UNIVERSITY OF LINCOLN

Programme Specification

Title:

Construction Science and Management

Final Award: **Bachelor of Science with Honours (BSc (Hons))**

With Exit Awards at:
Certificate of Higher Education (CertHE)
Diploma of Higher Education (DipHE)
Bachelor of Science with Honours (BSc (Hons))

To be delivered from: 16 Sep 2018

Level	Date
Level 1 or Certificate of Higher Education (CertHE)	2019-20
Level 2 or Diploma of Higher Education (DipHE)	2020-21
Level 3 or Bachelor of Science with Honours (BSc (Hons))	2021-22

Table Of Contents

1. Introduction

This document describes one of the University of Lincoln's programmes using the protocols required by the UK National Qualifications Framework as defined in the publication *QAA guidelines for preparing programme specifications*.

This programme operates under the policy and regulatory frameworks of the University of Lincoln.

2. Basic Programme Data

Final Award:	Bachelor of Science with Honours (BSc (Hons))
Programme Title:	Construction Science and Management
Exit Awards and Titles	Certificate of Higher Education (CertHE) Diploma of Higher Education (DipHE) Bachelor of Science with Honours (BSc (Hons))
Subject(s)	Built Environment
Mode(s) of delivery	Full Time Part Time
Is there a Placement or Exchange?	Yes
UCAS code	K200
Awarding Body	University of Lincoln
Campus(es)	Lincoln Campus
School(s)	Lincoln School of Architecture and the Built Environment
Programme Leader	Stephen Pretlove (SPretlove)
Relevant Subject Benchmark Statements	
Professional, Statutory or Regulatory Body Accreditation	Chartered Institute of Building (CIOB)
Programme Start Date	2019-20

3. Programme Description

3.1 Overview

This programme provides students with a rigorous understanding of the principles and practices involved in the discipline of construction management, in a global context, up to Bachelor's degree standard. The Lincoln School of Architecture and the Built Environment takes a worldwide perspective for all its programmes, including this one, and internationalisation is a key element of the education that it delivers.

This programme is distinct and reflects the Lincoln School of Architecture and the Built Environment's (LSABE) belief that future construction professionals need an equal understanding and knowledge of the science of buildings and the management of the construction process. This broader view of the construction management discipline which is embedded in the programme is significant to the growth of the industry, as it provides professionals and stakeholders within the built environment with the wider knowledge base needed for embracing a whole project life-cycle perspective to project production and value delivery.

The programme provides students with global and inclusive perspectives of the construction management discipline, so as to prepare the students for their future careers, including the ability to fulfil their professional duties in creating, improving and sustaining our built environment.

The programme is designed to attract UK and International students and to prepare them to adapt to the global challenges that built environments face. Various internationalisation strategies have been embedded into this programme, such as:

• Incorporating issues of ‘sustainable development’ into the curriculum. This includes providing the students with national and international perspectives and case-studies in relation to the social, cultural, environmental, and economic aspects of the construction activity worldwide.

• Embedding ‘equality and diversity’ into the curriculum and devising inclusive teaching, learning and assessment methods for each of the programme modules. The learning outcomes are also designed to encourage the students to review, critically evaluate and prepare plans for the application of ethical and inclusive practices in the built environment workplace.

• The existence and recruitment of highly qualified academic staff with multicultural experiences in architecture and the built environment. This also includes inviting guest lecturers and industrial experts with international experiences.

• The programme content is informed by state-of-the-art research carried out by academics across the LSABE, which has been presented in various peer-reviewed international conferences. In addition, the programme promotes research-led approaches to teaching and learning, and is designed to develop collaborative international research networks and opportunities for both staff and students.

• The programme is designed around the Educational Framework of the Chartered Institute of Building (CIOB).

The programme provides the academic underpinning necessary to prepare students for a career as a Chartered Construction Manager and provides students with the opportunity to develop their knowledge and skills in this field.

The basic structure of the programme will mainly comprise 15-credit modules covering the subject areas required by the CIOB. The exception to this is the 30 credit modules in Construction Science and Technology at each level, and the Dissertation module in the final year of study. The core elements of the programme; environmental science, construction technology, construction IT and construction management, are designed as strands that are studied at multiple levels: fundamental theory is delivered in the first year, practical application to construction in the second year, and advanced application and synthesis in the final year. Surrounding these core strands of the course are supplementary subjects, which include modules relating to the built environment context, law, economics and land surveying.

The programme includes a 30 credit dissertation module, an essential research element of the curriculum. Specialist research training will be delivered to the students in order for them to develop research skills and to develop research proposals for a substantial written research project dissertation in any area relating to construction science and management. The intention is that we are then in a good position to retain students from the undergraduate course to progress to the postgraduate taught course, or postgraduate research studies. The fact that the undergraduate and postgraduate courses have been developed simultaneously, as an integrated provision, underlies our intention for the undergraduate course to be a feeder for the postgraduate. In addition, the skills developed through this research-based module will enhance subject knowledge and thereby the employability profile of the graduates.

The programme will primarily be delivered in a classroom environment and utilises spaces that allow formal lectures to be delivered as well as seminar / tutorial spaces where more interactive teaching and learning takes place. A typical ratio between formal lectures and less formal seminar / tutorial activities will be 1:2.

The programme has a dedicated Construction Science and Management laboratory, within which students carry out activities relating to the delivery of Environmental Science, Land Surveying and Materials Testing and within which the equipment required can be securely and safely stored.

The programme also requires the delivery of Construction IT modules at each level, in ICT laboratories which are equipped with the latest state-of-the-art hardware and software required by this programme.

3.2 Aims and Objectives

Our vision for construction science and management at Lincoln is to be a significant global player in the education of tomorrow’s leaders in this field. The construction science and management provision nurtures a critical evaluation of issues associated with sustainability, environmental science, technology, management, health and safety, ethics and professionalism. The curriculum responds to the global challenges that we face, is industry focused, professionally accredited, and provides an innovative and integrated education for construction professionals. It also reflects the interdisciplinary and international nature of the construction industry.

The programme aims:

• To deliver theoretical and practical knowledge and skills in relation to the understanding and management of the construction process

• To offer a distinct, innovative, technical, environmental course which reflects the current challenges that the industry faces
• To consolidate the existing teaching and research expertise in the School and to develop a series of integrated built environment programmes which reflect the real world
• To facilitate students' lifelong learning skills, develop their technical and managerial skills, and enhance their career aspirations and ability to make a valuable contribution to the construction industry and the wider society.
• To enhance graduate employment and career opportunities through work placements and site visits, as supported by our Professional Advisory Board and industry connections with major construction organisations

The programme objectives:

• To produce graduates with an equal understanding and appreciation of the interconnectedness of construction science and construction management within the context of the built environment
• To develop reflective practice and critical thinking, and the personal and professional skills required for meeting the needs of a challenging and rapidly evolving construction industry
• To recruit articulate, responsive, engaged and intelligent home-based and international students, and increase the undergraduate enrolment in the College of Arts
• To embed the BSc (Hons) construction science and management provision in the School, and College, as the first stage of a longer term integrated suite of Built Environment courses

The programme key features:

• Unique emphasis on the equal consideration of the science of buildings and the management of the construction process
• Innovative curriculum with a unique focus on climate change resilience, digital engineering and technology, construction technology innovation, production management, urban growth and population dynamics
• Programme designed around the Educational Framework of the Chartered Institute of Building (CIOB) and has a clear vocational path
• Opportunities for placement work and internships through close collaboration with local industry
• Integration of students of construction science and management with other built environment students as a reflection of the real world

Unique selling points of this programme:

• The course is unique and innovative and reflects the fact that future construction professionals need an equal understanding of the science of buildings and the management of the construction process.
• The course differentiates itself from other UK courses by having a particular focus on specific current challenges facing the current construction industry: (a) resilience in response to climate change, (b) digital engineering and technology, (c) innovation in the industry, and (d) urban growth and population dynamics.
• The course is overseen by a Professional Advisory Board (PAB) steering group, ensuring that the curriculum and delivery of the course is industry relevant.

