Robert Gordon University
BSc (Hons) Architectural Technology

Stage 1

MODULE DESCRIPTOR

Module Title

Introduction to Building Technology

Reference	AC1002	Version	10
Created	May 2017	SCQF Level	SCQF 7
Approved	July 2005	SCQF Points	15
Amended	September 2017	ECTS Points	7.5

Aims of Module

To enable the student to analyse and understand the construction of existing and newbuild domestic buildings.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Analyse and apply learning of the materials, structure and construction of domestic buildings.
2	Demonstrate knowledge and understanding of the materials, structure and construction of domestic buildings.

Indicative Module Content

Strategic site analysis considering basic principles of sustainable design, site specific design, design precedent, opportunities for renewable technologies and the impact of buildings on their immediate environment. Basic structural principles in relation to forces and loads applied to typical building of domestic scale; Identification of tension, compression, bending, shear and deflection; Investigation and critical appraisal of principles of timber frame construction; Integration of structural principles with construction methods. Historic development of construction techniques; Material characteristics and properties; Building fabric; Principles of thermal performance; Use and specification of building components; Environmental considerations of construction techniques and specification choices. Basic principles of measuring fabric performance. Basic domestic scale services; drainage; heating, ventilation. application and integration of renewable technologies

Module Delivery

This module is delivered by lectures, practical workshops, directed student research and online activities.

MODULE DESCRIPTOR

Module Title

Built Environment Communication and Scholarship Skills

Reference	SU1003	Version	11
Created	April 2019	SCQF Level	SCQF 7
Approved	July 2005	SCQF Points	15
Amended	May 2019	ECTS Points	7.5

Aims of Module

To provide the student with the ability to apply effective communication in a built environment context.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Develop the appropriate skills in the use of the latest software programs to promote understanding of drawing and communication skills in the construction industry using CAD.
2	Apply and integrate the developed communication skills in visualisation and associated tools to a professional standard.

Indicative Module Content

Personal and interpersonal skills required in the built environment will be developed through the medium of a practical based investigation, analysis and modelling. This will require students to acquire, practice and apply communication skills. The students will be required to produce output in the form of graphical and written communication in drawings which will involve the use of information technology.

Module Delivery

Delivery of this module is principally project based workshops founded upon the investigation, analysis and modelling of a built environment topic. Student workload and progression will be tutor managed through workshops supported by a small number of keynote lectures and directed personal study.

MODULE DESCRIPTOR

Module Title

Surveying Methods

Reference	SU1005	Version	8
Created	May 2017	SCQF Level	SCQF 7
Approved	August 2002	SCQF Points	15
Amended	September 2017	ECTS Points	7.5

Aims of Module

To provide an introduction to and an understanding of the principles and procedures used in surveying.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Explain the basic surveying terms used in current practice for land surveying.
2	Undertake a small linear survey, including contour determination.
3	Solve practical levelling exercises, which results in accurate area and volume calculation.
4	Record building survey data and produce a scaled drawing.

Indicative Module Content

The module introduces students to the principles and practice of land surveying and measured building surveys. It includes basic mathematical skills of geometry and trigonometry taught in the context of area and volume calculations.

Module Delivery

This module is extensively based upon student centred research and practical surveying problem solving activities. There will be "mini" lectures followed by student centred learning tasks involving both individual and team working.

MODULE DESCRIPTOR

Module Title

Introduction to the Construction Profession

Reference	SU1115	Version	1
Created	March 2019	SCQF Level	SCQF 7
Approved	May 2019	SCQF Points	15
Amended		ECTS Points	7.5

Aims of Module

To provide the student with the ability to understand the construction industry, the construction professions and the nature of the industry. To outline the history of architecture and construction and its relationship to contemporary practice and processes.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Identify, understand and explain the functions and interaction of the various construction professionals involved in the construction process.
2	Understand the historic development of the construction profession until the present day and current regulatory requirements in the building profession, including the necessary professional ethics and processes.

Indicative Module Content

The module introduces planning, design and production processes and the role of the different professional parties within a built environment project; Provides understanding of what the different construction professions are and how they collaborate; provides a synoptic view of architectural history and sets this against the broader context of architectural design theory and construction; provides an introduction into scholarly activity and communication in the built environment context.

Module Delivery

Learning from lectures is supplemented by exercises set during these sessions.

MODULE DESCRIPTOR

Module Title

Building Technology 2

Reference	AC1005	Version	10
Created	May 2017	SCQF Level	SCQF 7
Approved	July 2005	SCQF Points	15
Amended	September 2017	ECTS Points	7.5

Aims of Module

To enable the student to understand the construction, servicing and structure of existing and newbuild domestic buildings.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Analyse and apply learning of materials, structure, servicing and construction of masonry domestic buildings
2	Demonstrate knowledge and understanding of the materials, construction and structure of masonry domestic buildings

Indicative Module Content

Strategic site analysis considering basic principles of sustainable design, site specific design, design precedent, opportunities for renewable technologies and the impact of buildings on their immediate environment. Basic structural theory in relation to tension, compression, bending, shear and deflection of steel and concrete beams; Reinforcement, Basic principles of load bearing masonry construction; Introduction to foundation typology; Integration of structural principles with construction methods. Historic development of masonry construction techniques; Material characteristics and properties; Masonry building fabric; Principles of thermal performance; Use and specification of building components; Internal finishes and fittings, Environmental considerations of construction techniques and specification choices; moisture performance, Basic principles of measuring fabric performance. Basic domestic scale services; Foul drainage; Surface water drainage, heating, water supply. Application and integration of renewable technologies and low carbon equipment.

