



**UNIVERSITY
CENTRE**
SOUTH DEVON



**UNIVERSITY OF
PLYMOUTH**

PROGRAMME QUALITY HANDBOOK 2020-21

FdSc-HNC Sustainable Construction and the Built Environment

Contents

1. Welcome and Introduction to Sustainable Construction and the Built Environment.....	3
2. Programme Specification.....	6
3. Module Records	29

1. Welcome and Introduction to Sustainable Construction and the Built Environment.

Welcome to the Foundation Degree and HNC in Sustainable Construction and the Built Environment delivered by University Centre South Devon. The Foundation Degree is designed to provide the knowledge and skills that are necessary to enable learners to be versatile and adaptable in progressing to and working within the multi-disciplined sectors of the construction industry. Following the QAA Foundation Degree Qualification Benchmark, which privileges the integration of academic and work based learning, the inclusion of dedicated work-based learning modules in this programme equips and assists you to enhance your employment opportunities.

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>

1.1. Programme Management

Alex Osborne: Alex has developed several construction and civil engineering HE modules during his 4 years working at UCSD. He is programme manager, HE lead and lecturer for several programmes within the curriculum area. Alex is also an Associate Fellow of the Higher Education Academy. Prior to joining academia Alex was Construction Manager for a regional contractor. He has a MSc (Hons) in Civil Engineering from the University of Southampton and worked in consultancy and contracting for several years across civil engineering and construction projects across the UK.

1.2. Personal Tutor

Personal tutors are designated as a sustained and first point of reference for individual students on personal, domestic or academic matters; detailed information will be available in your teaching, learning and assessment handbooks.

Dave Worthington: Dave has developed several construction and civil engineering HE programmes during his eight years working at UCSD. He is lecturer for several programmes within the curriculum area. Dave is also a Fellow of the Higher Education Academy. Prior to joining academia Dave was Construction Director for a national developer. He has a BEng (Hons) in Civil Engineering from the University of Plymouth and worked in contracting for many years across civil engineering and construction projects across the UK. He has recently completed an MSc in Sustainable Building Conservation.

Further information about personal tutoring at UCSD can be found by following this link to the [Student Development](#) policy.

1.3. Module Leaders

Alex Osborne

Dave Worthington

Andrew Finch

1.4. Course Contact List

Dave Worthington: davidworthington@southdevon.ac.uk

Phone: 01803 540744

Andrew Finch: andrewfinch@southdevon.ac.uk

Phone: 01803 540744

Alex Osborne: alexosborne@southdevon.ac.uk

Phone: 01803 540744

1.5. Preparing for your programme

At UCSD, we understand that degree level study is a big step up from previous studies. To help prepare you for the degree we recommend engaging with preparatory activities. Each year UCSD organise step up to HE workshops, with a focus on supporting you to develop your research and writing skills, alongside academic techniques. For more information on the workshops and resources available, please visit our website: <https://www.ucsd.ac.uk/the-first-year-at-university/>.

The Student Support Hub is available throughout the duration of your programme and offers a range of services, acting as a first port of call for academic, study, wellbeing, disability, fees/funding, employability and progression support. When progressing to the next level of study of your higher education, there are also workshops and activities available to support you with progressing your graduate skills.

Preparatory reading is a great way to develop your knowledge and skills to be ready for the next level of study in higher education. Please see below some recommended reading to undertake prior to the start of your course:

Preparatory Reading

Recommended books/ebooks:

Applied Mathematics: Stroud, K.A. and Dexter J. Booth (2009) *Foundation Mathematics*. Oxford: Palgrave Macmillan.

Sustainable Civil Engineering Technology and Site Operations: Chudley, R. and Greeno, R. (2012) *Advanced Construction Technology*. 5th ed. New York, USA: Prentice Hall.

Sustainable Construction and Environmental Impact: Halliday, S. (2008) *Sustainable construction*. Oxford: Butterworth Heinemann.

1.6. COVID19 Programme Planning

Covid 19 programme Planning	
General approach being undertaken	<p>We will follow government advice on social distancing and personal safety to ensure a 'Covid secure' working and learning environment.</p> <p>We know that we all may need to adapt if Covid conditions change. We will continue to provide a high quality learning experience utilising technology solutions as may be required.</p> <p>We will continue to update our dedicated Covid 19 webpage if and when circumstances change. We encourage all new and returning students to review this page to better understand the approach we are taking.</p>
Programme Teaching and Learning changes being undertaken	It is anticipated that scheduled learning activity will be face to face in the classroom.
Programme Assessment changes being undertaken	No changes have been undertaken for the assessment of the programme.

2. Programme Specification

On the following pages you will find the specification for your programme; this provides a detailed overview of the programme as a whole. It explains what you will learn and how you will be assessed throughout the two stages of your Foundation Degree. The Programme Learning Outcomes Map specifies the knowledge and skills you will develop at each stage of your Foundation Degree.

2.1.1. Programme Specification

Awarding Institution: University of Plymouth
Teaching Institution: South Devon College
Accrediting Body: Chartered Institute of Building
Final Award: *FdSc*
Intermediate Awards: Certificate of Higher Education (CertHE)
Programme Title: Sustainable Construction and the Built Environment

UCAS Code: S32
JACS Code: K290
Benchmarks: QAA FDQB Foundation Degree Qualification Benchmark (2010), QAA Subject Benchmark Statement Construction and Property Surveying (2008)

Date of Approval: April 2012

Admissions Criteria:

Qualification(s) Required for Entry to the FdSc	Comments
Candidates must have at Level 2:	
At Level 2	
Key Skills requirement/Higher Level Diploma	English Maths
and/or	
GCSEs required at Level 4 or above	English Maths

Plus at least one of the following Level 3 qualifications:

A Levels required: (<i>College to insert AS/A2/UCAS Points Tariff</i>)	AS/A levels in related subject field 48 points minimum
Advanced Level Diploma	Pass
BTEC National Certificate/Diploma	BTEC National Certificate/Diploma in a related subject field equating 48 UCAS points minimum
HNC/D	Award should be in a related subject field Pass or above
VDA: AGNVQ, AVCE, AVS	Award should be in a related subject field Pass or above at Level 3
Access to HE or Year 0 provision	In related subject field
International Baccalaureate	24 Points
Irish/Scottish Highers/Advanced Highers	48 points minimum from Higher Certificates
Work Experience	Relevant work experience is an advantage but not essential
Other non-standard awards or experiences	Students with non-standard qualifications may be asked to complete a written piece of work on a relevant subject and/or learning needs assessment.
APEL/APCL possibilities	Candidates are encouraged to apply if they feel they can benefit from the programme. Candidates with non-standard entry applications will be considered on the basis of relevant work experience and attainment of skills, which demonstrate an ability to study at

	<p>this level. Given the wide experience of potential applicants to this course, applications for Accreditation of Prior Learning (APL) and Accreditation of Prior Experiential Learning (APEL) are welcomed in accordance with South Devon College and University of Plymouth Admissions Policy.</p> <p>http://www.ucas.com/students/wheretostart/maturestudents/courses/apl</p>
Interview/portfolio requirements	<p>Everyone will be interviewed, and character references are required. Normally a 1000 word essay will need to be completed.</p>
Independent Safeguarding Agency (ISA) / Criminal Record Bureau (CRB) clearance required	No

Aims of the Programme:

The Foundation Degree in Sustainable Construction and the Built Environment aims to meet the following objective

1. Providing students with language, practical skills, development and critical thinking demanded by their multi-disciplined mode of employment and seek to make interconnections between the academic and industrial worlds.
2. Developing student's ability to analyse, select and use appropriate safe sustainable procedures, systems and techniques within the built environment.
3. Providing students with an opportunity to understand how wider market forces, government policies and economic activity influence sustainable construction and the built environment sector.
4. Enabling students to appraise and solve technical, economic and organisational problems through evaluating concepts, theory and hypothesis in the context of sustainable development and the built environment; and to adopt and maintain contextual currency of knowledge and information.
5. Encouraging students to observe, evaluate and adopt new and innovative sustainable solutions in building design, procurement and project management while responding to the problem of global climate change.
6. Develop the transferable skills for entry into the professional environment by the inclusion of a work-based unit and to provide a suitable basis for progression.

Programme Intended Learning Outcomes (LO):

The FdSc Sustainable Construction and the Built Environment provides opportunities for student development and graduates will be able to:

1. Demonstrate knowledge of the complexity and multifaceted areas of the construction sector and the built environment.
2. Understand management roles and responsibilities within the construction sector.
3. Demonstrate knowledge in policy, legislation and best working practice pertaining to sustainable development.

4. Identify and explain the environmental versus economic issues relating to the study of sustainable construction.
5. Produce and present a written cohesive argument based on supporting evidence and to critically evaluate and reflect on individual arguments and group discussions.
6. Demonstrate a range of transferable skills applicable to diverse environments.

Awarding Institution: University of Plymouth
Teaching Institution: South Devon College
Accrediting Body: Chartered Institute of Building
Final Award: HNC
Intermediate Awards: n/a
Programme Title: Sustainable Construction and the Built Environment

UCAS Code: S32
JACS Code: K290

Benchmarks: QAA FDQB Foundation Degree Qualification Benchmark (2010), QAA Subject Benchmark Statement Construction and Property Surveying (2008)

Date of Approval: April 2012

Admissions Criteria:

Qualification(s) Required for Entry to the FdSc	Comments
Candidates must have at Level 2:	
At Level 2	
Key Skills requirement/Higher Level Diploma	English Maths
and/or	
GCSEs required at Level 4 or above	English Maths

Plus at least one of the following Level 3 qualifications:

A Levels required: (<i>College to insert AS/A2/UCAS Points Tariff</i>)	AS/A levels in related subject field 48 points minimum
Advanced Level Diploma	Pass
BTEC National Certificate/Diploma	BTEC National Certificate/Diploma in a related subject field equating 48 UCAS points minimum
HNC/D	Award should be in a related subject field Pass or above
VDA: AGNVQ, AVCE, AVS	Award should be in a related subject field Pass or above at Level 3
Access to HE or Year 0 provision	In related subject field
International Baccalaureate	24 Points
Irish/Scottish Highers/Advanced Highers	48 points minimum from Higher Certificates

Work Experience	Relevant work experience is an advantage but not essential
Other non-standard awards or experiences	Students with non-standard qualifications may be asked to complete a written piece of work on a relevant subject and/or learning needs assessment.
APEL/APCL possibilities	Candidates are encouraged to apply if they feel they can benefit from the programme. Candidates with non-standard entry applications will be considered on the basis of relevant work experience and attainment of skills, which demonstrate an ability to study at this level. Given the wide experience of potential applicants to this course, applications for Accreditation of Prior Learning (APL) and Accreditation of Prior Experiential Learning (APEL) are welcomed in accordance with South Devon College and University of Plymouth Admissions Policy. http://www.ucas.com/students/wheretostart/maturestudents/courses/apl

Aims of the Programme:

The HNC in Sustainable Construction and the Built Environment is intended to meet the following objectives

1. To provide students with the technical and practical skills required to collate, appraise, analyse and interpret information, solve problems, reach sound judgements and communicate them effectively.
2. To develop the knowledge and understanding of the construction industry, sustainable construction technology and design, and the production management of construction.
3. Enable students to evaluate, determine and apply safe working procedures in accordance with industry standards, legislation and best working practices.
4. To develop the necessary skills for progression into the professional environment and higher education, and to adopt an ethos of maintaining currency of contextual knowledge and information.

Programme Intended Learning Outcomes (LO):

The HNC Sustainable Construction and the Built Environment provides opportunities for student development and graduates will be able to:

1. Demonstrate knowledge of the economic, legislative and environmental issues regarding sustainable development.
2. Explain the key roles and responsibilities of all parties engaged in sustainable development.
3. Demonstrate knowledge of sustainable construction methodology, technology, and associated health and safety legislation and practice.
4. Establish research methods and present and communicate technical information in a professional manner and relevant to industry application.

2.1.2. Brief Description of the Programme

The Foundation Degree in Sustainable Construction is designed to provide the knowledge and skills that are necessary to enable learners to be versatile and adaptable in progressing to and working within the multi-faceted construction industry sector. Following the QAA Foundation Degree Qualification Benchmark, which privileges the integration of academic and work based learning, the inclusion of a dedicated work-based learning module in this programme equips and assists you to enhance your employment opportunities.