3.3 Variations to Standard Regulations and Guidance

None

4. Programme Outcomes

Programme-level learning outcomes are identified below.

Refer to *Appendix I – Curriculum Map* for details of how outcomes are deployed across the programme.

4.1 Knowledge and Understanding

On successful completion of this programme a student will have knowledge and understanding of:

1 Construction Science and Construction Technology and an appreciation of the pre-construction, construction and post-construction stages of building procurement

2 Principles of Construction Management planning, productivity and control, the main participants and stakeholders, their roles and the context within which they work

3 Information Technology and construction specific integrated systems for the design, construction and occupation stages of building procurement, including BIM

4 The Legal system and law as it relates to the construction industry

5 Economics, business practice and finance in relation to the construction industry and the commercial marketplace

6 The roles of construction professionals and ethical responsibilities

7 Issues associated with Health, Safety and Welfare and environmental sustainability

4.2 Subject Specific Intellectual Skills

On successful completion of this programme a student will be able to:

8 Evaluate construction management problems, and solve these in relation to time, cost, quality, risk, safety and ethics

9 Evaluate and integrate information from a variety of sources including drawings, specifications, regulations, codes, and legal agreements

10 Carry out original research including establishing research questions, research methodology, analysis, evaluation, and formal presentation of findings

11 Take a holistic approach to the planning and management of construction projects through the implementation of information technology systems relevant to the industry

4.3 Subject Specific Practical Skills

On successful completion of this programme a student will be able to:

12 Use Land Surveying equipment to carry out land and building surveys and for setting out, line and level

13 Measure, plan and programme construction operations for the purpose of estimating costs, tendering, programming and financial control

14 Research, analyse, prepare and produce formal technical reports

15 Use technical and scientific literature relating to construction science and management effectively and know where to find appropriate data and information

16 Use a variety of industry relevant information technology packages

4.4 Transferable Skills and Attributes

On successful completion of this programme a student will be able to:

17 Communicate effectively by oral, written and visual means

18 Work effectively as part of an integrated team and autonomously

19 Manage resources in terms of time, cost and quality

20 Use Information and Communication Technology effectively

21 Use numerical skills to quantify problems, and propose solutions

22 Learn effectively and independently and be self-reflective

For details of each module contributing to the programme, please consult the module specification document.

5. Learning, Teaching and Assessment Strategies

5.1. Learning and Teaching Strategy

The aims of this distinctive and innovative programme reflect the current challenges faced by the construction industry and built environment professions. This resonates strongly with the School's and College's strategies to enable our students to become skilled, knowledgeable, motivated and ambitious graduates, who will be highly employable and will prepare students to meet industry's needs. The programme is developed and will be operated with the support of the Professional Advisory Board (PAB) and this external public engagement is an essential component of the curriculum. Students will be encouraged to engage in their own learning and in the delivery of the programme through the student-as-producer initiative which links undergraduate study with research. The vast majority of staff involved in the delivery of this programme will have a teaching and research profile which supports this strategy.

The teaching and learning strategy adopted within the BSc(Hons) Construction Science and Management programme centres on the exploration, analysis and interpretation of a range of issues critical to the discipline, set within a series of themes running throughout the programme: contextual studies, construction science and technology, information technology, health & safety, legislation, construction management, and research principles and practice.

In the first year of the undergraduate programme students are equipped with basic knowledge in broad areas of the programme and are encouraged to develop individual skills of enquiry, interaction and group-working. In the second year the knowledge and skills are built upon with the aim of consolidating the principles previously developed in the first year and allowing the development of independent study skills. In the third year of the programme, independent and self-centred learning is central to the student experience.

A range of teaching techniques are used throughout this programme, and include:

• Lectures: at all levels of the programme there are lectures, which give a foundation of knowledge on which individuals develop applications of techniques and theory.
• Tutorials: tutorials involve an individual, or small group of students, discussing the development of a project or assignment with a tutor. They occur throughout the programme, varying in style and content depending on the stage of the project. Tutorials are not usually recorded formally but students are encouraged to make their own notes.
• Seminars: seminars are timetabled discussions, where student and staff interaction and debate are encouraged, and often involve participants invited from outside the School. Seminars may centre on a particular discipline specialisation, and may be led by the tutor or by students, and may utilise a variety of different presentation and communication media. Seminars focus on practical applications of theory.
• Educational Visits: visits are most often organised within a year group, and can cover site visits to relevant and interesting construction projects, industrial visits to factories and manufacturing facilities, expeditions of specialist interest, and attendance at relevant gatherings. They are of considerable importance in connecting the School and its students to real-world situations, evolving networks and developing the exploration of ideas.

5.2. Assessment Strategy

The assessment strategy adopted within the BSc(Hons) Construction Science and Management:

• The programme includes a variety of assessment types, both individual assessments and group assessments. These include open- and closed- book examinations, reports, essays, presentations, Personal Development Portfolios, assignments and reflective essays, a research dissertation and practical exercise reports.
• Assessment is both formative (work is reviewed and feedback given but which does not count towards the module assessment grades) and summative (the assessed mark counts towards the module assessment grades awarded). Formative assessment is important as it encourages students and supports their overall learning.
• In many cases, students will be required to present their final draft submissions to their peers and tutors in order to obtain formative assessments, feedback, and feedforward in order to modify their work prior to final submission and summative assessment.
• Feedback to students on summative assessment is vitally important. The method used will vary depending on the task that was undertaken but staff realise the need for it to be timely, constructive and supportive.
• On completion of a module the module coordinator submits the marks to the end of year Examination Board for ratification and approval. Where a module is assessed through more than one assignment the proportions of marks for each assignment are specified in the assignment briefings.
• External Examiners will monitor the assessment strategy, will have copies of all assessment briefs and will review the assessment process at the end of the year in order to ensure that the assessment process has been carried out fairly and in accordance with the University Regulations.
• All assessment briefs will have clearly identified criteria for what is required and a clear indication of how the marking will be carried out.
• Assessment is based on the extent to which the student has fulfilled the learning outcomes that are included as part of all module descriptions. The learning outcomes for each module have each been mapped against the assessment requirements in order to ensure that students can demonstrate that they are able to achieve these outcomes.
• The final stage in the process of assessment involves External Examiners inspecting samples of assessed work from all modules and advising on standards and parity with other similar accredited courses.
• A School and College Examination Board considers the degree classification and makes the award.
• The programme regulations require all graduates to pass all modules to receive the BSc(Hons) Construction Science and Management degree

There are intermediate awards for students who only partially complete the programme modules as follows:

Certificate of Higher Education
Diploma of Higher Education

6. Programme Structure

The total number of credit points required for the achievement of Certificate of Higher Education (CertHE) is 120.
The total number of credit points required for the achievement of Diploma of Higher Education (DipHE) is 240.
The total number of credit points required for the achievement of Bachelor of Science with Honours (BSc (Hons)) is 360.