Module Delivery

This module is delivered by lectures, practical workshops, directed student research and online activities.

MODULE DESCRIPTOR

Module Title

Economics For The Built Environment

Reference	SU1002	Version	3
Created	May 2017	SCQF Level	SCQF 7
Approved	July 2011	SCQF Points	15
Amended	September 2017	ECTS Points	7.5

Aims of Module

To provide students with a basic understanding of economic principles and to introduce them to economic analysis in the private, public, and national sectors in the context of the Built Environment.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Recognise and discuss the basic terminology, principles, theories and models in both micro and macroeconomics.
2	Apply these principles, theories and models in order to understand the basic working of companies, markets and the national economy.
3	Apply these principles, theories and models to an understanding relating to the Built Environment.

Indicative Module Content

The basic economic problem of scarcity and choice; opportunity cost. The Built Environment market model. Costs, revenue and profit maximisation. Different competition policy and market structures. Theory of the firm. Resources. The role of government in the economy. Fiscal and monetary policy. An introduction to the European Union.

Module Delivery

This module is a lecture-based course supplemented with both tutorials and directed study.

MODULE DESCRIPTOR

Module Title

Integrative Studies 1 - Arch. Tech.

Reference	SU1025	Version	4
Created	May 2017	SCQF Level	SCQF 7
Approved	June 2010	SCQF Points	30
Amended	September 2017	ECTS Points	15

Aims of Module

1. To provide the student with the ability to integrate and consolidate knowledge and understanding from studies conducted throughout Stage 1 in a project based scenario. 2. To explain the functions and interaction of an Architectural Technologist's role with the various parties involved in the construction process. 3. To develop the critical analytical skills required to be an Architectural Technologist.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Interpret and develop a brief.
2	Produce design solutions which address the brief's requirements using industry standard software applications.
3	Effectively communicate design intentions using a range of industry standard presentation media.

Indicative Module Content

The module is based on the development of a domestic scale design project. Interpretation of brief; site appraisal; research and development through generation, analysis and critique of feasibility study; synthesis and presentation of design solution and environmental strategy. Individual and team-working activities will be encouraged.

Module Delivery

This is a module predominantly involving practical work in relation to a project which may include, surveying, field and studio work, and where appropriate site visits. Directed study to core texts and resource material will be encouraged.

Stage 2

MODULE DESCRIPTOR

Module Title

Management for the Built Environment 1

Reference	SU2001	Version	10
Created	March 2018	SCQF Level	SCQF 8
Approved	July 2005	SCQF Points	15
Amended	July 2018	ECTS Points	7.5

Aims of Module

To enable students to understand and apply the principles of the management of people and time with particular emphasis on project programming, resourcing, and team working in the context of the construction industry including the introduction of basic management of risk/safety within the construction industry.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Recognise and discuss the different functions and the principles of project planning and control.
2	Review and assess the role of managing people and teams in the context of the construction industry.
3	To introduce and understand how health and safety management applies to the construction industry.

Indicative Module Content

The topics to be covered include: management of people and teams, project planning and control, communication in construction, roles and responsibilities within CDM 2015, safety/risk management in the construction sector, and the appraisal of different types of hazards and controls in the construction industry.

Module Delivery

This is a lecture based module supplemented with workshops. A substantial part of the module is devoted to student centred learning in the form of directed reading of management journals, core texts and resource material.

MODULE DESCRIPTOR

Module Title

Environment and Services Technology 1

Reference	SU2016	Version	1
Created	March 2019	SCQF Level	SCQF 8
Approved	May 2019	SCQF Points	15
Amended		ECTS Points	7.5

Aims of Module

To provide the student with the ability to apply and understand the principles of building science to services systems for low/medium rise buildings.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Develop an understanding of the environmental considerations of comfort in low/medium rise buildings from regulatory minimum to best sustainable practice.
2	Develop the knowledge of building services and how this is applied to low/medium rise buildings in practice.
3	Recognise and adopt the need for low energy practice by adopting forward thinking strategies.

Indicative Module Content

The module provides an understanding of the principles and applications for the following systems: heating systems; cooling systems; natural and mechanical ventilation; water supply, waste and rain water drainage; daylight and electric light including electrical installation. Thermal comfort principles and the requirements for fabric efficiency (FEE). The topic of acoustics will be examined to include sound insulation; sound absorption and reverberation time. Finally, the principles of services distribution and integration in a building are outlined.