2.1.3. Programme Structure and Pathways

Academic Year: 2020/21

Programme Code: 4434 / 4576

Programme Title: HNC/ FdSc Sustainable Construction & the Built Environment

Full time

Level 4					
Module Code	Module Title	Credits	Year of Delivery*	Semester/Term of Delivery	Core/Optional
SOUD1292	Health, Safety and Welfare for Construction and the Built Environment	20	1	All Year	Core
SOUD1222	Sustainable Construction and its Environmental Impact	20	1	All Year	Core
SOUD1526	Introduction to Commercial management	20	1	All Year	Core
SOUD1293	Applied Mathematics for Construction and the Built Environment	20	1	All Year	Core
SOUD1225	Design Principles and Application	20	1	All Year	Core
SOUD1226	Conversion and Adaption of Buildings	20	1	All Year	Optional
SOUD1243	Building Management Systems	20	1	All Year	Optional
SOUD1372	Setting out for Construction Engineers	20	1	All Year	Optional

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

Academic Year: 2020/21

Programme Code: 4434

Programme Title: FdSc Sustainable Construction & the Built Environment

Full time

Level 5					
Module Code	Module Title	Credits	Year of Delivery*	Semester/Term of Delivery	Core/Optional
SOUD2171	Contract Law and Procedures	20	1	Autumn	Core
SOUD2172	Construction Project Management	20	1	All Year	Core
SOUD2173	Construction Technology and Material Application	20	1	Spring	Core
SOUD2174	Financial Management and Economics	20	1	Autumn	Core
SOUD2175	Renewable Energy Technologies	20	1	Spring	Core
SOUD2318	Work Based Research Project	20	1	All Year	Optional
SOUD2189	Energy Utilisation and Efficiency within Sustainable Construction	20	1	Spring	Optional
SOUD2319	Surveying for Construction Engineers	20	1	Spring	Optional

Academic Year: 2020/21

Programme Code: 5056 / 5057

Programme Title: FdSc/HNC Sustainable Construction & the Built Environment

Part time

Level 4/5

Module Code	Module Title	Credits	Year of Delivery*	Semester/Term of Delivery	Core/Optional
SOUD1292	Health, Safety and Welfare for Construction and the Built Environment	20	1	All Year	Core
SOUD1222	Sustainable Construction and its Environmental Impact	20	1	All Year	Core
SOUD1526	Introduction to Commercial management	20	1	All Year	Core
SOUD1293	Applied Mathematics for Construction and the Built Environment	20	1	All Year	Core
SOUD1225	Design Principles and Application	20	2	All Year	Core
SOUD1226	Conversion and Adaption of Buildings	20	2	All Year	Optional
SOUD1243	Building Management Systems	20	2	All Year	Optional
SOUD1372	Setting out for Construction Engineers	20	2	All Year	Optional
SOUD2171	Contract Law and Procedures	20	2	Autumn	Core
SOUD2172	Construction Project Management	20	2	All Year	Core
SOUD2173	Construction Technology and Material Application	20	3	Spring	Core
SOUD2174	Financial Management and Economics	20	3	Autumn	Core
SOUD2175	Renewable Energy Technologies	20	3	Spring	Core

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SOUD2318	Work Based Research Project	20	3	All Year	Optional
SOUD2189	Energy Utilisation and Efficiency within Sustainable Construction	20	3	Spring	Optional
SOUD2319	Surveying for Construction Engineers	20	3	Spring	Optional

Total Credits at Level 4 = 120

Total Credits at Level 5 = 120

FdSc Total Credits = 240

programme Structure for the HNC in Sustainable Construction and The Built Environment

Total Credits at Level 4 = 120 = HNC

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

Year: 2020-21

Course Code: 5064

Indicative Part -Time Mode of Study 2 years HNC

Programme Structure for the HNC in Sustainable Construction and The Built Environment

Level 4 (Year 1) 60 Credits				
Module Code	Module Title	No. of Credits	Semester	Core / Optional
SOUD1292	Health Safety and Welfare for Construction and the Built Environment	20	All Year	Core
SOUD1222	Sustainable Construction and its Environmental Impact	20	All Year	Core
SOUD1526	Introduction to Commercial management	20	All Year	Core
Level 4 (Year 2) 60 Credits				
SOUD1293	Applied Mathematics for Construction and the Built Environment	20	All Year	Core
SOUD1225	Design Principles and Application	20	All Year	Core
SOUD1226	Conversion and Adaption of Buildings	20	All Year	Optional
SOUD1372	Setting Out for Construction Engineers	20	All Year	Optional
SOUD1243	Building Management Systems	20	All Year	Optional

*choice of one optional module
Total Credits at Level 4 = 120 = HNC

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2.1.4. Progression Route(s)

FdSc progression route statement

Students who successfully complete the HNC Sustainable Construction and the Built Environment may proceed to FdSc Sustainable Construction and the Built Environment. Students who successfully complete the FdSc Sustainable Construction and the Built Environment may proceed to BSc (Hons) Construction Management and the Environment, level 6, at Plymouth University; the level 5 marks of students who progress to this programme will be taken into account in the final Degree classification.

Students may also progress to the BSc (Hons) Building Surveying and the Environment level 5, level 5 marks from their foundation Degree would not count towards their final Degree classification.

2.1.5. Any Exceptions to Plymouth University Regulations

n/a

2.1.6. Teaching Methods and Assessments FdSc

A: Development of Knowledge and Understanding	Learning and Teaching Strategy/Method
<p>By the end of the programme the student will be able to demonstrate knowledge and understanding of:</p> <ul style="list-style-type: none"> • The nature and structure of organisations that work within the multi-faceted construction industry. • Key concepts, theories and principles relevant to sustainable construction and the built environment. • Global, national and regional Industry relevant issues and why they are important. • Recognise and apply all relevant aspects of professional management methods. • Within the context of regulatory requirements, the needs of society and ethical correctness. • Regulatory bodies, legislation and best working practices. • ICT applications appropriate to the planning, design and management of sustainable construction projects. • Presenting original ideas and reflections via a range of methods to convey appropriate standards of literacy and the use of numeric data. • Industry roles, responsibilities, working and contractual interactions and relationships in a professional context. 	<p>Primary</p> <ul style="list-style-type: none"> • Lectures and tutorials • Directed independent study • Learning from work based experience <p>Secondary</p> <ul style="list-style-type: none"> • Case studies • Problem-solving exercises • Evaluation of “real” projects completed and live • Group and individual presentations and peer assessments • Site visits • Practical sessions

<p>NB: Benchmark References QAA Benchmark Statement Construction Property and Surveying</p>	<p>Assessment Key knowledge and understanding is assessed via a combination of multiple choice tests, essays, presentations and seminar performances.</p>
<p>• B: Cognitive and Intellectual Skills</p>	<p>Learning and Teaching Strategy/Method</p>
<p>By the end of the programme the student will be able to:</p> <ul style="list-style-type: none"> • Organise relevant knowledge and ideas in order to interpret, explore and solve problems contextual to sustainable construction and the built environment. • Demonstrate imagination and creativity in the resolution of problems. • Compare and contrast a range of methods for obtaining relevant information to explore areas of study and research. • Evaluate the relevance and significance of data collected in identifying and resolving problems. • Apply theory to practice in multi-disciplinary industry sectors, taking into account a range of stakeholders. • Use reflection in the learning process to enhance personal development and refine professional practice. • Analyse how ethical issues can be addressed within the construction industry and supportive industry. • Review and critically evaluate policy, trends, practice and theory. 	<ul style="list-style-type: none"> • Primary • Class exercises • Presentations • Tutorial/seminar discussions • Feedback via coursework assessment process (essays etc.) • Secondary • Policy and practice analysis in surgeries • Computer-based practical's on data and measurement problems • Work based learning reflective learning journal
<p>• NB: Benchmark References</p> <p>QAA Benchmark Statement Construction Property and Surveying</p>	<p>• Assessment</p> <ul style="list-style-type: none"> • Assessed discussions • Essays/projects/dissertations • Tests • Coursework/group work on practical application questions

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

<ul style="list-style-type: none"> • C: Key Transferable Skills On completion of this programme, students will be able to: <ul style="list-style-type: none"> • Interact effectively within a group, giving and receiving information, modifying responses where appropriate and respecting the views of others. • Evaluate their performance, developing informed criteria, and devising suitable personal development plans. • Take responsibility for their own learning, planning and managing their time effectively to achieve objectives and to meet deadlines. • Organise, present and defend ideas, theories and concepts confidently in academic and work related situations. • Communicate effectively in a variety of formats (oral and written) and in a manner appropriate to the audience/situation. • Identify key elements of problems, applying appropriate methods to address them. • Transfer skills and knowledge across different settings and work related contexts. • develop appropriate research strategies 	<p>Learning and Teaching Strategy/Method</p> <ul style="list-style-type: none"> • Primary <ul style="list-style-type: none"> • Library and other research exercises • Group work awareness and practice • Presentations • Group and individual peer assessment • Computer-based learning and assessment • Tutorials and seminars • Secondary <ul style="list-style-type: none"> • Class and seminar interactions and feedback
<ul style="list-style-type: none"> • NB: Benchmark References QAA Benchmark Statement Construction Property and Surveying 	<ul style="list-style-type: none"> • Assessment <ul style="list-style-type: none"> • Coursework of all types • Examination preparation and completion • Assessed discussions • Group work assessments

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<ul style="list-style-type: none"> • D: Employment Related Skills By the end of the programme the student will be able to: <ul style="list-style-type: none"> • Perform professional tasks, exercising personal responsibility and demonstrating a capacity to make decisions appropriate to their professional role. • Identify appropriate theoretical, professional and/or research based sources and use appropriately in their professional practice. • Plan and execute a variety of small scale inquiries into physiological and psychological interventions in order to improve themselves and others in their professional roles. • Show awareness of ethical, equality and diversity issues in the construction industry and supporting organisations. • Identify important aspects of the work-based experience and compare, contrast and critique different aspects of the experience. • Articulate a reflective and effective orientation to their professional practice. 	<ul style="list-style-type: none"> • The programme has a strong vocational focus, and the theoretical understanding developed through study will be rooted into practise. • Students will carry out work based learning in an appropriate work setting, this may be as paid employment or, more usually, on a voluntary basis. Assessment is linked to practice and students will be expected to use their placements as a basis for research, for practical experience and skill development and to apply theory to a real context.
<ul style="list-style-type: none"> • E: Practical Skills By the end of the programme the student will be able to: <ul style="list-style-type: none"> • Undertake effective measurement techniques. • Carry out basic setting out procedures. • Use effectively the range of learning resources, including ICT, across a range of contexts. 	<p>Learning and Teaching Strategy/Method</p> <ul style="list-style-type: none"> • Laboratory work • Projects • Designated tasks • Lectures and tutorials • Learning from work
<ul style="list-style-type: none"> • NB: Benchmark References QAA Benchmark Statement Construction Property and Surveying 	<ul style="list-style-type: none"> • Assessment • Project work • Competence in a range of business-related communication techniques

7.2.6.1 Teaching methods and assessments HNC

<p>A: Development of Knowledge and Understanding</p>	<p>Learning and Teaching Strategy/Method</p>
<p>By the end of the programme the student will be able to demonstrate knowledge and understanding of:</p> <ul style="list-style-type: none"> • The nature and structure of organisations that work within the multi-faceted construction industry. 	<p>Primary</p> <ul style="list-style-type: none"> • Lectures and tutorials • Directed independent study <p>Secondary</p> <ul style="list-style-type: none"> • Case studies • Problem-solving exercises

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<ul style="list-style-type: none"> • Key concepts, theories and principles relevant to sustainable construction and the built environment. • Global, national and regional Industry relevant issues and why they are important. • Recognise and apply all relevant aspects of professional management methods. • Within the context of regulatory requirements, the needs of society and ethical correctness. • Regulatory bodies, legislation and best working practices. • ICT applications appropriate to the planning, design and management of sustainable construction projects. • Presenting original ideas and reflections via a range of methods to convey appropriate standards of literacy and the use of numeric data. • Industry roles, responsibilities, working and contractual interactions and relationships in a professional context. 	<ul style="list-style-type: none"> • Evaluation of “real” projects completed and live • Group and individual presentations and peer assessments • Site visits • Practical sessions
<p>NB: Benchmark References QAA Benchmark Statement Construction Property and Surveying</p>	<p>Assessment Key knowledge and understanding is assessed via a combination of multiple choice tests, tests, essays, presentations and seminar performances.</p>

<ul style="list-style-type: none"> • B: Cognitive and Intellectual Skills 	<p>Learning and Teaching Strategy/Method</p>
<p>By the end of the programme the student will be able to:</p> <ul style="list-style-type: none"> • Organise relevant knowledge and ideas in order to interpret, explore and solve problems contextual to sustainable construction and the built environment. • Demonstrate imagination and creativity in the resolution of problems. • Compare and contrast a range of methods for obtaining relevant information to explore areas of study and research. • Evaluate the relevance and significance of data collected in identifying and resolving problems. • Apply theory to practice in multi-disciplinary industry sectors, taking into account a range of stakeholders. 	<ul style="list-style-type: none"> • Primary • Class exercises • Presentations • Tutorial/seminar discussions • Feedback via coursework assessment process (essays etc.) • Secondary • Policy and practice analysis in surgeries • Computer-based practical’s on data and measurement problems