Level 1

Title	Credit Rating	Core / Optional
Production Management 1 2019-20	15	Core
Construction ICT 2019-20	15	Core
Health, Safety and Law 2019-20	15	Core
Land Surveying and Engineering 2019-20	15	Core
Personal and Professional Skills 2019-20	15	Core
Construction Science and Technology 1 2019-20	30	Core
Introduction to the Built Environment 2019-20	15	Core

Level 2

Title	Credit Rating	Core / Optional
Construction Economics 2020-21	15	Core
Construction Science and Technology 2 2020-21	30	Core
Financial and Human Resource Management 2020-21	15	Core
Procurement, Estimating and Measurement 2020-21	15	Core
Construction Contracts and Law 2020-21	15	Core
BIM Design and Applications 2020-21	15	Core
Production Management 2 2020-21	15	Core
Construction Science and Management Industrial Placement Year 2021-22		Optional

Level 3

Title	Credit Rating	Core / Optional
Construction Science and Technology 3 2021-22	30	Core
CSM Research Methods 2021-22	15	Core
Construction Project Management 2021-22	15	Core
Construction Group Project 2021-22	30	Core
CSM Dissertation 2021-22	30	Core

Appendix I - Curriculum Map

This table indicates which modules assume responsibility for delivering and ordering particular programme learning outcomes.

Key: ✓ Delivered and Assessed Delivered ✓ Assessed

Level 1

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Construction ICT 2019-20			✓						✓		✓	
Construction Science and Technology 1 2019-20	✓						✓					
Health, Safety and Law 2019-20				✓			✓	✓	✓			
Introduction to the Built Environment 2019-20		✓				✓						
Land Surveying and Engineering 2019-20												✓
Personal and Professional Skills 2019-20		✓				✓						
Production Management 1 2019-20		✓			✓	✓		✓				

	PO13	PO14	PO15	PO16	PO17	PO18	PO19	PO20	PO21	PO22
Construction ICT 2019-20				✓	✓	✓		✓		
Construction Science and Technology 1 2019-20		✓	✓		✓				✓	
Health, Safety and Law 2019-20					✓	✓			✓	
Introduction to the Built Environment 2019-20					✓	✓				
Land Surveying and Engineering 2019-20					✓				✓	
Personal and Professional Skills 2019-20					✓	✓				✓
Production Management 1 2019-20	✓				✓		✓		✓	

Level 2

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
BIM Design and Applications 2020-21			✓						✓		✓	

Construction Contracts and Law 2020-21				✓		✓		✓	✓			
Construction Economics 2020-21					✓							
Construction Science and Management Industrial Placement Year 2021-22												
Construction Science and Technology 2 2020-21	✓						✓		✓			
Financial and Human Resource Management 2020-21					✓		✓	✓				
Procurement, Estimating and Measurement 2020-21	✓					✓		✓				
Production Management 2 2020-21		✓			✓		✓	✓	✓			

	PO13	PO14	PO15	PO16	PO17	PO18	PO19	PO20	PO21	PO22
BIM Design and Applications 2020-21				✓	✓	✓		✓		
Construction Contracts and Law 2020-21					✓					
Construction Economics 2020-21					✓				✓	
Construction Science and Management Industrial Placement Year 2021-22										
Construction Science and Technology 2 2020-21		✓	✓		✓				✓	
Financial and Human Resource Management 2020-21					✓		✓		✓	
Procurement, Estimating and Measurement 2020-21	✓				✓		✓		✓	
Production Management 2 2020-21	✓			✓	✓		✓	✓	✓	

Level 3

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Construction Group Project 2021-22	✓	✓	✓	✓				✓	✓			
Construction Project Management 2021-22	✓	✓				✓	✓	✓	✓			
Construction Science and Technology 3 2021-22	✓					✓			✓			
CSM Dissertation 2021-22										✓		

CSM Research Methods 2021-22										✓		

	PO13	PO14	PO15	PO16	PO17	PO18	PO19	PO20	PO21	PO22
Construction Group Project 2021-22	✓			✓	✓	✓	✓	✓	✓	✓
Construction Project Management 2021-22					✓					
Construction Science and Technology 3 2021-22		✓	✓		✓					
CSM Dissertation 2021-22			✓		✓					✓
CSM Research Methods 2021-22			✓		✓					✓

Appendix II - Assessment Map

This table indicates the spread of assessment activity across the programme. Percentages indicate assessment weighting.

Level 1

	01	02	03	04	05	06	07	08	09	10	11	12
Construction ICT 2019-20												
Construction Science and Technology 1 2019-20					25		25				25	
Health, Safety and Law 2019-20												
Introduction to the Built Environment 2019-20		25	25									50
Land Surveying and Engineering 2019-20												
Personal and Professional Skills 2019-20						40				60		
Production Management 1 2019-20												

	13	14	15	16	17	18	19	20	21	22	23	24
Construction ICT 2019-20											70	
Construction Science and Technology 1 2019-20	25											
Health, Safety and Law 2019-20						50						
Introduction to the Built Environment 2019-20												
Land Surveying and Engineering 2019-20								20				
Personal and Professional Skills 2019-20												
Production Management 1 2019-20							40					

	25	26	27	28	29	30	31	32	33	34	35	36
Construction ICT 2019-20				30								
Construction Science and Technology 1 2019-20												
Health, Safety and Law 2019-20			50									
Introduction to the Built Environment 2019-20												

Land Surveying and Engineering 2019-20	40				40							
Personal and Professional Skills 2019-20												
Production Management 1 2019-20		60										

	37	38	39	40	41	42	43	44	45	46	47	48
Construction ICT 2019-20												
Construction Science and Technology 1 2019-20												
Health, Safety and Law 2019-20												
Introduction to the Built Environment 2019-20												
Land Surveying and Engineering 2019-20												
Personal and Professional Skills 2019-20												
Production Management 1 2019-20												

	49	50	51	52	EP 1 (Wk 16)	EP 2 (Wks 33, 34, 35)
Construction ICT 2019-20						
Construction Science and Technology 1 2019-20						
Health, Safety and Law 2019-20						
Introduction to the Built Environment 2019-20						
Land Surveying and Engineering 2019-20						
Personal and Professional Skills 2019-20						
Production Management 1 2019-20						

Level 2

	01	02	03	04	05	06	07	08	09	10	11	12
BIM Design and Applications 2020-21												

Construction Contracts and Law 2020-21												
Construction Economics 2020-21			50								50	
Construction Science and Management Industrial Placement Year 2021-22												
Construction Science and Technology 2 2020-21				25		25				25		25
Financial and Human Resource Management 2020-21					55							
Procurement, Estimating and Measurement 2020-21												
Production Management 2 2020-21												

	13	14	15	16	17	18	19	20	21	22	23	24
BIM Design and Applications 2020-21												
Construction Contracts and Law 2020-21							50					50
Construction Economics 2020-21												
Construction Science and Management Industrial Placement Year 2021-22												
Construction Science and Technology 2 2020-21												
Financial and Human Resource Management 2020-21	45											
Procurement, Estimating and Measurement 2020-21										60		
Production Management 2 2020-21								30				