Module Delivery

This is a workshop based module supplemented with practical work, which includes laboratory experiments. A substantial part of the module is devoted to student centred learning, computer exercises where necessary and private study. Directed reading to services journals, core texts and resource material is encouraged.

MODULE DESCRIPTOR

Module Title

Design Technology 1 - Architectural Technology

Reference	SU2030	Version	3
Created	June 2017	SCQF Level	SCQF 8
Approved	August 2009	SCQF Points	30
Amended	September 2017	ECTS Points	15

Aims of Module

To provide the student with the critical ability to appreciate the technical design of contemporary factors which shape and control the built environment. To provide the student with the knowledge of design and technology in such a way to visualise these factors by applying 3d CAD concepts and skills.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Evaluate the application of design technology in a contemporary context through a creation of a 3D model of a low/medium rise contemporary building for visualisation and the production of industry standard orthographic drawn data.
2	Apply decision making processes to problem solving in contemporary building design.
3	Address human factors, materiality and technological development within modern design.
4	Use a range of media including physical and computer based techniques to illustrate design solutions.

Indicative Module Content

The module will focus on thematic studies of innovative technologies in contemporary building design. Contemporary building design philosophies and control mechanisms will be investigated to include, for example, global and local environment agendas, client/user driven imperatives, health and safety. Individual roles and team issues relating to the realisation of the design for the built environment will be examined. Physical and computer modelling will be used to develop and illustrate design solutions through the provision of media visualisation techniques, rendering, a walk through, fly a rounds, and virtual models.

Module Delivery

This is a module predominantly involving practical work in relation to a project, which includes field and studio work and, where appropriate, site visits. Supplementary CAD modelling to industry wide standard will be provided in a workshop environment with Tutor support. The workshops will be supplemented by keynote lectures. Directed study to core texts and resource material.

MODULE DESCRIPTOR

Module Title

Building Technology 3

Reference	SU2002	Version	7
Created	June 2017	SCQF Level	SCQF 8
Approved	July 2002	SCQF Points	15
Amended	September 2017	ECTS Points	7.5

Aims of Module

To provide the student with the ability to understand and apply the key principles of construction techniques, construction detailing, built asset maintenance, refurbishment, renovation and 3D modelling and associated data management.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Explain and apply the principles of construction detailing and relate them to medium size buildings and associated legislation.
2	Assess the sources and causes of decay in buildings.
3	Apply the appropriate maintenance, refurbishment and rehabilitation process.
4	Explain the influence of building maintenance on building design, components and elements.
5	Explain and apply the principles 3D modelling and data management to medium size buildings and associated legislations.

Indicative Module Content

Structure and construction principles in contemporary use will be explored and applied in details, along with a range of materials and new methods of construction. Understanding and application of 3D modelling and the principle of data management (BIM) are introduced. Building maintenance, refurbishment and rehabilitation requirements will be examined along with the requirements for any temporary works including a brief introduction to conservation issues. The module also introduces the reasons for deterioration and defects in buildings and will explore the relevant legislation relating to this topic. Remediation processes. Relevant legislation relating to the topics covered will be identified and reviewed.

Module Delivery

This is a lecture based module supplemented with tutorials, workshops and practical work which includes, simulations, fieldwork and/or site visits. A substantial part of the module is devoted to student centred learning and private study in the form of directed reading to building journals, core texts and resource material.

MODULE DESCRIPTOR

Module Title

Integrative Studies 2 - Architectural Technology

Reference	SU2011	Version	6
Created	June 2017	SCQF Level	SCQF 8
Approved	July 2002	SCQF Points	30
Amended	September 2017	ECTS Points	15

Aims of Module

To provide the student with the ability to integrate and consolidate knowledge and understanding from studies conducted throughout Stages 1 and 2.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Interpret and develop a design brief which includes resolution of functional and technical issues.
2	Produce design solutions which synthesise the requirements of the brief.
3	Illustrate design solutions using a range of media including computer based techniques.
4	Identify design philosophy and justify by oral presentation.
5	Identify and apply, in a design project, the appropriate procurement method, health and safety and the standard form of contract.

Indicative Module Content

The module is based on the design of a low rise framed building in a rural context. Formulate appropriate design philosophy; research and development through generation analysis and critique of feasibility study; evaluate appropriate technologies; synthesis and presentation of solutions for project design and management including procurement methods, health and safety measures and standard forms of contract; individual and team working activities.

Module Delivery

This is a module predominantly involving practical work in relation to a project which may include, surveying, field and studio work, related lectures and tutorials, and where appropriate site visits. Directed study to core texts and resource material will be encouraged.

MODULE DESCRIPTOR

Module Title

Building Structure and Technology

Reference	SU2025	Version	5
Created	June 2017	SCQF Level	SCQF 8
Approved	July 2005	SCQF Points	15
Amended	September 2017	ECTS Points	7.5

Aims of Module

To enable the student to understand the structure and construction of moderately complex buildings.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Analyse the structure and construction of moderately complex buildings.
2	Demonstrate knowledge, understanding and application of the structural and construction details of moderately complex buildings.

