



## **MODULE DIRECTORY**

### **LEVEL 6**

### **ACADEMIC DISCIPLINE OF ARCHITECTURE, CONSTRUCTION AND THE ENVIROMENT**

### **WALES INSTITUTE OF SCIENCE AND ART**

**2024-2025**

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## **INTRODUCTION**

This Module Directory includes all the modules for Level 6 within the Academic Discipline of Architecture, Construction and the Environment in the academic year 2024-2025.

This directory accompanies the Programme of Study Handbook, which will provide you with details of which modules you will be studying for your programme this year in the 'Programme of Study' section. This directory may include modules that are running on other programmes of study within your Academic Discipline/Institute. If you require assistance in identifying the modules for your programme of study, please contact the Programme Manager (whose name and contact details are provided in the accompanying Programme of Study Handbook), or the relevant Institute Office.

The University has made every effort to make the information as full and as accurate as possible, but you should note that minor changes in the organisation of modules between the planning stage and the actual teaching are inevitable. We shall try to keep any such changes to a minimum, and you will receive plenty of advance warning in the event of any alteration. We would also be grateful if you would let us know about any changes that you think might be helpful if introduced into future handbooks.

## MODULES

|                       |                               |
|-----------------------|-------------------------------|
| <b>Module Code</b>    | <b>ACAA6000</b>               |
| <b>Title</b>          | <b>Architecture Studio 3A</b> |
| <b>Date</b>           | <b>08/12/2021</b>             |
| <b>Level</b>          | <b>6</b>                      |
| <b>Credits</b>        | <b>20</b>                     |
| <b>Pre-Requisites</b> | <b>None</b>                   |

|                                                                                                                                                                                                                   |            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <b>ARB/RIBA criteria addressed in this module</b>                                                                                                                                                                 |            |
| <b>Ability to create architectural designs that satisfy both aesthetic and technical requirements</b>                                                                                                             | <b>GC1</b> |
| prepare and present building design projects of diverse scale, complexity, and type in a variety of contexts, using a range of media, and in response to a brief;                                                 | 1.1        |
| understand the constructional and structural systems, the environmental strategies and the regulatory requirements that apply to the design and construction of a comprehensive design project                    | 1.2        |
| develop a conceptual and critical approach to architectural design that integrates and satisfies the aesthetic aspects of a building and the technical requirements of its construction and the needs of the user | 1.3        |
| <b>Adequate knowledge of the histories and theories of architecture and the related arts, technologies and human sciences.</b>                                                                                    | <b>GC2</b> |
| the application of appropriate theoretical concepts to studio design projects, demonstrating a reflective and critical approach.                                                                                  | 2.3        |
| <b>Knowledge of the fine arts as an influence on the quality of architectural design.</b>                                                                                                                         | <b>GC3</b> |
| the creative application of the fine arts and their relevance and impact on architecture;                                                                                                                         | 3.2        |
| the creative application of such work to studio design projects, in terms of their conceptualisation and representation.                                                                                          | 3.3        |
| <b>Adequate knowledge of urban design, planning and the skills involved in the planning process.</b>                                                                                                              | <b>GC4</b> |
| current planning policy and development control legislation, including social, environmental and economic aspects, and the relevance of these to design development.                                              | 4.3        |
| <b>Understanding of the relationship between people and buildings, and between buildings and their environment, and the need to relate buildings and the spaces between them to human needs and scale.</b>        | <b>GC5</b> |
| the needs and aspirations of building users;                                                                                                                                                                      | 5.1        |
| the impact of buildings on the environment, and the precepts of sustainable design;                                                                                                                               | 5.2        |
| the way in which buildings fit into their local context.                                                                                                                                                          | 5.3        |
| <b>Understanding of the profession of architecture and the role of the architect in society, in particular in preparing briefs that take account of social factors.</b>                                           | <b>GC6</b> |
| the potential impact of building projects on existing and proposed communities.                                                                                                                                   | 6.3        |
| <b>Understanding of the methods of investigation and preparation of the brief for a design project.</b>                                                                                                           | <b>GC7</b> |
| the need to critically review precedents relevant to the function, organisation and technological strategy of design proposals;                                                                                   | 7.1        |
| the need to appraise and prepare building briefs of diverse scales and types, to define client and user requirements and their appropriateness to site and context;                                               | 7.2        |
| <b>Understanding of the structural design, constructional and engineering problems associated with building design.</b>                                                                                           | <b>GC8</b> |
| the investigation, critical appraisal and selection of alternative structural, constructional and material systems relevant to architectural design;                                                              | 8.1        |

|                                                                                                                                                                                                                                        |                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| strategies for building construction, and ability to integrate knowledge of structural principles and construction techniques;                                                                                                         | 8.2            |
| the physical properties and characteristics of building materials, components and systems, and the environmental impact of specification choices.                                                                                      | 8.3            |
| <b>Adequate knowledge of physical problems and technologies and the function of buildings so as to provide them with internal conditions of comfort and protection against the climate.</b>                                            | <b>GC9</b>     |
| principles associated with designing optimum visual, thermal and acoustic environments;                                                                                                                                                | 9.1            |
| systems for environmental comfort realised within relevant precepts of sustainable design;                                                                                                                                             | 9.2            |
| strategies for building services, and ability to integrate these in a design project.                                                                                                                                                  | 9.3            |
| <b>The necessary design skills to meet building users' requirements within the constraints imposed by cost factors and building regulations.</b>                                                                                       | <b>GC10</b>    |
| prepare designs that will meet building users' requirements and comply with UK legislation, appropriate performance standards and health and safety requirements.                                                                      | 10.3           |
| <b>RIBA THEMES AND VALUES AT PART ONE LEVEL</b>                                                                                                                                                                                        | <b>T&amp;V</b> |
| Health and Life Safety: Demonstrating authoritative knowledge of statutory frameworks to safeguard the community and the end user.                                                                                                     | 1              |
| Structures, Construction, and Resources: demonstrating climate literacy, responsible specification, and ethical sourcing to enhance wellbeing, minimise embodied carbon, waste, and pollution, and reduce demands on energy and water. | 3              |
| Design pedagogies and architectural expression: critically evaluating authentic aesthetic, compositional, and spatial principles to synthesise socially, ecologically, and environmentally sustainable integrated studio projects.     | 5              |
| <b>GRADUATE ATTRIBUTES AT PART ONE LEVEL</b>                                                                                                                                                                                           | <b>GA</b>      |
| ability to generate design proposals using understanding of a body of knowledge, some at the current boundaries of professional practice and the academic discipline of architecture;                                                  | 1              |
| ability to apply a range of communication methods and media to present design proposals clearly and effectively;                                                                                                                       | 2              |
| understanding of the alternative materials, processes and techniques that apply to architectural design and building construction;                                                                                                     | 3              |
| knowledge of the context of the architect and the construction industry, and the professional qualities needed for decision making in complex and unpredictable circumstances; and                                                     | 5              |
| ability to identify individual learning needs and understand the personal responsibility required for further professional education.                                                                                                  | 6              |

## AIM(S)

- To develop, building on the foundations laid in the first and second year design modules, the student's architectural design and representation skills through one or more building design projects in defined contexts.
- To consider broader issues of urban design and building in response to context and prepare a brief for the design of the final integrative design project that in ACAA6001 Architecture Studio 3B in the second semester.

## LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- Carry out an urban design analysis of a town, village or neighbourhood to assess the potential for development – including consideration of topography, micro-climate, historical development, building quality.
- Create a masterplan for the development of a town, village or neighbourhood
- Create well-ordered outline design for a moderately complex non-domestic building or group of buildings in response to a defined brief that satisfy user needs and take account of the physical and cultural context including the fine arts.
- Write the brief for a moderately complex non-domestic building or group of buildings
- Communicate architectural and urban design ideas using a range of media including: writing, visual images, physical and digital models and verbal presentations

## INDICATIVE CONTENT

- Analytical study of an urban neighbourhood or rural district identifying the constraints and opportunities for development
- Precedent study of a building - appraising organisation, architectural strategy, and structure
- Outline design of a non-domestic building or group of buildings
- Preparation of a detailed brief for a moderately complex non domestic building.

## LEARNING AND TEACHING STRATEGY

In this third year first semester module students build on the design skills acquired in the first and second year architecture studio modules. The focus is on urban design in a real setting and may involve the adaption of existing structures and culminates in the outline design of a building or group of buildings and the preparation of a detailed design brief. In a varied sequence of projects students apply observational and analytical methods to further develop their design thinking. Students respond (usually individually but sometimes in groups) to a brief or proposition. Ideas are developed using a variety of graphic and computer-based methods supported by discussion with tutors, fellow students and others. Proposals are presented using drawings, sketchbooks, physical models and digital images, often accompanied by explanatory text.

**Scheduled learning:** Regular studio sessions include: group project briefings, studio lectures, workshops, site visits, group tutorial sessions. Formative feedback is continuous in tutorial session and reviews in which students present their work to fellow students, tutors and sometimes visitors.

**Independent learning.** Between scheduled studio sessions students work independently both individually and collaboratively to develop their design ideas, carry out project related research and read relevant texts.

## Study Time Allocation

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 48         | 24%         |
| Structured Learning  | 12         | 6%          |
| Independent learning | 140        | 70%         |
| Placement learning   |            |             |
| <b>TOTAL</b>         | <b>200</b> | <b>100%</b> |

## ASSESSMENT

### Assessment Component 1

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment               | Volume           | Weighting |
|----------------------------------|------------------|-----------|
| Portfolio of design project work | 3 – 6 components | 100%      |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 100%        |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

| Module Code    | ACAA6000                                                                                                       |                          |
|----------------|----------------------------------------------------------------------------------------------------------------|--------------------------|
| Module Title   | Architecture Studio 3A                                                                                         |                          |
| Classification | Reading List entry                                                                                             | Electronic*              |
| Essential      | Barton, H., Grant, M. & Guise, R. (2010) <i>Shaping Neighbourhoods</i> . London: Routledge                     | <input type="checkbox"/> |
| Essential      | Kostof, S. (1999) <i>The City Assembled</i> . London: Thames & Hudson                                          | <input type="checkbox"/> |
| Further        | Gehl, J. (2001) <i>New City Spaces</i> Copenhagen: Danish Architectural Press                                  | <input type="checkbox"/> |
| Further        | Jacobs, J. (1961) <i>The Death and Life of Great American Cities</i> . London: Penguin                         | <input type="checkbox"/> |
| Further        | Kostof, S. (1999) <i>The City Shaped</i> . London: Thames & Hudson                                             | <input type="checkbox"/> |
| Further        | Minton, A. (2012) <i>Ground Control: Fear and Happiness in the Twenty First Century City</i> . London: Penguin | <input type="checkbox"/> |
| Further        | Rossi, A. (1982) <i>The Architecture of the City</i> . Cambridge MA: MIT Press                                 | <input type="checkbox"/> |
| Further        | Rowe, C. & Koetter, F. (1978) <i>Collage City</i> . Cambridge MA: MIT Press                                    | <input type="checkbox"/> |
| Background     | Bentley, I., McGlynn, S. and Smith, G. (1985) <i>Responsive Environments</i> . Oxford: Architectural Press     | <input type="checkbox"/> |
| Background     | Brand, S. (1997) <i>How Buildings Learn: What Happens After They Are Built</i> . London: Phoenix.              | <input type="checkbox"/> |

|            |                                                                                                                               |                                     |
|------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Background | Brown, G. Z. & DeKay, M. (2014) <i>Sun, Wind and Light: Architectural Design Strategies</i> . Hoboken New Jersey: Wiley       | <input type="checkbox"/>            |
| Background | Edwards, B. (2014) <i>Rough Guide to Sustainability</i> . 4 <sup>th</sup> ed. London: RIBA Publishing                         | <input type="checkbox"/>            |
| Background | English Partnerships (2000) <i>Urban Design Compendium</i> London: English Partnerships                                       | <input type="checkbox"/>            |
| Background | Hetreed, J, Ross, A & Baden-Powell, C. 2017 <i>The Architect's Pocket Book</i> 5th ed, Routledge.                             | <input checked="" type="checkbox"/> |
| Background | Heywood, H. (2012) <i>101 Rules of Thumb for Low- Energy Architecture</i> . London,: RIBA Publishing                          | <input checked="" type="checkbox"/> |
| Background | Hunt, T. (2003) <i>Tony Hunt's Structures Notebook</i> . 2nd Ed. London: Architectural Press                                  | <input type="checkbox"/>            |
| Background | Kwok, A. & Grondzik, W. (2007) <i>The Green Studio Handbook</i> . Oxford: Architectural Press                                 | <input type="checkbox"/>            |
| Background | Latham, I & Swenarton, M. (Eds) (2007) <i>Fielden Clegg Bradley: The Environmental Handbook</i> London: Rightangle Publishing | <input type="checkbox"/>            |
| Background | Littlefield, D (Ed) (2018) <i>Metric Handbook: Planning &amp; Design Data</i> . 6th Ed. London: Elsevier                      | <input checked="" type="checkbox"/> |
| Background | Pelsmakers, S. (2015) <i>Environmental Design Pocket Book</i> . 2nd ed. London: RIBA Publishing                               | <input type="checkbox"/>            |
| Background | Unwin, S. (2012) <i>Exercises in Architecture</i> . London: Routledge                                                         | <input checked="" type="checkbox"/> |
| Background | Unwin, S. (2014) <i>Analysing Architecture</i> . London: Routledge                                                            | <input type="checkbox"/>            |
| Background | Wilson, F. (1971) <i>Structure: The Essence of Architecture</i> . London: Studio Vista                                        | <input type="checkbox"/>            |
| Journals   | <i>The Architects' Journal</i>                                                                                                | <input type="checkbox"/>            |
| Journals   | <i>Building Design</i>                                                                                                        | <input type="checkbox"/>            |
| Journals   | <i>Architecture Today</i>                                                                                                     | <input type="checkbox"/>            |
| Journals   | <i>Detail</i>                                                                                                                 | <input type="checkbox"/>            |
| Journals   | <i>El Croquis</i>                                                                                                             | <input type="checkbox"/>            |
| Websites   | <a href="http://www.architecture.com">www.architecture.com</a>                                                                | <input checked="" type="checkbox"/> |
| Websites   | <a href="http://www.architectsjournal.co.uk">www.architectsjournal.co.uk</a>                                                  | <input checked="" type="checkbox"/> |
| Websites   | <a href="http://www.bdonline.co.uk">www.bdonline.co.uk</a>                                                                    | <input checked="" type="checkbox"/> |
| Websites   | <a href="http://www.greatbuildings.com">www.greatbuildings.com</a>                                                            | <input checked="" type="checkbox"/> |
| Websites   | <a href="http://www.ajbuildingslibrary.co.uk">www.ajbuildingslibrary.co.uk</a>                                                | <input checked="" type="checkbox"/> |

|                       |                               |
|-----------------------|-------------------------------|
| <b>Module Code</b>    | <b>ACAA6001</b>               |
| <b>Title</b>          | <b>Architecture Studio 3B</b> |
| <b>Date</b>           | <b>08/12/2021</b>             |
| <b>Level</b>          | <b>6</b>                      |
| <b>Credits</b>        | <b>20</b>                     |
| <b>Pre-Requisites</b> | <b>None</b>                   |

|                                                                                                                                                                                                                   |            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <b>ARB/RIBA criteria addressed in this module</b>                                                                                                                                                                 |            |
| <b>Ability to create architectural designs that satisfy both aesthetic and technical requirements</b>                                                                                                             | <b>GC1</b> |
| prepare and present building design projects of diverse scale, complexity, and type in a variety of contexts, using a range of media, and in response to a brief;                                                 | 1.1        |
| understand the constructional and structural systems, the environmental strategies and the regulatory requirements that apply to the design and construction of a comprehensive design project                    | 1.2        |
| develop a conceptual and critical approach to architectural design that integrates and satisfies the aesthetic aspects of a building and the technical requirements of its construction and the needs of the user | 1.3        |
| <b>Adequate knowledge of the histories and theories of architecture and the related arts, technologies and human sciences.</b>                                                                                    | <b>GC2</b> |
| the application of appropriate theoretical concepts to studio design projects, demonstrating a reflective and critical approach.                                                                                  | 2.3        |
| <b>Knowledge of the fine arts as an influence on the quality of architectural design.</b>                                                                                                                         | <b>GC3</b> |
| the creative application of the fine arts and their relevance and impact on architecture;                                                                                                                         | 3.2        |
| the creative application of such work to studio design projects, in terms of their conceptualisation and representation.                                                                                          | 3.3        |
| <b>Adequate knowledge of urban design, planning and the skills involved in the planning process.</b>                                                                                                              | <b>GC4</b> |
| current planning policy and development control legislation, including social, environmental and economic aspects, and the relevance of these to design development.                                              | 4.3        |
| <b>Understanding of the relationship between people and buildings, and between buildings and their environment, and the need to relate buildings and the spaces between them to human needs and scale.</b>        | <b>GC5</b> |
| the needs and aspirations of building users;                                                                                                                                                                      | 5.1        |
| the impact of buildings on the environment, and the precepts of sustainable design;                                                                                                                               | 5.2        |
| the way in which buildings fit into their local context.                                                                                                                                                          | 5.3        |
| <b>Understanding of the profession of architecture and the role of the architect in society, in particular in preparing briefs that take account of social factors.</b>                                           | <b>GC6</b> |
| the potential impact of building projects on existing and proposed communities.                                                                                                                                   | 6.3        |
| <b>Understanding of the methods of investigation and preparation of the brief for a design project.</b>                                                                                                           | <b>GC7</b> |
| the need to critically review precedents relevant to the function, organisation and technological strategy of design proposals;                                                                                   | 7.1        |
| the need to appraise and prepare building briefs of diverse scales and types, to define client and user requirements and their appropriateness to site and context;                                               | 7.2        |
| <b>Understanding of the structural design, constructional and engineering problems associated with building design.</b>                                                                                           | <b>GC8</b> |
| the investigation, critical appraisal and selection of alternative structural, constructional and material systems relevant to architectural design;                                                              | 8.1        |

|                                                                                                                                                                                                                                        |                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| strategies for building construction, and ability to integrate knowledge of structural principles and construction techniques;                                                                                                         | 8.2            |
| the physical properties and characteristics of building materials, components and systems, and the environmental impact of specification choices.                                                                                      | 8.3            |
| <b>Adequate knowledge of physical problems and technologies and the function of buildings so as to provide them with internal conditions of comfort and protection against the climate.</b>                                            | <b>GC9</b>     |
| principles associated with designing optimum visual, thermal and acoustic environments;                                                                                                                                                | 9.1            |
| systems for environmental comfort realised within relevant precepts of sustainable design;                                                                                                                                             | 9.2            |
| strategies for building services, and ability to integrate these in a design project.                                                                                                                                                  | 9.3            |
| <b>The necessary design skills to meet building users' requirements within the constraints imposed by cost factors and building regulations.</b>                                                                                       | <b>GC10</b>    |
| prepare designs that will meet building users' requirements and comply with UK legislation, appropriate performance standards and health and safety requirements.                                                                      | 10.3           |
| <b>RIBA THEMES AND VALUES AT PART ONE LEVEL</b>                                                                                                                                                                                        | <b>T&amp;V</b> |
| Health and Life Safety: Demonstrating authoritative knowledge of statutory frameworks to safeguard the community and the end user.                                                                                                     | 1              |
| Structures, Construction, and Resources: demonstrating climate literacy, responsible specification, and ethical sourcing to enhance wellbeing, minimise embodied carbon, waste, and pollution, and reduce demands on energy and water. | 3              |
| Design pedagogies and architectural expression: critically evaluating authentic aesthetic, compositional, and spatial principles to synthesise socially, ecologically, and environmentally sustainable integrated studio projects.     | 5              |
| <b>GRADUATE ATTRIBUTES AT PART ONE LEVEL</b>                                                                                                                                                                                           | <b>GA</b>      |
| ability to generate design proposals using understanding of a body of knowledge, some at the current boundaries of professional practice and the academic discipline of architecture;                                                  | 1              |
| ability to apply a range of communication methods and media to present design proposals clearly and effectively;                                                                                                                       | 2              |
| understanding of the alternative materials, processes and techniques that apply to architectural design and building construction;                                                                                                     | 3              |
| knowledge of the context of the architect and the construction industry, and the professional qualities needed for decision making in complex and unpredictable circumstances; and                                                     | 5              |
| ability to identify individual learning needs and understand the personal responsibility required for further professional education                                                                                                   | 6              |

