure design by considering the “whole” as well as the individual elements.

<b>ELEMENTS OF ASSESSMENT [Use HESA KIS definitions]</b>					
<b>E1</b> (Examination)	xx%	<b>C1</b> (Coursework)	50%	<b>P1</b> (Practical)	xx% or Pass/Fail
<b>E2</b> (Clinical Examination)	xx% or Pass/Fail	<b>A1</b> (Generic assessment)	xx		
<b>T1</b> (Test)	50%				

**SUBJECT ASSESSMENT PANEL Group to which module should be linked:** CIVA

**Professional body minimum pass mark requirement:** 35% Coursework, 35% Exam, 40% Overall

### **MODULE AIMS:**

- Introduce students to, the outline and detailed design of bridges and whole structures, the structural concepts that govern their design, and the conceptual skills that will enable the production of a preliminary designs.
- By way of parametric studies and illustrating the broader philosophies and principles of design, build on the student’s previous experience of validating computer models, and enhance their understanding of structure interaction, enabling them to produce detailed designs, aligned to standard industrial practice, for the structural elements within complex structures.
- To critically evaluate the risk associated with structural building projects, and understand the related CDM issues that affect and influence both the engineer and other industry professionals.

## 4.1. PLYMOUTH UNIVERSITY MODULE RECORD

### **ASSESSED LEARNING OUTCOMES:**

At the end of the module the learner will be expected to be able to:

1. Evaluate a structure and identify the principle structural elements, then perform an appropriate form of analysis to validate the structure.
2. Assess the overall structural envelope in terms of stability, robustness, sensitivity and second order effects in line with the current codes of practice.
3. Design a range of individual structural elements that utilise different materials and forms, adopting a practice lead approach to the design.
4. Demonstrate an understanding of the significance of CDM and the role of the designer. Critically evaluate a structural scheme and perform a detailed CDM appraisal, identifying those elements that have a residual risk.
5. Develop effective management, team working and communication skills and demonstrate their design intent to a wider audience.

<b>DATE OF APPROVAL:</b> 05/11/2014	<b>FACULTY/OFFICE:</b> SciEnv
<b>DATE OF IMPLEMENTATION:</b> 01/09/2015	<b>SCHOOL/PARTNER:</b> SoMSE
<b>DATE(S) OF APPROVED CHANGE:</b> XX/XX/XXXX	<b>SEMESTER:</b> Semester 2

**Additional Guidance for Learning Outcomes:**

To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards



- Framework for Higher Education Qualifications  
[http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/FHEQ08.p\\_df](http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/FHEQ08.p_df)
- Subject benchmark statements  
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECTGUIDANCE/Pages/Subject-benchmark-statements.aspx>
- SEEC level descriptors <http://www.seec.org.uk/academic-credit/seec-credit-leveldescriptors-2010>  
(scroll to pdf link at bottom of page)
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code  
<http://www.qaa.ac.uk/AssuringStandardsAndQuality/qualitycode/Pages/default.aspx>

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT** *Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.*

**ACADEMIC YEAR:** 2015-16

**NATIONAL COST CENTRE:** 118

**MODULE LEADER:**

Mr Michael Buller

**OTHER MODULE STAFF:**

Mr David Easterbrook

### **Summary of Module Content**

This module builds on the student's previous design experience. It considers bridges, complex low rise and multi storey construction and draws on the students previously attained knowledge to validate the computer generated analysis.

Previously, students would have considered a very regimented approach to design. As part of the module they will be introduced to standard industry design practices that not only build on the fundamentals but also increase the understanding of how elements react in given circumstances.

In considering a "whole" structure, students will be introduced to different loading conditions and some of the additional elements that go to make up the building e.g. masonry wall panels, piles and retaining walls, simple timber elements. They will be expected to take a more holistic approach to the envelope design and consider design issues relating to (but not limited to) "sway stability" and "lack of fit".

This module will see students working collaboratively on "real-world" design scenarios. As part of a small design team, supported by the academic staff, they will be expected to prepare the outline and detailed design for their chosen structural scheme, and provide sufficient design drawings and calculations so as to clearly demonstrate their design intent. They will be expected, in line with current legislation, to also address any health and safety issues associated with the project.

<b>SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]</b>		
<b>Scheduled Activities</b>	<b>Hours</b>	<b>Comments/Additional Information</b>
Lectures	26	Part co-taught with Coastal Option.
Tutorials	26	
Group Tutorials	26	
Guided Independent Study	122	
<b>Total</b>	<b>200</b>	<b>(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc)</b>

<b>Categ</b>	<b>Elem</b>	<b>Compon Na</b>	<b>Compon weightin</b>	<b>Commen</b> <i>Include li to learnin objective</i>
Written exam	E_		% 100%	
	T1	Design practice test.	100%	In-class (seen) design test. ALO 1, 2, 3 & 5.
Coursework	C1	– Bridge design	40%	Full Bridge design (Group work – Max 4 per group). ALO 1 – 5 (inc.). Full building design (Group work – Max 4 per group). ALO 1-5 (inc.)
		– Detailed building design	60%	
			100%	
Practice	P_		% 100%	

<b>Updated by:</b> Date: xx/xx/xxxx	<b>Approved by:</b> Date: XX/XX/XXXX
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