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

<ul style="list-style-type: none"> • Use reflection in the learning process to enhance personal development and refine professional practice. • Analyse how ethical issues can be addressed within the construction industry and supportive industry. • Review and critically evaluate policy, trends, practice and theory. 	
<ul style="list-style-type: none"> • NB: Benchmark References <p>QAA Benchmark Statement Construction Property and Surveying</p>	<ul style="list-style-type: none"> • Assessment • Assessed discussions • Essays/projects/dissertations Tests • Coursework/group work on practical application questions

<ul style="list-style-type: none"> • C: Key Transferable Skills <p>On completion of this programme, students will be able to:</p> <ul style="list-style-type: none"> • Interact effectively within a group, giving and receiving information, modifying responses where appropriate and respecting the views of others. • Evaluate their performance, developing informed criteria, and devising suitable personal development plans. • Take responsibility for their own learning, planning and managing their time effectively to achieve objectives and to meet deadlines. • Organise, present and defend ideas, theories and concepts confidently in academic and work related situations. • Communicate effectively in a variety of formats (oral and written) and in a manner appropriate to the audience/situation. • Identify key elements of problems, applying appropriate methods to address them. • Transfer skills and knowledge across different settings and work related contexts. • develop appropriate research strategies 	<p>Learning and Teaching Strategy/Method</p> <ul style="list-style-type: none"> • Primary • Library and other research exercises • Group work awareness and practice • Presentations • Group and individual peer assessment • Computer-based learning and assessment • Tutorials and seminars <p>Secondary</p> <ul style="list-style-type: none"> • Class and seminar interactions and feedback
<ul style="list-style-type: none"> • NB: Benchmark References <p>QAA Benchmark Statement Construction Property and Surveying</p>	<ul style="list-style-type: none"> • Assessment • Coursework of all types • Examination preparation and completion • Assessed discussions • Group work assessments

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

<ul style="list-style-type: none"> • D: Employment Related Skills By the end of the programme the student will be able to: <ul style="list-style-type: none"> • Perform professional tasks, exercising personal responsibility and demonstrating a capacity to make decisions appropriate to their professional role. • Identify appropriate theoretical, professional and/or research based sources and use appropriately in their professional practice. • Plan and execute a variety of small scale inquiries into physiological and psychological interventions in order to improve themselves and others in their professional roles. • Show awareness of ethical, equality and diversity issues in the construction industry and supporting organisations. 	<ul style="list-style-type: none"> • The programme has a strong vocational focus, and the theoretical understanding developed through study will be rooted into practise.
<ul style="list-style-type: none"> • E: Practical Skills By the end of the programme the student will be able to: <ul style="list-style-type: none"> • Undertake effective measurement techniques. • Carry out basic setting out procedures. • Use effectively the range of learning resources, including ICT, across a range of contexts. 	<p>Learning and Teaching Strategy/Method</p> <ul style="list-style-type: none"> • Laboratory work • Projects • Designated tasks • Lectures and tutorials • Learning from work
<ul style="list-style-type: none"> • NB: Benchmark References QAA Benchmark Statement Construction Property and Surveying 	<ul style="list-style-type: none"> • Assessment • Project work • Competence in a range of business-related communication techniques

2.1.7. Distinctive Features of the Foundation Degree

The programme will have access to exceptional resources by way of the development and construction of the new energy centre. Phase 1 is already complete and is central to renewable energy technologies. Phase 2 is the complete new build of a centre of excellence in the delivery of sustainable construction for the built environment. Students will benefit from access to and interacting with purpose built sustainable buildings using traditional and innovative methods and renewable energy technology. Central to this is employer and industry professionals' involvement, practical application, review and analysis and research.

Students will benefit from:

- Industry employers have contributed to the design of this Foundation Degree and will continue to contribute by way of monitoring, reviewing, feedback and delivery. The Degree therefore, is designed with employability at its very core and the knowledge and skills that are gained will be underpinned through work based learning.

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

- Students will learn alongside other learners with different entry qualifications, from diverse backgrounds and varied industry-related experience. This diverse environment is an enrichment of the learning process for all learners.
- The Degree is flexible in both its mode of delivery and its progression routes. Flexibility provides greater access for learners and employers.
- Professional accreditation with the CIOB validates the quality and industry aligned programme content and delivery.
- Flexible progression paths to additional higher education programmes.

Partnership with Plymouth University provides access to a broad range of additional learning resources and academic and professional integration and validation.

2.1.8. Learning Outcomes Maps for FdSc Sustainable Construction and the Built Environment at HE Levels 4 and 5

Learning Outcomes Map	Level 4		
1 Graduate Attributes and Skills	Programme Aim	Programme Learning Outcome	Related Core Modules
<p>Core Programme Intended Learning Outcomes</p> <p>Students will be able to demonstrate a knowledge of the underlying concepts and principles associated with their area(s) of study, and an ability to evaluate and interpret these within the context of that (those) area(s) of study. In particular:</p> <ul style="list-style-type: none"> • An awareness of the basic principles of sustainable construction and the built environment. • Awareness of health and safety legislation, hazard identification and risk management within construction. • Awareness of the global, national and regional environmental principles. • An ability to undertake primary and secondary research. • An ability to apply basic design principles and analytical methods to construction problems. 	1,2,3,4,5,6	1,2,3,4,5	<p>SOUND1292 - Health Safety and Welfare for Construction and the Built Environment</p> <p>SOUND1222 - Sustainable Construction and its Environmental Impact</p> <p>SOUND1526 - Introduction to Commercial Management</p> <p>SOUND1293 - Applied Mathematics for Construction and the Built Environment</p> <p>SOUND1225 - Design Principles and Application</p> <p>SOUND1226 - Conversion and Adaption of Buildings</p> <p>SOUND1243 – Building Management Systems</p> <p>SOUND1372 – Setting Out For Construction Engineers</p>

<p>2. Cognitive / Intellectual Skills (generic) Students will be able to demonstrate an ability to present, evaluate, and interpret qualitative and quantitative data, to develop lines of argument and make sound judgements in accordance with basic theories and concepts of their subject(s) of study. They will also be able to demonstrate the ability to evaluate the appropriateness of different approaches to solving problems related to their area(s) of study and/or work. In particular to:</p> <ul style="list-style-type: none"> • Reflect on own practice, in relation to working with colleagues within a construction organisation. • Utilise information from primary and secondary sources. • Identify key areas of the law as they affect construction related issues. • Communicate principles and theories in discussion and report writing. 	1,2,5,	1,3,5,6	SOUD1526 - Introduction to Commercial Management SOUD1292 - Health Safety and Welfare for Construction and the Built Environment
<ul style="list-style-type: none"> • Key / Transferable Skills (generic) Students will be able to demonstrate an ability to communicate accurately and reliably, and with structured and coherent arguments. Students will also be able to demonstrate an ability to take different approaches to solving problems. In particular to: • Interact effectively within a group, giving and receiving information, modifying responses where appropriate and respecting the views of others. • Organise, present and defend ideas, theories and concepts confidently in academic and work related situations. • Communicate effectively in a variety of formats (oral and written) and in a manner appropriate to the audience/situation. 	1,2,3,4	3,5,6	SOUD1526 - Introduction to Commercial Management SOUD1292 - Health Safety and Welfare for Construction and the Built Environment SOUD1293 - Applied Mathematics for Construction and the Built Environment SOUD1372 – Setting Out For Construction Engineers

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

<ul style="list-style-type: none"> • Employment-related skills Students will be able to demonstrate an ability to undertake further training and develop new skills within a structured and managed environment and the qualities and transferable skills necessary for employment requiring the exercise of personal responsibility. IN particular to: • Perform professional tasks, exercising personal responsibility and demonstrating a capacity to make decisions appropriate to their professional role • Identify appropriate theoretical, professional and/or research based sources and use appropriately in their professional practice. • Plan and execute a variety of small scale inquiries into physiological and psychological interventions in order to improve themselves and others in their professional roles. 	1,2,3,4	1,2,3,5,6	SOUD1526 - Introduction to Commercial Management SOUD1292 - Health Safety and Welfare for Construction and the Built Environment
<p>2. Practical Skills (<i>subject specific</i>)</p> <ul style="list-style-type: none"> • Undertake basic measurement procedures and establish vertical control, record data using industry recognised methods. • Effective ICT use in the presentation of professional reports, graphical representation, statistical data and technical drawing. • First Aid at Work Training. 	1,2,4	1,2,3	SOUD1526 - Introduction to Commercial Management SOUD1292 - Health Safety and Welfare for Construction and the Built Environment SOUD1294 - Applied Mathematics for Construction and the Built Environment SOUD1294 - Applied Mathematics for Construction and the Built Environment SOUD1372 – Setting Out For Construction Engineers

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

Foundation Degree Intended Learning Outcomes Map	Level 5		
1 Graduate Attributes and Skills	Programme Aim	Programme Learning Outcome	Related Core Modules
Core Programme Intended Learning Outcomes			
<p>Knowledge/ Understanding</p> <p>Knowledge and critical understanding of the well-established principles of their area(s) of study, and the way in which those principles have developed; knowledge of the main methods of enquiry in their subject(s) and ability to evaluate critically the appropriateness of different approaches to solving problems in the field of study. They will also be able to demonstrate an understanding of the limits of their knowledge, and how this influences analyses and interpretations based on that knowledge. In particular:</p> <ul style="list-style-type: none"> • Awareness of the legal regulations and frameworks which underpin construction law. • Identify and evaluate the key players within construction project management and the variety of roles they perform. • Appreciation of the application of material technology in the construction industry. • Determine financial policy, legislation and control associated with construction organisations and projects. • Explain and critically evaluate policy and trends in environmental issues and renewable energy technologies. • An ability to undertake primary and secondary research and apply transferable skills. 	1,2,3,4,5,6	1,2,3,4,5,6	SOUD2171 - Contract Law and Procedures SOUD2172 - Construction Project Management SOUD2173 - Construction Technology and Material Application SOUD2174 - Financial Management and Economics SOUD2175 - Renewable Energy Technologies SOUD2318 - Work Based Research Project SOUD2189 – Energy Utilisation & Efficiency Within Sustainable Construction SOUD2319 – Surveying For Construction Engineers

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

<p>Cognitive / Intellectual Skills (generic)</p> <p>Students will be able to demonstrate an ability to apply underlying concepts and principles outside the context in which they were first studied. In particular:</p> <ul style="list-style-type: none"> • Use reflection in the learning process to enhance personal development and refine professional practice. • Analyse how ethical issues can be addressed within construction and its supporting industries. 	1,2,3,4,5,6	1,2,,4,5,6	SOUD2318 - Work Based Research Project SOUD2172 - Construction Project Management SOUD2173 - Construction Technology and Material Application
<p>Key / Transferable Skills (generic)</p> <p>Students will be able to demonstrate an ability to evaluate critically the appropriateness of different approaches to solving problems in the field of study; use a range of established techniques to initiate and undertake critical analysis of information, and to propose solutions to problems arising from that analysis and 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. In particular:</p> <ul style="list-style-type: none"> • Identify key elements of problems, applying appropriate methods to address them. • Transfer skills and knowledge across different settings and work related contexts. 	1,2,4,5,6	1,2,3,4.5,6	SOUD2173 - Construction Technology and Material Application SOUD2175 - Renewable Energy Technologies SOUD2318 - Work Based Research Project SOUD2189 – Energy Utilisation & Efficiency Within Sustainable Construction SOUD2319 – Surveying For Construction Engineers

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

<p>Employment-related skills Students will be able to demonstrate an ability to apply subject principles in an employment context possibly different from that in which they were first studied; undertake further training, develop existing skills and acquire new competencies that will enable them to assume significant responsibilities within organisations and demonstrate the qualities and transferable skills necessary for employment requiring the exercise of personal responsibility and decision making. In particular:</p> <ul style="list-style-type: none"> • Show awareness of ethical, equality and diversity issues in the construction industry organisations. • Identify important aspects of the work-based experience and compare, contrast and critique different aspects of the experience. 	1,5,6	1,2,3,6	SOUD2318 - Work Based Research Project SOUD2171 - Contract Law and Procedures SOUD2172 - Construction Project Management
<p>Practical Skills</p> <ul style="list-style-type: none"> • Effective ICT use in the presentation of professional reports, graphical representation, statistical data and technical drawing. 	1,2,3,5,6	1,2,3,4,5,6	SOUD2318 - Work Based Research Project SOUD2173 - Construction Technology and Material Application SOUD2189 – Energy Utilisation & Efficiency Within Sustainable Construction SOUD2319 – Surveying For Construction Engineers