### AIM(S)

- To develop, building on the foundations laid in the first and second year design modules and ACAA6000 Architecture Studio 3A, the student's architectural design and representation skills through one or more building design projects in defined contexts.
- To offer the student the opportunity to design a complex multi-use building in a clearly defined context in sufficient detail to demonstrate his/her ability to successfully integrate structural, constructional and environmental requirements into a well-resolved coherent architectural composition to meet the needs of building users and respond creatively to context.

## LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- Create a well-ordered design for a moderately complex non-domestic building in response to a defined brief that satisfy user needs and relates well to physical and cultural context including the fine arts
- Explain the characteristics of contemporary frame construction and detailing in the context of the design of a general arrangement for the structure, fabric and services of a moderately complex non-domestic building
- Explain of principles low carbon design to create comfortable internal conditions effectively and efficiently
- Communicate architectural, technical and urban design ideas using a range of media including: writing, verbal presentations and visual images, physical and digital models and visual images informed by the techniques of the fine arts.

## INDICATIVE CONTENT

- Design of a non-domestic building (for example museum, theatre, cultural centre, research facility etc) in response to a detailed brief.
- Design report explaining the how the building meets client aspirations and user needs and relates to its setting
- Technical report covering structure, construction, environmental strategy, legislative compliance and procurement processes

## LEARNING AND TEACHING STRATEGY

This is the first of two third-year second semester modules (ACAA6001 Architecture Studio 3B and 3C) that together offer an integrated sequence of design tasks and share the same learning outcomes. Students build on the design skills acquired in the first and second year architecture studio modules and ACAA6000 Architecture Studio 3A which runs in the first semester bringing those skills to bear on an integrated building design in a clearly defined context that meets the requirements of a brief and responds creatively to its physical and cultural context. The focus is on architectural design and technical resolution. In a single integrated design project that is spread over the two modules students apply observational and analytical methods to demonstrate their design and communication abilities. Students respond individually to a detailed design brief. Ideas are developed using a variety of graphic and computer-based methods supported by discussion with tutors, fellow students and others. Proposals are presented using drawings, sketchbooks, physical models and digital images, often accompanied by explanatory text.

**Scheduled learning:** Regular studio sessions include: group project briefings, studio lectures, workshops, site visits, group tutorial sessions. Formative feedback is continuous in tutorial session and reviews in which students present their work to fellow students, tutors and sometimes visitors.

**Independent learning.** Between scheduled studio sessions students work independently both individually and collaboratively to develop their design ideas, carry out project related research and read relevant texts.

## Study Time Allocation

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 48         | 24%         |
| Structured Learning  | 12         | 6%          |
| Independent learning | 140        | 70%         |
| Placement learning   |            |             |
| <b>TOTAL</b>         | <b>200</b> | <b>100%</b> |

## ASSESSMENT

### Assessment Component 1

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment               | Volume           | Weighting |
|----------------------------------|------------------|-----------|
| Portfolio of design project work | 3 – 4 components | 100%      |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 100%        |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

| Module Code    | ACAA6001                                                                                                                     |                                     |
|----------------|------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Module Title   | Architecture Studio 3B                                                                                                       |                                     |
| Classification | Reading List entry                                                                                                           | Electronic*                         |
| Essential      | Brown, G. Z. & DeKay, M. (2014) <i>Sun, Wind and Light: Architectural Design Strategies</i> . Hoboken New Jersey: Wiley      | <input type="checkbox"/>            |
| Essential      | Goldsmith, S. (2000) <i>Universal Design</i> . Oxford: Architectural Press                                                   | <input checked="" type="checkbox"/> |
| Background     | Alread, J. & Thomas, L. (2007) <i>Design-Tech: Building Science for Architects</i> . Oxford: Architectural Press             | <input type="checkbox"/>            |
| Background     | Brand, S. (1997) <i>How Buildings Learn: What Happens After They Are Built</i> . London: Phoenix.                            | <input type="checkbox"/>            |
| Background     | Bryan, T. (2010) <i>Construction Technology: Analysis and Choice</i> . 2nd ed. Chichester: Wiley-Blackwell                   | <input type="checkbox"/>            |
| Background     | Deplazes, A. (Ed.) (2005) <i>Constructing Architecture: Materials, Processes, Structures: A Handbook</i> . Basel: Birkhäuser | <input type="checkbox"/>            |
| Background     | Dye, A. & McEvoy, M. (2008) <i>Environmental Construction Handbook</i> . London: RIBA Publishing                             | <input type="checkbox"/>            |
| Background     | Edwards, B. (2014) <i>Rough Guide to Sustainability</i> . 4 <sup>th</sup> ed. London: RIBA Publishing                        | <input type="checkbox"/>            |
| Background     | Ellingham, I. & Fawcett, W. (2013) <i>Whole Life Sustainability</i> . London: RIBA Publishing                                | <input type="checkbox"/>            |
| Background     | Hetreed, J, Ross, A & Baden-Powell, C. 2017 <i>The</i>                                                                       | <input checked="" type="checkbox"/> |

|            |                                                                                                                               |                                     |
|------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
|            | <i>Architect's Pocket Book</i> 5th ed, Routledge.                                                                             |                                     |
| Background | Heywood, H. (2012) <i>101 Rules of Thumb for Low-Energy Architecture</i> . London: RIBA Publishing                            | <input checked="" type="checkbox"/> |
| Background | Hunt, T. (2003) <i>Tony Hunt's Structures Notebook</i> . 2nd Ed. London: Architectural Press                                  | <input type="checkbox"/>            |
| Background | Kwok, A. & Grondzik, W. (2007) <i>The Green Studio Handbook</i> . Oxford: Architectural Press                                 | <input type="checkbox"/>            |
| Background | Latham, I & Swenarton, M. (Eds) (2007) <i>Fielden Clegg Bradley: The Environmental Handbook</i> London: Rightangle Publishing | <input type="checkbox"/>            |
| Background | Littlefield, D (Ed) (2018) <i>Metric Handbook: Planning &amp; Design Data</i> . 6th Ed. London: Elsevier                      | <input checked="" type="checkbox"/> |
| Background | Pelsmakers, S. (2015) <i>Environmental Design Pocket Book</i> . 2nd ed. London: RIBA Publishing                               | <input type="checkbox"/>            |
| Background | Radford, A. et al (2014) <i>Elements of Modern Architecture: Understanding Contemporary Buildings</i> London: Thames & Hudson | <input type="checkbox"/>            |
| Background | Thompson, R. (2007) <i>Manufacturing Processes for Design Professionals</i> . London: Thames & Hudson                         | <input type="checkbox"/>            |
| Background | Unwin, S. (2012) <i>Exercises in Architecture</i> . London: Routledge                                                         | <input checked="" type="checkbox"/> |
| Background | Unwin, S. (2014) <i>Analysing Architecture</i> . London: Routledge                                                            | <input type="checkbox"/>            |
| Background | Wilson, F. (1971) <i>Structure: The Essence of Architecture</i> . London: Studio Vista                                        | <input type="checkbox"/>            |
| Journals   | <i>The Architects' Journal</i>                                                                                                | <input type="checkbox"/>            |
| Journals   | <i>Building Design</i>                                                                                                        | <input type="checkbox"/>            |
| Journals   | <i>Architecture Today</i>                                                                                                     | <input type="checkbox"/>            |
| Journals   | <i>Detail</i>                                                                                                                 | <input type="checkbox"/>            |
| Websites   | <a href="http://www.architecture.com">www.architecture.com</a>                                                                | <input checked="" type="checkbox"/> |
| Websites   | <a href="http://www.architectsjournal.co.uk">www.architectsjournal.co.uk</a>                                                  | <input checked="" type="checkbox"/> |
| Websites   | <a href="http://www.bdonline.co.uk">www.bdonline.co.uk</a>                                                                    | <input checked="" type="checkbox"/> |
| Websites   | <a href="http://www.greatbuildings.com">www.greatbuildings.com</a>                                                            | <input checked="" type="checkbox"/> |
| Websites   | <a href="http://www.ajbuildingslibrary.co.uk">http://www.ajbuildingslibrary.co.uk</a>                                         | <input checked="" type="checkbox"/> |

Specific titles will be recommended relevant to individual design projects

|                       |                               |
|-----------------------|-------------------------------|
| <b>Module Code</b>    | <b>ACAA6002</b>               |
| <b>Title</b>          | <b>Architecture Studio 3C</b> |
| <b>Date</b>           | <b>08/12/2021</b>             |
| <b>Level</b>          | <b>6</b>                      |
| <b>Credits</b>        | <b>20</b>                     |
| <b>Pre-Requisites</b> | <b>None</b>                   |

|                                                                                                                                                                                                                   |            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <b>ARB/RIBA criteria addressed in this module</b>                                                                                                                                                                 |            |
| <b>Ability to create architectural designs that satisfy both aesthetic and technical requirements</b>                                                                                                             | <b>GC1</b> |
| prepare and present building design projects of diverse scale, complexity, and type in a variety of contexts, using a range of media, and in response to a brief;                                                 | 1.1        |
| understand the constructional and structural systems, the environmental strategies and the regulatory requirements that apply to the design and construction of a comprehensive design project                    | 1.2        |
| develop a conceptual and critical approach to architectural design that integrates and satisfies the aesthetic aspects of a building and the technical requirements of its construction and the needs of the user | 1.3        |
| <b>Adequate knowledge of the histories and theories of architecture and the related arts, technologies and human sciences.</b>                                                                                    | <b>GC2</b> |
| the application of appropriate theoretical concepts to studio design projects, demonstrating a reflective and critical approach.                                                                                  | 2.3        |
| <b>Knowledge of the fine arts as an influence on the quality of architectural design.</b>                                                                                                                         | <b>GC3</b> |
| the creative application of the fine arts and their relevance and impact on architecture;                                                                                                                         | 3.2        |
| the creative application of such work to studio design projects, in terms of their conceptualisation and representation.                                                                                          | 3.3        |
| <b>Adequate knowledge of urban design, planning and the skills involved in the planning process.</b>                                                                                                              | <b>GC4</b> |
| current planning policy and development control legislation, including social, environmental and economic aspects, and the relevance of these to design development.                                              | 4.3        |
| <b>Understanding of the relationship between people and buildings, and between buildings and their environment, and the need to relate buildings and the spaces between them to human needs and scale.</b>        | <b>GC5</b> |
| the needs and aspirations of building users;                                                                                                                                                                      | 5.1        |
| the impact of buildings on the environment, and the precepts of sustainable design;                                                                                                                               | 5.2        |
| the way in which buildings fit into their local context.                                                                                                                                                          | 5.3        |
| <b>Understanding of the profession of architecture and the role of the architect in society, in particular in preparing briefs that take account of social factors.</b>                                           | <b>GC6</b> |
| the potential impact of building projects on existing and proposed communities.                                                                                                                                   | 6.3        |
| <b>Understanding of the methods of investigation and preparation of the brief for a design project.</b>                                                                                                           | <b>GC7</b> |
| the need to critically review precedents relevant to the function, organisation and technological strategy of design proposals;                                                                                   | 7.1        |
| the need to appraise and prepare building briefs of diverse scales and types, to define client and user requirements and their appropriateness to site and context;                                               | 7.2        |
| <b>Understanding of the structural design, constructional and engineering problems associated with building design.</b>                                                                                           | <b>GC8</b> |
| the investigation, critical appraisal and selection of alternative structural, constructional and material systems relevant to architectural design;                                                              | 8.1        |

|                                                                                                                                                                                                                                        |                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| strategies for building construction, and ability to integrate knowledge of structural principles and construction techniques;                                                                                                         | 8.2            |
| the physical properties and characteristics of building materials, components and systems, and the environmental impact of specification choices.                                                                                      | 8.3            |
| <b>Adequate knowledge of physical problems and technologies and the function of buildings so as to provide them with internal conditions of comfort and protection against the climate.</b>                                            | <b>GC9</b>     |
| principles associated with designing optimum visual, thermal and acoustic environments;                                                                                                                                                | 9.1            |
| systems for environmental comfort realised within relevant precepts of sustainable design;                                                                                                                                             | 9.2            |
| strategies for building services, and ability to integrate these in a design project.                                                                                                                                                  | 9.3            |
| <b>The necessary design skills to meet building users' requirements within the constraints imposed by cost factors and building regulations.</b>                                                                                       | <b>GC10</b>    |
| prepare designs that will meet building users' requirements and comply with UK legislation, appropriate performance standards and health and safety requirements.                                                                      | 10.3           |
| <b>RIBA THEMES AND VALUES AT PART ONE LEVEL</b>                                                                                                                                                                                        | <b>T&amp;V</b> |
| Health and Life Safety: Demonstrating authoritative knowledge of statutory frameworks to safeguard the community and the end user.                                                                                                     | 1              |
| Structures, Construction, and Resources: demonstrating climate literacy, responsible specification, and ethical sourcing to enhance wellbeing, minimise embodied carbon, waste, and pollution, and reduce demands on energy and water. | 3              |
| Design pedagogies and architectural expression: critically evaluating authentic aesthetic, compositional, and spatial principles to synthesise socially, ecologically, and environmentally sustainable integrated studio projects.     | 5              |
| <b>GRADUATE ATTRIBUTES AT PART ONE LEVEL</b>                                                                                                                                                                                           | <b>GA</b>      |
| ability to generate design proposals using understanding of a body of knowledge, some at the current boundaries of professional practice and the academic discipline of architecture;                                                  | 1              |
| ability to apply a range of communication methods and media to present design proposals clearly and effectively;                                                                                                                       | 2              |
| understanding of the alternative materials, processes and techniques that apply to architectural design and building construction;                                                                                                     | 3              |
| knowledge of the context of the architect and the construction industry, and the professional qualities needed for decision making in complex and unpredictable circumstances; and                                                     | 5              |
| ability to identify individual learning needs and understand the personal responsibility required for further professional education                                                                                                   | 6              |

## AIM(S)

- To develop, building on the foundations laid in the first and second year design modules and ACAA6000 Architecture Studio 3A, the student's architectural design and representation skills through one or more building design projects in defined contexts.
- To offer the student the opportunity to design a complex multi-use building in a clearly defined context in sufficient detail to demonstrate the his/her ability to successfully integrate structural, constructional and environmental requirements into a well-resolved coherent architectural composition to meet the needs of building users and respond creatively to context.

## LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- Create a well-ordered design for a moderately complex non-domestic building in response to a defined brief that satisfy user needs and relates well to physical and cultural context including the fine arts.
- Explain the characteristics of contemporary frame construction and detailing in the context of the design of a general arrangement for the structure, fabric and services of a moderately complex non-domestic building
- Explain principles of low carbon design to create comfortable internal conditions effectively and efficiently
- Communicate architectural, technical and urban design ideas using a range of media including: writing, verbal presentations, physical and digital models and visual images informed by the techniques of the fine arts.

## INDICATIVE CONTENT

- Design of a non-domestic building (for example museum, theatre, cultural centre, research facility etc) in response to a detailed brief.
- Design report explaining the how the building meets client aspirations and user needs and relates to its setting
- Technical report covering structure, construction, environmental strategy, legislative compliance and procurement processes

## LEARNING AND TEACHING STRATEGY

This is the second of two third-year second semester modules (Architect Studio 3B and 3C) that together offer an integrated sequence of design tasks and share the same learning outcomes. Students build on the design skills acquired in the first and second year architecture studio modules and ACAA6000 Architecture Studio 3A which runs in the first semester bringing those skills to bear on an integrated building design in a clearly defined context that meets the requirements of a brief and responds creatively to its physical and cultural context. The focus is on architectural design and technical resolution.

In a single integrated design project that is spread over the two modules students apply observational and analytical methods to demonstrate their design and communication abilities. Students respond individually to a detailed design brief. Ideas are developed using a variety of graphic and computer-based methods supported by discussion with tutors, fellow students and others. Proposals are presented using drawings, sketchbooks, physical models and digital images, often accompanied by explanatory text.