	25	26	27	28	29	30	31	32	33	34	35	36
BIM Design and Applications 2020-21	70			30								
Construction Contracts and Law 2020-21												
Construction Economics 2020-21												
Construction Science and Management Industrial Placement Year 2021-22												
Construction Science and Technology 2												

2020-21												
Financial and Human Resource Management 2020-21												
Procurement, Estimating and Measurement 2020-21					40							
Production Management 2 2020-21			70									

	37	38	39	40	41	42	43	44	45	46	47	48
BIM Design and Applications 2020-21												
Construction Contracts and Law 2020-21												
Construction Economics 2020-21												
Construction Science and Management Industrial Placement Year 2021-22												
Construction Science and Technology 2 2020-21												
Financial and Human Resource Management 2020-21												
Procurement, Estimating and Measurement 2020-21												
Production Management 2 2020-21												

	49	50	51	52	EP 1 (Wk 16)	EP 2 (Wks 33, 34, 35)
BIM Design and Applications 2020-21						
Construction Contracts and Law 2020-21						
Construction Economics 2020-21						
Construction Science and Management Industrial Placement Year 2021-22				100		
Construction Science and Technology 2 2020-21						
Financial and Human Resource Management 2020-21						
Procurement, Estimating and Measurement 2020-21						

Production Management 2 2020-21												

Level 3

	01	02	03	04	05	06	07	08	09	10	11	12
Construction Group Project 2021-22												
Construction Project Management 2021-22				25								
Construction Science and Technology 3 2021-22			25		25				25		25	
CSM Dissertation 2021-22												
CSM Research Methods 2021-22							30					70

	13	14	15	16	17	18	19	20	21	22	23	24
Construction Group Project 2021-22						15						50
Construction Project Management 2021-22	75											
Construction Science and Technology 3 2021-22												
CSM Dissertation 2021-22							25					
CSM Research Methods 2021-22												

	25	26	27	28	29	30	31	32	33	34	35	36
Construction Group Project 2021-22				35								
Construction Project Management 2021-22												
Construction Science and Technology 3 2021-22												
CSM Dissertation 2021-22					75							
CSM Research Methods 2021-22												

	37	38	39	40	41	42	43	44	45	46	47	48
Construction Group Project 2021-22												
Construction Project Management 2021-22												

Construction Science and Technology 3 2021-22												
CSM Dissertation 2021-22												
CSM Research Methods 2021-22												

	49	50	51	52	EP 1 (Wk 16)	EP 2 (Wks 33, 34, 35)
Construction Group Project 2021-22						
Construction Project Management 2021-22						
Construction Science and Technology 3 2021-22						
CSM Dissertation 2021-22						
CSM Research Methods 2021-22						

Appendix III - Benchmark Analysis

This table maps programme learning outcomes to relevant QAA subject benchmark statements or PSRB guidelines.

Knowledge and Understanding

	ADISKILLS 01	ADISKILLS 02	ADISKILLS 03	ADISKILLS 04	ADISKILLS 05	ADISKILLS 06	ADISKILLS 07	ALLSUBJECTS01	ALLSUBJECTS02
PO1			✓		✓	✓	✓		
PO2			✓						
PO3			✓	✓					
PO4									
PO5			✓		✓				
PO6									
PO7									

	ALLSUBJECTS03	ALLSUBJECTS04	BUILDSUR 01	BUILDSUR 02	BUILDSUR 03	BUILDSUR 04	BUILDSUR 05	BUILDSUR 06	BUILDSUR 07
PO1									
PO2									
PO3									
PO4									
PO5									
PO6									
PO7									

	BUILDSUR 08	BUILDSUR 09	BUILDSUR 10	BUILDSUR 11	BUILDSUR 12	BUILDSUR 13	BUILDSUR 14	COMSKILLS	COMSKILLS02
PO1									
PO2									
PO3									
PO4									

PO5									
PO6									
PO7									

	COMSKILLS03	COMSKILLS04	COMSKILLS05	CONSMAN01	CONSMAN02	CONSMAN03	CONSMAN04	CONSMAN05	CONSMAN06
PO1						✓		✓	
PO2				✓	✓	✓	✓		
PO3						✓	✓		✓
PO4						✓			
PO5						✓			
PO6				✓	✓	✓	✓		
PO7						✓			

	CONSMAN07	CONSMAN08	CONSMAN09	CONSMAN10	DLSKILLS01	DLSKILLS02	DLSKILLS03	DLSKILLS04	INTSKILLS01
PO1		✓							
PO2			✓	✓					
PO3		✓			✓	✓	✓	✓	
PO4	✓								
PO5									
PO6			✓	✓					
PO7	✓	✓							

	INTSKILLS02	INTSKILLS03	INTSKILLS04	INTSKILLS05	INTSKILLS06	INTSKILLS07	INTTSKILLS01	INTTSKILLS02	INTTSKILLS03
PO1	✓								
PO2	✓				✓				
PO3	✓								
PO4	✓								
PO5	✓								
PO6	✓				✓				
PO7	✓								

	INTTSKILLS04	INTTSKILLS05	PLANDEV01	PLANDEV02	PLANDEV03	PLANDEV04	PLANDEV05	PLANDEV06	PLANDEV07
PO1									
PO2									
PO3									
PO4									
PO5									
PO6									
PO7									

	PLANDEV08	PLANDEV09	PLANDEV10	PLANDEV11	PLANDEV12	PLANDEV13	PLANDEV14	PLANDEV15	PRASKILLS01
PO1									
PO2									
PO3									
PO4									
PO5									
PO6									
PO7									

	PRASKILLS02	PRASKILLS03	PRASKILLS04	PRASKILLS05	PRASKILLS06	PRASKILLS07	PRASKILLS08	PRASKILLS09	PRASKILLS10
PO1		✓		✓	✓				
PO2									
PO3				✓					
PO4									
PO5									
PO6									
PO7									

	PRASKILLS11	QSACOMMAN01	QSACOMMAN02	QSACOMMAN03	QSACOMMAN04	QSACOMMAN05	QSACOMMAN06	QSACOMMAN07	QSACOMMAN08

PO1									
PO2									
PO3									
PO4									
PO5									
PO6									
PO7									

	QSACOMMAN09	REAEST01	REAEST02	REAEST03	REAEST04	REAEST05	REAEST06	REAEST07	REAEST08
PO1									
PO2									
PO3									
PO4									
PO5									
PO6									
PO7									

	REAEST09	REAEST10	REAEST11	REAEST12	REAEST13	RURLANREA01	RURLANREA02	RURLANREA03	RURLANREA04
PO1									
PO2									
PO3									
PO4									
PO5									
PO6									
PO7									

	RURLANREA05	RURLANREA06	RURLANREA07	RURLANREA08	RURLANREA09	RURLANREA10	RURLANREA11	RURLANREA12	RURLANREA13
PO1									
PO2									
PO3									

PO4									
PO5									
PO6									
PO7									

	RURLANREA14	RURLANREA15	RURLANREA16	RURLANREA17	RURLANREA18	RURLANREA19	SMPDSKILLS	SMPDSKILLS02	SMPDSKILLS03
PO1									
PO2								✓	
PO3									
PO4									
PO5									
PO6							✓	✓	
PO7									