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

7.2.8.1 Learning Outcomes Maps for HNC Sustainable Construction and the Built Environment

Learning Outcomes Map	Level 4		
1 Graduate Attributes and Skills	Programme Aim	Programme Learning Outcome	Related Core Modules
<p>Core Programme Intended Learning Outcomes</p> <p>Students will be able to demonstrate a knowledge of the underlying concepts and principles associated with their area(s) of study, and an ability to evaluate and interpret these within the context of that (those) area(s) of study. In particular:</p> <ul style="list-style-type: none"> • An awareness of the basic principles of sustainable construction and the built environment. • Awareness of health and safety legislation, hazard identification and risk management within construction. • Awareness of the global, national and regional environmental principles. • An ability to undertake primary and secondary research. • An ability to apply basic design principles and analytical methods to construction problems. 	1,2,4,	1,2,3,4,	SOUD1292 - Health Safety and Welfare for Construction and the Built Environment SOUD1222 - Sustainable Construction and its Environmental Impact SOUD1526 - Introduction to Commercial Management SOUD1293 - Applied Mathematics for Construction and the Built Environment SOUD1225 - Design Principles and Application SOUD1226 - Conversion and Adaption of Buildings SOUD1243 – Building Management Systems SOUD1372 – Setting Out For Construction Engineers

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

<p>2. Cognitive / Intellectual Skills (generic)</p> <p>Students will be able to demonstrate an ability to present, evaluate, and interpret qualitative and quantitative data, to develop lines of argument and make sound judgements in accordance with basic theories and concepts of their subject(s) of study. They will also be able to demonstrate the ability to evaluate the appropriateness of different approaches to solving problems related to their area(s) of study and/or work. In particular to:</p> <ul style="list-style-type: none"> • Reflect on own practice, in relation to working with colleagues within a construction organisation. • Utilise information from primary and secondary sources. • Identify key areas of the law as they affect construction related issues. • Communicate principles and theories in discussion and report writing. 	1,2,5,	1,3,6	<p>SOUD1526 - Introduction to Commercial Management</p> <p>SOUD1292 - Health Safety and Welfare for Construction and the Built Environment</p>
<ul style="list-style-type: none"> • Key / Transferable Skills (generic) <p>Students will be able to demonstrate an ability to communicate accurately and reliably, and with structured and coherent arguments. Students will also be able to demonstrate an ability to take different approaches to solving problems. In particular to:</p> <ul style="list-style-type: none"> • Interact effectively within a group, giving and receiving information, modifying responses where appropriate and respecting the views of others. • Organise, present and defend ideas, theories and concepts confidently in academic and work related situations. • Communicate effectively in a variety of formats (oral and written) and in a manner appropriate to the audience/situation. 	1,2,4	3,6	<p>SOUD1526 - Introduction to Commercial Management</p> <p>SOUD1292 - Health Safety and Welfare for Construction and the Built Environment</p> <p>SOUD1293 - Applied Mathematics for Construction and the Built Environment</p> <p>SOUD1372 – Setting Out For Construction Engineers</p>

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

<ul style="list-style-type: none"> • Employment-related skills Students will be able to demonstrate an ability to undertake further training and develop new skills within a structured and managed environment and the qualities and transferable skills necessary for employment requiring the exercise of personal responsibility. IN particular to: • Perform professional tasks, exercising personal responsibility and demonstrating a capacity to make decisions appropriate to their professional role • Identify appropriate theoretical, professional and/or research based sources and use appropriately in their professional practice. • Plan and execute a variety of small scale inquiries into physiological and psychological interventions in order to improve themselves and others in their professional roles. 	1,2,4	1,2,3,6	SOUD1526 - Introduction to Commercial Management SOUD1292 - Health Safety and Welfare for Construction and the Built Environment
<p>3. Practical Skills (<i>subject specific</i>)</p> <ul style="list-style-type: none"> • Undertake basic measurement procedures and establish vertical control, record data using industry recognised methods. • Effective ICT use in the presentation of professional reports, graphical representation, statistical data and technical drawing. • First Aid at Work Training. 	1,2,4	1,2,3	SOUD1526 - Introduction to Commercial Management SOUD1292 - Health Safety and Welfare for Construction and the Built Environment SOUD1293 - Applied Mathematics for Construction and the Built Environment SOUD1372 – Setting Out For Construction Engineers

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

3. Module Records

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SOUD1292	MODULE TITLE: Health Safety and Welfare for Construction and the Built Environment
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CREDITS: 20	FHEQ LEVEL: 4	JACS CODE: K290
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PRE-REQUISITES: N/A	CO-REQUISITES: N/A	COMPENSATABLE: Yes
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SHORT MODULE DESCRIPTOR: This module was designed to provide students with knowledge of current health, safety and welfare legislation applicable to the construction and built environment sector. Students will be able to identify and record hazards, assess risks and select appropriate control measures to prevent or mitigate ill health and injuries on site enabling sustainable and safe construction.

ELEMENTS OF ASSESSMENT			
WRITTEN EXAMINATION		COURSEWORK	
T1 (in-class test)	50%	C1	50%

SUBJECT ASSESSMENT PANEL Group to which module should be linked: Building Services

Professional body minimum pass mark requirement: NA
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MODULE AIMS: Students will develop the skills needed to identify hazards, undertake risk assessments and determine what constitutes an effective Health and Safety Policy. Students will be able to: <ul style="list-style-type: none">• Demonstrate how legislation impacts upon all stages of construction• Effectively plan, manage, monitor and review projects and work activities within the built environment by application of current legislation

ASSESSED LEARNING OUTCOMES: (additional guidance below) At the end of the module the learner will be expected to be able to: <ol style="list-style-type: none">1. Understand the health, safety and welfare legislation to enable sustainable and safe construction.2. Evaluate hazard and risk identification in design and construction and justify the need to review, revise and monitor risk assessments.3. Undertake risk assessments and associated legislative documentation.4. Define duties and responsibilities under legislation for given roles associated with construction projects.
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DATE OF APPROVAL: 25/04/2012	FACULTY/OFFICE: AP
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*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

DATE OF IMPLEMENTATION: 09/2012	SCHOOL/PARTNER: South Devon College
DATE(S) OF APPROVED CHANGE: N/A	TERM: 12/AY/AU/M

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

ACADEMIC YEAR: 2020/21	NATIONAL COST CENTRE: 123
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MODULE LEADER: Dave Worthington	OTHER MODULE STAFF:
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Summary of Module Content

Legislation and approved codes of practice; implications of legislation; health and safety organisational arrangements; hazard identification and risk assessment; record keeping and data collection/interpretation; reviewing, revision and monitoring of health and safety documentation and data, sustainable and safe construction.

SUMMARY OF TEACHING AND LEARNING

Activities	Hours	Comments/Additional Information
Scheduled activities	30	1 hours per week for 30 weeks
Scheduled activities	10	
Directed Study	20	
Guided Independent Study	140	Directed weekly reading, Moodle-based tasks, and assessment development/revision
Total	200	

Category	Element	Component Name	Component weighting	Comments Include links to learning objectives
Written Exam	T1	Testing (Timed)	100%	LO1, LO4
Coursework	C1	Assignment	100%	2000 words. LO2, LO3.

Updated by: Dave Worthington Date: 25/05/2020	Approved by: Dean Bowden Date: 27/05/2020
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Recommended Texts and Sources:

Howarth, T. (2009) *Construction safety management*. Chichester: Wiley Blackwell.

HSE (2007) *Health and safety in construction*. Merseyside: HSE Books.

Hughes, P. and Ferrett, E. (2007) *Introduction to Health and Safety in Construction*. 2nd ed. Oxford: Elsevier Butterworth-Heinemann.

ICE (2010) *ICE manual of health and safety in construction*. London: Thomas Telford.

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

<http://www.hse.gov.uk/>

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SOUD1222	MODULE TITLE: Sustainable Construction and its Environmental Impact
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CREDITS: 20	FHEQ LEVEL: 4	JACS CODE: K290
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PRE-REQUISITES: N/A	CO-REQUISITES: N/A	COMPENSATABLE: Yes
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SHORT MODULE DESCRIPTOR:

The module is designed to develop student's knowledge and skills in traditional and innovative construction methodology and the environmental impact of construction in the built environment sector. It evaluates the technical and legal processes and procedures used to eliminate or minimise the environmental impact and achieve sustainable construction.

ELEMENTS OF ASSESSMENT

COURSEWORK	
C1	100%

SUBJECT ASSESSMENT PANEL Group to which module should be linked: Building Services

Professional body minimum pass mark requirement: NA

MODULE AIMS:

Students will develop and be able to demonstrate skills and knowledge in traditional and innovative construction methodology. To raise awareness of the local and global environmental impact of construction. To introduce the student to sustainable construction practice and legislation for the built environment.

ASSESSED LEARNING OUTCOMES: (additional guidance below)

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

1. Demonstrate the techniques used in site investigation and evaluation and how this influences sub-structure design.
2. Identify traditional and innovative superstructure design and construction techniques.
3. Identify the causes of decay and deterioration of buildings.
4. Identify how the construction and built environment sector impacts upon the environment.
5. Determine the local and global environmental impact of the construction and built environment sector.

DATE OF APPROVAL: 25/04/2012	FACULTY/OFFICE: AP
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*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

DATE OF IMPLEMENTATION: 09/2012	SCHOOL/PARTNER: South Devon College
DATE(S) OF APPROVED CHANGE: N/A	TERM: 12/AY/AU/M

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

ACADEMIC YEAR: 2020/21	NATIONAL COST CENTRE: 123
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MODULE LEADER: Dave Worthington	OTHER MODULE STAFF: none
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Summary of Module Content

Site investigation and evaluation, local and global environmental issues, types and design of sustainable construction in relation to sub-structures, sustainable construction in relation to types and design of superstructure, walls, floors, roofs, finishes, services (domestic, commercial, industrial), utilities, the lens of sustainable building, innovative and high tech buildings, off-site construction, code for sustainable homes; environmental assessment, methods to reduce local and global environmental impact, care and maintenance of buildings.

SUMMARY OF TEACHING AND LEARNING

Activities	Hours	Comments/Additional Information
Scheduled activities	60	2 hours per week for 30 weeks
Guided Independent Study	140	Directed weekly reading, Moodle-based tasks, and assessment development/revision
Total	200	

Category	Element	Component Name	Component weighting	Comments Include links to learning objectives
Coursework	C1	Assignment	50%	2000 words. LO1, LO4.
		Assignment	50%	2000 words. LO2, LO3, LO5.
			100%	

Updated by: Dave Worthington Date: 25/05/2020	Approved by: Dean Bowden Date: 27/05/2020
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Recommended Texts and Sources:

Chudley, R. and Greeno, R. (2012) *Advanced Construction Technology*. 5th ed. New York, USA: Prentice Hall.

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

Chudley, R. and Greeno, R. (2013) *Building Construction Handbook*. 9th ed. London: Routledge.

Hall, K. (2007) *The green building bible, Vol. 1: all you need to know about ecobuilding*. 3rd ed. Llandysul: Green Building.

Halliday, S. (2008) *Sustainable construction*. Oxford: Butterworth Heinemann.

HM Government (2008) *Strategy for Sustainable Construction* [online]. Available from: <http://webarchive.nationalarchives.gov.uk/+http://www.bis.gov.uk/files/file46535.pdf>

Langston, C. (2001) *Sustainable practices in the built environment*. Oxford: Butterworth Heinemann.

Mawhinney, M. (2002) *Sustainable development: understanding the green debates*. Oxford: Blackwell Science.

Nicholls, R. (2008) *The green building bible, Vol. 2: the low energy design technical reference*. Llandysul: Green Building.

Roaf, S. (2012) *Ecohouse: a design guide*. 4th ed. New York: Architectural Press.

Strong, A. (2006) *Sustainable development policy directory*. Oxford: Blackwell.

Journals (available on the Plymouth portal) Buildings, Construction, Construction & building materials, Construction bulletin, Construction Europe, Construction Innovation, Construction law and business, Construction management and economics, Construction news, Construction review, Environmental Design & Construction, International construction, Journal of construction research, The open construction & building technology journal, Building and environment, Building Design, Building Science, Energy and buildings, What's new in building, Energy for sustainable development.

UNIVERSITY OF PLYMOUTH MODULE RECORD

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SOUD1526

MODULE TITLE: Introduction to Commercial Management

CREDITS: 20

FHEQ LEVEL: 4

HECOS CODE: Construction management 100151

PRE-REQUISITES: None

CO-REQUISITES: None

COMPENSATABLE: Y

SHORT MODULE DESCRIPTOR: *(max 425 characters)*

This module is designed to provide an introduction to some of the key concepts associated with commercial management in construction. Learning about concepts such as procurement techniques, types of contract, pre-contract financial planning and work programming will help the student to develop an understanding of what is required to ensure the successful commercial management of a construction project.