Indicative Module Content

Structure: Structural materials - properties and environmental impact; timber, steel, reinforced concrete, plain and reinforced masonry, glass; alternative structural systems - simple frames, portal & moment frames and load bearing walls; vertical and lateral loading; lateral stability including diagonal bracing, shear walls and moment connections; integration of structure and architectural design; basic structural theory in relation to tension, compression, bending, shear and deflection; application to the approximate sizing of simple beams, continuous beams, cantilever beams, composite beams, trusses, slabs, columns and walls. Construction: Alternative materials and systems for roofing, cladding and flooring; assembly of components and installation of systems; environmental impact and architectural considerations; impact of interstitial condensation; basement waterproofing and foundation strategies; construction of retaining walls, earthworks and hard standings.

Module Delivery

This module is delivered by an approach involving student research, online activities, targeted lectures, group work and seminars.

Stage 3

MODULE DESCRIPTOR

Module Title

Research Methods

Reference	AC5005	Version	4
Created	May 2018	SCQF Level	SCQF 10
Approved	August 2008	SCQF Points	15
Amended	July 2018	ECTS Points	7.5

Aims of Module

To provide the student with an ability to identify and utilise appropriate strategies and techniques for the purpose of individual investigations and research.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Identify relevant and feasible research questions, applying critical theories where appropriate, in relation to an appropriate study topic, as agreed with the project supervisor(s).
2	Demonstrate research skills appropriate to architectural and built environment research study.
3	Demonstrate self-sustaining and cogent research management skills at an appropriate level.
4	Critically evaluate and apply research design and methodology for their chosen dissertation topic.
5	Critically evaluate, where appropriate, the quality and value of research in professional practice.

Indicative Module Content

Research in a professional context, in support of planning, decision making and policy analysis; the impact of research. Research principles (e.g. validity, reliability, generalisability); qualitative and quantitative approaches and rationale (e.g. case studies; action research; surveys; experimental and quasi-experimental design); and data collection techniques (e.g. questionnaire, observation and interview design). Data management, analysis, interpretation and presentation (e.g. data recording and preparation; the application of statistical techniques; coding, categorising and pattern seeking in qualitative data; tabulation and graphing). Research writing, publishing and dissemination. Research management; planning and organising a research project; identifying researchable issues; use of literature and libraries and ICT; time and task management; costing research; organising fieldwork and contacts; consent and confidentiality issues.

Module Delivery

The module is available for delivery through both face to face and distance-learning modes via the Virtual Campus. Access to staff support will be available, either face to face or through online forums. The Full Time mode is based upon structured reading, formal lectures, tutorials / seminars and student centred problem solving. The distance learning delivery mode will be supported through case studies, online group activities and discussion forums.

MODULE DESCRIPTOR

Module Title

Management for the Built Environment 2

Reference	SU3001	Version	10
Created	June 2017	SCQF Level	SCQF 9
Approved	July 2005	SCQF Points	15
Amended	September 2017	ECTS Points	7.5

Aims of Module

To provide the student with the ability to assess and select appropriate strategies for the management of firms and review project performance criteria. To provide the student with the ability to understand the roles and responsibilities required by the Construction (Design and Management) Regulations 2015 with particular emphasis on the Health and Safety management within a construction organisation.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Analyse the strategic management of firms.
2	Evaluate health and safety enhancement strategies and applications in the Built Environment.

Indicative Module Content

This module will introduce Strategic Management for the firm, considering strategic analysis of the environment, resources, values and power, objectives; identification, evaluation, selection and implementation of options. An introduction and review of Quality Improvement strategies, quality assurance, TQM, benchmarking, KPI, lean systems, and supply chain techniques will be included. The module will also investigate Health & Safety and Risk Management within the construction sector.

Module Delivery

This module will be delivered by lectures, workshops and directed reading and research.

MODULE DESCRIPTOR

Module Title

Design Technology 2 - Architectural Technology

Reference	SU3040	Version	4
Created	June 2017	SCQF Level	SCQF 9
Approved	August 2009	SCQF Points	30
Amended	September 2017	ECTS Points	15

Aims of Module

To provide the student with the ability to recognise the factors which shape the design of simple low-rise, domestic scale buildings.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Evaluate aspects of building performance in historical and/or contemporary contexts.
2	Design systems, which integrate building structure and envelope while considering issues of whole life cycle and building pathology where applicable.
3	Formulate environmental strategies for optimising levels of human comfort, building performance and materiality.
4	To develop the knowledge skills required to submit drawings for planning approval, building warrant and production information in a communicative professional manner.

Indicative Module Content

The module will investigate performance based studies of innovative technologies in 20th century building design; consideration of the interaction between environmental and human factors, which can impact on component, assembly and whole building performance; ergonomics, anthropometrics, comfort, health, safety & security related issues. The need for the realisation of design products, processes and procurement and also the need to develop awareness of the management issues inherent within projects, including individual and team roles; ecology; ethics in design and project information systems.