	SMPDSKILLS04	SMPDSKILLS05	SMPDSKILLS06	SMPDSKILLS07	SURMAPSCI01	SURMAPSCI02	SURMAPSCI03	SURMAPSCI04	SURMAPSCI05
PO1									
PO2									
PO3									
PO4									
PO5									
PO6	✓								
PO7									

	SURMAPSCI06	SURMAPSCI07	SURMAPSCI08	SURMAPSCI09	SURMAPSCI10	SURMAPSCI11	SURMAPSCI12
PO1							
PO2							
PO3							
PO4							
PO5							
PO6							

PO7								

Subject Specific Intellectual Skills

	ADISKILLS 01	ADISKILLS 02	ADISKILLS 03	ADISKILLS 04	ADISKILLS 05	ADISKILLS 06	ADISKILLS 07	ALLSUBJECTS01	ALLSUBJECTS02
PO8	✓	✓	✓		✓	✓	✓		
PO9	✓								
PO10									
PO11		✓							

	ALLSUBJECTS03	ALLSUBJECTS04	BUILDSUR 01	BUILDSUR 02	BUILDSUR 03	BUILDSUR 04	BUILDSUR 05	BUILDSUR 06	BUILDSUR 07
PO8									
PO9									
PO10									
PO11									

	BUILDSUR 08	BUILDSUR 09	BUILDSUR 10	BUILDSUR 11	BUILDSUR 12	BUILDSUR 13	BUILDSUR 14	COMSKILLS	COMSKILLS02
PO8									
PO9									
PO10									
PO11									

	COMSKILLS03	COMSKILLS04	COMSKILLS05	CONSMAN 01	CONSMAN 02	CONSMAN 03	CONSMAN 04	CONSMAN 05	CONSMAN 06
PO8				✓					
PO9									
PO10									
PO11									

	CONSMAN 07	CONSMAN 08	CONSMAN 09	CONSMAN 10	DLSKILLS0 1	DLSKILLS0 2	DLSKILLS0 3	DLSKILLS0 4	INTSKILLS 01
PO8	✓								✓
PO9								✓	✓
PO10									
PO11					✓		✓		

	INTSKILLS 02	INTSKILLS 03	INTSKILLS 04	INTSKILLS 05	INTSKILLS 06	INTSKILLS 07	INTTSKILL S01	INTTSKILL S02	INTTSKILL S03
PO8	✓		✓						
PO9	✓		✓						
PO10			✓	✓		✓			
PO11									

	INTTSKILL S04	INTTSKILL S05	PLANDEV0 1	PLANDEV0 2	PLANDEV0 3	PLANDEV0 4	PLANDEV0 5	PLANDEV0 6	PLANDEV0 7
PO8									
PO9									
PO10									
PO11									

	PLANDEV0 8	PLANDEV0 9	PLANDEV1 0	PLANDEV1 1	PLANDEV1 2	PLANDEV1 3	PLANDEV1 4	PLANDEV1 5	PRASKILL S01
PO8									
PO9									
PO10									✓
PO11									

	PRASKILL S02	PRASKILL S03	PRASKILL S04	PRASKILL S05	PRASKILL S06	PRASKILL S07	PRASKILL S08	PRASKILL S09	PRASKILL S10
PO8			✓	✓					
PO9			✓						

PO10									
PO11									

	PRASKILLS11	QSACOMMAN01	QSACOMMAN02	QSACOMMAN03	QSACOMMAN04	QSACOMMAN05	QSACOMMAN06	QSACOMMAN07	QSACOMMAN08
PO8	✓								
PO9	✓								
PO10									
PO11									

	QSACOMMAN09	REAEST01	REAEST02	REAEST03	REAEST04	REAEST05	REAEST06	REAEST07	REAEST08
PO8									
PO9									
PO10									
PO11									

	REAEST09	REAEST10	REAEST11	REAEST12	REAEST13	RURLANREA01	RURLANREA02	RURLANREA03	RURLANREA04
PO8									
PO9									
PO10									
PO11									

	RURLANREA05	RURLANREA06	RURLANREA07	RURLANREA08	RURLANREA09	RURLANREA10	RURLANREA11	RURLANREA12	RURLANREA13
PO8									
PO9									
PO10									
PO11									

	RURLANREA14	RURLANREA15	RURLANREA16	RURLANREA17	RURLANREA18	RURLANREA19	SMPDSKILLS	SMPDSKILLS02	SMPDSKILLS03

PO8							✓		
PO9									
PO10									
PO11									

	SMPDSKILLS04	SMPDSKILLS05	SMPDSKILLS06	SMPDSKILLS07	SURMAPSCI01	SURMAPSCI02	SURMAPSCI03	SURMAPSCI04	SURMAPSCI05
PO8									
PO9									
PO10									
PO11									

			SURMAPSCI06	SURMAPSCI07	SURMAPSCI08	SURMAPSCI09	SURMAPSCI10	SURMAPSCI11	SURMAPSCI12
PO8									
PO9									
PO10									
PO11									

Subject Specific Practical Skills

	ADISKILLS01	ADISKILLS02	ADISKILLS03	ADISKILLS04	ADISKILLS05	ADISKILLS06	ADISKILLS07	ALLSUBJECTS01	ALLSUBJECTS02
PO12			✓	✓	✓				
PO13		✓	✓		✓				
PO14									
PO15	✓		✓		✓				
PO16			✓						

	ALLSUBJECTS03	ALLSUBJECTS04	BUILDSUR01	BUILDSUR02	BUILDSUR03	BUILDSUR04	BUILDSUR05	BUILDSUR06	BUILDSUR07

PO12									
PO13									
PO14									
PO15									
PO16									

	BUILDSUR 08	BUILDSUR 09	BUILDSUR 10	BUILDSUR 11	BUILDSUR 12	BUILDSUR 13	BUILDSUR 14	COMSKILL S	COMSKILL S02
PO12									
PO13									
PO14									
PO15									
PO16									

	COMSKILL S03	COMSKILL S04	COMSKILL S05	CONSMAN 01	CONSMAN 02	CONSMAN 03	CONSMAN 04	CONSMAN 05	CONSMAN 06
PO12									
PO13									
PO14									
PO15									
PO16									

	CONSMAN 07	CONSMAN 08	CONSMAN 09	CONSMAN 10	DLSKILLS0 1	DLSKILLS0 2	DLSKILLS0 3	DLSKILLS0 4	INTSKILLS 01
PO12									
PO13									
PO14									
PO15									
PO16									

	INTSKILLS 02	INTSKILLS 03	INTSKILLS 04	INTSKILLS 05	INTSKILLS 06	INTSKILLS 07	INTTSKILL S01	INTTSKILL S02	INTTSKILL S03
PO12									

PO13									
PO14				✓		✓			
PO15									
PO16									

	INTTSKILLS04	INTTSKILLS05	PLANDEV01	PLANDEV02	PLANDEV03	PLANDEV04	PLANDEV05	PLANDEV06	PLANDEV07
PO12									
PO13									
PO14									
PO15									
PO16									

	PLANDEV08	PLANDEV09	PLANDEV10	PLANDEV11	PLANDEV12	PLANDEV13	PLANDEV14	PLANDEV15	PRASKILLS01
PO12									
PO13									
PO14									✓
PO15									
PO16									

	PRASKILLS02	PRASKILLS03	PRASKILLS04	PRASKILLS05	PRASKILLS06	PRASKILLS07	PRASKILLS08	PRASKILLS09	PRASKILLS10
PO12					✓			✓	✓
PO13									✓
PO14	✓		✓			✓	✓		
PO15	✓			✓					
PO16				✓	✓				