ELEMENTS OF ASSESSMENT <i>[Use HESA KIS definitions]</i> – see Definitions of Elements and Components of Assessment					
E1 (Examination)		C1 (Coursework)	100%	P1 (Practical)	
E2 (Clinical Examination)		A1 (Generic assessment)		T1 (Test)	

SUBJECT ASSESSMENT PANEL to which module should be linked: FdSc Sustainable Construction and the Built Environment

Professional body minimum pass mark requirement: NA

MODULE AIMS:

This module aims to provide students with an understanding of:

- The types of contracts used in construction and why they are applied in different situations.
- The different methods of successful procurement.
- The importance of pre-contract financial management and cost planning.
- The techniques used for formulating a programme of works.

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

ASSESSED LEARNING OUTCOMES: (additional guidance below; please refer to the Programme Specification for relevant award/ programme Learning Outcomes.

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

Assessed Module Learning Outcomes	Award/ Programme Learning Outcomes contributed to
<ol style="list-style-type: none"> 1. Identify the different forms of contracts used in construction and explain why they are applied in different situations. 2. Describe the different methods of procurement and outline negotiation requirements. 3. Explain the importance of pre-contract financial management and cost planning to the success of construction project. 4. Evaluate the techniques used in pre-construction planning to formulate a programme of works. 	<p>PLO3 Demonstrate knowledge in policy, legislation and best working practice pertaining to sustainable development.</p> <p>PLO6 Demonstrate a range of transferable skills applicable to diverse environments.</p> <p>PLO4 Identify and explain the environmental versus economic issues relating to the study of sustainable construction</p> <p>PLO2 Understand management roles and responsibilities within the construction sector.</p>
DATE OF APPROVAL: 21/01/2020	FACULTY/OFFICE: Academic Partnerships
DATE OF IMPLEMENTATION: 09/2020	SCHOOL/PARTNER: South Devon College
DATE(S) OF APPROVED CHANGE: xx/xx/xx	SEMESTER: Semester 1 & 2

Notes:

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

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: 2020/2021
MODULE LEADER: Andrew Finch

NATIONAL COST CENTRE: 123
OTHER MODULE STAFF: Dave Worthington

Summary of Module Content

During this module students learn the requirements for a contract in meeting stakeholders' interests, determining the criteria for the selection of a contract. Students will define what constitutes a tender and the information required for this process as well as explaining the procedures and contractual arrangements for tendering. Students will learn to define standard measurement techniques used for taking-off quantities for estimating purposes. Students will also learn about the different strategies that can be used to formulate a programme of works and the importance of this aspect to the success of a construction project.

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Scheduled activities	60	A variety of lecture based and applied learning seminar sessions to include embedded formative assessment throughout the scheme of work.
Independent	140	Directed weekly reading , VLE activities, revision.
Total	200	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Assignment 1 – LOs 1&2 Write a technical report evaluating at least two contrasting procurement and contractual arrangements.	50%
	Assignment 2 – LOs 3&4 Produce a presentation evaluating the importance of pre-contract financial management and programming of construction works.	50%
		Total 100%

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

REFERRAL ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	Technical Report – LO1/2/3/4 Write a technical report evaluating at least two contrasting case studies. Consider the procurement and contractual arrangements, pre-contract financial management and programming of construction works.	100%

To be completed when presented for Minor Change approval and/or annually updated			
Updated by: Alex Osborne	Date: 25/05/2020	Approved by: Bowden	Date: Dean 27/05/2020

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SOUD1293	MODULE TITLE: Applied Mathematics for Construction and the Built Environment
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CREDITS: 20	FHEQ LEVEL: 4	JACS CODE: K290
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PRE-REQUISITES: N/A	CO-REQUISITES: N/A	COMPENSATABLE: Yes
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SHORT MODULE DESCRIPTOR:

This module was designed to provide students with an understanding of analytical techniques and the mathematical skills needed to solve construction and engineering problems. It has also been designed to enable learners to use mathematical processes to solve construction, civil engineering and building services engineering problems.

ELEMENTS OF ASSESSMENT

WRITTEN EXAMINATION		COURSEWORK	
T1 (in-class test)	30%	C1	70%

SUBJECT ASSESSMENT PANEL Group to which module should be linked: Building Services

Professional body minimum pass mark requirement: NA

MODULE AIMS:

This unit provides students with an opportunity to develop skills in using analytical methods and statistics to solve construction and engineering problems.

ASSESSED LEARNING OUTCOMES: (additional guidance below)

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

1. Apply analytical methods to construction problems.
2. Apply analytical methods to surveying and setting out procedures.
3. Apply statistics to construction problems.
4. Apply analytical methods to engineering problems.

DATE OF APPROVAL: 25/04/2012	FACULTY/OFFICE: AP
DATE OF IMPLEMENTATION: 09/2012	SCHOOL/PARTNER: South Devon College
DATE(S) OF APPROVED CHANGE: N/A	TERM: 12/AY/AU/M

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

ACADEMIC YEAR: 2020/21	NATIONAL COST CENTRE: 123
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MODULE LEADER: Dave Worthington	OTHER MODULE STAFF:
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Summary of Module Content

Indices and logarithms; transposition and evaluation formulae; fractions and percentages; formulation and manipulation of algebraic equations; graphical techniques; trigonometry; matrices; laws of motion; geometry; irregular areas and volumes; statistics; trigonometrical techniques; calculus; construction and engineering applications (setting out, surveying, costing).

SUMMARY OF TEACHING AND LEARNING

Activities	Hours	Comments/Additional Information
Scheduled activities	60	2 hours per week for 30 weeks
Guided Independent Study	140	Directed weekly reading, Moodle-based tasks, and assessment development/revision
Total	200	

Category	Element	Component Name	Component weighting	Comments Include links to learning objectives
Written Exam	T1	Timed Test	100%	LO1, LO2
Coursework	C1	Assignment	100%	LO3, LO4

Updated by: Dave Worthington Date: 25/05/2020	Approved by: Dean Bowden Date: 27/05/2020
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Recommended Texts and Sources:

Taylor, G. , Fuller, A. and Greer, A. (2004) *BTEC National Mathematics for Technicians*. 3rd ed. Cheltenham: Nelson Thornes.

Taylor, G. and Greer, A. (2005) *BTEC National Further Mathematics for Technicians*. 3rd ed. Cheltenham: Nelson Thornes.

Virdi, S.S. and Baker, R.T. (2007) *Construction Mathematics*. Oxford: Butterworth-Heinemann.

Stroud, K.A. and Dexter J. Booth (2009) *Foundation Mathematics*. Oxford: Palgrave Macmillan.

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SOUD1225	MODULE TITLE: Design Principles and Application
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CREDITS: 20	FHEQ LEVEL: 4	JACS CODE: K290
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PRE-REQUISITES: N/A	CO-REQUISITES: N/A	COMPENSATABLE: Yes
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SHORT MODULE DESCRIPTOR:

This module was designed to enable students to demonstrate an understanding of design considerations and the design process. Students will develop their ability to evaluate the planning and design phases and explore the roles and legal responsibilities of all parties involved in construction projects.

ELEMENTS OF ASSESSMENT

COURSEWORK	
C1	100%

SUBJECT ASSESSMENT PANEL Group to which module should be linked: Building Services

Professional body minimum pass mark requirement: NA

MODULE AIMS:

This unit provides learners with the opportunity to develop an understanding of the design process and how the planning and design phases are coordinated and managed.

ASSESSED LEARNING OUTCOMES: (additional guidance below)

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

1. Understand and demonstrate the planning and design phases of the construction process.
2. Determine the factors that affect the specification of materials and building services.
3. Explain the roles and responsibilities of all parties involved in construction projects.
4. Identify how technology affects the design and production phases of construction projects

DATE OF APPROVAL: 25/04/2012	FACULTY/OFFICE: AP
DATE OF IMPLEMENTATION: 09/2012	SCHOOL/PARTNER: South Devon College
DATE(S) OF APPROVED CHANGE: N/A	TERM: 12/AY/AU/M

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

ACADEMIC YEAR: 2020/21	NATIONAL COST CENTRE: 123
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MODULE LEADER: Alex Osborne	OTHER MODULE STAFF: None
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Summary of Module Content

Planning phase; legislation; building regulations; design phase; client brief; intended use; project aesthetics; influence of shape, size and proportion; position; location; plant installation; effects of green, brown and reclaimed land on planning and design; financial implications of design; sources of funding; lifecycle cost planning; specification of materials and building services; sustainable construction design and environmental impact; roles and responsibilities; Positive solar design techniques; future technology design; zero carbon construction design; passivhaus; code for sustainable homes; use of computer software in design (incorporating short course on an introduction to CAD).

SUMMARY OF TEACHING AND LEARNING

Activities	Hours	Comments/Additional Information
Scheduled activities	60	2 hours per week for 30 weeks
Guided Independent Study	140	Directed weekly reading, Moodle-based tasks, and assessment development/revision
Total	200	

Category	Element	Component Name	Component weighting	Comments Include links to learning objectives
Coursework	C1	Assignment	40%	2000 words. LO1, LO4. Report on professional roles and responsibilities
		Assignment	60%	2000 words. LO2, LO3. Report and inclusion of CAD drawings.
			100%	

Updated by: Alex Osborne
Date: 25/05/2020

Approved by: Dave Worthington
Date: 27/05/2020

Recommended Texts and Sources:

Appleby, Paul. (2011) *Integrated sustainable design of buildings*. London: Earthscan.

Lechner, N (2009) *Heating, Cooling, Lighting: sustainable design methods for architects*. New Jersey: John Wiley & sons.

McMullan, R. (2012) *Environmental Science in Building*. Basingstoke: Palgrave Macmillan.

Thomas, R. (2006) *Environmental design: an introduction for architects and engineers*. 3rd ed. London: Routledge.

Yeang, K. and Spector, A. (2011) *Green design: from theory to practice*. London: Black Dog.

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SOUD1226	MODULE TITLE: Conversion and Adaption of Buildings
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CREDITS: 20	FHEQ LEVEL: 4	JACS CODE: K290
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PRE-REQUISITES: N/A	CO-REQUISITES: N/A	COMPENSATABLE: Yes
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SHORT MODULE DESCRIPTOR:

This module was designed to enable students to demonstrate an understanding of refurbishment and change of use of existing buildings. Learners will evaluate existing buildings in preparation for conversion and/or adaption and apply sustainable design criteria and management principles to project development.

ELEMENTS OF ASSESSMENT

COURSEWORK	
C1	100%

SUBJECT ASSESSMENT PANEL Group to which module should be linked: Building Services

Professional body minimum pass mark requirement: NA

MODULE AIMS:

This module enables students to appreciate the feasibility of modifying buildings for specific purposes and develop skills to undertake design and produce effective drawings, specifications and construction plans to modify buildings using design briefs.

ASSESSED LEARNING OUTCOMES: (additional guidance below)

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

1. Assess the feasibility of modifying existing buildings for specific requirements.
2. Evaluate design briefs to modify existing buildings.
3. Produce drawings and specifications to modify existing buildings for refurbishment and re-use.

DATE OF APPROVAL: 25/04/2012	FACULTY/OFFICE: AP
DATE OF IMPLEMENTATION: 09/2012	SCHOOL/PARTNER: South Devon College
DATE(S) OF APPROVED CHANGE: N/A	TERM: 12/AY/AU/M

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

ACADEMIC YEAR: 2020/21	NATIONAL COST CENTRE: 123
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MODULE LEADER: Dave Worthington	OTHER MODULE STAFF:
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Summary of Module Content

Environmental requirements and considerations; sustainable retro-fits; use of internal space; economic implications; structural implications; building layout (access, structural implications, limitations of modification); code for sustainable homes; services (location, scope, limitations of modification); planning; listed building status; building regulations; disability discrimination in relation to access and fire regulations.

SUMMARY OF TEACHING AND LEARNING

Activities	Hours	Comments/Additional Information
Scheduled activities	30	1.5 hours per week for 20 weeks
Scheduled Related Visits	5	Site Visit relating to Group Project
Directed group work	25	Supervised group work
Guided Independent Study	140	Directed weekly reading, Moodle-based tasks, and assessment development/revision
Total	200	

Category	Element	Component Name	Component weighting	Comments Include links to learning objectives
Coursework	C1	Assignment	50%	2000 words. LO1
		Group Assignment & Presentation	50%	2000 words pp LO2, LO3.
			100%	

Updated by: Dave Worthington Date: 25/05/2020	Approved by: Dean Bowden Date: 27/05/2020
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Recommended Texts and Sources:

Ching, F. D. K. (2009) *Architectural Graphics*. John Wiley & Sons Inc.
Chudley, R. (2013) *Building Construction Handbook*. 9th Edition. Butterworth-Heinemann.
Dickinson, P. and Thornton, N. (2004) *Cracking and Building Movement*. RICS Books.
Douglas, J. (2006) *Building Adaptation*. Butterworth-Heinemann.
Glover, P. (2013) *Building Surveys* 8th edition. Abingdon: Routledge.
Riley, M. and Howard, C. (2008) *Construction Technology*. 2nd Revised Edition. Palgrave.
Williams, A. R. (2008) *Practical Guide to Alterations and Extensions*. E & FN Spon.