Module Delivery

This is a module predominantly involving practical work in relation to a project, which includes field and studio work and, where appropriate, site visits. In addition, student centred CAD modelling is provided in a tutorial/workshop environment with tutor support. The workshops will be supplemented by keynote lectures. Directed study to core texts and resource material.

MODULE DESCRIPTOR

Module Title

Professional Practice

Reference	SU3200	Version	5
Created	April 2018	SCQF Level	SCQF 9
Approved	August 2006	SCQF Points	15
Amended	July 2018	ECTS Points	7.5

Aims of Module

To develop a critical awareness of fundamental principles key to the practice of architectural technology and design management. To provide the student with the ability to recognise and apply relevant aspects of ethics, law and contracts to built environment professional practice.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Exemplify the nature of the building industry, and the roles and responsibilities of the people involved in the design and construction process.
2	Define the role of contract administrator and analyse simple forms of contract relevant to the professional practice of architectural technology and design management.
3	Research and appropriately apply the administration of a specific contract scenario related to your studio project. Analyse procedural aspects of that scenario and present the results in a structured and coherent written discussion.

Indicative Module Content

Introduction to the roles and responsibilities of built environment professionals; a brief description of the associated professional bodies; the complex nature of the building industry and interactive relationships between design team members, clients and contractors; design management by analysis of best practice; legislation relating to the built environment; law, contract and business issues applied to architectural technology and design management practice; entrepreneurship; principles of small business management.

Module Delivery

This module will be delivered in Semester 1 and is a lecture based course, with tutor supported workshops and private study applying research based investigation to professional practice scenarios.

MODULE DESCRIPTOR

Module Title

Industrial Placement

Reference	SU3022	Version	6
Created	June 2017	SCQF Level	SCQF 9
Approved	July 2005	SCQF Points	45
Amended	September 2017	ECTS Points	22.5

Aims of Module

To enable the student to work in a practical environment, to consolidate and broaden their knowledge gained in academic studies.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Demonstrate the necessary skills in the following areas: * Technical and Learning Skills * Staff Relations Skills * Planning and Organisational Skills * Personal and Professional Skills * Communication Skills
2	Reflect on their own strengths and weaknesses as a potential professional person.
3	Appraise the structure and the function of the organisation in which they are placed and critically evaluate the factors which affect its performance.
4	Apply the theories, skills, models, concepts and principles acquired in their studies to date in the workplace.

Indicative Module Content

The content of the industrial placement will vary. However, each student will draw up an agreed learning contract with the host organisation and devise a programme which will enable the learning outcomes to be achieved. For professional and practical reasons students are expected to complete a minimum of 600 hours during their industrial placement.

Module Delivery

Delivery is by means of supervised on-the-job training. In addition, students may be required to attend staff development workshops as designated by the host organisation.

MODULE DESCRIPTOR

Module Title

Exchange Programme

Reference	SU3023	Version	7
Created	December 2017	SCQF Level	SCQF 9
Approved	July 2005	SCQF Points	45
Amended	December 2017	ECTS Points	22.5

Aims of Module

To provide the student with the ability to further develop built environment discipline skills through exchange study in a country within the European and International communities.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Demonstrate the further development of built environment skills through study in European or an overseas country.
2	Generate and communicate projects through oral, written and graphic media appropriate to discipline specific requirements applied in a European context.

Indicative Module Content

The module is delivered by a partner institution in a European or overseas country. Study programme (Learning agreement) will be agreed with the host partner institution. The studies will be undertaken in English.

Module Delivery

Delivery of the module will be specific to the host institution.

MODULE DESCRIPTOR

Module Title

Simulated Professional Practice

Reference	SU3033B	Version	3
Created	June 2017	SCQF Level	SCQF 9
Approved	August 2009	SCQF Points	45
Amended	September 2017	ECTS Points	22.5

Aims of Module

To enable the student to demonstrate learning accrued in a simulated professional environment. To use academic knowledge to underpin and broaden professional skills.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Demonstrate the necessary skills in the following areas Technical and Learning Skills, Interdisciplinary Skills, Planning and Organisational Skills, Personal and Professional Skills and Communication Skills.
2	Reflect on their own strengths and weaknesses as a potential professional person.
3	Appraise the structure and the function of professional practice and critically evaluate the factors which affect its performance.
4	Apply the theories, skills, models, concepts and principles acquired in their studies to date in a simulated professional environment.

Indicative Module Content

The professional practice portfolio will provide evidence, which combines practical skills and learning gained in a simulated workplace environment with academic knowledge. Each student will draw up an agreed learning contract with the academic mentor and devise a programme, which will enable the learning outcomes to be achieved.

Module Delivery

Delivery combines simulated on-the-job mentoring with guidance from a University adviser. In addition, students may be required to attend personal development workshops as designated by the University. Students will also be encouraged to engage with professional practice and industry.