In this module, the final stage of the UG design project sequence students develop their personal design project, started in ACAA6001 Architecture Studio 3B, in significant detail, prepare final presentation drawings, models etc and submit a detailed technical report.

**Scheduled learning:** Regular studio sessions include: group project briefings, studio lectures, workshops, site visits, group tutorial sessions. Formative feedback is continuous in tutorial session and reviews in which students present their work to fellow students, tutors and sometimes visitors.

**Independent learning.** Between scheduled studio sessions students work independently both individually and collaboratively to develop their design ideas, carry out project related research and read relevant texts.

### Study Time Allocation

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 48         | 24%         |
| Structured Learning  | 12         | 6%          |
| Independent learning | 140        | 70%         |
| Placement learning   |            |             |
| <b>TOTAL</b>         | <b>200</b> | <b>100%</b> |

### ASSESSMENT

#### Assessment Component 1

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment | Volume           | Weighting |
|--------------------|------------------|-----------|
| Portfolio          | 1 – 2 components | 50%       |

#### Assessment Component 2

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment | Volume              | Weighting |
|--------------------|---------------------|-----------|
| Design report      | 2,000 – 3,000 words | 50%       |

#### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 100%        |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

### INDICATIVE READING LIST

| Module Code    | ACAA6002                                                                                                                |                                     |
|----------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Module Title   | Architecture Studio 3C                                                                                                  |                                     |
| Classification | Reading List entry                                                                                                      | Electronic*                         |
| Essential      | Brown, G. Z. & DeKay, M. (2014) <i>Sun, Wind and Light: Architectural Design Strategies</i> . Hoboken New Jersey: Wiley | <input checked="" type="checkbox"/> |
| Essential      | Goldsmith, S. (2000) <i>Universal Design</i> . Oxford: Architectural Press                                              | <input checked="" type="checkbox"/> |
| Background     | Alread, J, & Thomas, L. (2007) <i>Design-Tech: Building Science for Architects</i> . Oxford: Architectural Press        | <input type="checkbox"/>            |
| Background     | Brand, S. (1997) <i>How Buildings Learn: What Happens After They Are Built</i> . London: Phoenix.                       | <input type="checkbox"/>            |
| Background     | Bryan, T. (2010) <i>Construction Technology: Analysis</i>                                                               | <input checked="" type="checkbox"/> |

|            |                                                                                                                               |                                     |
|------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
|            | <i>and Choice</i> . 2 <sup>nd</sup> ed. Chichester: Wiley-Blackwell.                                                          |                                     |
| Background | Deplazes, A. (Ed.) (2005) <i>Constructing Architecture: Materials, Processes, Structures: A Handbook</i> . Basel: Birkhäuser  | <input type="checkbox"/>            |
| Background | Dye, A. & McEvoy, M. (2008) <i>Environmental Construction Handbook</i> . London: RIBA Publishing                              | <input type="checkbox"/>            |
| Background | Edwards, B. (2014) <i>Rough Guide to Sustainability</i> . 4 <sup>th</sup> ed. London: RIBA Publishing                         | <input type="checkbox"/>            |
| Background | Ellingham, I. & Fawcett, W. (2013) <i>Whole Life Sustainability</i> . London: RIBA Publishing                                 | <input type="checkbox"/>            |
| Background | Heywood, H. (2012) <i>101 Rules of Thumb for Low-Energy Architecture</i> . London: RIBA Publishing                            | <input checked="" type="checkbox"/> |
| Background | Hunt, T. (2003) <i>Tony Hunt's Structures Notebook</i> . 2nd Ed. London: Architectural Press                                  | <input type="checkbox"/>            |
| Background | Kwok, A. & Grondzik, W. (2007) <i>The Green Studio Handbook</i> . Oxford: Architectural Press                                 | <input type="checkbox"/>            |
| Background | Latham, I & Swenarton, M. (Eds) (2007) <i>Fielden Clegg Bradley: The Environmental Handbook</i> London: Rightangle Publishing | <input type="checkbox"/>            |
| Background | Littlefield, D (Ed) (2018) <i>Metric Handbook: Planning &amp; Design Data</i> . 6 <sup>th</sup> Ed. London: Elsevier          | <input checked="" type="checkbox"/> |
| Background | Pelsmakers, S. (2015) <i>Environmental Design Pocket Book</i> . 2nd ed. London: RIBA Publishing                               | <input type="checkbox"/>            |
| Background | Radford, A. et al (2014) <i>Elements of Modern Architecture: Understanding Contemporary Buildings</i> London: Thames & Hudson | <input type="checkbox"/>            |
| Background | Thompson, R. (2007) <i>Manufacturing Processes for Design Professionals</i> . London: Thames & Hudson                         | <input type="checkbox"/>            |
| Background | Unwin, S. (2012) <i>Exercises in Architecture</i> . London: Routledge                                                         | <input checked="" type="checkbox"/> |
| Background | Unwin, S. (2014) <i>Analysing Architecture</i> . London: Routledge                                                            | <input type="checkbox"/>            |
| Background | Wilson, F. (1971) <i>Structure: The Essence of Architecture</i> . London: Studio Vista                                        | <input type="checkbox"/>            |
| Journals   | <i>The Architects' Journal</i>                                                                                                | <input type="checkbox"/>            |
| Journals   | <i>Building Design</i>                                                                                                        | <input type="checkbox"/>            |
| Journals   | <i>Architecture Today</i>                                                                                                     | <input type="checkbox"/>            |
| Journals   | <i>Detail</i>                                                                                                                 | <input type="checkbox"/>            |
| Websites   | <a href="http://www.architecture.com">www.architecture.com</a>                                                                | <input checked="" type="checkbox"/> |
| Websites   | <a href="http://www.architectsjournal.co.uk">www.architectsjournal.co.uk</a>                                                  | <input checked="" type="checkbox"/> |
| Websites   | <a href="http://www.bdonline.co.uk">www.bdonline.co.uk</a>                                                                    | <input checked="" type="checkbox"/> |
| Websites   | <a href="http://www.greatbuildings.com">www.greatbuildings.com</a>                                                            | <input checked="" type="checkbox"/> |
| Websites   | <a href="http://www.ajbuildingslibrary.co.uk">http://www.ajbuildingslibrary.co.uk</a>                                         | <input checked="" type="checkbox"/> |

Specific titles will be recommended relevant to individual design projects

|                       |                                  |
|-----------------------|----------------------------------|
| <b>Module Code</b>    | <b>ACAA6003</b>                  |
| <b>Title</b>          | <b>Architecture Dissertation</b> |
| <b>Date</b>           | <b>08/12/2021</b>                |
| <b>Level</b>          | <b>6</b>                         |
| <b>Credits</b>        | <b>40</b>                        |
| <b>Pre-Requisites</b> | <b>None</b>                      |

|                                                                                                                                                                                                         |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>ARB/RIBA criteria addressed in this module</b>                                                                                                                                                       |                |
| <b>Adequate knowledge of the histories and theories of architecture and the related arts, technologies and human sciences.</b>                                                                          | <b>GC2</b>     |
| the cultural, social and intellectual histories, theories and technologies that influence the design of buildings;                                                                                      | 2.1            |
| the influence of history and theory on the spatial, social, and technological aspects of architecture;                                                                                                  | 2.2            |
| <b>RIBA THEMES AND VALUES AT PART ONE LEVEL</b>                                                                                                                                                         | <b>T&amp;V</b> |
| Histories, Theories, and Methodologies: critically analysing and researching narratives and cultural, environmental, and social values in architecture to understand and extend architectural pedagogy. | 4              |
| <b>GRADUATE ATTRIBUTES AT PART ONE LEVEL</b>                                                                                                                                                            | <b>GA</b>      |
| ability to evaluate evidence, arguments and assumptions in order to make and present sound judgments within a structured discourse relating to architectural culture, theory and design;                | 4              |
| ability to identify individual learning needs and understand the personal responsibility required for further professional education.                                                                   | 6              |

### AIM(S)

- To give the student the opportunity to demonstrate the ability to present an extended, structured argument based on evidence on a subject related to the design, construction, use or evaluation of buildings or settlements

### LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- Define and justify a research question or hypothesis and undertake a substantial research investigation directly related to an aspect of architecture and planning with a clearly articulated methodology
- Demonstrate a grounding in existing work related to the area of research and an understanding of how this informs the research strategy, analysis and findings

### INDICATIVE CONTENT

- Research and writing of dissertation based on the proposal submitted at the end of year two in the module ACAA5003 History and Theory 2

### LEARNING AND TEACHING STRATEGY

The individual student shapes learning by developing a research question, gathering and analysing evidence and writing up the dissertation. Students will be guided through the development of their dissertation through individual tutorials and group seminars in which they present their developing ideas to staff and fellow students.

## Study Time Allocation

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 96         | 24%         |
| Independent learning | 304        | 76%         |
| Placement learning   |            |             |
| <b>TOTAL</b>         | <b>400</b> | <b>100%</b> |

## ASSESSMENT

### Assessment Component 1

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment | Volume                             | Weighting |
|--------------------|------------------------------------|-----------|
| Dissertation       | 10,000 words, excluding appendices | 100%      |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 100%        |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

| Module Code    | ACAA6003                                                                                                                                                                                                   |                                     |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Module Title   | Architecture Dissertation                                                                                                                                                                                  |                                     |
| Classification | Reading List entry                                                                                                                                                                                         | Electronic*                         |
| Essential      | Blaxter, L., Hughes, C. and Tight, M. (2010) <i>How to Research</i> . Buckingham: Open University Press                                                                                                    | <input checked="" type="checkbox"/> |
| Essential      | Borden, I & Rüedi, E. (2000) <i>The Dissertation: An Architecture Student's Handbook</i> . Oxford: Architectural Press                                                                                     | <input checked="" type="checkbox"/> |
| Background     | Cotterell, S. (2014) <i>Dissertations and Project Reports: A Step by Step Guide</i> . Basingstoke: Palgrave Macmillan                                                                                      | <input type="checkbox"/>            |
| Background     | Cotterell, S. (2017) <i>Critical Thinking Skills - Developing Effective Analysis and Argument</i> . Basingstoke: Palgrave Macmillan                                                                        | <input type="checkbox"/>            |
| Background     | Forty, A. (2004) <i>Words And Buildings</i> London: Thames Hudson                                                                                                                                          | <input type="checkbox"/>            |
| Background     | Nebois, T. (ed) (2003) <i>Architecture Theory from the Renaissance to the Present</i> . Köln: Taschen                                                                                                      | <input type="checkbox"/>            |
| Background     | Nesbitt, K. et al (2000) <i>Theorizing a New Agenda for Architecture</i> New York Princeton Architectural Press                                                                                            | <input type="checkbox"/>            |
| Background     | Swetnam, R. And Swetnam, D. (2000) <i>Writing Your Dissertation: The Bestselling Guide to Planning, Preparing and Presenting First-Class Work</i> (The How To Series) 3rd Ed. London: Cromwell Press Group | <input type="checkbox"/>            |

Specific titles will be recommended relevant to the student's research question

|                       |                                  |
|-----------------------|----------------------------------|
| <b>Module Code</b>    | <b>ACAA6004</b>                  |
| <b>Title</b>          | <b>Profession and Business 2</b> |
| <b>Date</b>           | <b>08/12/2021</b>                |
| <b>Level</b>          | <b>6</b>                         |
| <b>Credits</b>        | <b>20</b>                        |
| <b>Pre-Requisites</b> | <b>None</b>                      |

|                                                                                                                                                                                                                                                                                                            |             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>ARB/RIBA criteria addressed in this module</b>                                                                                                                                                                                                                                                          |             |
| <b>Adequate knowledge of urban design, planning and the skills involved in the planning process.</b>                                                                                                                                                                                                       | <b>GC4</b>  |
| theories of urban design and the planning of communities;                                                                                                                                                                                                                                                  | 4.1         |
| the influence of the design and development of cities, past and present on the contemporary built environment;                                                                                                                                                                                             | 4.2         |
| current planning policy and development control legislation, including social, environmental and economic aspects, and the relevance of these to design development.                                                                                                                                       | 4.3         |
| <b>Understanding of the relationship between people and buildings, and between buildings and their environment, and the need to relate buildings and the spaces between them to human needs and scale.</b>                                                                                                 | <b>GC5</b>  |
| the needs and aspirations of building users;                                                                                                                                                                                                                                                               | 5.1         |
| the impact of buildings on the environment, and the precepts of sustainable design;                                                                                                                                                                                                                        | 5.2         |
| <b>Understanding of the profession of architecture and the role of the architect in society, in particular in preparing briefs that take account of social factors.</b>                                                                                                                                    | <b>GC6</b>  |
| the nature of professionalism and the duties and responsibilities of architects to clients, building users, constructors, co-professionals and the wider society;                                                                                                                                          | 6.1         |
| the role of the architect within the design team and construction industry, recognising the importance of current methods and trends in the construction of the built environment;                                                                                                                         | 6.2         |
| the potential impact of building projects on existing and proposed communities.                                                                                                                                                                                                                            | 6.3         |
| <b>Understanding of the methods of investigation and preparation of the brief for a design project.</b>                                                                                                                                                                                                    | <b>GC7</b>  |
| the need to appraise and prepare building briefs of diverse scales and types, to define client and user requirements and their appropriateness to site and context;                                                                                                                                        | 7.2         |
| the contributions of architects and co-professionals to the formulation of the brief, and the methods of investigation used in its preparation.                                                                                                                                                            | 7.3         |
| <b>The necessary design skills to meet building users' requirements within the constraints imposed by cost factors and building regulations.</b>                                                                                                                                                           | <b>GC10</b> |
| critically examine the financial factors implied in varying building types, constructional systems, and specification choices, and the impact of these on architectural design;                                                                                                                            | 10.1        |
| understand the cost control mechanisms which operate during the development of a project;                                                                                                                                                                                                                  | 10.2        |
| <b>Adequate knowledge of the industries, organisations, regulations and procedures involved in translating design concepts into buildings and integrating plans into overall planning.</b>                                                                                                                 | <b>GC11</b> |
| the fundamental legal, professional and statutory responsibilities of the architect, and the organisations, regulations and procedures involved in the negotiation and approval of architectural designs, including land law, development control, building regulations and health and safety legislation; | 11.1        |
| the professional inter-relationships of individuals and organisations involved in procuring and delivering architectural projects, and how these are defined through contractual and organisational structures;                                                                                            | 11.2        |

|                                                                                                                                                                                                                  |                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| the basic management theories and business principles related to running both an architect's practice and architectural projects, recognising current and emerging trends in the construction industry.          | 11.3           |
| <b>RIBA THEMES AND VALUES AT PART ONE LEVEL</b>                                                                                                                                                                  | <b>T&amp;V</b> |
| Ethical and Professional Practice: acquiring professional and communication skills to ensure projects are delivered with integrity and accountability within global, national, and professional climate targets. | 2              |
| Business Skills: developing capability in business skills relevant to working in practice and practice management.                                                                                               | 6              |
| <b>GRADUATE ATTRIBUTES AT PART ONE LEVEL</b>                                                                                                                                                                     | <b>GA</b>      |
| knowledge of the context of the architect and the construction industry, and the professional qualities needed for decision making in complex and unpredictable circumstances; and                               | 5              |

### AIM(S)

- To provide students with knowledge the application of the principles of spatial planning by national and local government through planning policy, development plans and development management in the UK in general and Wales in particular
- To provide students with an understanding of cost and value in the built environment and the legal framework within which buildings are procured.
- To provide students with knowledge of the development process and principles of project management
- To provide students with knowledge of the types of architectural practice and the key considerations in running a profitable business.

### LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- Describe the purpose and operation of the UK planning system and other built environment legislation
- Explain the methods used to control the capital cost and lifecycle cost of construction
- Evaluate the various processes involved in creating a building from the initial idea to completion and occupation
- Outline the operation of an architectural practice as a business identifying opportunities and risks

### INDICATIVE CONTENT

- Spatial planning in Wales
- Principles of project management
- Principles of construction law
- The business of architecture

## LEARNING AND TEACHING STRATEGY

Lectures, on-line teaching resources and guided reading will introduce the key concepts and principles. In-class workshops and seminars will introduce practical examples, which will be used to support the application, discussion, and critical evaluation of knowledge acquired. Case studies will also be used to develop understanding and application of the principles. Lectures and seminars provide students with guidance on the writing a CV and personal portfolio.