Journals

Architects Journal – Emap
The Builder – Hanley Wood

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

BRE Digests and publications – BRE
Construction News – Emap

Websites

www.architecture.com Royal Institute of British Architects

www.ciat.org.uk Chartered Institute of Architectural Technologists

www.greenspec.co.uk Directory of sustainable construction products

www.thenbs.com National Building Services

www.planningportal.gov.uk Planning and building regulations resource

www.rics.org Royal Institution of Chartered Surveyors

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SOUD1243	MODULE TITLE: Building Management Systems
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CREDITS: 20	FHEQ LEVEL: 4	JACS CODE: K290
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PRE-REQUISITES: N/A	CO-REQUISITES: N/A	COMPENSATABLE: Yes
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SHORT MODULE DESCRIPTOR: This module allows students to explore the characteristics of BMS installations and consider how these systems can be used to manage and control the mechanical and electrical services of buildings and promote internal environmental comfort and energy efficiency. Students will investigate the installation and operational issues, and develop the skills needed to analyse and produce designs for BMS installations, and investigate the use of BMS reports and data to inform planned preventative maintenance (PPM) strategies and optimise the performance of BMS installations. Students will determine how BMS installations contribute to the environmental and zero carbon agenda.

ELEMENTS OF ASSESSMENT [Use HESA KIS definitions]
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COURSEWORK	
C1	100%

SUBJECT ASSESSMENT PANEL Group to which module should be linked: Construction

Professional body minimum pass mark requirement: N/A

<p>MODULE AIMS: This module enables students to develop knowledge and understanding of building management systems (BMS) in relation to the management and control requirements of buildings and to develop the capability to make effective choice and selection of BMS.</p>
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<p>ASSESSED LEARNING OUTCOMES: At the end of the module the learner will be expected to be able to:</p> <ol style="list-style-type: none"> 1 Understand the management and control requirements of buildings 2 Understand the control functions of BMS hardware 3 To analyse and evaluate selection of BMS 4 Be able to use BMS reports and data to optimise the performance of BMS installations.

DATE OF APPROVAL: 14/12/2012	FACULTY/OFFICE: AP
DATE OF IMPLEMENTATION: 23/09/2013	SCHOOL/PARTNER: South Devon College
DATE(S) OF APPROVED CHANGE:	TERM: Autumn/Spring/Summer/other 13/AY/AU/M

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

ACADEMIC YEAR: 2020/21	NATIONAL COST CENTRE: 123
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MODULE LEADER: Rob Rickey	OTHER MODULE STAFF: None
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Summary of Module Content Power generation and load management; fire detection; maintenance; characteristics of BMS; environmental control requirements of buildings (heating, natural ventilation, mechanical ventilation, air conditioning); lighting control requirements; building access and building security systems; monitoring energy sources and energy consumption within buildings; financial implications of using BMS; benefits of BMS (compared to conventional control strategies); BMS installations: design; software; building and system performance reports (techniques for interrogating BMS installations); reduce energy resource demands (interpretation of BMS reports); selection of energy tariffs; monitor plant efficiency performance and life expectancy; optimisation of plant and building energy performance)

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information
Scheduled activities	60	2 hours/week for 30 weeks
Scheduled Related Visits	5	Site Visit to Working System
Guided Independent Study	135	Directed weekly reading, Moodle-based tasks, and assessment development/revision
Total	200	

<i>Category</i>	<i>Element</i>	<i>Component Name</i>	<i>Component weighting</i>	<i>Comments Include links to learning objectives</i>
Coursework	C1	Report	50 %	LO 1 & 3 scenario report LO 2, & 4 case study of BMS outcomes
		Case study	50 %	
			100%	

Updated by: Dave Worthington Date: 25/05/2020	Approved by: Dean Bowden Date: 27/05/2020
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Recommended Texts and Sources:
 Chudley, R. (2013) *Building Construction Handbook*. 9th Edition. Butterworth-Heinemann.
 Hall, F. & Greeno, R. (2009) *Building Services Handbook: Incorporating current building and construction regulations*. 5th edn. Amsterdam: Elsevier/Butterworth-Heinemann

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE:	SOUND1372	MODULE TITLE:	Setting Out for Construction Engineers
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CREDITS: 20	FHEQ Level: 4	JACS CODE: K290
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PRE-REQUISITES: None	CO-REQUISITES: None	COMPENSATABLE: Yes
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SHORT MODULE DESCRIPTOR: *(max 425 characters)*

This module is designed to introduce students to the principles, procedures and techniques of setting out in relation to construction, building and civil engineering projects.

ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*

COURSEWORK		PRACTICAL	
C1 (Coursework)	100%	P1 (Practical)	Pass/Fail

SUBJECT ASSESSMENT PANEL Group to which module should be linked: FdSc Sustainable Construction and The Built Environment

Professional body minimum pass mark requirement: NA

MODULE AIMS:

To enable students to identify and use setting out instrumentation, techniques and procedures and apply them to set out building, construction and civil engineering projects.

ASSESSED LEARNING OUTCOMES: *(additional guidance below)*

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

1. Identify and operate effectively a range of technical instrumentation used in setting out applications
2. Use a range of technical instrumentation to establish horizontal and vertical control
3. Determine the nature of errors in measurement and the need for Quality Control.
4. To effectively use and manipulate mapping software and download survey data to produce and edit drawings for plotting or export to CAD packages

DATE OF APPROVAL:	06/2014	FACULTY/OFFICE:	Academic Partnerships
DATE OF IMPLEMENTATION:	09/2014	SCHOOL/PARTNER:	South Devon College
DATE(S) OF APPROVED CHANGE:	Click here to enter a date.	TERM/SEMESTER:	All Year

Additional notes (for office use only): For delivering institution's HE Operations or Academic Partnerships use if required

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

ACADEMIC YEAR: 2020/21	NATIONAL COST CENTRE: 123
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MODULE LEADER: Dave Worthington	OTHER MODULE STAFF: None
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SUMMARY of MODULE CONTENT

Set up and use optical levels, laser levels, read the level staff, book and reduce levels, understand sources of error in levelling, establish temporary benchmarks, observe, record and calculate the level of existing features, set out given level values, including soffits, calculation of drainage run, set out profiles and calculate traveller lengths, Set up and use modern electronic theodolites, extract setting out data from drawings, calculate bearings and distances from coordinates for setting out, use theodolite for horizontal and vertical alignment, set up and use Total Station/EDM, calculate polar coordinates for setting out, observe, code and record an as-built survey of set out points, basic concepts of setting out of roads/railways, drainage and structures, setting out of curves, calculation of areas and volumes, the basic principles of GPS/GNSS coordinate systems, be aware of and use the different types of GPS receivers, and their applications in the construction Industry, extract coordinate data from digital drawings, transfer to total stations for setting out, then download an as-built survey to compare with the digital design data, and interface with CAD and other software.

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]

Scheduled Activities	Hours	Comments/Additional Information
Scheduled activities	30	1 hours/week for 30 weeks
Scheduled Related Site Applications	30	1 hour/week for 30 weeks using instrumentation in practical application
Guided Independent Study	140	Directed weekly reading, Moodle-based tasks, and assessment development/revision
Total	200	

Category	Element	Component Name	Component Weighting	Comments include links to learning objectives
Coursework	C1	Portfolio	100%	LO3 LO4
Practical	P1	Competency Document	Pass/Fail	LO1 LO2

Updated by: Dave Worthington Date: 25/05/2020	Approved by: Dean Bowden Date: 27/05/2020
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Recommended Texts and Sources:

Uren, J. and Price, W.F. (2010) *Surveying for Engineers*. 5th edn. Palgrave Macmillan

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SOUD2171	MODULE TITLE: Contract Law and Procedures
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CREDITS: 20	FHEQ LEVEL: 5	JACS CODE: K290
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PRE-REQUISITES: N/A	CO-REQUISITES: N/A	COMPENSATABLE: Yes
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SHORT MODULE DESCRIPTOR:

This module was designed to enable students to develop an understanding of the national legal system, the Law of Contract and the liabilities and responsibilities of each party to a contract. Students will develop knowledge of contract administration and procurement procedures used in the construction and built environment sector.

ELEMENTS OF ASSESSMENT

COURSEWORK	
C1	100%

SUBJECT ASSESSMENT PANEL Group to which module should be linked: Building Services

Professional body minimum pass mark requirement: NA

MODULE AIMS:

This module aims to provide students with an opportunity to gain a knowledge and understanding of the principles and procedures of law as applied to the construction and built environment sector. This module also aims to offer students the opportunity to gain knowledge of the roles, responsibilities and activities of the parties and organisations involved in contractual procedures and the procurement of building projects.

ASSESSED LEARNING OUTCOMES: (additional guidance below)

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

1. Determine the principles and procedures of law and legislation as applied to the construction and built environment sector.
2. Critically assess the role, obligations and responsibilities of the employer and the contractor under construction contracts.
3. Develop an understanding of the factors that affect the choice of construction procurement methods and contractual arrangements.
4. Identify, evaluate and critically assess, key matters arising during the course of a construction contract.

DATE OF APPROVAL: 25/04/2012	FACULTY/OFFICE: AP
DATE OF IMPLEMENTATION: 09/2012	SCHOOL/PARTNER: South Devon College
DATE(S) OF APPROVED CHANGE: N/A	TERM: 13/AY/AU/M

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

ACADEMIC YEAR: 2020/21	NATIONAL COST CENTRE: 123
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MODULE LEADER: Andrew Finch	OTHER MODULE STAFF:
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Summary of Module Content

Formation of contracts; content of contracts; express and implied terms; duress and undue influence; remedies; dispute resolution; context of construction contracts (general principles of contract law including formation and contractual capacity); types of construction contracts; standard forms of contract; obligations; time, variation, certification and payment provisions and ending a construction contract (including delay, expense, damages and practical completion).

SUMMARY OF TEACHING AND LEARNING

Activities	Hours	Comments/Additional Information
Scheduled activities	45	1.5 hours per week for 30 weeks
Guided Independent Study	155	Directed weekly reading, Moodle-based tasks, and assessment development/revision
Total	200	

Category	Element	Component Name	Component weighting	Comments Include links to learning objectives
Coursework	C1	Report	50%	LO1, LO2 Scenario Report
		Assignment	50%	LO3, LO4 Case Study
			100%	

Updated by: Andrew Finch Date: 23/05/2020	Approved by: Dave Worthington Date: 27/05/2020
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Recommended Texts and Sources:

Furnston, MP. (2006) *Cheshire, Fifoot and Furnston's Law of Contract*. Butterworths.

Poole. J. (2010) *Textbook on Contract Law*. Oxford.

Poole, J. (2008) *A Casebook on Contract*. Blackstone.

Adriaanse (2010) *Construction contract law: the essentials*. Basingstoke: Palgrave Macmillan.

Ashworth, A. (2011) *Contractual procedures in the construction industry*. Harlow: Prentice Hall.

Ashworth, A. (2008) *Pre-contract studies: development economics, tendering and estimating*. Oxford: Blackwell.

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

Journals (available on the Plymouth portal)

Buildings, Construction, Construction & building materials, Construction bulletin, Construction Europe, Construction Innovation, Construction law and business, Construction management and economics, Construction news, Construction review, Environmental Design & Construction, International construction, Journal of construction research, The open construction & building technology journal, Building and environment, Building Design, Building Science, Energy and buildings, What's new in building, Energy for sustainable development.

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SOUD2172	MODULE TITLE: Construction Project Management
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CREDITS: 20	FHEQ LEVEL: 5	JACS CODE: K290
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PRE-REQUISITES: N/A	CO-REQUISITES: N/A	COMPENSATABLE: Yes
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SHORT MODULE DESCRIPTOR:

This module has been designed to prepare students for management careers in the construction industry by providing the technical knowledge, initiative, personal and management skills the industry demands.