Stage 4

MODULE DESCRIPTOR

Module Title

Dissertation

Reference	AC4002	Version	7
Created	June 2017	SCQF Level	SCQF 10
Approved	July 2005	SCQF Points	30
Amended	September 2017	ECTS Points	15

Aims of Module

To provide the student with the ability to further develop professional skills through undertaking a research based investigation, which addresses a specialist area of need in the built environment. The investigation should synthesise complex issues of problem identification, evaluate research material and draw valid conclusions through independent research.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Identify and gather a thorough set of information appropriate to a chosen subject within the course discipline.
2	Critically evaluate that information against a theoretical stance.
3	Present a structured argument in writing, with appropriate graphic support, using and acknowledging that information in line with academic writing conventions.
4	Develop a thorough understanding of a relatively narrow subject within the discipline.

Indicative Module Content

The module provides a framework for selecting a feasible topic and clarifying the scope of a proposal; an introduction to planning research and finding sources of information; a context for structuring and presenting written information.

Module Delivery

This is a student centred Module supported by regular progress reviews and critique by Tutors. Support lectures and workshops in research methods will be delivered at the start of the project. Students are required to initiate, develop and manage their projects effectively within the designated programme.

MODULE DESCRIPTOR

Module Title

Design Technology 3

Reference	SU4001	Version	6
Created	June 2017	SCQF Level	SCQF 10
Approved	July 2002	SCQF Points	30
Amended	September 2017	ECTS Points	15

Aims of Module

To provide the student with the ability to formulate strategies and design solutions, which address complex issues relating to building performance.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Develop a design brief, which identifies and addresses complex issues relating to building performance.
2	Formulate strategies to resolve problems raised by the design brief through appropriate methodologies.
3	Propose, test and produce solutions, which resolve the issues raised by the design brief.
4	Justify methodologies and design strategies through oral presentation and critique.

Indicative Module Content

This module is based on the identification, analysis and resolution of design based building performance issues; Development of a design brief, which involves the identification of complex functional and technical issues relating to building performance; Proposal of methodology for investigation, analysis and resolution of design problem; Data gathering, analysis and formulation of design solutions; Representation and justification of design methodology and solutions in a simulated professional context.

Module Delivery

This is a module predominantly involving practical work in relation to a project, which may include, field and studio work and, where appropriate, site visits. Directed study to core texts and resource material will be encouraged.

MODULE DESCRIPTOR

Module Title

Integrative Studies 3 - Architectural Technology

Reference	SU3011	Version	5
Created	June 2017	SCQF Level	SCQF 9
Approved	July 2002	SCQF Points	30
Amended	September 2017	ECTS Points	15

Aims of Module

To provide the student with the ability to integrate knowledge, understanding and skills from studies conducted throughout Stages 1, 2 and 3.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Interpret and develop a complex design brief which includes resolution of functional, technical, ethical and legislative issues.
2	Generate solutions which synthesise the diverse requirements of the design brief.
3	Present formal ideas and design solutions in two and three dimensions using a range of media including physical and computer generated modelling.
4	Justify design strategy by oral presentation and critique.
5	Perform individual and group work as part of a multi-disciplinary team in the context of building design and development.

Indicative Module Content

This module is based on the design of a medium rise building in an urban context. Interpretation of the brief will involve identifying and resolving complex architectural design problems; Issues of protection and care of the natural and built environments will form key components of the design brief; Research and development through generation, analysis and critique of feasibility study which addresses and resolves complexities of design brief; Synthesis and presentation of solutions for project design and management in a context which simulates professional practice.

Module Delivery

This is a module predominantly involving practical work in relation to a project which may include, surveying, field and studio work and where appropriate site visits. Directed study to core texts and resource material will be encouraged.

MODULE DESCRIPTOR

Module Title

Built Heritage Conservation

Reference	SU4020	Version	6
Created	June 2017	SCQF Level	SCQF 10
Approved	July 2002	SCQF Points	15
Amended	November 2017	ECTS Points	7.5

Aims of Module

To provide the student with the ability to understand issues influencing built heritage conservation, and to develop a critical approach towards the application of conservation and intervention techniques.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Recognise and critically assess the meaning of conservation in the built environment.
2	Identify and critically evaluate issues and criteria influencing the conservation of selected structures or sites.
3	Record and present information pertinent to the conservation of selected structure or sites, using a range of techniques.
4	Formulate conservation strategies appropriate to selected structures or sites, based on the issues, criteria and information identified.

Indicative Module Content

This module will explore all key areas of built heritage conservation commencing with the meaning of conservation in the built environment; current guidelines; relevant case studies; assessment of heritage value; recording and measurement of the historic built environment (use of 3D HD laser scanning, site specific data gathering); urban desgin implications of building conservation relevant to conservation will be investigated.

Module Delivery

The module is delivered using a blend of lectures workshops and tutorials. The delivery of this module will be supported through case studies,research, group activities and discussion forums.