	PRASKILLS11	QSACOMMAN01	QSACOMMAN02	QSACOMMAN03	QSACOMMAN04	QSACOMMAN05	QSACOMMAN06	QSACOMMAN07	QSACOMMAN08
PO12									
PO13									

PO14									
PO15									
PO16									

	QSACOMMAN09	REAEST01	REAEST02	REAEST03	REAEST04	REAEST05	REAEST06	REAEST07	REAEST08
PO12									
PO13									
PO14									
PO15									
PO16									

	REAEST09	REAEST10	REAEST11	REAEST12	REAEST13	RURLANREA01	RURLANREA02	RURLANREA03	RURLANREA04
PO12									
PO13									
PO14									
PO15									
PO16									

	RURLANREA05	RURLANREA06	RURLANREA07	RURLANREA08	RURLANREA09	RURLANREA10	RURLANREA11	RURLANREA12	RURLANREA13
PO12									
PO13									
PO14									
PO15									
PO16									

	RURLANREA14	RURLANREA15	RURLANREA16	RURLANREA17	RURLANREA18	RURLANREA19	SMPDSKILLS	SMPDSKILLS02	SMPDSKILLS03
PO12									
PO13									
PO14									

PO15									
PO16									

	SMPDSKILLS04	SMPDSKILLS05	SMPDSKILLS06	SMPDSKILLS07	SURMAPSCI01	SURMAPSCI02	SURMAPSCI03	SURMAPSCI04	SURMAPSCI05
PO12									
PO13									
PO14									
PO15									
PO16									

	SURMAPSCI06	SURMAPSCI07	SURMAPSCI08	SURMAPSCI09	SURMAPSCI10	SURMAPSCI11	SURMAPSCI12
PO12							
PO13							
PO14							
PO15							
PO16							

Transferable Skills and Attributes

	ADISKILLS01	ADISKILLS02	ADISKILLS03	ADISKILLS04	ADISKILLS05	ADISKILLS06	ADISKILLS07	ALLSUBJECTS01	ALLSUBJECTS02
PO17									
PO18									
PO19									
PO20			✓						
PO21	✓		✓		✓	✓			
PO22									

	ALLSUBJE	ALLSUBJE	BUILDSUR	BUILDSUR	BUILDSUR	BUILDSUR	BUILDSUR	BUILDSUR	BUILDSUR

	CTS03	CTS04	01	02	03	04	05	06	07
PO17									
PO18									
PO19									
PO20									
PO21									
PO22									

	BUILDSUR 08	BUILDSUR 09	BUILDSUR 10	BUILDSUR 11	BUILDSUR 12	BUILDSUR 13	BUILDSUR 14	COMSKILL S	COMSKILL S02
PO17								✓	✓
PO18									✓
PO19									
PO20								✓	
PO21									
PO22									

	COMSKILL S03	COMSKILL S04	COMSKILL S05	CONSMAN 01	CONSMAN 02	CONSMAN 03	CONSMAN 04	CONSMAN 05	CONSMAN 06
PO17	✓		✓						
PO18	✓	✓							
PO19									
PO20									✓
PO21									
PO22									

	CONSMAN 07	CONSMAN 08	CONSMAN 09	CONSMAN 10	DLSKILLS0 1	DLSKILLS0 2	DLSKILLS0 3	DLSKILLS0 4	INTSKILLS 01
PO17									
PO18									
PO19									
PO20					✓	✓	✓	✓	
PO21									✓

PO22									

	INTSKILLS02	INTSKILLS03	INTSKILLS04	INTSKILLS05	INTSKILLS06	INTSKILLS07	INTTSKILLS01	INTTSKILLS02	INTTSKILLS03
PO17									
PO18							✓	✓	✓
PO19									
PO20									
PO21		✓							
PO22								✓	

	INTTSKILLS04	INTTSKILLS05	PLANDEV01	PLANDEV02	PLANDEV03	PLANDEV04	PLANDEV05	PLANDEV06	PLANDEV07
PO17		✓							
PO18	✓	✓							
PO19									
PO20									
PO21									
PO22									

	PLANDEV08	PLANDEV09	PLANDEV10	PLANDEV11	PLANDEV12	PLANDEV13	PLANDEV14	PLANDEV15	PRASKILLS01
PO17									
PO18									
PO19									
PO20									
PO21									
PO22									

	PRASKILLS02	PRASKILLS03	PRASKILLS04	PRASKILLS05	PRASKILLS06	PRASKILLS07	PRASKILLS08	PRASKILLS09	PRASKILLS10
PO17	✓								
PO18									

PO19									
PO20				✓					
PO21			✓	✓		✓			
PO22									

	PRASKILLS11	QSACOMMAN01	QSACOMMAN02	QSACOMMAN03	QSACOMMAN04	QSACOMMAN05	QSACOMMAN06	QSACOMMAN07	QSACOMMAN08
PO17									
PO18									
PO19									
PO20									
PO21									
PO22									

	QSACOMMAN09	REAEST01	REAEST02	REAEST03	REAEST04	REAEST05	REAEST06	REAEST07	REAEST08
PO17									
PO18									
PO19									
PO20									
PO21									
PO22									

	REAEST09	REAEST10	REAEST11	REAEST12	REAEST13	RURLANREA01	RURLANREA02	RURLANREA03	RURLANREA04
PO17									
PO18									
PO19									
PO20									
PO21									
PO22									

	RURLANR	RURLANR	RURLANR	RURLANR	RURLANR	RURLANR	RURLANR	RURLANR	RURLANR

	EA05	EA06	EA07	EA08	EA09	EA10	EA11	EA12	EA13
PO17									
PO18									
PO19									
PO20									
PO21									
PO22									

	RURLANR EA14	RURLANR EA15	RURLANR EA16	RURLANR EA17	RURLANR EA18	RURLANR EA19	SMPDSKILLS	SMPDSKILLS02	SMPDSKILLS03
PO17									
PO18									✓
PO19									✓
PO20									✓
PO21									
PO22									✓

	SMPDSKILLS04	SMPDSKILLS05	SMPDSKILLS06	SMPDSKILLS07	SURMAPSCI01	SURMAPSCI02	SURMAPSCI03	SURMAPSCI04	SURMAPSCI05
PO17	✓	✓							
PO18	✓	✓	✓						
PO19		✓							
PO20									
PO21									
PO22			✓	✓					

	SURMAPSCI06	SURMAPSCI07	SURMAPSCI08	SURMAPSCI09	SURMAPSCI10	SURMAPSCI11	SURMAPSCI12
PO17							
PO18							
PO19							
PO20							
PO21							

PO22							

Appendix IV:
Benchmark Benchmark Statement(s)

ADISKILLS01 - *recognise when information is incomplete*

ADISKILLS02 - *appreciate risk*

ADISKILLS03 - *process and interpret data and information*

ADISKILLS04 - *critically appraise spatial data*

ADISKILLS05 - *solve basic numerical problems using appropriate techniques*

ADISKILLS06 - *undertake simple statistical analysis*

ADISKILLS07 - *select and apply appropriate methods of collecting, analysing, and synthesising data appreciate the importance of intellectual property and its role within the innovation process.*

ALLSUBJECTS01 - *a sound understanding and application of the majority of knowledge components within their programme of study as listed above and the application of this knowledge to a good level with appropriate critical discernment*