ELEMENTS OF ASSESSMENT

COURSEWORK	
C1	100%

SUBJECT ASSESSMENT PANEL Group to which module should be linked: Building Services

Professional body minimum pass mark requirement: NA

MODULE AIMS:

To provide the student with an understanding of the concepts of construction project management and develop an understanding of the tools and techniques used in practice to provide value added services to clients. The module provides students with an introduction to the issues related to the management of construction clients and other project stakeholders and how their needs can be organised and delivered from design through production to occupation by other supply chain organisations within the context of client satisfaction and the overarching construction project constraints of time, cost, quality sustainability, health and safety management.

ASSESSED LEARNING OUTCOMES: (additional guidance below)

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

1. Apply management principles to a range of type and size construction projects.
2. Define requirements and procedures for effective project management.
3. Identify Project control measures and effective means of implementation.

DATE OF APPROVAL: 25/04/2012	FACULTY/OFFICE: AP
DATE OF IMPLEMENTATION: 09/2012	SCHOOL/PARTNER: South Devon College
DATE(S) OF APPROVED CHANGE: N/A	TERM: 13/AY/AU/M

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

ACADEMIC YEAR: 2020/21	NATIONAL COST CENTRE: 123
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MODULE LEADER: Andrew Finch	OTHER MODULE STAFF:
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Summary of Module Content

Management principles; environmental and sustainable management; construction industry reports; contract management; procurement methods; tendering procedures ; supply chain management ; risk management ; planning process ; programme techniques ; safety planning and implementation ; controlling resources ; site management.

SUMMARY OF TEACHING AND LEARNING

Activities	Hours	Comments/Additional Information
Scheduled activities	45	1.5 hours per week for 30 weeks
Guided Independent Study	155	Directed weekly reading, Moodle-based tasks, and assessment development/revision
Total	200	

Category	Element	Component Name	Component weighting	Comments Include links to learning objectives
Coursework	C1	Assignment	50%	2000 words. LO1
		Assignment	50%	2000 words. LO2, LO3.
			50%	
			100%	

Updated by: Andrew Finch
Date: 25/05/2020

Approved by: Dean Bowden
Date: 27/05/2020

Recommended Texts and Sources:

Chartered Institute of Building (2011) *Code of practice for project management for construction and development*. Wiley-Blackwell.

Gould, F. (2005) *Managing the construction process: estimating, scheduling, and project control*. Upper Saddle River, N.J.: Pearson/Prentice Hall.

Levy, S. (2011) *Project Management in construction*. New York: McGraw Hill.

Winch, G. (2010) *Managing construction projects: an information processing approach*. 2nd edn. Ames, Iowa: Blackwell Pub.

Cooke, B and Williams, P. (2009) *Construction planning, programming and control*. Wiley-Blackwell.

Journals (available on the Plymouth portal)

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

Buildings, Construction, Construction & building materials, Construction bulletin, Construction Europe, Construction Innovation, Construction law and business, Construction management and economics, Construction news, Construction review, Environmental Design & Construction, International construction, Journal of construction research, The open construction & building technology journal, Building and environment, Building Design, Building Science, Energy and buildings, What's new in building, Energy for sustainable development.

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SOUD2173	MODULE TITLE: Construction Technology and Material Application
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CREDITS: 20	FHEQ LEVEL: 5	JACS CODE: K290
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PRE-REQUISITES: N/A	CO-REQUISITES: N/A	COMPENSATABLE: Yes
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SHORT MODULE DESCRIPTOR:

This module has been designed to develop students understanding of the properties, structural behaviour and use of construction materials. It appraises material characteristics and examines performance criteria in association with specification, standards and legislation. It looks at the use of buildings, factors affecting human comfort and thermal performance.

ELEMENTS OF ASSESSMENT

COURSEWORK	
C1	100%

SUBJECT ASSESSMENT PANEL Group to which module should be linked: Building Services

Professional body minimum pass mark requirement: NA

MODULE AIMS:

This module aims to provide students with an understanding of the properties, structural behaviour and use of construction materials. Students will develop the skills needed to apply scientific principles and evaluate material characteristics for environmental interaction in building design. To introduce students to a range of construction materials, their manufacture, selection, environmental impact and performance and suitability. The module aims to provide students with knowledge of use of buildings, building services and factors affecting human comfort and thermal performance.

ASSESSED LEARNING OUTCOMES: (additional guidance below)

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

1. Demonstrate for a range of materials, knowledge of their source, manufacture, environmental impact and practical application in sustainable construction.
2. Critically evaluate the use of materials in building design both traditional and innovative and justify selection and application.
3. Determine the factors that affect human comfort within the built environment and apply scientific principles to the design and use of buildings.
4. Demonstrate knowledge of material specification with respect to standards and legislation.

DATE OF APPROVAL: 25/04/2012	FACULTY/OFFICE: AP
DATE OF IMPLEMENTATION: 09/2012	SCHOOL/PARTNER: South Devon College
DATE(S) OF APPROVED CHANGE: N/A	TERM: 13/AY/AU/M

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

ACADEMIC YEAR: 2020/21	NATIONAL COST CENTRE: 123
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MODULE LEADER: Andre Finch	OTHER MODULE STAFF:
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Summary of Module Content

Climate; stages in the life of a building; life cycle analysis of sustainable impact of materials; green guide to specification; code for sustainable homes; thermal effects in buildings; energy use in buildings; air control in buildings; natural and artificial lighting; noise and sound insulation; building services; carbon and energy management; factors affecting human comfort; power heating and water; standards and legislation; construction materials; material properties and performance criteria.

SUMMARY OF TEACHING AND LEARNING

Activities	Hours	Comments/Additional Information
Scheduled activities	45	1.5 hours per week for 30 weeks
Lab Based Work	5	2 Lab based exercises
Guided Independent Study	150	Directed weekly reading, Moodle-based tasks, and assessment development/revision
Total	200	

Category	Element	Component Name	Component weighting	Comments Include links to learning objectives
Coursework	C1	Assignment	60%	2000 words. LO1, LO2, LO3
		Lab Report	40%	2000 words LO4.
			Total: 100%	

Updated by: Andrew Finch

Date: 25/05/2020

Approved by: Dave Worthington

Date: 27/05/2020

Recommended Texts and Sources:

Taylor, G.D. (2000) *Materials in Construction*. 3rd ed. Harlow: Longman.

McMullan, R (2012) *Environmental Science in Building*. 6th ed. New York: Palgrave.

Hall, F. and Greno, R. (2013) *Building Services Handbook*. 5th ed. Oxford: Butterworth Heinemann.

Doran, D. (2010) *Construction materials reference book*. Oxford: Butterworth Heinemann.

Greeno, R., Chudley, R., Topliss, S. and Hurst, M. (2012) *Construction Technology*. Oxford: Heinemann.

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

Illston, J.M. and Domone, P.L.J. (eds.) (2010) *Construction Materials: Their Nature and Behaviour*. 4th ed. London: Spon.

Marotta, T., Coffey, C., LaFleur-Brown, C. and LaPlante, C. (2011) *Basic construction materials*. New Jersey: Pearson.

Mehta, M. (2011) *Building construction: principles, materials & systems*. Boston: Pearson.

Spence, W. (2011) *Construction materials, methods and techniques: building for a sustainable future*. New York: Delmar Cengage Learning.

<http://www.energysavingtrust.org.uk/>

<http://www.bre.co.uk/>

<http://www.breeam.org/>

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SOUD2174	MODULE TITLE: Financial Management and Economics
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CREDITS: 20	FHEQ LEVEL: 5	JACS CODE: K290
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PRE-REQUISITES: N/A	CO-REQUISITES: N/A	COMPENSATABLE: Yes
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SHORT MODULE DESCRIPTOR:

This module was designed to provide students with an understanding of how the economic environment affects sustainable construction and the built environment sector. This unit has been designed to enable learners to examine, analyse and discuss the implications of economic theories on the construction and built environment sector.

ELEMENTS OF ASSESSMENT

COURSEWORK	
C1	100%

SUBJECT ASSESSMENT PANEL Group to which module should be linked: Building Services

Professional body minimum pass mark requirement: NA

MODULE AIMS:

This module provides students with an opportunity to understand how wider market forces, government policies and economic activity influence the construction and built environment sector. The module will develop student's knowledge in the preparation, analysis and implementation of business plans for small construction businesses. Students will develop an understanding of the requirements and procedures for the financial management of a construction project from feasibility studies to handover and the post-completion phase.

ASSESSED LEARNING OUTCOMES: (additional guidance below)

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

1. Demonstrate knowledge of government legislation and policies applicable to the financial management of sustainable development.
2. Determine the way in which cost is controlled during construction and how this relates to the valuation of work in progress.
3. Prepare forecasts and reconciliations of cost and value for contractors, to monitor actual physical and financial progress against planned.
4. Understand the effect of delay in the payment process and the impact of this on the on projects and the financing.

DATE OF APPROVAL: 25/04/2012	FACULTY/OFFICE: AP
DATE OF IMPLEMENTATION: 09/2012	SCHOOL/PARTNER: South Devon College
DATE(S) OF APPROVED CHANGE: N/A	TERM: 13/AY/AU/M

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

ACADEMIC YEAR: 2020/21	NATIONAL COST CENTRE: 123
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MODULE LEADER: Andrew Finch	OTHER MODULE STAFF:
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Summary of Module Content

Government policies and legislation; urban regeneration schemes; critique of conventional economics in sustainable development; introduction to environmental economics; sustainable development; factors affecting the economics of an organisation; sources of finance, factors affecting resource allocation and price: markets; supply and demand; cost benefit analysis; planning cash flow; project control procedure; controlling time and money; controlling resources.

SUMMARY OF TEACHING AND LEARNING

Activities	Hours	Comments/Additional Information
Scheduled activities	45	1.5 hours per week for 30 weeks
Guided Independent Study	155	Directed weekly reading, Moodle-based tasks, and assessment development/revision
Total	200	

Category	Element	Component Name	Component weighting	Comments Include links to learning objectives
Coursework	C1	Assignment	50%	LO1 LO2
		Assignment	50%	LO3 LO4
			100%	

Updated by: Alex Osborne Date: 25/05/2020	Approved by: Dave Worthington Date: 27/05/2020
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Recommended Texts and Sources:

Burtonshaw-Gunn, S.A. (2009) Risk and Financial Management in Construction. Farnham:Gower.
 Cooke, B and Williams, P. (2009) Construction planning, programming and control. Wiley-Blackwell.
 Palmer, J. Coombs, E. and Smith, A (2009) Construction Accounting and Financial Management 5th ed. Mcgraw Hill.
 Atrill, P. (2003) *Financial management for non-specialists*. 3rd ed. London: Financial Times Prentice Hall.
 Halpin, D. (2009) *Financial management and accounting fundamentals for construction*. Wiley.
 Peterson, S. (2012) *Construction accounting and financial management*. 3rd ed. New Jersey: Prentice Hall.
 Sloman, J. (2010) *Essentials of Economics*. Harlow: Financial Times/Prentice Hall.

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SOUD2175	MODULE TITLE: Renewable Energy Technologies
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CREDITS: 20	FHEQ LEVEL: 5	JACS CODE: K290
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PRE-REQUISITES: N/A	CO-REQUISITES: N/A	COMPENSATABLE: Yes
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SHORT MODULE DESCRIPTOR:

This module was designed to develop students' knowledge of renewable energy technology systems, assessing their effectiveness and their whole life cost. Students will gain the skills to prepare system designs and assess their suitability for various sites and users.

ELEMENTS OF ASSESSMENT

COURSEWORK	
C1	100%

SUBJECT ASSESSMENT PANEL Group to which module should be linked: Building Services

Professional body minimum pass mark requirement: NA

MODULE AIMS:

This module aims to provide students with knowledge in the areas of science, technology, policy and green political theory relevant to environmental sustainability. It aims to develop a conceptual understanding to evaluate critically current research in environmental sustainability. To provide students with the knowledge of green building techniques. Problem-solving and team-working skills relevant to the implementation renewable energy technologies and policies.

ASSESSED LEARNING OUTCOMES: (additional guidance below)

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

1. Demonstrate knowledge of sustainable and renewable energy technologies.
2. Critically evaluate government policy and legislation in relation to sustainable development.
3. Solve technical, economic, legal and organisational problems in the context of environmentally sustainable construction projects.
4. Critically review and evaluate renewable energy technologies and their role in current and future sustainable development.

DATE OF APPROVAL: 25/04/2012	FACULTY/OFFICE: AP
DATE OF IMPLEMENTATION: 09/2012	SCHOOL/PARTNER: South Devon College
DATE(S) OF APPROVED CHANGE: N/A	TERM: 13/AY/AU/M

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

ACADEMIC YEAR: 2020/21	NATIONAL COST CENTRE: 123
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MODULE LEADER: Dave Worthington	OTHER MODULE STAFF:
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Summary of Module Content

Energy sources, economics and environmental impact, energy storage technologies, the role of renewables, solar thermal, solar electricity, wind-power generation, hydro, tidal and wave power, biofuels, building integrated renewables. Energy efficiency, energy savings and emission reductions, clean energy production, energy as business issue, energy efficiency in ventilation, selection criteria, industrial processes and energy use.