MODULE DESCRIPTOR

Module Title

Elective - Architectural History

Reference	AC4004	Version	6
Created	June 2017	SCQF Level	SCQF 10
Approved	July 2002	SCQF Points	15
Amended	September 2017	ECTS Points	7.5

Aims of Module

To provide the student with the ability to examine aspects of architctural history, theory, and language.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Elucidate specific ideas and themes relating to the architectural language and ideology of a distinct period of architecture.
2	Explain the theoretical lineage of a period of architecture.
3	Evaluate formal, compositional and cultural realisations of these ideas.

Indicative Module Content

The module will cover areas of architecture and allied thought by way of calling attention to exemplary buildings and texts.

Module Delivery

This is a lecture-based course supplemented by tutorials. Emphasis will be placed on an interactive approach to communication and learning as well as on an encouragement of significant student involvement. A substantial part of the module is devoted to student centred and library research.

MODULE DESCRIPTOR

Module Title

Elective - Construction

Reference	AC4006	Version	5
Created	February 2017	SCQF Level	SCQF 10
Approved	July 2005	SCQF Points	15
Amended	September 2017	ECTS Points	7.5

Aims of Module

To enable students to evaluate the aesthetic intentions and performance requirements of elements of advanced building construction within the context of their implications for construction complexity.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Evaluate, in terms of construction complexity, the subassemblies components and materials involved in a product and the manner in which they are fitted together.
2	Prepare a product illustrating the complexity within the selected detail. The product may comprise one or more of the following examples: report; model; drawings; presentation.

Indicative Module Content

The module provides practical guidance on the analysis of the effects of detailing, technical standards and their visual and aesthetic implications, and choice of materials, components and subassemblies, on the practical issues involved in construction. It involves the systematic study of architectural details selected by students in consultation with staff from the work of nationally and internationally recognised architects.

Module Delivery

This is a tutorial/seminar-based course. Students select the details they wish to study. They are advised on their choice by staff and receive tutorials in studio to assist them in the interpretation of the information they collect. Students make regular seminar presentations to staff and other students. A substantial part of the module is devoted to studio-based student centred learning and library research.

MODULE DESCRIPTOR

Module Title

Environmental Design

Reference	AC4008	Version	5
Created	June 2017	SCQF Level	SCQF 10
Approved	July 2002	SCQF Points	15
Amended	September 2017	ECTS Points	7.5

Aims of Module

To provide the student with the ability to use and evaluate sophisticated and integrative design methods and tools in the environmental design of buildings.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Develop the environmental requirements for a building.
2	Design appropriate environmental systems and integrate these in an architectural proposal.
3	Evaluate the design in terms of the environmental targets set, capital and running costs of the environmental system and the comfort criteria for the building's occupants.

Indicative Module Content

The module provides practical guidance on the design of environmental systems, both active and passive; the assessment of comfort, space, environmental, and cost implications; and the communication of these ideas.

Module Delivery

This is a workshop/tutorial based course. It is a continuation of the design project studied in the first semester. Students consider the design of environmental systems (thermal & visual) appropriate to, and integrated with, the project building. They are advised by staff on sources of information and receive assistance in the interpretation and application of the information they collect. A substantial part of the module is devoted to studio-based student centred and library-based research.

MODULE DESCRIPTOR

Module Title

Product Design

Reference	AC4010	Version	4
Created	June 2017	SCQF Level	SCQF 10
Approved	July 2002	SCQF Points	15
Amended	September 2017	ECTS Points	7.5

Aims of Module

To enable the student to evaluate and synthesize the aesthetic and performance requirements of building/furniture components, in relation to their method of manufacture.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Propose the aesthetic intentions and performance requirements of a selected product.
2	Design a component and the materials involved and specify the method of manufacture and assembly, and performance criteria.
3	Prepare clear drawings (suitable for publication) and a model illustrating the product design.

Indicative Module Content

The module provides practical guidance on the design of products, which relate to the built environment, and considers the relationship of form and aesthetic intent to practical issues of material specification, and method of manufacture. Usually one particular method of manufacture is focused upon (e.g. casting) to avoid becoming too general.

Module Delivery

This is a tutorial/seminar based module supported by student-centred learning and directed study. Students are advised on their choice of product by staff and receive tutorials to assist them in the interpretation of the information they collect, and on their proposal. Students make regular seminar presentations to staff and other students. A substantial part of the module is devoted to studio-based student centred learning and library research and will also include visits to manufacturers.

MODULE DESCRIPTOR

Module Title

Architectural Criticism, Journalism and Publishing

Reference	AC5007	Version	3
Created	June 2017	SCQF Level	SCQF 10
Approved	August 2009	SCQF Points	15
Amended	November 2017	ECTS Points	7.5

Aims of Module

To provide students with an understanding of the practical and intellectual issues surrounding the publication of magazines and books about architecture. To allow them to understand the current trends within publishing within the wider historical context.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Develop an understanding of the history of architectural publishing.
2	Be aware of the wide range of contemporary formats, (print, video and digital) to explore architectural ideas, buildings and landscapes.
3	Develop the practical skills that would allow the student to produce their own publication ? the School?s annual review.
4	Produce a reflective journal/report recording their individual contribution to, and the collective process of, creating an architectural publication.