ALLSUBJECTS02 - *effective and appropriate application and execution of the majority of the skills listed above showing insight, some initiative, creativity and autonomy*

ALLSUBJECTS03 - *a sound understanding of the majority of knowledge components within their programme of study, as listed above, and the application of this knowledge with a high level of originality, insight and critical discernment*

ALLSUBJECTS04 - *effective, fluent and appropriate application and execution of the majority of the skills listed above, showing high levels of insight, initiative, creativity, autonomy and leadership.*

BUILDSUR01 - *demonstrate an appreciation of the performance requirements of buildings and facilities*

BUILDSUR02 - *describe the technical factors affecting the design and construction of buildings*

BUILDSUR03 - *recognise that differing design options may be employed in the construction of buildings*

BUILDSUR04 - *demonstrate an awareness of the mainstream technology for constructing domestic, industrial and commercial buildings*

BUILDSUR05 - *describe the broad categories of building components and materials together with the pathological processes resulting in their degradation and failure*

BUILDSUR06 - *describe the broad approaches available to manage, repair and maintain buildings and facilities*

BUILDSUR07 - *demonstrate awareness of the legal and regulatory frameworks and systems impacting on the design, construction and occupancy of buildings and facilities*

BUILDSUR08 - *recognise the socio-economic factors influencing property development, construction and use*

BUILDSUR09 - *have an awareness of the environmental impact of buildings and facilities*

BUILDSUR10 - *appreciate the nature of organisations that own and operate buildings*

BUILDSUR11 - *be aware of the professional roles and responsibilities of key players in the property development cycle*

BUILDSUR12 - *describe the main costs associated with the construction and use of buildings and facilities*

BUILDSUR13 - *be aware of the professional and ethical frameworks associated with the development and use of buildings and facilities*

BUILDSUR14 - *demonstrate an understanding of the principles and processes that deliver an inclusive environment recognising the diversity of user needs by putting people (of all ages and abilities) at the heart of the building surveying process*

COMSKILLS - *communicate to a variety of audiences in appropriate written, graphical, electronic and verbal forms*

COMSKILLS02 - *make contributions to group discussions*

COMSKILLS03 - *watch, listen and respond to others*

COMSKILLS04 - *negotiate and mediate with others*

COMSKILLS05 - *use social media for communication*

CONSMAN01 - *demonstrate an understanding of the key concepts, theories and principles used in construction and the management of construction*

CONSMAN02 - *identify the appropriate stakeholders involved in the construction process and their relevant roles and responsibilities*

CONSMAN03 - *describe the context in which the process of construction operates, including the legal, business, social, economic, health and safety, cultural, equality and inclusion, technological, physical, environmental and global influences including the...*

CONSMAN04 - *recognise the collaborative linkages and interdisciplinary relationships between the functions of construction and the other disciplines of the built environment*

CONSMAN05 - *recognise the various construction technologies and specialisms relevant to the construction of assets for lifetime performance*

CONSMAN06 - *recognise the appropriate generic and bespoke software that supports construction and digital construction*

CONSMAN07 - *recognise the regulatory systems within which construction operates including building and planning regulations*

CONSMAN08 - *appreciate the importance of sustainability within the context of the built environment, including the quality of life theme*

CONSMAN09 - *recognise the importance of professional ethics, their impact on the operation of the profession and their influence on society, conflict avoidance/dispute resolution, communities and the stakeholders with whom they have contact*

CONSMAN10 - *demonstrate an understanding of the principles and processes that deliver an inclusive environment recognising the diversity of user needs by putting people (of all ages and abilities) at the heart of the construction management process*

DLSKILLS01 - *use the internet for communication and information retrieval*

DLSKILLS02 - *handle electronic information with guidance, applying appropriate techniques, digital tools and applications to support key subjects*

DLSKILLS03 - *have an awareness of the safe, ethical and legal use of digital media*

DLSKILLS04 - *demonstrate the application of information technology and digital tools and techniques to support key subjects.*

INTSKILLS01 - *apply knowledge from taught programmes to solve problems*

INTSKILLS02 - *demonstrate some understanding of subject-specific theories, paradigms, concepts and principles*

INTSKILLS03 - *demonstrate an ability to define and solve routine problems*

INTSKILLS04 - *collate, summarise and analyse information*

INTSKILLS05 - *integrate lines of evidence from a limited range of sources to support findings and hypotheses*

INTSKILLS06 - *demonstrate some ability to consider issues from a range of multidisciplinary and interdisciplinary perspectives*

INTSKILLS07 - *appraise academic literature and extract relevant points*

INTTSKILLS01 - *make a constructive contribution to teamwork*

INTTSKILLS02 - *identify individual goals*

INTTSKILLS03 - *recognise and respect the views of others*

INTTSKILLS04 - *recognise equality, diversity and inclusion in all its forms*

INTTSKILLS05 - *reflect on team performance*

PLANDEV01 - *surveying, measuring and analysing land and buildings in support of development, redevelopment or conservation proposals*

PLANDEV02 - *the character, history, geography and dynamics of urban and rural areas, built and natural environments and the challenges of future change, threats and opportunities*

PLANDEV03 - *how the real estate market and infrastructure affects the value of real estate and its development, the valuation methods and techniques of analysis supporting this*

PLANDEV04 - *architectural appreciation, functional design, user needs and inclusive design and, technological challenges and trends*

PLANDEV05 - *how to manage the real estate development process*

PLANDEV06 - *the contribution of national and local planning policies*

PLANDEV07 - *place making, master planning, urban design and design codes that both influence and control development and infrastructure*

PLANDEV08 - *planning and development challenges at an urban scale, for example, sustainability and smart cities*

PLANDEV09 - *development management processes from application to appeal*

PLANDEV10 - *development appraisal techniques available to calculate the rates of return, viability, profitability and value for money*

PLANDEV11 - *procurement choices and their impact on quality, cost and delivery time*

PLANDEV12 - *the impact real estate development has on the environment and initiatives to minimise energy, reduce carbon emissions, protect and increase biodiversity, flood protection and increase health and well-being*

PLANDEV13 - *the need to work with other professions and agencies and of their contribution in meeting environmental, social and economic sustainability*

PLANDEV14 - *the legal and ethical responsibilities that planners, developers and their consultants have to clients and the wider public in terms of professional and social corporate responsibilities*

PLANDEV15 - *the principles and processes that deliver an inclusive environment recognising the diversity of user needs by putting people (of all ages and abilities) at the heart of the planning for development process*

PRASKILLS01 - *plan, conduct and present an independent investigation with significant guidance*

PRASKILLS02 - *relate investigations to some prior work and reference it appropriately*

PRASKILLS03 - *where appropriate use laboratory and field equipment safely*

PRASKILLS04 - *apply a range of methods to solve problems*

PRASKILLS05 - *use appropriate technologies to address problems*

PRASKILLS06 - *where appropriate, describe and record in the field and laboratory*

PRASKILLS07 - *interpret practical results with guidance*

PRASKILLS08 - *present results of investigations in a number of formats*

PRASKILLS09 - *apply survey measurements and evaluation techniques as appropriate to the programme*

PRASKILLS10 - *recognise and record visual information when on site or from graphical sources*

PRASKILLS11 - *apply professional judgement in drawing skills and knowledge together and applying them to real world problems*