### Study Time Allocation

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 48         | 24%         |
| Independent learning | 152        | 76%         |
| Placement learning   |            |             |
| <b>TOTAL</b>         | <b>200</b> | <b>100%</b> |

## ASSESSMENT

### Assessment Component 1

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment  | Volume      | Weighting |
|---------------------|-------------|-----------|
| RIBA Stage 3 Report | 4,000 words | 80%       |

### Assessment Component 2

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment        | Volume                   | Weighting |
|---------------------------|--------------------------|-----------|
| CV and portfolio template | 1000 words or equivalent | 20%       |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 100%        |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

| Module Code    | ACAA6004                                                                                            |                                     |
|----------------|-----------------------------------------------------------------------------------------------------|-------------------------------------|
| Module Title   | Profession and Business 2                                                                           |                                     |
| Classification | Reading List entry                                                                                  | Electronic*                         |
| Essential      | Clamp, H. (2012) <i>Which Contract?</i> London: RIBA Publishing                                     | <input type="checkbox"/>            |
| Essential      | Morton, R. (2008) <i>Construction UK: An Introduction to the Industry</i> . Oxford: Blackwell       | <input type="checkbox"/>            |
| Further        | Brookhouse, S. (2013) <i>Professional Studies In Architecture: A Primer</i> London: RIBA Publishing | <input checked="" type="checkbox"/> |

|            |                                                                                                                              |                                     |
|------------|------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Further    | Eastman, C. et al (2011) <i>BIM Handbook: A Guide to Building Information Modelling</i> . Hoboken, NJ: Wiley                 | <input checked="" type="checkbox"/> |
| Further    | Egan, J. (2004) <i>The Egan Review: Skills for Sustainable Communities</i> . London: ODPM                                    | <input type="checkbox"/>            |
| Further    | Foxell, S. et al (2006) <i>Good Practice Guide: Starting a Practice</i> London: RIBA Publishing                              | <input type="checkbox"/>            |
| Further    | Goldsmith, S. (2000) <i>Universal Design</i> . Oxford: Architectural Press                                                   | <input checked="" type="checkbox"/> |
| Further    | Hetreed, J, Ross, A & Baden-Powell, C. 2017 <i>The Architect's Pocket Book</i> 5th ed, Routledge.                            | <input checked="" type="checkbox"/> |
| Background | Bowden, J. (2011) <i>Writing a Report: How to Prepare, Write and Present Really Effective Reports</i> . Oxford: How To Books | <input type="checkbox"/>            |
| Journals   | <i>The Architects' Journal</i>                                                                                               | <input type="checkbox"/>            |
| Journals   | <i>Building Design</i>                                                                                                       | <input type="checkbox"/>            |
| Journals   | <i>Architecture Today</i>                                                                                                    | <input type="checkbox"/>            |
| Websites   | <a href="http://www.architecture.com">www.architecture.com</a>                                                               | <input checked="" type="checkbox"/> |
| Websites   | <a href="http://www.architectsjournal.co.uk">www.architectsjournal.co.uk</a>                                                 | <input checked="" type="checkbox"/> |
| Websites   | <a href="http://www.bdonline.co.uk">www.bdonline.co.uk</a>                                                                   | <input checked="" type="checkbox"/> |
| Websites   | <a href="http://www.greatbuildings.com">www.greatbuildings.com</a>                                                           | <input checked="" type="checkbox"/> |
| Websites   | <a href="http://www.ajbuildingslibrary.co.uk">http://www.ajbuildingslibrary.co.uk</a>                                        | <input checked="" type="checkbox"/> |

**MODULE CODE:** ACBA6000  
**TITLE:** Construction Management  
**DATED:** 16/08/2018

**LEVEL:** 6  
**CREDITS:** 20

**JACS CODE:** K220

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## AIM

- To improve management skills and technique analysis for construction managers working in all stages of the project life cycle.

## LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- Consolidate and extend the use of techniques for programming, monitoring and control of construction projects, being able to choose the most suitable ones for different complex scenarios.
- Evaluate occurring problems during the construction stage; identify appropriate solutions and the implementation of them in construction projects.

## INDICATIVE CONTENT

- Further programming techniques for construction projects.
- Resource balancing and accelerating construction programmes.
- Statistical analysis applied to construction management. P.E.R.T. (Planned Evaluation Review Technique).
- Application of software for construction management.
- Site layouts for complex construction projects.
- Monitoring testing and commissioning.
- Risk management and analysis of construction projects.
- Productivity measurement methods
- Analysis of incentive schemes used in construction
- Non-compliance with contract. Managing claims. Delay analysis.

## LEARNING AND TEACHING STRATEGY

The study time for the module is divided as follows:

| Activity type        | Hours              | Percentage        |
|----------------------|--------------------|-------------------|
| Scheduled learning   | <del>60</del> 48   | <del>30</del> 24% |
| Independent learning | <del>140</del> 152 | <del>70</del> 76% |
| Placement learning   | 0                  | 0%                |
| <b>TOTAL</b>         | <b>200</b>         | <b>100%</b>       |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☐ Written exam      X      Coursework      ☐ Practical

| Mode of assessment    | Volume      | Weighting |
|-----------------------|-------------|-----------|
| Report & Calculations | 3,000 words | 50%       |

### Assessment Component 2

(Tick one)

X      Written exam      ☐ Coursework      ☐ Practical

| Mode of assessment | Volume  | Weighting |
|--------------------|---------|-----------|
| Exam               | 2 hours | 50%       |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  | 50%         |
| Coursework    | 50%         |
| Practical     | 0%          |
| <b>TOTAL</b>  | <b>100%</b> |

## READING LIST

| Module Code    | ACBA6000                                                                                                                                                                                     |                          |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Module Title   | Construction Management                                                                                                                                                                      |                          |
| Classification | Reading List entry                                                                                                                                                                           | Electronic*              |
| Essential      | Clough R H, Sears G A, Sears K S, Segner R O and Rounds J L (2015) <i>Construction Contracting: A practical guide to company management</i> . 8 <sup>th</sup> Ed. Hoboken: John Wiley & Sons | <input type="checkbox"/> |
| Essential      | AECOM (2017) <i>SPON's Architects and Builders Price Book</i> . 142 <sup>nd</sup> Ed. Abingdon, Oxon: CRC Press                                                                              | X                        |
| Essential      | Chartered Institute of Building (2014) <i>Code of Practice for Project Management for Construction and Development</i> . 5th Ed. London: Wiley-Blackwell                                     | <input type="checkbox"/> |
| Essential      | March C. (2017) <i>Construction Management: Theory and Practice</i> . Oxon: Routledge                                                                                                        | <input type="checkbox"/> |
| Further        | Coles D, Bailey G and Calvert R E (2012) <i>Introduction to Building Management</i> . London: Routledge                                                                                      | <input type="checkbox"/> |
| Further        | Cooke B and Williams P (2009) <i>Construction planning, programming and control</i> . Wiley-Blackwell                                                                                        | <input type="checkbox"/> |
| Further        | Dainty, A and Loosemore M (2012) <i>Human Resource Management in Construction: Critical Perspectives</i> . 2nd Ed. London: Routledge.                                                        | <input type="checkbox"/> |
| Further        | Harris F and McCaffer R (2013) <i>Modern Construction Management</i> . 7 <sup>th</sup> Ed. Chichester: John Wiley & Sons Ltd.                                                                | <input type="checkbox"/> |

**MODULE CODE:** ACBA6001  
**TITLE:** Design Economics  
**DATED:** 16/08/2018

**LEVEL:** 6  
**CREDITS:** 20

**JACS CODE:** K240

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## AIM

- To develop the ability to understand the process and techniques for cost modelling in accordance with professional codes of practice and the RICS core competencies.

## LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- Assess the applicability of sources of cost data. Consider the design and its cost implications at cost planning stage.
- Critically evaluate processes to develop cost plans or cost models.
- Apply value-engineering techniques at Cost planning stage.

## INDICATIVE CONTENT

- Assess the applicability of sources of cost data.
- The use of investment theory and its use in preparing the feasibility study.
- The construction of a cost model for use in Industry
- The application of Cost data from the BCIS and it's use in cost modeling
- Life Cycle costing
- Circular economy
- Value Engineering

## LEARNING AND TEACHING STRATEGY

The study time for the module is divided as follows:

| Activity type        | Hours              | Percentage        |
|----------------------|--------------------|-------------------|
| Scheduled learning   | <del>60</del> 48   | <del>30</del> 24% |
| Independent learning | <del>140</del> 152 | <del>70</del> 76% |
| Placement learning   | 0                  | 0                 |
| <b>TOTAL</b>         | <b>200</b>         | <b>100%</b>       |

## ASSESSMENT

### Assessment Component 1

(Tick one)

X Written exam ☐ Coursework ☐ Practical

| Mode of assessment | Volume  | Weighting |
|--------------------|---------|-----------|
| Exam               | 2 hours | 50%       |

### Assessment Component 2

(Tick one)

☐ Written exam ☐ Coursework x☐ Practical

| Mode of assessment | Volume        | Weighting |
|--------------------|---------------|-----------|
| Open book exam     | Up to 7 hours | 50%       |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  | 0           |
| Coursework    | 50%         |
| Practical     | 50%         |
| <b>TOTAL</b>  | <b>100%</b> |

## READING LIST

| Module Code    | ACBA6001                                                                                                                                                                                    |                            |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Module Title   | Design Economics                                                                                                                                                                            |                            |
| Classification | Reading List entry                                                                                                                                                                          | Electronic*                |
| Essential      | Kirkham, R. (2014). <i>Ferry and Brandons Cost Planning of Buildings</i> . 9 <sup>th</sup> Ed. Oxford: Blackwell                                                                            | <input type="checkbox"/>   |
| Essential      | Smith, J. (2016). <i>Building Cost Planning for the Design Team</i> . 3 <sup>rd</sup> Ed. Abingdon, Oxon: Routledge                                                                         | <input type="checkbox"/>   |
| Further        | Scott, J. (2015). <i>Cost Planning of Construction Projects</i> . Hoboken: John Wiley and Sons Inc.                                                                                         | <input type="checkbox"/> x |
| Further        | Robinson, H, and Symonds, B. (2015) <i>Design Economics for the Built Environment: Impact of Sustainability on Project Evaluation</i> . 1 <sup>st</sup> Ed. Hoboken: John Wiley & Sons Inc. | <input type="checkbox"/>   |

**MODULE CODE:** ACBA6003  
**TITLE:** Integrated Group Project  
**DATED:** 16/08/2018  
  
**LEVEL:** 6  
**CREDITS:** 20  
  
**JACS CODE:** K200

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## **AIM**

- To synthesise material from advanced modules and other sources throughout level six of the programme. By working in groups, the module aims to replicate the working environment, by developing communication skills, teamwork and leadership skills. Introducing students to an awareness of the overall process within which developments are conceived, assessed, designed and built.

## **LEARNING OUTCOMES**

Upon the successful completion of this module, the student should be able to:

- Critically evaluate development and use of land and buildings.
- Evaluate alternative contractual arrangements, such as open/selective tendering, serial and term contracts, and apply reasoned argument for selecting a contract
- Appraise the options available and challenges in which Integrated Group Project management may be achieved.

## **INDICATIVE CONTENT**

- *Project Appraisal*
  - The development and use of land and buildings; social, legislative, planning and environmental constraints.
  - Feasibility studies - Land and building valuation
- *Pre-Construction Processes*
  - Client's initial selection of development method; choice and relative method of alternative contractual arrangements; choice of designers, selection and basis of appointment.
- Assessment of client needs
- *Pre-construction monitoring and control systems.*
  - Reporting mechanisms
- *Project Management*
  - the definition and role of project management; appointment and selection process;
- *Problem Solving* - real or simulated development problems, as vehicles for stimulation of a logical and analytical approach to problem solving.
- Presentation – skills for delivery of project brief – different methods

## LEARNING AND TEACHING STRATEGY

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage |
|----------------------|------------|------------|
| Scheduled learning   | 48         | 24         |
| Independent learning | 152        | 76         |
| Placement learning   | 0          | 0          |
| <b>TOTAL</b>         | <b>200</b> | <b>100</b> |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☐ Written exam      ☐ Coursework      X Practical

| Mode of assessment | Volume | Weighting |
|--------------------|--------|-----------|
| Oral Presentation  | 5 mins | 10%       |

### Assessment Component 2

(Tick one)

☐ Written exam      x Coursework      ☐ Practical

| Mode of assessment | Volume      | Weighting |
|--------------------|-------------|-----------|
| Written Report     | 4,000 words | 65%       |

### Assessment Component 3

(Tick one)

☐ Written exam      ☐ Coursework      X Practical

| Mode of assessment | Volume  | Weighting |
|--------------------|---------|-----------|
| Oral Presentation  | 15 mins | 25%       |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  | 0           |
| Coursework    | 70          |
| Practical     | 30          |
| <b>TOTAL</b>  | <b>100%</b> |

## READING LIST

|                       |                                                                                                                                  |                          |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| <b>Module Code</b>    | <b>ACBA6003</b>                                                                                                                  |                          |
| <b>Module Title</b>   | <b>Integrated Group Project</b>                                                                                                  |                          |
| <b>Classification</b> | <b>Reading List entry</b>                                                                                                        | <b>Electronic*</b>       |
| Essential             | Emden, J. and Becker, L. (2016) Palgrave Study Skills: <i>Presentation Skills for Students</i> . Basingstoke: Palgrave MacMillan | <input type="checkbox"/> |

**MODULE CODE:** ACBA6004  
**TITLE:** Advanced Construction and Civil Engineering Technology  
**DATED:** 16/08/2018

**LEVEL:** 6  
**CREDITS:** 20

**JACS CODE:** K200

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## **AIM**

- To critically appraise interface boundaries between construction management and design technology processes for large and/or complex sustainable building typologies, estates, facilities and civil engineering infrastructure projects.

## **LEARNING OUTCOMES**

Upon the successful completion of this module, the student should be able to:

- Critique the application of the processes and procedures involved in the design and production of complex construction projects.
- Appraise relevant environmental functional and economic factors applicable to the construction and performance in use of technologically advanced building and civil engineering projects (whether high or low tech.).
- Evaluate solutions that afford sustainable and environmentally friendly buildings and infrastructure.
- Examine whole-life performance of buildings and civil engineering infrastructure, their care and management

## **INDICATIVE CONTENT**

- Establishing appropriate site infrastructure to construct, repair and demolish complex structures effectively.
- Advanced foundation engineered substructures and basements.
- Tunnelling in major cities.
- Innovations in the design, production and environmental performance of complex super-structural elements: (structural frames, roofs, cladding etc.).
- The sustainability challenge: new material developments and techniques, potential applications and risks associated with deleterious performance.
- The overlap with advanced building services measures; whether active or passive control.
- Health & Safety and Fire Safety Engineering approaches to complex buildings with especial emphasis on those resulting from impacts emanating from the Grenfell Court fire and public inquiry.
- Intelligent buildings (consideration of both active and passive measures) and robotics.
- 5D BIM and implications for design and construction processes.
- Facilities and Asset Management challenges.
- Legislative frameworks to apply locally, nationally and internationally.
- Repair and refurbishment contradictions: traditional and listed buildings.

- Building defect issues applicable to buildings that are more complex: repair requirements and methods of defect diagnosis.

## LEARNING AND TEACHING STRATEGY

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 6048       | 3024%       |
| Independent learning | 140152     | 7076%       |
| Placement learning   | 0          | 0%          |
| <b>TOTAL</b>         | <b>200</b> | <b>100%</b> |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☐ Written exam ☒ Coursework ☐ Practical

| Mode of assessment | Volume       | Weighting |
|--------------------|--------------|-----------|
| Report             | 3,000 words, | 50%       |

### Assessment Component 2

(Tick one)

☒ Written exam ☐ Coursework ☐ Practical

| Mode of assessment | Volume  | Weighting |
|--------------------|---------|-----------|
| Written Exam       | 2 hours | 50%       |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  | 50%         |
| Coursework    | 50%         |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## READING LIST

| Module Code    | ACBA6004                                                                                                                                                           |                                     |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Module Title   | Advanced Construction and Civil Engineering Technology                                                                                                             |                                     |
| Classification | Reading List entry                                                                                                                                                 | Electronic*                         |
| Essential      | Riley, M. and Cotgrave, A. (2013) <i>Construction Technology 1: House Construction</i> . 3 <sup>rd</sup> Ed. Basingstoke: Palgrave Macmillan                       | <input type="checkbox"/>            |
| Essential      | Riley, M. and Cotgrave, A. (2013) <i>Construction Technology Part. 2: Industrial and Commercial Building</i> . 3 <sup>rd</sup> Ed. Basingstoke: Palgrave Macmillan | <input type="checkbox"/>            |
| Essential      | Riley, M. and Cotgrave, A. (2013) <i>Construction Technology 3: The Technology of Refurbishment and Maintenance</i> . Basingstoke: Palgrave Macmillan              | <input type="checkbox"/>            |
| Essential      | Glasson, J., Therivel, R. and Chadwick, A. (2012) <i>Introduction to Environmental Impact Assessment</i> . Abingdon, Oxon: Routledge                               | <input checked="" type="checkbox"/> |

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                     |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Essential | Rao, P. (2000) <i>Sustainable Development, Economics and Policy</i> . Oxford: Blackwell Publishers Ltd.                                                                                                                                                                                                                                                                                                                                                                                                  | <input type="checkbox"/>            |
| Essential | Illingworth, J. R. (2000) <i>Construction Methods and Planning</i> . 2nd Ed. London: E & FN Spon                                                                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/>            |
| Further   | Holmes, R. (1995) <i>Introduction to Civil Engineering Construction</i> . 3 <sup>rd</sup> Ed. Reading: College of Estate Management                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/>            |
| Further   | Building magazine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/>            |
| Further   | Architects Journal.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/>            |
| Further   | The Barry and Mitchell series of Technology books accessible within the Library.                                                                                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/>            |
| Further   | Emmitt, S. and Yeomans, D.T. (2008) – <i>Specifying Buildings: A Design Management Perspective</i> 2nd Ed. Oxford: Butterworth-Heinemann,                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/>            |
| Further   | Littlefield, D. (2007) – <i>Metric Handbook – Planning and Design Data</i> 3rd Ed. London: Architectural Press                                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/>            |
| Further   | McEvoy, M. and Dye, A. (2008) <i>Environmental Construction Handbook</i> . London: RIBA Publishing                                                                                                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/>            |
| Further   | <b>Journals/Websites</b><br><a href="http://www.icevirtuallibrary.com">www.icevirtuallibrary.com</a><br><a href="http://www.bre.co.uk">www.bre.co.uk</a><br><a href="http://www.ice.org.uk">www.ice.org.uk</a><br><a href="http://www.asce.org">www.asce.org</a><br>Students should have access to a wide range of library resources, including, software, textbooks, and government and industry wide publications.<br><b>Considerable use will be required of the IHS and RICS 'I Surv.' databases</b> | <input checked="" type="checkbox"/> |

**MODULE CODE:** ACBA6005  
**TITLE:** Advanced Building Services and Environmental Design  
**DATED:** 16/08/2018

**LEVEL:** 6  
**CREDITS:** 20

**JACS CODE:** K230

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## AIM

- To comprehend a broad application of technologies and design techniques used to satisfy the building service requirements within large commercial or complex/multi-zone buildings, and to evaluate the design requirements of these systems with consideration to sustainable design strategies.

## LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- Synthesise the different HVAC requirements and installation and understand the technologies that serve large commercial or complex/multi-zone buildings.
- Critically evaluate energy provision and the principles and installation of Lighting and Power systems.
- Critically appraise system and equipment choice, design and installation practice in the context of sustainable futures, energy and cost savings.