Indicative Module Content

The module is focused around the practical project of producing an architectural publication, the content of which may change from year to year. The module will address both the question of content and criticism and practical issues such as; form, format, graphics and publishing software, production values, photography, drawing reproduction, print and distribution.

Module Delivery

The module will contain lectures on the history of architectural publications and the best of contemporary design magazines, books and websites. Student-led discussion groups should allow the student group to develop the skills to organise the production of a publication. These discussion groups will address both the content and delivery of the publication. A substantial part of the module will be given over to studio based research, writing, design and production.

MODULE DESCRIPTOR

Module Title

Business Ideas And Opportunities

Reference	BS2293	Version	2
Created	February 2017	SCQF Level	SCQF 8
Approved	June 2018	SCQF Points	15
Amended	August 2017	ECTS Points	7.5

Aims of Module

To develop real life creative idea generation skills and knowledge and understanding of the characteristics of viable business opportunities, and to equip students with the skills required to explore a business opportunity, conduct a feasibility study and experience the challenges of idea generation in a practical task.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Demonstrate practical idea generation and work effectively in a small team.
2	Explore and assess a business opportunity in a specified industry sector.
3	Design and undertake appropriate primary and secondary market, competition and customer research.
4	Undertake a reflective exercise and assess practicality of creative ideas.
5	Present and promote the business opportunity to potential stakeholders.

Indicative Module Content

Lecture content will introduce the key issues surrounding idea generation, innovation, creative thinking, group dynamics and team formation, business opportunity recognition and evaluation, market knowledge, and competitor and customer analysis. Guest lectures and case studies of local entrepreneurs from key industry sectors (e.g. oil and gas, tourism, food and farming, and the creative industries) will expand student knowledge and understanding of the practical issues faced in identifying and researching a viable business opportunity. Working in small teams students will demonstrate practical idea generation and will further explore and assess the business opportunity performing the necessary background research to produce a feasibility study for, and implementation of, the idea generated.

Module Delivery

This module is delivered through lectures and the provision of online resources, accompanied by staff-directed tutorials and workshops to support student team work. Students undertake the necessary background research for their feasibility study and their presentation.

Students will work in teams to demonstrate real life creative idea generation. At the end of the challenge students will present their idea, execution, performance and a critique of the viability of their idea.

MODULE DESCRIPTOR

Module Title

Performance Evaluation

Reference	SU4014	Version	8
Created	June 2017	SCQF Level	SCQF 10
Approved	July 2002	SCQF Points	15
Amended	September 2017	ECTS Points	7.5

Aims of Module

To provide the student with the ability to formulate strategies and solutions, which address the interaction between the functional requirements of buildings and the factors which shape their design, development and realisation.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Critically evaluate the application of techniques for predicting the functional performance of buildings during the design process.
2	Develop strategies for integrating performance evaluation techniques into the design process.
3	Critically analyse and evaluate the effectiveness of building design solutions in terms of attaining planned objectives for functional performance.

Indicative Module Content

This module is based on the identification, analysis and resolution of design issues relating to the functional performance of buildings; Case study analysis of functional performance indicators for building design; Formulation of strategies for incorporating client and user imperatives into the design process; Development of a design brief, which involves the identification and resolution of complex functional issues relating to building performance; Data gathering, analysis and formulation of design solutions; Representation and justification of design methodology and solutions in a simulated professional context.

Module Delivery

This is a module predominantly involving lectures, tutorial and practical work, which may include field and studio work. Directed study to performance related core texts and resource material will be encouraged.

MODULE DESCRIPTOR

Module Title

Ecological Architecture

Reference	SU4015	Version	4
Created	June 2017	SCQF Level	SCQF 10
Approved	July 2002	SCQF Points	15
Amended	November 2017	ECTS Points	7.5

Aims of Module

To provide the student with the ability to examine the inter-relationship between Architecture, people, buildings and the natural environment.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Relate the concept of Ecological Design to that of Ecological building and the building as part of an ecological system.
2	Identify the inter-relationship between the psychological and the physical in creating healthy environments.
3	Examine the idea of the vernacular as an ecological concept.
4	Explain how space, form and provision of housing affects human ecology.
5	Assess the importance of water as a design feature within buildings and architecture.

Indicative Module Content

This module will review the construction cycle. Explore buildings and health as well as psychological factors. Introduce "Natural and Healing" Architecture. Investigate Vernacular Architecture, including culture, bioregions, self build and community architecture. Review the politics and power of Architecture. Evaluate Architecture and Philosophy of Steiner, Day, Correa, Hasson, Fathy, et al. Review squatters and indigenous architecture.

Module Delivery

This is a module predominantly involving practical work in relation to a project which may include, field and studio work and where appropriate site visits supported by key note lectures and seminars. Directed study to core texts and resource material will be encouraged.