QSACOMMAN01 - *demonstrate an awareness of the mainstream technology and the resources it uses for constructing domestic, industrial, commercial buildings and infrastructure*

QSACOMMAN02 - *describe the impact development has on the environment and initiatives to minimise energy, reduce carbon emissions, protect and increase biodiversity, flood protection and increase health and well-being*

QSACOMMAN03 - *demonstrate ability to measure and quantify to support the design process, production of project information and the commercial management of projects*

QSACOMMAN04 - *demonstrate an appreciation of time, cost quality and value drivers affecting the design and construction and occupancy of buildings*

QSACOMMAN05 - *demonstrate awareness of the legal and regulatory frameworks and systems impacting on the design and construction of buildings, and the principles of procurement and contract administration*

QSACOMMAN06 - *demonstrate an awareness of digital technologies that support the construction process and the management of costs*

QSACOMMAN07 - *recognise the roles of other professionals and parties associated with construction, property and surveying throughout a buildings lifecycle and be aware of the benefits of collaborative practice*

QSACOMMAN08 - *recognise the importance of professional ethics, their impact on the operation of the profession and their influence on society, conflict avoidance/dispute resolution, communities and the stakeholders with whom they have contact*

QSACOMMAN09 - *demonstrate an understanding of the principles and processes that deliver an*

inclusive environment recognising the diversity of user needs by putting people (of all ages and abilities) at the heart of the commercial management and quantity surveying...

REAEST01 - *demonstrate an appreciation of the survey, measurement and technical analysis supporting real estate assets*

REAEST02 - *understand how the performance of real estate affects the ownership, use and occupation of property as assets*

REAEST03 - *demonstrate knowledge of the drivers of value of real estate and the valuation methods and techniques of analysis supporting this*

REAEST04 - *demonstrate a fundamental knowledge of the legal systems governing the ownership and occupation of land and the relationships between different stakeholders in land*

REAEST05 - *demonstrate a basic knowledge of the main construction methods and of common defects affecting domestic and commercial buildings*

REAEST06 - *demonstrate an awareness of the contribution urban planning and property development make to real estate and the statutory instruments regulating the property market*

REAEST07 - *demonstrate an awareness of the investment appraisal techniques available to calculate the rates of return that real estate commands as a class of assets within capital markets*

REAEST08 - *demonstrate awareness of the impact real estate has on both the environment and social structures (including health and well-being)*

REAEST09 - *demonstrate awareness of the contribution that other professional experts make to sustain the development of real estate in a global and local context and mitigate the impact that it has on the environment*

REAEST10 - *demonstrate an awareness of the professional and ethical responsibilities that real estate experts have to clients and in terms of the social corporate responsibility statements made by their employer organisations and to society*

REAEST11 - *demonstrate an understanding of the principles and processes that deliver an inclusive environment recognising the diversity of user needs by putting people (of all ages and abilities) at the heart of the real estate process*

REAEST12 - *demonstrate awareness of how to manage real estate as property assets*

REAEST13 - *be aware of the professional and ethical frameworks associated with the development, financing, investment in and use of buildings and facilities.*

RURLANREA01 - *the place, role and institutional framework of the countryside and rural economy and its relationships with wider urban communities*

RURLANREA02 - *surveying, measuring, analysing and evaluating rural land and property from both a market and non-market viewpoint*

RURLANREA03 - *the principles, characteristics and organisation of agriculture according to different geographical, soil and climatic conditions*

RURLANREA04 - *the principles and systems of farming methods, costs, outputs, yields, current market prices and the use and costs of farm buildings*

RURLANREA05 - *the range of rural based businesses for example energy production, quarrying, mining, waste management, tourism and leisure and their associated management and development*

RURLANREA06 - *rural land use diversification in relation to location and particular markets*

RURLANREA07 - *how the rural property market and fiscal policy and taxation affects the value of land and real estate and how valuation methods and techniques of analysis support this*

RURLANREA08 - *the range of rural-based industries including energy production, quarrying, mining, waste management, tourism and leisure and their associated management and development*

RURLANREA09 - *the importance and role of nature conservation, environmental management biodiversity and the landscape and related eco-system services in land, real estate, general business and community development*

RURLANREA10 - *the practice of silviculture from seed to harvesting and an understanding of forestry and woodland management policies and grant regimes and its contribution to the economy and sustainability*

RURLANREA11 - *how to manage rural land and real estate as property assets from both a user, landlord and tenant perspective and in doing so recognising the importance of managing client and stakeholder relationships*

RURLANREA12 - *the contribution planning and property development make to rural land and real estate and the statutory instruments regulating the property market*

RURLANREA13 - *the investment appraisal techniques available to calculate the rates of return that rural land and property command as a class of assets within capital markets*

RURLANREA14 - *the impact that farming and other rural land uses have on the environment and initiatives to sustain development by way of, for example, flood mitigation, energy production and savings and through carbon reduction measures designed to reduce global...*

RURLANREA15 - *planning and development of infrastructure in the countryside*

RURLANREA16 - *working with land-based professional, experts and stakeholders in the management and development of rural land and property while mitigating negative impacts on the environment*

RURLANREA17 - *the owner-occupied and rented housing sectors in the rural environment*

RURLANREA18 - *the legal, professional and ethical responsibilities rural land and property experts have to clients, rural communities and the wider urban public*

RURLANREA19 - *the principles and processes that deliver an inclusive environment recognising the diversity of user needs by putting people (of all ages and abilities) at the heart of the rural land and real estate process*

SMPDSKILLS - *recognise and be able to comment on the moral and ethical issues associated with the subject*

SMPDSKILLS02 - *appreciate the need for professional codes of conduct*

SMPDSKILLS03 - *accept responsibility for their own learning*

SMPDSKILLS04 - *identify targets for personal, career and academic development*

SMPDSKILLS05 - *be adaptable and have a flexible approach to study and work*

SMPDSKILLS06 - *develop skills necessary for self-managed, independent and lifelong learning*

SMPDSKILLS07 - *recognise personal strengths and weaknesses*

SURMAPSCI01 - *the measurement, collection management and application of spatial measurement using a range of land based and digital techniques*

SURMAPSCI02 - *the creation of maps using a range of data collected through some standard techniques including aerial photography and digital techniques*

SURMAPSCI03 - *technologies underpinning problem solving of a wide range of spatial problems*

SURMAPSCI04 - *the scientific and mathematical principles underlying the surveying and mapping techniques*

SURMAPSCI05 - *surveying practice for cadastral, topographic, hydrographic and engineering surveys including the use of relevant equipment*

SURMAPSCI06 - *geographic information systems (GIS), global navigation systems satellite systems (GNSS) and other digital systems*

SURMAPSCI07 - *law and regulation relating to health, safety and the environment*

SURMAPSCI08 - *law and regulation relating to planning land tenure and land registration*

SURMAPSCI09 - *the importance of sustainability within the context of the natural environment*

SURMAPSCI10 - *the importance of professional ethics, their impact on the operation of the profession and their influence on the society, communities and the stakeholders with whom they have contact*

SURMAPSCI11 - *working with and the contribution of other land-based professional, experts and stakeholders in the management and development of rural land and property while mitigating negative impacts on the environment*

SURMAPSCI12 - *the principles and processes that deliver an inclusive environment recognising the diversity of user needs and the requirement to put people (of all ages and abilities) at the heart of the surveying and mapping science process*