## INDICATIVE CONTENT

- Interpretation of HVAC requirements
- Available technologies to large buildings/complexes
- Heating systems - Central and localised systems, System sizing
- Ventilation and air conditioning systems - characteristics and available choices
- Energy provision and systems for Lighting and Power
- System and equipment choice, design and installation practice in the context of sustainable futures, energy and cost savings.
- SMART building
- Lifecycle assessment

## LEARNING AND TEACHING STRATEGY

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 6048       | 3024%       |
| Independent learning | 140152     | 7076%       |
| Tutorial learning    | 0          | 0%          |
| <b>TOTAL</b>         | <b>200</b> | <b>100%</b> |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☐ Written exam                      ☒ Coursework                      ☐ Practical

| Mode of assessment | Volume                       | Weighting |
|--------------------|------------------------------|-----------|
| Case Study Design  | 5000 words + design drawings | 100%      |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 100%        |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## READING LIST

| Module Code    | ACBA6005                                                                                                      |                          |
|----------------|---------------------------------------------------------------------------------------------------------------|--------------------------|
| Module Title   | Advanced Building Services and Environmental Design                                                           |                          |
| Classification | Reading List entry                                                                                            | Electronic*              |
| Essential      | Chadderton, D. (2012) <i>Building Services Engineering</i> . 6th Ed. Abingdon, Oxon: Routledge                | <input type="checkbox"/> |
| Essential      | Hall, F and Greeno, R (2015) <i>Building Services Handbook</i> . 8th Ed. Abingdon, Oxon: Routledge.           | <input type="checkbox"/> |
| Essential      | Mc Mullan, R. (2012) <i>Environmental Science in Buildings</i> . Basingstoke: Palgrave McMillan               | <input type="checkbox"/> |
| Further        | Gekorkian, P. (2010) <i>Alternative Energy Systems in Building Design</i> . New York: McGraw-Hill Education.  | <input type="checkbox"/> |
| Further        | CIBSE (2005). <i>CIBSE Guide B: Heating, Ventilating, Air Conditioning and Refrigeration</i> . London: CIBSE. | <input type="checkbox"/> |
| Further        | CIBSE (2016). <i>CIBSE Guide B2: Ventilation and Ductwork</i> . London: CIBSE                                 | <input type="checkbox"/> |
| Further        | CIBSE (2004) <i>CIBSE Guide K: Electricity in Buildings</i> London: CIBSE.                                    | <input type="checkbox"/> |

**MODULE CODE:** ACBA6006  
**TITLE:** Building Conservation, Asset and Facilities Management  
**DATED:** 16/08/2018  
  
**LEVEL:** 6  
**CREDITS:** 20  
  
**JACS CODE:** K230

---

## **AIM**

- To develop an understanding of the importance of adopting effective asset management principles and procedures. The module will address operational tactical and strategic criteria and gain skills and knowledge of benchmarking, condition based and lean asset management strategies. The focus will be placed on 'hard' FM services with a lesser emphasis on 'soft' provisions.

## **LEARNING OUTCOMES**

Upon the successful completion of this module, the student should be able to demonstrate the ability to:

- Deploy accurately, philosophies and processes involved in managing the care (conservation where appropriate) and retrofitting of both traditional and late twentieth century buildings.
- Critically compare and evaluate different asset management approaches; formulating sustainable strategies to prevent deterioration of asset condition for differing situations and building types;
- Identify and apply appropriate and effective targets to asset management that ensure that the risks emanating from obsolescence in its many facets are minimised or managed.

## **INDICATIVE CONTENT**

- Asset Management – Definitions. Standards. Concept of total building care.
- Conservation Charters, philosophical approaches,
- Principles; Statements of Significance, Heritage Impact Statements and Conservation Management Plans.
- Listed building legislation and processes.
- Practical case studies. (The Palace of Westminster and Buckingham Palace as key resources) but with more local examples aiding students development and affording applications for assignments.
- The sector and specific challenges posed (focussing primarily on the UK's climatic challenges; stock profile; generic building typologies, socio-economic factors and demographics.
- Forms of Maintenance e.g. Reactive, Emergency, Planned, Planned Preventative, Condition based, Day to day, Revenue, Capitalised; Lean and Six Sigma processes.
- Service level agreements, procurement options, and suitability and cost/value arguments.
- Condition, element, component and performance-based approaches to asset management;

- Ownership costs, whole-life expenditure.
- Investment and Risk strategies
- Health and Safety (as specifically applied to this sector for: operatives, management and professionals
- Risk strategies.
- Potential efficiency gains
- Asset management principles and survey techniques
- Statutory compliance
- Sustainability
- Methods of enhancing building or occupier satisfaction
- Building performance, adverse impact potential, e.g. on structure, building fabric and environmental performance
- Historic and traditional buildings, heritage impact assessments and building performance
- Physical stock condition survey: condition or status criteria, e.g. new, sound, operable, inoperable, unsafe; use of asset condition survey data; relationship of asset management plan to building plan; relationship to capital investment strategy; relationship to corporate building maintenance strategy
- Sustainable remedial solutions opportunities and threats, e.g. carbon footprint reduction, new and improved technologies, energy use and efficiency, alternative energy resources, materials recycling; 'Green' specification
- Inventories
- Continuous system performance assessment technologies
- Asset registers, asset register software, e.g. Computerised Maintenance/Asset Management Software (CMMS). Computer aided Facilities Management (CAFM) and Building Information Modelling (BIM 4) Conservation.
- Benchmarking Facilities and Estates - Key Performance Indicators (KPI's).

## LEARNING AND TEACHING STRATEGY

Students will be taught through lectures (including guest lectures by practising professionals) case study seminars, tutorials and site visits that will be used to demonstrate vocational practice and different approaches taken.

The study time for the module is divided as follows:

| Activity type        | Hours              | Percentage        |
|----------------------|--------------------|-------------------|
| Scheduled learning   | <del>60</del> 48   | <del>30</del> 24% |
| Independent learning | <del>140</del> 152 | <del>70</del> 76% |
| Placement learning   | 0                  | 0                 |
| <b>TOTAL</b>         | <b>200</b>         | <b>100%</b>       |

## ASSESSMENT

### Assessment Component 1 (Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment | Volume                                                                        | Weighting |
|--------------------|-------------------------------------------------------------------------------|-----------|
| Report             | 6,000 words or equivalent case study based evaluation of a substantial asset. | 100%      |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 100%        |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

### READING LIST

|                       |                                                                                                                                                               |                                     |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| <b>Module Code</b>    | <b>ACBA6006</b>                                                                                                                                               |                                     |
| <b>Module Title</b>   | <b>Building Conservation, Asset and Facilities Management</b>                                                                                                 |                                     |
| <b>Classification</b> | <b>Reading List entry</b>                                                                                                                                     | <b>Electronic*</b>                  |
| Essential             | English Heritage (2015). <i>Practical Building Conservation</i> , 10-volume set. Library Resource                                                             | <input checked="" type="checkbox"/> |
| Essential             | Building Conservation Directory – Web Portal<br>Accessed at: <a href="http://www.buildingconservation.com/">www.buildingconservation.com/</a>                 | <input checked="" type="checkbox"/> |
| Essential             | Hollis, M. (2005) <i>Surveying Buildings</i> .<br>London: Surveyors Publications                                                                              | <input type="checkbox"/>            |
| Further               | University of the West of England, Bristol (2004) <i>Maintaining Value module 1: Best Practice Maintenance Management for Listed Buildings</i> . Bristol: UWE | <input checked="" type="checkbox"/> |
| Further               | Wood, B. (2003) <i>Building Care</i> . Oxford: Blackwell Publishing.                                                                                          | <input checked="" type="checkbox"/> |
| Further               | British Standards Institute (2013) <i>BS 7913: Guide to the Conservation of Historic Buildings</i> . London: British Standards Institute                      | <input type="checkbox"/>            |
| Further               | BS Guides to Facilities Management                                                                                                                            | <input checked="" type="checkbox"/> |
| Further               | SPAB – Cornerstone Publication and Technical Guides                                                                                                           | <input type="checkbox"/>            |
| Further               | Cadw, Historic Scotland, Historic England; various web-based guidance.                                                                                        | <input checked="" type="checkbox"/> |
| Further               | BSRIA (2012) <i>Asset Management and Maintenance Audits (BG24/2012)</i> . Bracknell: BSRIA                                                                    | <input type="checkbox"/>            |
| Further               | RICS 'I Surv' Electronic Database. Subscription via School.                                                                                                   | <input checked="" type="checkbox"/> |
| Further               | IHBC. Context Journal                                                                                                                                         | <input checked="" type="checkbox"/> |

**MODULE CODE:** ACBA6007  
**TITLE:** Structural Design  
**DATED:** 16/08/2018

**LEVEL:** 6  
**CREDITS:** 20

**JACS CODE:** K200

---

## **AIM**

- To provide students with the requisite analysis tools to appreciate the behaviour of different types of structures, the processes involved with structural safety and the relevant structural design standards.

## **LEARNING OUTCOMES**

Upon the successful completion of this module, the student should be able to:

- Develop existing skills in the appreciation of different types of loads that could be applied on different types of structures due to persistent and transient design situations.
- Critically appraise beam theory, flexibility and moment distribution methods, and solve truss systems to determine the stresses applied on structural systems and their components due to the applied loading.
- Apply the standards and code provisions competently to determine required cross sections and sizes of structural components to carry the resulting stresses due to the applied loads.

## **INDICATIVE CONTENT**

- Introduction to BS EN 1990 – European Standard for “Basis of Structural Design” and the UK National Annex.
- Introduction to BS EN 1991- European Standard for “Actions”.
- Introduction to wind loads.
- Introduction to snow loads.
- Introduction to the beam theory.
- Simply supported and cantilevered beams.
- Flexibility and Moment methods to solve statically indeterminate structures.
- Method of sections, “BOW” notation and Resolution of forces techniques to determine member forces in trusses and frameworks.
- Reinforced concrete design through sub-frames and load cases.
- Introduction to BS EN 1992, its parts, and the UK National Annex for designing concrete structures.
- Steel design through the use of published charts.
- Introduction to BS EN 1993, its parts, and the UK National Annex for designing steel structures.
- Timber design – the strength classes and the classification of timbers.
- Introduction to BS EN 1995, its parts, and the UK National Annex for designing timber structures.
- Introduction to BS EN 1996 and its UK National Annex for designing masonry structures.

## LEARNING AND TEACHING STRATEGY

The study time for the module is divided as follows:

| Activity type        | Hours              | Percentage        |
|----------------------|--------------------|-------------------|
| Scheduled learning   | <del>60</del> 48   | <del>30</del> 24% |
| Independent learning | <del>140</del> 152 | <del>70</del> 76% |
| Placement learning   | 0                  | 0%                |
| <b>TOTAL</b>         | <b>200</b>         | <b>100%</b>       |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☐ Written exam ☒ Coursework ☐ Practical

| Mode of assessment | Volume     | Weighting |
|--------------------|------------|-----------|
| Report             | 3000 words | 50%       |

### Assessment Component 2

(Tick one)

☒ Written exam ☐ Coursework ☐ Practical

| Mode of assessment | Volume  | Weighting |
|--------------------|---------|-----------|
| Exam               | 2 hours | 50%       |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  | 50          |
| Coursework    | 50          |
| Practical     | 0           |
| <b>TOTAL</b>  | <b>100%</b> |

## READING LIST

| Module Code    | ACBA6007                                                                                                                                                                       |                                     |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Module Title   | Structural Design                                                                                                                                                              |                                     |
| Classification | Reading List entry                                                                                                                                                             | Electronic*                         |
| Essential      | Arya, C., (2009), <i>Design of Structural Elements</i> . 3 <sup>rd</sup> Ed. Florida: CRC Press, Taylor & Francis Group                                                        | <input checked="" type="checkbox"/> |
| Essential      | Mosley W H, Bungey J H and Hulse R (2007) <i>Reinforced Concrete Design to EC2</i> . Basingstoke: Palgrave Macmillan                                                           | <input type="checkbox"/>            |
| Essential      | Ghali A, Neville A M and Brown T G (2009) <i>Structural Analysis: A unified classical and matrix approach</i> . 6 <sup>th</sup> Ed. Florida: CRC Press, Taylor & Francis Group | <input checked="" type="checkbox"/> |
| Essential      | Gardener L and Nethercot D (2011) <i>Designers' Guide to Eurocode 3</i> . London: ICE Publishing                                                                               | <input type="checkbox"/>            |
| Essential      | Porteous J and Kermani A (2013) <i>Structural Timber Design to Eurocode 5</i> . Chichester: Wiley-Blackwell                                                                    | <input type="checkbox"/>            |
| Further        | McKenzie W M C (2008), <i>Design of Structural Steelwork to BS5950 and EC3</i> . 2 <sup>nd</sup> Ed. Basingstoke: Palgrave Macmillan                                           | <input checked="" type="checkbox"/> |

|         |                                                                                                                                          |                          |
|---------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Further | McKenzie W M C and Zhang Binsheng (2007) <i>Design of Structural Timber to EC5</i> . 2 <sup>nd</sup> Ed. Basingstoke: Palgrave Macmillan | <input type="checkbox"/> |
|---------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|

|                       |                            |
|-----------------------|----------------------------|
| <b>Module Code</b>    | <b>ACBA6008</b>            |
| <b>Title</b>          | <b>Independent Project</b> |
| <b>Date</b>           | <b>25/06/2020</b>          |
| <b>Level</b>          | <b>6</b>                   |
| <b>Credits</b>        | <b>40</b>                  |
| <b>Pre-Requisites</b> | <b>None</b>                |

### **AIM(S)**

- To develop the ability of students to engage critically and innovatively with theory and/or practice relevant to their studied subject areas in order to produce a discipline specific in-depth project.

### **LEARNING OUTCOMES**

Upon the successful completion of this module, the student should be able to:

- Demonstrate intellectual skills in the identification of an appropriate topic, problem or challenge for investigation pertinent to their field of study and formulate a suitable plan for further research utilising relevant investigative methods in order to produce a response.
- Evidence in-depth knowledge and critical understanding of principles necessary to underpin their education within their chosen field of study and problem solving techniques applicable to this.
- Evidence independence of thought and critical evaluation in the production of an independent piece of work, demonstrating transferable skills through exercising initiative and personal responsibility in planning own learning and self-management.
- Organise their knowledge and learning through use of a range of media, and present their work appropriately in a manner that can be understood by specialist and non-specialist audiences.

### **INDICATIVE CONTENT**

- Research paradigms, methods, and techniques of research and enquiry.
- Conducting and writing literature reviews.
- Ethical concerns and the research process.
- Resource, project, and skills management processes and techniques.
- Presenting and illustrating data and information.
- Communication of general, specialist, technical ideas and results.
- Problem solving, creative, entrepreneurial thinking and approaches.
- Collaboration, adaptability and reflection.

## Study Time Allocation

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 36         | 9%          |
| Independent learning | 364        | 91%         |
| Placement learning   |            |             |
| <b>TOTAL</b>         | <b>400</b> | <b>100%</b> |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment | Volume                                             | Weighting |
|--------------------|----------------------------------------------------|-----------|
| Portfolio          | Minimum of 3 elements (equivalent to 10,000 words) | 100%      |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 100%        |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

This will be guided by the student's individual project.

| Module Code    | ACBA6008                                                                                                                         |                                     |
|----------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Module Title   | Independent Project                                                                                                              |                                     |
| Classification | Reading List entry                                                                                                               | Electronic*                         |
| Essential      | Cottrell S, (2015) <i>Skills for Success Personal Development and Employability</i> , 3 <sup>rd</sup> edition, Palgrave. London. | <input checked="" type="checkbox"/> |
| Essential      | ASET, 2013 <i>Good Practice Guide for Workbased Learning and Placement Learning in Higher Education</i>                          | <input checked="" type="checkbox"/> |
| Essential      | Gray, D.E. (2018) <i>Doing Real World Research</i> , London: SAGE.                                                               | <input type="checkbox"/>            |
| Further        | Gallagher K, (2016) <i>Essential Study and Employment Skills For Business and Management Students</i> , Oxford                   | <input type="checkbox"/>            |
| Further        | Gottschall, Jonathan (2013), <i>The Storytelling Animal: How Stories Make Us Human</i> , Houghton Mifflin                        | <input type="checkbox"/>            |
| Further        | Storr, Will (2020), <i>The Science of Storytelling</i> , William Collins                                                         | <input type="checkbox"/>            |
| Further        | Cohen, L. Manion, L. and Morrison, K. (2017) <i>Research Methods in Education</i> , 8 <sup>th</sup> edition London: Routledge.   | <input checked="" type="checkbox"/> |
| Further        | Flick, U. (2014) <i>An Introduction to Qualitative Research</i> , London: SAGE.                                                  | <input type="checkbox"/>            |
| Further        | Aubrey, K. & Riley, A. (2017) <i>Understanding and Using Challenging Education Theories</i> , London: SAGE.                      | <input checked="" type="checkbox"/> |
| Further        | Brinkmann, S. and Kvale, S. (2018) <i>Doing Interviews (Qualitative Research Kit)</i> . Sage                                     | <input type="checkbox"/>            |

|         |                                                                                                                                                                                                                                                                                                                                       |                                     |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
|         |                                                                                                                                                                                                                                                                                                                                       |                                     |
| Further | Gibbs, G. (2018) <i>Analysing Qualitative Data (Qualitative Research Kit)</i> . Sage                                                                                                                                                                                                                                                  | <input checked="" type="checkbox"/> |
| Further | Creswell, J. W. (2012). <i>Qualitative inquiry and research design: Choosing among five approaches</i> . Sage                                                                                                                                                                                                                         | <input type="checkbox"/>            |
| Further | Obschonka, M., Hakkarainen, K., Lonka, K. <i>et al.</i> Entrepreneurship as a twenty-first century skill: entrepreneurial alertness and intention in the transition to adulthood. <i>Small Bus Econ</i> <b>48</b> , 487–501 (2017). <a href="https://doi.org/10.1007/s11187-016-9798-6">https://doi.org/10.1007/s11187-016-9798-6</a> | <input checked="" type="checkbox"/> |
| Further | <a href="https://ec.europa.eu/jrc/en/entrecomp">https://ec.europa.eu/jrc/en/entrecomp</a>                                                                                                                                                                                                                                             | <input checked="" type="checkbox"/> |

|                       |                                                                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------|
| <b>Module Code</b>    | <b>ACBA6009</b>                                                                                  |
| <b>Title</b>          | <b>Advanced Construction Technology</b>                                                          |
| <b>Date</b>           | <b>20/05/2024</b>                                                                                |
| <b>Level</b>          | <b>6</b>                                                                                         |
| <b>Credits</b>        | <b>20</b>                                                                                        |
| <b>Pre-Requisites</b> | <b>None</b>                                                                                      |
| <b>DBS Check</b>      | <b>May be required <input type="checkbox"/> Not required <input checked="" type="checkbox"/></b> |

### AIM(S)

- To critically appraise interface boundaries between construction management and design technology processes for large and/or complex sustainable building typologies, estates, facilities, and civil engineering infrastructure projects.

### LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- critique the application of the processes and procedures involved in the design and production of complex construction projects;
- appraise relevant environmental functional and economic factors applicable to the construction and performance in use of technologically advanced building and civil engineering projects;
- evaluate solutions that afford sustainable and environmentally friendly buildings and infrastructure;
- appreciate and recognise whole-life performance of buildings and civil engineering infrastructure, their care and management.

### INDICATIVE CONTENT

- Site infrastructure for the construction, repairing or demolishing complex structures effectively.
- Advanced foundation engineered substructures and basements including tunnelling design.
- Design, production, and environmental performance of complex super-structure elements: (Primary and secondary structural solutions, frames, roofs, cladding etc.).
- Sustainability: new material developments and techniques, potential applications and risks associated with deleterious performance.
- Advanced building services; including active/ passive environmental control.
- Health & Safety and Fire Safety approaches to complex buildings.
- Intelligent buildings (consideration of both active and passive measures) and robotics, artificial intelligence.
- BIM and implications for design and construction processes.

- Modern Facilities and Asset Management.
- Legislative frameworks local, national, and international.
- Repair and refurbishment contradictions: traditional and listed buildings.

### Study Time Allocation

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 48         | 24%         |
| Independent learning | 152        | 76%         |
| Placement learning   |            |             |
| <b>TOTAL</b>         | <b>200</b> | <b>100%</b> |

### ASSESSMENT

#### Assessment Component 1

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment | Volume                    | Weighting |
|--------------------|---------------------------|-----------|
| Report             | 2,500 words or equivalent | 50%       |

#### Assessment Component 2

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment              | Volume                    | Weighting |
|---------------------------------|---------------------------|-----------|
| Case study report with drawings | 2,500 words or equivalent | 50%       |

#### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 100%        |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                     |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| <b>Module Code</b>    | <b>ACBA6009</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                     |
| <b>Module Title</b>   | <b>Advanced Construction Technology</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                     |
| <b>Classification</b> | <b>Reading List entry</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Electronic*</b>                  |
| Essential             | Riley, M. And Cotgrave, A. (2014) <i>Construction Technology Part. 2: Industrial and Commercial Building</i> . 3rd Ed. Basingstoke: Palgrave Macmillan.                                                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/>            |
| Essential             | Riley, M. and Cotgrave, A. (2013) <i>Construction Technology 3: The Technology of Refurbishment and Maintenance</i> . Basingstoke: Palgrave Macmillan.                                                                                                                                                                                                                                                                                                                                                                                          | <input checked="" type="checkbox"/> |
| Further               | Bell, S., Theoboldt, I. and Jackson, F. (2025) <i>Solar Passive House Low-Energy Buildings: The Earthscan Expert Guide to Design and Construction</i> . Routledge: London.                                                                                                                                                                                                                                                                                                                                                                      | <input checked="" type="checkbox"/> |
| Further               | Glasson, J. and Therivel, R. (2019) <i>Introduction to Environmental Impact Assessment. Natural &amp; Built Environment Series</i> . 5 <sup>th</sup> ed. Abingdon, Oxon: Routledge.                                                                                                                                                                                                                                                                                                                                                             | <input type="checkbox"/>            |
| Further               | Rao, P. (2000) <i>Sustainable Development, Economics D and Policy</i> . Oxford: Blackwell Publishers Ltd.                                                                                                                                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/>            |
| Further               | Illingworth, J. R. (2000) <i>Construction Methods and Planning</i> . 2nd Ed. London: E & FN Spon.                                                                                                                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/>            |
| Further               | Emmitt, s. and Yeomans, D.T. (2008) <i>-Specifying D Buildings: A Design Management Perspective</i> 2nd Ed. Oxford: Butterworth-Heinemann.                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/>            |
| Further               | Littlefield, D. (2007)- <i>Metric Handbook-Planning and Design Data</i> 3rd Ed. London: Architectural Press.                                                                                                                                                                                                                                                                                                                                                                                                                                    | <input type="checkbox"/>            |
| Further               | McEvoy, M. and Dye, A. (2008) <i>Environmental D Construction Handbook</i> . London: RIBA Publishing.                                                                                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/>            |
| Further               | <b>Journals/Websites</b><br>Building magazine.<br>Architects Journal.<br><a href="http://www.icevirtuallibrai:y.com">www.icevirtuallibrai:y.com</a><br><a href="http://www.bre.co.uk">www.bre.co.uk</a><br><a href="http://www.ice.org.uk">www.ice.org.uk</a><br><a href="http://www.asce.org">www.asce.org</a><br>Students should have access to a wide range of library resources, including, software, textbooks, and government and industry wide publications. Considerable use will be required of the IHS and RICS 'I Surv .' databases. | <input checked="" type="checkbox"/> |

|                       |                                                                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------|
| <b>Module Code</b>    | <b>ACBA6010</b>                                                                                  |
| <b>Title</b>          | <b>Advanced Project Management</b>                                                               |
| <b>Date</b>           | <b>20/05/2024</b>                                                                                |
| <b>Level</b>          | <b>6</b>                                                                                         |
| <b>Credits</b>        | <b>20</b>                                                                                        |
| <b>Pre-Requisites</b> | <b>None</b>                                                                                      |
| <b>DBS Check</b>      | <b>May be required <input type="checkbox"/> Not required <input checked="" type="checkbox"/></b> |

### AIM(S)

- To improve project management skills and technique analysis for construction managers working in all stages of the project life cycle.

### LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- consolidate and extend the use of techniques for programming, monitoring and control of construction projects, being able to choose the most suitable ones for different complex scenarios;
- evaluate the risk of a project through a development appraisal.

### INDICATIVE CONTENT

- Programming techniques for construction projects.
- Resource balancing and accelerating construction programmes.
- Statistical analysis applied to construction management. P.E.R.T. (Planned Evaluation Review Technique).
- Application of software for construction management.
- Non-compliance with contract. Managing claims. Delay analysis.
- Project management theory.
- Project life cycles.
- Risk management.
- Project review.
- Development appraisal.

## Study Time Allocation

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 48         | 24%         |
| Independent learning | 152        | 76%         |
| Placement learning   |            |             |
| <b>TOTAL</b>         | <b>200</b> | <b>100%</b> |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment      | Volume                    | Weighting |
|-------------------------|---------------------------|-----------|
| Report with Gantt Chart | 2,500 words or equivalent | 50%       |

### Assessment Component 2

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment | Volume                    | Weighting |
|--------------------|---------------------------|-----------|
| Case Study         | 2,500 words or equivalent | 50%       |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 100%        |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

| Module Code    | ACBA6010                                                                                                                                                                                      |                          |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Module Title   | Advanced Project Management                                                                                                                                                                   |                          |
| Classification | Reading List entry                                                                                                                                                                            | Electronic*              |
| Essential      | Clough R H, Sears G A, Sears K S, Segner R O and Rounds J L (2015) <i>Construction Contracting: A practical guide to company management</i> . 8 <sup>th</sup> Ed. Hoboken: John Wiley & Sons. | <input type="checkbox"/> |
| Essential      | AECOM (2024) <i>SPON's Architects and Builders Price Book</i> . 149 <sup>th</sup> Ed. Abingdon, Oxon: CRC Press.                                                                              | <input type="checkbox"/> |
| Essential      | Chartered Institute of Building (2022) <i>Code of Practice for Project Management for Construction and Development</i> . 6 <sup>th</sup> Ed. London: Wiley-Blackwell.                         | <input type="checkbox"/> |
| Essential      | March C. (2017) <i>Construction Management: Theory and Practice</i> . Oxon: Routledge.                                                                                                        | <input type="checkbox"/> |
| Further        | Coles D, Bailey G and Calvert R E (2016) <i>Introduction to Building Management</i> . 6 <sup>th</sup> ed. London: Routledge.                                                                  | <input type="checkbox"/> |
| Further        | Cooke B and Williams P (2024) <i>Construction planning, programming and control</i> . 4 <sup>th</sup> ed. Wiley-Blackwell.                                                                    | <input type="checkbox"/> |

|         |                                                                                                                                                         |                          |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Further | Langford, D., Fellows, R., Hancock, M. and Gale, A. (2016) <i>Human Resources Management in Construction</i> . London: Chartered Institute of Building. | <input type="checkbox"/> |
| Further | Harris F and McCaffer R (2013) <i>Modern Construction Management</i> . 7 <sup>th</sup> Ed. Chichester: John Wiley & Sons Ltd.                           | <input type="checkbox"/> |

|                       |                                                                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------|
| <b>Module Code</b>    | <b>ACBA6011</b>                                                                                  |
| <b>Title</b>          | <b>Advanced Quantity Surveying</b>                                                               |
| <b>Date</b>           | <b>20/05/2024</b>                                                                                |
| <b>Level</b>          | <b>6</b>                                                                                         |
| <b>Credits</b>        | <b>20</b>                                                                                        |
| <b>Pre-Requisites</b> | <b>None</b>                                                                                      |
| <b>DBS Check</b>      | <b>May be required <input type="checkbox"/> Not required <input checked="" type="checkbox"/></b> |

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### **AIM(S)**

- To equip students with the ability to be able to manage project finance.

### **LEARNING OUTCOMES**

Upon the successful completion of this module, the student should be able to:

- calculate value and be able to calculate the cost of change to provide solutions to construction problems;
- negotiate changes to project finances utilising relevant arguments.

### **INDICATIVE CONTENT**

- Change control procedures within a contract.
- Valuing change.
- Cost reporting.
- Forecasting cash flow.
- Reporting regimes and protocols.
- Value Management and Value Engineering.
- Provisional sums and prime cost sums.
- Negotiation theory.
- Negotiation of contract and final sums.
- Final accounts.
- Valuing instructions.
- Interim valuations and payment provisions.
- Whole life cycle costing.

## Study Time Allocation

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 48         | 24%         |
| Independent learning | 152        | 76%         |
| Placement learning   |            |             |
| <b>TOTAL</b>         | <b>200</b> | <b>100%</b> |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment | Volume                                        | Weighting |
|--------------------|-----------------------------------------------|-----------|
| Portfolio          | Minimum 5 elements, 4,000 words or equivalent | 80%       |

### Assessment Component 2

(Tick one)

☐ Written exam      ☐ Coursework      ☒ Practical

| Mode of assessment | Volume                               | Weighting |
|--------------------|--------------------------------------|-----------|
| Viva               | 5 minute presentation with questions | 20%       |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 80%         |
| Practical     | 20%         |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

| Module Code    | ACBA6011                                                                                                              |                          |
|----------------|-----------------------------------------------------------------------------------------------------------------------|--------------------------|
| Module Title   | Advanced Quantity Surveying                                                                                           |                          |
| Classification | Reading List entry                                                                                                    | Electronic*              |
| Essential      | Dallas, M. (2011). <i>Value and Risk Management: A guide to Best Practice</i> . Oxford: Blackwell.                    | <input type="checkbox"/> |
| Essential      | Boussabaine, A. and Kirkham, R. (2004). <i>Whole Life-cycle Costing: Risk and Risk Responses</i> . Oxford: Blackwell. | <input type="checkbox"/> |
| Further        | Berkell, G. (2020). <i>Learning to Negotiate</i> . Cambridge University Press.                                        | <input type="checkbox"/> |

|                       |                                                                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------|
| <b>Module Code</b>    | <b>ACBA6012</b>                                                                                  |
| <b>Title</b>          | <b>Building Conservation, Asset and Facilities Management</b>                                    |
| <b>Date</b>           | <b>20/05/2024</b>                                                                                |
| <b>Level</b>          | <b>6</b>                                                                                         |
| <b>Credits</b>        | <b>10</b>                                                                                        |
| <b>Pre-Requisites</b> | <b>None</b>                                                                                      |
| <b>DBS Check</b>      | <b>May be required <input type="checkbox"/> Not required <input checked="" type="checkbox"/></b> |

### AIM(S)

- To develop an understanding of the importance of adopting effective asset management principles and procedures. The module will address operational tactical and strategic criteria and gain skills and knowledge of benchmarking, condition based and asset management strategies.

### LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- demonstrate the ability to: deploy accurately, philosophies and processes involved in managing the care (conservation where appropriate) and retrofitting of both traditional and late twentieth century buildings;
- critically compare and evaluate different asset management approaches; formulating sustainable strategies to prevent deterioration of asset condition for differing situations and building types.

### INDICATIVE CONTENT

- Introduction to Architectural History.
- Conservation Charters, philosophical approaches.
- Principles; Statements of Significance, Heritage Impact Statements and Conservation Management Plans.
- Statutory compliance; listed building legislation and processes.
- Case studies: case studies to assist students' development and affording applications for assignments.
- Surveying, recording and analysis techniques.
- Building performance, adverse impact potential, e.g., on structure, building fabric and environmental performance.
- Low carbon / Zero carbon initiatives; sustainability. Sustainable remedial solutions opportunities and threats, e.g., carbon footprint reduction, new and improved technologies, energy use and efficiency, alternative energy resources, materials recycling; 'Green' specification.

## Study Time Allocation

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 24         | 24%         |
| Independent learning | 76         | 76%         |
| Placement learning   |            |             |
| <b>TOTAL</b>         | <b>100</b> | <b>100%</b> |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment | Volume                                          | Weighting |
|--------------------|-------------------------------------------------|-----------|
| Portfolio          | Minimum of 3 elements 2,000 words or equivalent | 80%       |

### Assessment Component 2

(Tick one)

☐ Written exam      ☐ Coursework      ☒ Practical

| Mode of assessment | Volume    | Weighting |
|--------------------|-----------|-----------|
| Presentation       | 4 minutes | 20%       |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 80%         |
| Practical     | 20%         |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

| Module Code    | ACBA6012                                                                                                                                         |                                     |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Module Title   | Building Conservation, Asset and Facilities Management                                                                                           |                                     |
| Classification | Reading List entry                                                                                                                               | Electronic*                         |
| Essential      | English Heritage (2015). Practical Building Conservation, 10-volume set. Library Resource.                                                       | <input checked="" type="checkbox"/> |
| Essential      | Building Conservation Directory -Web Portal 181<br>Accessed at: <a href="http://www.buildingconservation.com/">www.buildingconservation.com/</a> | <input checked="" type="checkbox"/> |
| Essential      | Hollis, M. (2005) Surveying Buildings. London: Surveyors Publications.                                                                           | <input checked="" type="checkbox"/> |
| Essential      | Cullen, R. and Meier, R. (2021). Specifications for Building Conservation: Volume 1: External Structure. 1 <sup>st</sup> ed. Routledge.          | <input type="checkbox"/>            |
| Essential      | Insall, D. (2018) Living Buildings: Architectural Conservation, Philosophy, Principles and Practice. London: The Images Publishing Group.        | <input type="checkbox"/>            |

|           |                                                                                                                                                                               |                                     |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Essential | Hunt, R., Suhr, M. and McCloud, K. (2019) <i>Old House Eco Handbook: A Practical Guide to Retrofitting for Energy Efficiency and Sustainability</i> . London: Frances Lincon. | <input type="checkbox"/>            |
| Further   | Pendlebury, J. and Brown, J. (2021) <i>Conserving the Historic Environment (Concise Guides to Planning)</i> England: Lund Humphries Publishers.                               | <input type="checkbox"/>            |
| Further   | University of the West of England, Bristol (2004) 181 Maintaining Value module 1: Best Practice Maintenance Management for Listed Buildings. Bristol: UWE.                    | <input checked="" type="checkbox"/> |
| Further   | British Standards Institute (2013) BS 7913: Guide to the Conservation of Historic Buildings. London: British Standards Institute.                                             | <input type="checkbox"/>            |
| Further   | SPAS-Cornerstone Publication and Technical Guides.                                                                                                                            | <input type="checkbox"/>            |
| Further   | Cadw, Historic Scotland, Historic England; various 181 web-based guidance.                                                                                                    | <input checked="" type="checkbox"/> |
| Further   | BSRIA (2012) Asset Management and Maintenance Audits (BG24/2012). Bracknell: BSRIA.                                                                                           | <input type="checkbox"/>            |
| Further   | RIGS 'I Surv' Electronic Database. Subscription via 181 School.                                                                                                               | <input checked="" type="checkbox"/> |
| Further   | BS Guides to Facilities Management.                                                                                                                                           | <input checked="" type="checkbox"/> |
| Further   | IHBC. Context Journal.                                                                                                                                                        | <input checked="" type="checkbox"/> |

|                       |                                                                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------|
| <b>Module Code</b>    | <b>ACBA6013</b>                                                                                  |
| <b>Title</b>          | <b>Commercial Management</b>                                                                     |
| <b>Date</b>           | <b>20/05/2024</b>                                                                                |
| <b>Level</b>          | <b>6</b>                                                                                         |
| <b>Credits</b>        | <b>20</b>                                                                                        |
| <b>Pre-Requisites</b> | <b>None</b>                                                                                      |
| <b>DBS Check</b>      | <b>May be required <input type="checkbox"/> Not required <input checked="" type="checkbox"/></b> |

### AIM(S)

- To equip students with the ability to be able to control budgets as an estimator.

### LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- utilise knowledge of contracts for supply chain management;
- advise clients on risk management techniques and solutions for construction problems.

### INDICATIVE CONTENT

- Tender analysis and reports.
- Errors and qualifications.
- Profitability and competitiveness.
- Procurement of labour, plant and materials.
- Procurement of sub-contracts.
- Financial management of supply chains and multiple projects.
- Administration of subcontract and supplier contracts.
- Internal and External audits.
- Forecasting of final accounts.
- Risk management techniques, including who owns risk and mitigation.
- Earned value management.