SUMMARY OF TEACHING AND LEARNING

Activities	Hours	Comments/Additional Information
Scheduled activities	45	1.5 hours per week for 30 weeks
Guided Independent Study	155	Directed weekly reading, Moodle-based tasks, and assessment development/revision
Total	200	

Category	Element	Component Name	Component weighting	Comments Include links to learning objectives
Coursework	C1	Assignment	50%	2000 words. LO1, LO2.
		Assignment	50%	2000 words. LO3, LO4.
			100%	

Updated by: Dave Worthington
Date: 25/05/2020

Approved by: Dave Worthington
Date: 27/05/2020

Recommended Texts and Sources:

Hall, K. (2007) *The green building bible, Vol. 1: all you need to know about ecobuilding*. 3rd ed. Llandysul: Green Building.

Halliday, S. (2008) *Sustainable construction*. Oxford: Butterworth Heinemann.

HM Government (2008) *Strategy for Sustainable Construction* [online]. Available from: <http://webarchive.nationalarchives.gov.uk/+http://www.bis.gov.uk/files/file46535.pdf>

Langston, C. (2001) *Sustainable practices in the built environment*. Oxford: Butterworth Heinemann.

Mawhinney, M. (2002) *Sustainable development: understanding the green debates*. Oxford: Blackwell Science.

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

Nicholls, R. (2008) *The green building bible, Vol. 2: the low energy design technical reference*. Llandysul: Green Building.

Roaf, S. (2012) *Ecohouse: a design guide*. New York: Architectural Press.

Strong, A. (2006) *Sustainable development policy directory*. Oxford: Blackwell.

McMullan, R. (2012) *Environmental Science in Building*. Basingstoke: Palgrave Macmillan.

Thomas, R. (2006) *Environmental design: an introduction for architects and engineers*. 3rd ed. London: Routledge.

Wood, D., Chynoweth, P., Adshead, J. and Mason, J. (2011) *Law and the built environment*. 2nd ed. Chichester: Wiley Blackwell.

Zobaa, A. (2011) *Handbook of renewable energy technology*. Singapore: World Scientific.

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE:	SOUD2318	MODULE TITLE:	Work Based Research Project
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CREDITS: 20	FHEQ Level: 5	JACS CODE: K290
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PRE-REQUISITES: None	CO-REQUISITES: None	COMPENSATABLE: Yes
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SHORT MODULE DESCRIPTOR: *(max 425 characters)*

This module is designed to develop student's skills of independent enquiry and critical analysis by undertaking a sustained research investigation. Research projects will relate to a work based experience of direct relevance to the programme and the students' academic and professional development.

ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*

COURSEWORK		PRACTICAL	
C1 (Coursework)	100%	P1 (Practical)	Pass/ Fail

SUBJECT ASSESSMENT PANEL Group to which module should be linked: FdSc Sustainable Construction and The Built Environment

Professional body minimum pass mark requirement: NA

MODULE AIMS:

This module aims to enable students to experience the scope and depth of learning which may take place in a work-based context by planning, monitoring and evaluating the work experience. It also aims to develop students' skills of independent enquiry and to learn about the theories, tools, resources, and ethical issues that scholars and professionals encounter on a daily basis. It aims to prepare students for professional employment by honing independent thinking and creativity, time-management and budget skills, and confidence in academic and career goals.

ASSESSED LEARNING OUTCOMES: *(additional guidance below)*

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

1. Demonstrate how to formulate and Implement a research project within agreed procedures and to specification and evaluate the research outcomes.
2. Professionally present the research outcomes.
3. Undertake specified work activities, record, review and evaluate outcomes.
4. Monitor and evaluate own performance and learning.

DATE OF APPROVAL:	04/2012	FACULTY/OFFICE:	Academic Partnerships
DATE OF IMPLEMENTATION:	09/2012	SCHOOL/PARTNER:	South Devon College
DATE(S) OF APPROVED CHANGE:	Click here to enter a date.	TERM/SEMESTER:	All Year

Additional notes (for office use only):

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

ACADEMIC YEAR: 2020/21	NATIONAL COST CENTRE: 123
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MODULE LEADER: Dave Worthington	OTHER MODULE STAFF: None
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SUMMARY of MODULE CONTENT

Describe self, work role and setting; carry out initial personal skills audit in relation to work role; identify priority area for improving skills; explore organisation type and context (including the wider competitive environment) and cognitive skills involved; negotiate work-based learning agreement to benefit self and work; establish learning log system; research formulation; action plan; data collection, interpretation and analysis; evaluation of outcomes; future considerations; presentation format and delivery.

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]

Scheduled Activities	Hours	Comments/Additional Information
Scheduled activities	10	1 hour per week for 10 weeks
Work Based Learning	160	Site based activity
Guided Independent Study	30	Directed weekly reading, Moodle-based tasks, and assessment development/revision
Total	200	

Category	Element	Component Name	Component Weighting	Comments include links to learning objectives
Coursework	C1	Research Project –	100%	2000 words. LO1, LO2.
Practical	P1	Competency Document – Reflective Learning Journal and work log	Pass/Fail	LO3, LO4.

Updated by: Dave Worthington
Date: 25/05/2020

Approved by: Dean Bowden
Date: 27/05/2020

Recommended Texts and Sources:

Cunningham, I. Dawes, G. and Bennett, B (2004) *The Handbook of Work Based Learning*. Aldershot: Gower.

Raelin, J. A. (2008) *Work Based Learning-Bridging Knowledge and Action in the Workplace*. San Francisco: Wiley & Sons.

Bell, J. (2010) *Doing your research project*. 5th edn. Milton Keynes: Open University Press.

Blackie, N. (2003) *Analyzing quantitative data: From description to explanation*. London: SAGE Publications Ltd.

Davis, C. (2009) *Introduction to research methods*. 4th edn. U.K: How to Books Ltd

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

Davis, M. B. (2007) *Doing a successful research project – using qualitative or quantitative methods*. London: Palgrave Macmillan

Gray, D.E. (2004) *Doing research in the real world*. London: SAGE Publications Ltd.

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SOUD2189	MODULE TITLE: Energy utilisation and efficiency within sustainable construction
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CREDITS: 20	FHEQ LEVEL: 5	JACS CODE: K290
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PRE-REQUISITES: N/A	CO-REQUISITES: N/A	COMPENSATABLE: Yes
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SHORT MODULE DESCRIPTOR:

This module will provide students with an understanding of the environmental impact of energy utilisation in buildings and the implications of energy efficiency and sustainability. Students will evaluate how environmental and economic gains can be achieved by reducing waste and maximising energy efficiency. This module will provide students with the knowledge to determine efficient, allowable and successful holistic solutions for zero carbon developments.

ELEMENTS OF ASSESSMENT

COURSEWORK	
C1	100%

SUBJECT ASSESSMENT PANEL Group to which module should be linked:
Construction

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

This module will provide students with an understanding of the environmental impact of energy utilisation in buildings and the implications of energy efficiency and sustainability. Students will evaluate how environmental and economic gains can be achieved by reducing waste and maximising energy efficiency. This module will provide students with the knowledge to determine efficient, allowable and successful holistic solutions for zero carbon developments.

ASSESSED LEARNING OUTCOMES: (additional guidance below)

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

1. Evaluate the environmental impact of energy utilisation in buildings
2. Assess the sustainability of alternative energy sources and water supplies for buildings
3. Appraise the energy efficiency of the building and the building services installations
4. Evaluate energy audits for buildings and building services installations

DATE OF APPROVAL: 14/12/2012	FACULTY/OFFICE: AP
DATE OF IMPLEMENTATION: 23/09/2013	SCHOOL/PARTNER: South Devon College
DATE(S) OF APPROVED CHANGE: N/A	TERM: Autumn/Spring/Summer/other 13/AY/AU/M

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

ACADEMIC YEAR: 2020/21	NATIONAL COST CENTRE: 123
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MODULE LEADER: Rob Rickey	OTHER MODULE STAFF:
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Summary of Module Content

Global consequences of excessive energy utilisation; energy generation and distribution (principles, fundamentals, technology); role of building services engineers in meeting agreed environmental objectives; renewable energy sources; use of heating and cooling; combined heat and power (CHP) systems; alternative water supplies; appraisal and improvement of energy efficiency: orientation, design, insulation; energy audits: purpose and benefits; providing advice to building managers; use of heat recovery; energy conservation principles and techniques; appraisal and selection of high efficiency plant and equipment .

SUMMARY OF TEACHING AND LEARNING

Activities	Hours	Comments/Additional Information
Scheduled activities	45	2 hours/week for 30 weeks
Scheduled Related Visits	5	Passivhaus Visit
Guided Independent Study	135	Directed weekly reading, Moodle-based tasks, and assessment development/revision
Total	200	

Category	Element	Component Name	Component weighting	Comments Include links to learning objectives
Coursework	C1	Case study	50%	LO 1 & 2
		Report	50%	LO 3 & 4
			100%	

Updated by: Dave Worthington
Date: 25/05/2020

Approved by: Dean Bowden
Date: 25/05/2020

Recommended Texts and Sources:

<http://www.energysavingtrust.org.uk/>

<http://www.schneider-electric.co.uk/medias/solutions/downloads/152-ee-solution-book.pdf>

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE:	SOUD2319	MODULE TITLE:	Surveying For Construction Engineers
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CREDITS: 20	FHEQ Level: 5	JACS CODE: K290
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PRE-REQUISITES: None	CO-REQUISITES: None	COMPENSATABLE: Yes
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SHORT MODULE DESCRIPTOR: *(max 425 characters)*
 This module is designed to provide students with the basic knowledge and skills, principles and techniques used in the surveying of buildings, structures and land

ELEMENTS OF ASSESSMENT *Use HESA KIS definitions]*

COURSEWORK		PRACTICAL	
C1 (Coursework)	% 100	P1 (Practical)	Pass/ fail

SUBJECT ASSESSMENT PANEL Group to which module should be linked: FdSc Sustainable Construction and The Built Environment

Professional body minimum pass mark requirement: NA

MODULE AIMS:
 This module enables students to understand the basic theoretical principles in building and land surveying. It will also provide them with knowledge of standard techniques in surveying and practical skills in the use of surveying equipment.

ASSESSED LEARNING OUTCOMES: *(additional guidance below)*
 At the end of the module the learner will be expected to be able to:

1. Define surveying and the role of the surveyor in building and civil engineering
2. Demonstrate basic building and field survey techniques
3. Proficiently operate technical instrumentation to successfully survey and record data.
4. Produce CAD drawings from mapped survey data

DATE OF APPROVAL:	06/2014	FACULTY/OFFICE:	Academic Partnerships
DATE OF IMPLEMENTATION:	09/2014	SCHOOL/PARTNER:	South Devon College
DATE(S) OF APPROVED CHANGE:	Click here to enter a date.	TERM/SEMESTER:	All Year

Additional notes (for office use only):

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

ACADEMIC YEAR: 2020/21	NATIONAL COST CENTRE: 123
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MODULE LEADER: Dave Worthington	OTHER MODULE STAFF: None
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SUMMARY of MODULE CONTENT

Measured building survey techniques, CAD as a data capture, drawing and presentation of the built environment, field survey techniques and instrumentation including the use of field survey equipment, survey design, planning and observing, total stations, levels and GNSS, data collection and processing techniques, two and three dimensional data collection, data collection, processing, analysis and presentation techniques, error checking and control procedures, mapping survey data and CAD interface, calculation of cut & fill volumes, boundary marking, least squares adjustments.

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]

Scheduled Activities	Hours	Comments/Additional Information
Scheduled activities	30	1 hours/week for 30 weeks
Scheduled Related Site Applications	30	1 hour/week for 30 weeks using instrumentation in practical application
Guided Independent Study	140	Directed weekly reading, Moodle-based tasks, and assessment development/revision
Total	200	

Category	Element	Component Name	Component Weighting	Comments include links to learning objectives
Coursework	C1	Portfolio	100%	LO1 LO4
Practical	P1	Competency Document	Pass/Fail	LO2 LO3

Updated by: Dave Worthington Date: 25/05/2020	Approved by: Dean Bowden Date: 27/05/2020
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Recommended Texts and Sources:

Uren, J. and Price, W.F. (2010) *Surveying for Engineers*. 5th edn. Palgrave Macmillan

*e.g a foundation degree delivered full-time over two years would have all level 4 modules delivered in year 1. A foundation degree delivered part-time over 3 years would normally have 80 credits of level 4 delivered in year 1 and 40 credits delivered in year 2