## Study Time Allocation

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 48         | 24%         |
| Independent learning | 152        | 76%         |
| Placement learning   |            |             |
| <b>TOTAL</b>         | <b>200</b> | <b>100%</b> |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment | Volume                    | Weighting |
|--------------------|---------------------------|-----------|
| Report             | 2,500 words or equivalent | 50%       |

### Assessment Component 2

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment | Volume                                         | Weighting |
|--------------------|------------------------------------------------|-----------|
| Portfolio          | Maximum of 3 elements (2,500 words equivalent) | 50%       |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 100%        |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

| Module Code    | ACBA6013                                                                                                                                                                                   |                          |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Module Title   | Commercial Management                                                                                                                                                                      |                          |
| Classification | Reading List entry                                                                                                                                                                         | Electronic*              |
| Essential      | Birkhall, G. (2020). <i>Learning to Negotiate</i> . Cambridge University Press.                                                                                                            | <input type="checkbox"/> |
| Essential      | Cartlidge, D. (2023). <i>New Aspects of Quantity Surveying Practice</i> , 5 <sup>th</sup> Edition. London: Routledge Press.                                                                | <input type="checkbox"/> |
| Essential      | Smith, J. <i>et al.</i> , (2017). <i>Building Cost Planning for the Design Team</i> . 3 <sup>rd</sup> Ed. Abingdon, Oxon: Routledge.                                                       | <input type="checkbox"/> |
| Further        | Briesmeister, J.K. (2023). <i>Managing Complex Construction Projects: A Systems Approach (Best Practices in Portfolio, Program, and Project Management)</i> 1 <sup>st</sup> ed. CRC Press. | <input type="checkbox"/> |
| Further        | Hanioglu, M.N. (2022) <i>A Cost Based Approach to Project Management: Planning and Controlling Construction Project Costs</i> . 1 <sup>st</sup> ed. England: Routledge.                    | <input type="checkbox"/> |

|                       |                                                                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------|
| <b>Module Code</b>    | <b>ACBA6014</b>                                                                                  |
| <b>Title</b>          | <b>Geotechnical and Environmental Engineering</b>                                                |
| <b>Date</b>           | <b>20/05/2024</b>                                                                                |
| <b>Level</b>          | <b>6</b>                                                                                         |
| <b>Credits</b>        | <b>20</b>                                                                                        |
| <b>Pre-Requisites</b> | <b>None</b>                                                                                      |
| <b>DBS Check</b>      | <b>May be required <input type="checkbox"/> Not required <input checked="" type="checkbox"/></b> |

### AIM(S)

- To equip students with the ability to be able to analyse engineering solutions to environmental issues.

### LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- identify geological hazards and provide arguments for engineering solutions;
- provide solutions to specific complex geotechnical case studies.

### INDICATIVE CONTENT

- Advanced Soil mechanics.
- Slope failure.
- Landslide monitoring and solutions.
- The possible geo-environment solutions that can use or dispose of captured CO2 emissions.
- The effect of climate change on infrastructure assets.
- Flooding monitoring and solutions.

### Study Time Allocation

The study time for the module is divided as follows:

| <b>Activity type</b> | <b>Hours</b> | <b>Percentage</b> |
|----------------------|--------------|-------------------|
| Scheduled learning   | 48           | 24%               |
| Independent learning | 152          | 76%               |
| Placement learning   |              |                   |
| <b>TOTAL</b>         | <b>200</b>   | <b>100%</b>       |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☒ Written exam      ☐ Coursework      ☐ Practical

| Mode of assessment | Volume  | Weighting |
|--------------------|---------|-----------|
| Exam               | 2 hours | 50%       |

### Assessment Component 2

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment | Volume                    | Weighting |
|--------------------|---------------------------|-----------|
| Report             | 2,500 words or equivalent | 50%       |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  | 50%         |
| Coursework    | 50%         |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

| Module Code    | ACBA6014                                                                                                                                                                                             |                                     |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Module Title   | Geotechnical and Environmental Engineering                                                                                                                                                           |                                     |
| Classification | Reading List entry                                                                                                                                                                                   | Electronic*                         |
| Essential      | Barnes, G. (2016). <i>Soil Mechanics: Principles and Practice</i> . 4 <sup>th</sup> Edition. Red Globe Press.                                                                                        | <input type="checkbox"/>            |
| Essential      | Wong, T. (2012). <i>Flood Risk Flood Management (Hydrological Science and Engineering)</i> . Gazelle.                                                                                                | <input checked="" type="checkbox"/> |
| Essential      | Knappett, J. and Craig, R (2019) <i>Craig's Soil Mechanics</i> , 9 <sup>th</sup> Edition. London: CRC Press.                                                                                         | <input type="checkbox"/>            |
| Further        | Barsley, E. (2020) <i>Retrofitting for Flood Resilience: A guide to building &amp; community design</i> . London: RIBA Publishing.                                                                   | <input type="checkbox"/>            |
| Further        | Karmaoui, A. (2019) <i>Decision Support Methods for Assessing Flood Risk and Vulnerability (Advances in Environmental Engineering and Green Technologies (AEEGT))</i> Engineering Science Reference. | <input type="checkbox"/>            |

|                       |                                                                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------|
| <b>Module Code</b>    | <b>ACBA6015</b>                                                                                  |
| <b>Title</b>          | <b>Independent Project</b>                                                                       |
| <b>Date</b>           | <b>20/05/2024</b>                                                                                |
| <b>Level</b>          | <b>6</b>                                                                                         |
| <b>Credits</b>        | <b>40</b>                                                                                        |
| <b>Pre-Requisites</b> | <b>None</b>                                                                                      |
| <b>DBS Check</b>      | <b>May be required <input type="checkbox"/> Not required <input checked="" type="checkbox"/></b> |

### AIM(S)

- To develop the ability of students to engage critically and innovatively with theory and/or practice relevant to their studied subject areas in order to produce a discipline-specific in-depth project.

### LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- demonstrate intellectual skills in the identification of an appropriate topic, problem or challenge for investigation pertinent to their field of study and formulate a suitable plan for further research utilising relevant investigative methods in order to produce a response;
- evidence in-depth knowledge and critical understanding of principles necessary to underpin their education within their chosen field of study and problem solving techniques applicable to this;
- evidence independence of thought and critical evaluation in the production of an independent piece of work, demonstrating transferable skills through exercising initiative and personal responsibility in planning own learning and self-management;
- organise their knowledge and learning through use of a range of media, and present their work appropriately in a manner that can be understood by specialist and non-specialist audiences.

### INDICATIVE CONTENT

- Research paradigms, methods, and techniques of research and enquiry.
- Conducting and writing literature reviews.
- Ethical concerns and the research process.
- Resource, project, and skills management processes and techniques.
- Presenting and illustrating data and information.
- Communication of general, specialist, technical ideas and results.
- Problem solving, creative, entrepreneurial thinking and approaches.
- Collaboration, adaptability and reflection.

## Study Time Allocation

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 30         | 7.5%        |
| Independent learning | 370        | 92.5%       |
| Placement learning   |            |             |
| <b>TOTAL</b>         | <b>400</b> | <b>100%</b> |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment      | Volume                     | Weighting |
|-------------------------|----------------------------|-----------|
| Portfolio of 3 elements | 10,000 words or equivalent | 100%      |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 100%        |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

| Module Code    | ACBA6015                                                                                                                     |                                     |
|----------------|------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Module Title   | Independent Project                                                                                                          |                                     |
| Classification | Reading List entry                                                                                                           | Electronic*                         |
| Essential      | Cottrell S, (2021) <i>Skills for Success Personal Development and Employability, 4th edition</i> , Red Globe Press.          | <input type="checkbox"/>            |
| Essential      | ASET, 2013 <i>Good Practice Guide for Workbased Learning and Placement Learning in Higher Education</i> .                    | <input type="checkbox"/>            |
| Essential      | Gray, D.E. (2018) <i>Doing Real World Research</i> , London: SAGE.                                                           | <input checked="" type="checkbox"/> |
| Further        | Gallagher K, (2016) <i>Essential Study and Employment Skills For Business and Management Students</i> , Oxford.              | <input type="checkbox"/>            |
| Further        | Gottschall, Jonathan (2013), <i>The Storytelling Animal: How Stories Make Us Human</i> , Houghton Mifflin.                   | <input type="checkbox"/>            |
| Further        | Storr, Will (2020), <i>The Science of Storytelling</i> , William Collins.                                                    | <input checked="" type="checkbox"/> |
| Further        | Cohen, L. Manion, L. and Morrison, K. (2017) <i>Research Methods in Education, 8<sup>th</sup> edition</i> London: Routledge. | <input checked="" type="checkbox"/> |
| Further        | Flick, U. (2014) <i>An Introduction to Qualitative Research</i> , London: SAGE.                                              | <input type="checkbox"/>            |
| Further        | Aubrey, K. & Riley, A. (2017) <i>Understanding and Using Challenging Education Theories</i> , London: SAGE.                  | <input type="checkbox"/>            |
| Further        | Brinkmann, S. and Kvale, S. (2018) <i>Doing Interviews (Qualitative Research Kit)</i> . Sage .                               | <input type="checkbox"/>            |
| Further        | Gibbs, G. (2018) <i>Analysing Qualitative Data (Qualitative Research Kit)</i> . Sage.                                        | <input checked="" type="checkbox"/> |

|         |                                                                                                                                                                                                                                                                                                                                 |                                     |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Further | Creswell, J. W. (2012). <i>Qualitative inquiry and research design: Choosing among five approaches</i> . Sage.                                                                                                                                                                                                                  | <input checked="" type="checkbox"/> |
| Further | Obschonka, M., Hakkarainen, K., Lonka, K. <i>et al.</i> Entrepreneurship as a twenty-first century skill: entrepreneurial alertness and intention in the transition to adulthood. <i>Small Bus Econ</i> 48, 487–501 (2017). <a href="https://doi.org/10.1007/s11187-016-9798-6">https://doi.org/10.1007/s11187-016-9798-6</a> . | <input type="checkbox"/>            |
| Further | <a href="https://ec.europa.eu/jrc/en/entrecomp">https://ec.europa.eu/jrc/en/entrecomp</a> .                                                                                                                                                                                                                                     | <input type="checkbox"/>            |

|                       |                                                                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------|
| <b>Module Code</b>    | <b>ACBA6016</b>                                                                                  |
| <b>Title</b>          | <b>Integrated Project</b>                                                                        |
| <b>Date</b>           | <b>20/05/2024</b>                                                                                |
| <b>Level</b>          | <b>6</b>                                                                                         |
| <b>Credits</b>        | <b>20</b>                                                                                        |
| <b>Pre-Requisites</b> | <b>None</b>                                                                                      |
| <b>DBS Check</b>      | <b>May be required <input type="checkbox"/> Not required <input checked="" type="checkbox"/></b> |

### AIM(S)

- To synthesize material from advanced modules and external sources in level six of the program, fostering communication, teamwork, and leadership skills through group work. Cultivating an intricate understanding of the holistic process involved in conceiving, assessing, designing, and executing developments.

### LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- critically evaluate development and use of land and buildings;
- evaluate alternative contractual arrangements, such as open/selective tendering, serial and term contracts, and apply reasoned argument for selecting a contract;
- appraise the options available and challenges in which Integrated Group Project management may be achieved including health and safety.

### INDICATIVE CONTENT

- Project Appraisal:
  - The development and use of land and buildings; social, legislative, planning and environmental constraints.
  - Feasibility studies - Land and building valuation.
- Pre-Construction Processes:
  - Client's initial selection of development method; choice and relative method of alternative contractual arrangements; choice of designers, selection and basis of appointment.
- Assessment of client needs.
- Pre-construction monitoring and control systems:
  - Reporting mechanisms.
- Project Management:
  - the definition and role of project management; appointment and selection process.
- Problem Solving - real or simulated development problems, as vehicles for stimulation of a logical and analytical approach to problem solving.
- Building Information Modelling – application of collaborative process Design, Construct, Operate and Maintain.

- Health and Safety - Health, Safety and Welfare, Environmental impact, risk assessment, CDM Regulations, HaSWA, Environmental Protection Act etc.
- Presentation – skills for delivery of project brief – different method.

## Study Time Allocation

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 48         | 24%         |
| Independent learning | 152        | 76%         |
| Placement learning   |            |             |
| <b>TOTAL</b>         | <b>200</b> | <b>100%</b> |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment | Volume                                           | Weighting |
|--------------------|--------------------------------------------------|-----------|
| Portfolio          | Minimum of 6 elements, 5,000 words or equivalent | 100%      |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 100%        |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

| Module Code    | ACBA6016                                                                                                                                                  |                                     |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Module Title   | Integrated Project                                                                                                                                        |                                     |
| Classification | Reading List entry                                                                                                                                        | Electronic*                         |
| Essential      | Emden, J. and Becker, L. (2016) <i>Palgrave Study Skills: Presentation Skills for Students</i> . Basingstoke: Palgrave MacMillan.                         | <input type="checkbox"/>            |
| Essential      | Kulwin, M. (2025) <i>Feasibility Studies in Construction Projects: Practice and procedure</i> . London: Taylor and Francis Ltd.                           | <input type="checkbox"/>            |
| Further        | Harris, F., McCaffer, R., Baldwin, A. and Edum-Fotwe, F. (2021) <i>Modern Construction Management</i> , 8 <sup>th</sup> Edition. London: Wiley Blackwell. | <input checked="" type="checkbox"/> |
| Further        | Myers, D. (2022) <i>Construction Economics: A new approach</i> , 5 <sup>th</sup> Edition. London: Taylor and Francis Ltd.                                 | <input checked="" type="checkbox"/> |

|                       |                                                                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------|
| <b>Module Code</b>    | <b>ACBA6017</b>                                                                                  |
| <b>Title</b>          | <b>Site Management</b>                                                                           |
| <b>Date</b>           | <b>20/05/2024</b>                                                                                |
| <b>Level</b>          | <b>6</b>                                                                                         |
| <b>Credits</b>        | <b>10</b>                                                                                        |
| <b>Pre-Requisites</b> | <b>None</b>                                                                                      |
| <b>DBS Check</b>      | <b>May be required <input type="checkbox"/> Not required <input checked="" type="checkbox"/></b> |

### AIM(S)

- To improve Site management skills and techniques for construction managers working on the construction stage of the project life cycle.

### LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- consolidate and extend the use of techniques for managing construction sites, being able to choose the most suitable ones for different complex scenarios;
- evaluate problems occurring during the construction stage; identify appropriate solutions and the implementation of them in construction projects.

### INDICATIVE CONTENT

- Site layouts for complex construction projects.
- Quality management.
- Resource management.
- Application of drones and technology for monitoring.
- Budgeting.
- Analysis of incentive schemes used in construction.
- ICT systems.

### Study Time Allocation

The study time for the module is divided as follows:

| <b>Activity type</b> | <b>Hours</b> | <b>Percentage</b> |
|----------------------|--------------|-------------------|
| Scheduled learning   | 24           | 24%               |
| Independent learning | 76           | 76%               |
| Placement learning   |              |                   |
| <b>TOTAL</b>         | <b>100</b>   | <b>100%</b>       |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment | Volume                                           | Weighting |
|--------------------|--------------------------------------------------|-----------|
| Portfolio          | Minimum of 3 elements, 2,500 words or equivalent | 100%      |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 100%        |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

| Module Code    | ACBA6017                                                                                                                                                                                      |                                     |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Module Title   | Site Management                                                                                                                                                                               |                                     |
| Classification | Reading List entry                                                                                                                                                                            | Electronic*                         |
| Essential      | Clough R H, Sears G A, Sears K S, Segner R O and Rounds J L (2015) <i>Construction Contracting: A practical guide to company management</i> . 8 <sup>th</sup> Ed. Hoboken: John Wiley & Sons. | <input type="checkbox"/>            |
| Essential      | AECOM (2017) <i>SPON's Architects and Builders Price Book</i> . 142 <sup>nd</sup> Ed. Abingdon, Oxon: CRC Press.                                                                              | <input checked="" type="checkbox"/> |
| Essential      | Harris, F., McCaffer, R., Baldwin, A. and Edum-Fotwe, F. (2021) <i>Modern Construction Management</i> , 8 <sup>th</sup> Edition. London: Wiley Blackwell.                                     | <input type="checkbox"/>            |
| Essential      | Chartered Institute of Building (2014) <i>Code of Practice for Project Management for Construction and Development</i> . 5th Ed. London: Wiley-Blackwell.                                     | <input type="checkbox"/>            |
| Essential      | March C. (2017) <i>Construction Management: Theory and Practice</i> . Oxon: Routledge.                                                                                                        | <input type="checkbox"/>            |
| Further        | Zaitsau, V. (2015). <i>Secrets of outstanding SITE MANAGEMENT. Proven, Easy and Guaranteed System for Delivering YOUR Building Services Refurbishment and Retrofit Projects</i> . Ecode Ltd.  | <input type="checkbox"/>            |
| Further        | Sheratt, F. (2022). <i>Introduction to Construction Management</i> . 2 <sup>nd</sup> ed. Routledge.                                                                                           | <input type="checkbox"/>            |
| Further        | Cooke B and Williams P (2024) <i>Construction planning, programming and control</i> . 4 <sup>th</sup> Edition. Wiley-Blackwell.                                                               | <input type="checkbox"/>            |
| Further        | Dainty, A and Loosemore M (2013) <i>Human Resource Management in Construction: Critical Perspectives</i> . 2nd Ed. London: Routledge.                                                         | <input type="checkbox"/>            |

|                       |                                                                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------|
| <b>Module Code</b>    | <b>ACBA6018</b>                                                                                  |
| <b>Title</b>          | <b>Structural Design and Foundation Design</b>                                                   |
| <b>Date</b>           | <b>20/05/2024</b>                                                                                |
| <b>Level</b>          | <b>6</b>                                                                                         |
| <b>Credits</b>        | <b>20</b>                                                                                        |
| <b>Pre-Requisites</b> | <b>None</b>                                                                                      |
| <b>DBS Check</b>      | <b>May be required <input type="checkbox"/> Not required <input checked="" type="checkbox"/></b> |

### AIM(S)

- To provide students with the knowledge and skills to design structures from steel, concrete and timber.

### LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to:

- demonstrate a systematic understanding of BS EN 1991, 1992, 1993, 1995 and 1996 to identify solutions at the forefront of the discipline to design problems;
- demonstrate a systematic understanding of the standards by designing a solution for a complex structural problem.

### INDICATIVE CONTENT

- BS EN 1990 – European Standard for “Basis of Structural Design” and the UK National Annex.
- BS EN 1991- European Standard for “Actions”.
- Reinforced concrete design through sub-frames and load cases.
- BS EN 1992, its parts, and the UK National Annex for designing concrete structures.
- BS EN 1993, its parts, and the UK National Annex for designing steel structures.
- BS EN 1995, its parts, and the UK National Annex for designing timber structures.
- BS EN 1996 and its UK National Annex for designing masonry structures.
- BS EN 1997-1: Eurocode 7: Geotechnical design - Part 1 for the design of foundations.
- Design of structural elements in different materials according to relevant codes

## Study Time Allocation

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 48         | 24%         |
| Independent learning | 152        | 76%         |
| Placement learning   |            |             |
| <b>TOTAL</b>         | <b>200</b> | <b>100%</b> |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☒ Written exam      ☐ Coursework      ☐ Practical

| Mode of assessment | Volume  | Weighting |
|--------------------|---------|-----------|
| Exam               | 2 hours | 50%       |

### Assessment Component 2

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment | Volume                    | Weighting |
|--------------------|---------------------------|-----------|
| Report             | 2,500 words or equivalent | 50%       |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  | 50%         |
| Coursework    | 50%         |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

| Module Code    | ACBA6018                                                                                                                                                      |                                     |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Module Title   | Structural Design and Foundation Design                                                                                                                       |                                     |
| Classification | Reading List entry                                                                                                                                            | Electronic*                         |
| Essential      | Arya, C., (2022), <i>Design of Structural Elements</i> . 4 <sup>th</sup> Ed. Florida: CRC Press, Taylor & Francis Group.                                      | <input checked="" type="checkbox"/> |
| Essential      | Bahatt, P., MacGinley, T.J. and Choo, B.S (2017) <i>Reinforced Concrete Design to Eurocodes: Design Theory and Examples</i> . 4th Ed. Florida: CRC Press.     | <input type="checkbox"/>            |
| Essential      | Ghali A, et al., (2018) <i>Structural Analysis: A unified classical and matrix approach</i> . 7 <sup>th</sup> Ed. Florida: CRC Press, Taylor & Francis Group. | <input checked="" type="checkbox"/> |
| Essential      | Gardener L and Nethercot D (2011) <i>Designers' Guide to Eurocode 3</i> . London: ICE Publishing.                                                             | <input type="checkbox"/>            |
| Essential      | Porteous J and Kermani A (2013) <i>Structural Timber Design to Eurocode 5</i> . Chichester: Wiley-Blackwell.                                                  | <input type="checkbox"/>            |
| Further        | McKenzie W M C (2008), <i>Design of Structural Steelwork to BS5950 and EC3</i> . 2 <sup>nd</sup> Ed. Basingstoke: Palgrave Macmillan.                         | <input type="checkbox"/>            |

|         |                                                                                                                                           |                                     |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Further | McKenzie W M C and Zhang Binsheng (2007) <i>Design of Structural Timber to EC5</i> . 2 <sup>nd</sup> Ed. Basingstoke: Palgrave Macmillan. | <input checked="" type="checkbox"/> |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|

|                       |                                                          |
|-----------------------|----------------------------------------------------------|
| <b>Module Code</b>    | <b>ACNA6002</b>                                          |
| <b>Title</b>          | <b>Environmental Assessment, Management and Auditing</b> |
| <b>Date</b>           | <b>05/05/2021</b>                                        |
| <b>Level</b>          | <b>6</b>                                                 |
| <b>Credits</b>        | <b>20</b>                                                |
| <b>Pre-Requisites</b> | <b>None</b>                                              |

### **AIM(S)**

- To enable students to examine how the environment is assessed so that evidence-based policy decisions can be formulated, as well as evaluating the environmental management approach and benefits of auditing. In particular, students will critically appraise the application of Impact Assessments and Ecological Footprints.

### **LEARNING OUTCOMES**

Upon the successful completion of this module, the student should be able to:

- Understand and critically assess an Environmental Impact Assessment.
- Understand and apply Environmental Management tools, techniques, systems and practices, and the auditing process within a practical scenario.

### **INDICATIVE CONTENT**

- Environmental Impact assessment: Impact scoping, prediction and mitigation utilising qualitative and quantitative technique
- Environmental Assessment document examination and critique
- Environmental Management tools, techniques, systems and practices, their advantages and disadvantages
- Carbon footprinting, theory and application
- Lifecycle thinking, its benefits and challenges and its application in decision-making processes
- The roles and responsibilities of key stakeholders in delivering sustainable outcomes, and their interactions
- Auditing practices as a method of assessing compliance / non-compliance in delivering sustainability improvements
- The role of verification and assurance in delivering sustainability improvements

## Study Time Allocation

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 48         | 24%         |
| Independent learning | 152        | 76%         |
| Placement learning   |            |             |
| <b>TOTAL</b>         | <b>200</b> | <b>100%</b> |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment                           | Volume     | Weighting |
|----------------------------------------------|------------|-----------|
| Report on an Environmental Impact Assessment | 2500 words | 50%       |

### Assessment Component 2

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment                                            | Volume     | Weighting |
|---------------------------------------------------------------|------------|-----------|
| Report on a practical application of environmental management | 2500 words | 50%       |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 100%        |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

| Module Code    | ACNA6002                                                                                                                                        |                                     |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Module Title   | Environmental Assessment, Management and Auditing                                                                                               |                                     |
| Classification | Reading List entry                                                                                                                              | Electronic*                         |
| Essential      | Glasson, J., Therival, R. and Chadwick, A. (2012) (4th Edition) <i>Introduction to Environmental Impact Assessment</i> . London: Routledge      | <input type="checkbox"/>            |
| Essential      | Muthu, S.S. (Ed.) (2020) <i>Carbon Footprints: Case Studies from the Building, Household, and Agricultural Sectors</i> . Singapore: Springer    | <input checked="" type="checkbox"/> |
| Essential      | BSi (2015) <i>BS EN ISO14001: Environmental Management Systems – Requirements with guidance for use</i> , London: British Standards Institution | <input type="checkbox"/>            |
| Essential      | Wackernagel, M. & Beyers, B. (2019) <i>Ecological Footprint: Managing our Biocapacity Budget</i> . Canada: New Society Publishers               |                                     |

|         |                                                                                                                                                                          |                                     |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Further | Environmental Management journal                                                                                                                                         | <input checked="" type="checkbox"/> |
| Further | Journal of Cleaner Production                                                                                                                                            | <input checked="" type="checkbox"/> |
| Further | BSi (2019) <i>BS EN ISO14005: Environmental Management Systems – Guidelines for a flexible approach to phased implementation</i> , London: British Standards Institution | <input type="checkbox"/>            |
| Further | Corporate Social Responsibility and Environmental Management journal                                                                                                     | <input checked="" type="checkbox"/> |
| Further | Berners-Lee, M. (2020) <i>How Bad Are Bananas?: The carbon footprint of everything</i> . London: Profile Books                                                           | <input checked="" type="checkbox"/> |
| Further | Muthu, S.S. (Ed.) (2018) <i>Environmental Carbon Footprints Industrial Case Studies</i> . Oxford: Butterworth-Heinemann                                                  | <input type="checkbox"/>            |
| Further | International Journal of Environmental Studies                                                                                                                           | <input checked="" type="checkbox"/> |
| Further | Global Footprint Network (2020) <i>Strategies for one-planet prosperity How to build lasting success on our finite planet</i> . Global Footprint Network                 | <input checked="" type="checkbox"/> |
| Further | Collins, A. & Flynn, A. (2015) <i>The Ecological Footprint: New Developments in Policy and Practice</i> . Cheltenham, Gloucester: Edward Elgar Publishing                | <input checked="" type="checkbox"/> |

|                       |                                                                         |
|-----------------------|-------------------------------------------------------------------------|
| <b>Module Code</b>    | <b>ACNA6003</b>                                                         |
| <b>Title</b>          | <b>Geographical Information Systems and Remote Sensing Technologies</b> |
| <b>Date</b>           | <b>05/05/2021</b>                                                       |
| <b>Level</b>          | <b>6</b>                                                                |
| <b>Credits</b>        | <b>20</b>                                                               |
| <b>Pre-Requisites</b> | <b>None</b>                                                             |

### **AIM(S)**

- To introduce the student to the application and management of geographical information. The student should develop a comprehensive understanding of the underlying technologies and practical applications of modern remote sensing technologies. Theoretical concepts of GIS will be developed and through real world examples the students gain practical experience using appropriate remote sensing technology to gather and analyse spatial data.

### **LEARNING OUTCOMES**

Upon the successful completion of this module, the student should be able to:

- Review the relative merits of GIS software to analyse a range of data to model events and inform decision making in an environmental context.
- Evaluate and critically appraise a variety of application areas, which could benefit from remotely sensed data acquisition.
- Accurately identify spatial databases and understand the concepts of manipulating and representing spatial data solutions.

### **INDICATIVE CONTENT**

- Fundamental theories of GIS, spatial databases and spatial analysis.
- Geovisualisation, exploring the origins of GIS and cartographic representation.
- Identifying types of data involved in Geo-information systems including DIGIMAP.
- Identifying data sources and data collection issues when using remote sensing technologies.
- Understanding data types, working with raster and vector data.
- Deploying remote sensing technologies and using appropriate GIS software for data analysis.
- Development of GIS applications.

## Study Time Allocation

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 48         | 24%         |
| Independent learning | 152        | 76%         |
| Placement learning   | 0          | 0%          |
| <b>TOTAL</b>         | <b>200</b> | <b>100%</b> |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment | Volume                             | Weighting |
|--------------------|------------------------------------|-----------|
| Portfolio          | 4000 words equivalent 3-4 elements | 100%      |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 100%        |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

| Module Code    | ACNA6003                                                                                                                                                   |                                     |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Module Title   | Geographical Information Systems and Remote Sensing Technologies                                                                                           |                                     |
| Classification | Reading List entry                                                                                                                                         | Electronic*                         |
| Essential      | Longley, P, Goodchild, M, Maguire, D, Rhind, D (2015) <i>Geographical Information Systems and Science</i> , Hoboken, NJ: Wiley                             | <input checked="" type="checkbox"/> |
| Essential      | Jensen, J. (2013) <i>Remote Sensing of the Environment: An Earth Resource Perspective</i> (2 <sup>nd</sup> Ed). Prentice Hall Series                       | <input checked="" type="checkbox"/> |
| Further        | Heywood, I., Cornelius, S. and Carver, S. (2011) <i>An Introduction to Geographical Information Systems</i> , 4 <sup>th</sup> ed. Essex: Pearson Education | <input type="checkbox"/>            |
| Further        | ISPRS Journal of Photogrammetry and Remote Sensing                                                                                                         | <input type="checkbox"/>            |
| Further        | Journal: Remote Sensing of the Environment                                                                                                                 | <input type="checkbox"/>            |
| Further        | <a href="http://www.mapinfo.co.uk">http://www.mapinfo.co.uk</a>                                                                                            | <input checked="" type="checkbox"/> |
| Further        | <a href="https://www.qgis.org">https://www.qgis.org</a>                                                                                                    | <input checked="" type="checkbox"/> |
| Further        | <a href="http://www.aqi.org.uk/">http://www.aqi.org.uk/</a>                                                                                                | <input checked="" type="checkbox"/> |
| Further        | <a href="http://www.ordnancesurvey.co.uk/oswebsite/">http://www.ordnancesurvey.co.uk/oswebsite/</a>                                                        | <input checked="" type="checkbox"/> |
| Further        | <a href="http://ukdataservice.ac.uk/">http://ukdataservice.ac.uk/</a>                                                                                      | <input checked="" type="checkbox"/> |
| Further        | <a href="http://digimap.edina.ac.uk/digimap/home">http://digimap.edina.ac.uk/digimap/home</a>                                                              | <input checked="" type="checkbox"/> |

|                       |                                      |
|-----------------------|--------------------------------------|
| <b>Module Code</b>    | <b>ACNA6005</b>                      |
| <b>Title</b>          | <b>Sustainable Urban Communities</b> |
| <b>Date</b>           | <b>05/05/2021</b>                    |
| <b>Level</b>          | <b>6</b>                             |
| <b>Credits</b>        | <b>20</b>                            |
| <b>Pre-Requisites</b> | <b>None</b>                          |

### **AIM(S)**

- To foster earlier work incorporating sustainable development and strengthen the case for mainstreaming resilience, building cities that are inclusive, low carbon, productive and more equal.

### **LEARNING OUTCOMES**

Upon the successful completion of this module, the student should be able to:

- Critically evaluate key factors influencing urban development strategies and compliance with the Sustainable Development Goal (SDG) 11 and Wellbeing of Future Generations Act 2015.
- Compare and contrast principal issues and needs applicable to both rural and urban sustainable development locally, regionally and globally.
- Synthesise strategies applicable to sustainable development, which apply urban planning, risk management and geospatial infrastructure.

### **INDICATIVE CONTENT**

- Sustainable development – concept, principles, and its conception
- Cities and urban environments
- Transport – importance and accessibility for all
- Urban poverty and inclusion: affordable housing and land
- Urban management, finance and governance
- Community engagement
- Strategic policies designed to deal with: energy usage, transportation, waste production, population expansion, pollution, water scarcity and agriculture
- Construction, use and maintenance of the built environment
- Methods of improvement
- Analysis of different scales via case studies (local, national, European and the developing world).

## Study Time Allocation

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 48         | 24%         |
| Independent learning | 152        | 76%         |
| Placement learning   |            |             |
| <b>TOTAL</b>         | <b>200</b> | <b>100%</b> |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment              | Volume                                                                         | Weighting |
|---------------------------------|--------------------------------------------------------------------------------|-----------|
| Report and seminar presentation | Construction of an academic report (2000 words and 10-minute defence of ideas) | 50%       |

### Assessment Component 2

(Tick one)

☒ Written exam      ☐ Coursework      ☐ Practical

| Mode of assessment  | Volume                   | Weighting |
|---------------------|--------------------------|-----------|
| Written Examination | 2 hour exam unseen paper | 50%       |

## Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  | 50%         |
| Coursework    | 50%         |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

| Module Code    | ACNA6005                                                                                                                                          |                          |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Module Title   | Sustainable Urban Communities                                                                                                                     |                          |
| Classification | Reading List entry                                                                                                                                | Electronic *             |
| Essential      | Sanchez de Madariaga, I. (2020) <i>Engendering Cities: Designing Sustainable Urban Spaces</i> . New York: Routledge                               | <input type="checkbox"/> |
| Essential      | Chatterton, P. (2018) <i>Unlocking Sustainable Cities: A Manifesto for Real Change</i> , London: Pluto Press                                      | <input type="checkbox"/> |
| Essential      | Mclaren, D., Agyeman, J. and Gottlieb, R. (2017). <i>Sharing Cities: A Case for Truly Smart and Sustainable Cities</i> . Cambridge, MA: MIT Press | <input type="checkbox"/> |
| Essential      | Blewitt, J. (2014) <i>Understanding Sustainable Development</i> . Abingdon, Oxon : Routledge                                                      | <input type="checkbox"/> |

|         |                                                                                                        |                                     |
|---------|--------------------------------------------------------------------------------------------------------|-------------------------------------|
| Further | Schumacher, E. F. (1993) <i>Small is beautiful</i> . London: Vintage Press                             | <input checked="" type="checkbox"/> |
| Further | Giradet, H (2006) <i>Creating Sustainable Cities Schumacher Briefings</i> . Totnes, Devon: Green Books | <input type="checkbox"/>            |
| Further | Sustainable Development Goals                                                                          | <input checked="" type="checkbox"/> |
| Further | Building and Environment journal                                                                       | <input checked="" type="checkbox"/> |
| Further | Current opinion in Environmental Sustainability                                                        | <input checked="" type="checkbox"/> |
| Further | Wellbeing of Future Generations Act 2015                                                               | <input checked="" type="checkbox"/> |

|                       |                                                   |
|-----------------------|---------------------------------------------------|
| <b>Module Code</b>    | <b>ACNB6004</b>                                   |
| <b>Title</b>          | <b>Habitat Management and Building Resilience</b> |
| <b>Date</b>           | <b>02/03/2023</b>                                 |
| <b>Level</b>          | <b>6</b>                                          |
| <b>Credits</b>        | <b>20</b>                                         |
| <b>Pre-Requisites</b> | <b>None</b>                                       |

### **AIM(S)**

- To critically appraise the management of habitats and evaluate climate change impacts and mitigation strategies.

### **LEARNING OUTCOMES**

Upon the successful completion of this module, the student should be able to:

- Comprehend the principles underpinning habitat evaluation, monitoring and protective edicts, as well as understanding the complexities of habitat management.
- Synthesise strategies for strengthening ecological resilience

### **INDICATIVE CONTENT**

- Monitoring, maintenance and managements of different habitats
- Habitat creation
- Surveying and interpreting animal behaviour as a mechanism for consequential habitat protection
- Cultural variations in landscape aesthetics and its influence on environmental management
- Methods for landscape assessment e.g. Leopold Rewilding, Species and Landscape Approach
- Land-use planning: Development control and planning tools
- Analysis of risk, environmental change and decision making
- Mitigation and compensation
- Rewilding and interventions: complementary philosophies
- Strategies for strengthening climate change resilience
- Ecological resilience and ecosystem services
- Design for flooding: riparian management
- Climate smart productive landscapes

## Study Time Allocation

The study time for the module is divided as follows:

| Activity type        | Hours      | Percentage  |
|----------------------|------------|-------------|
| Scheduled learning   | 48         | 24%         |
| Independent learning | 152        | 76%         |
| Placement learning   |            |             |
| <b>TOTAL</b>         | <b>200</b> | <b>100%</b> |

## ASSESSMENT

### Assessment Component 1

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment | Volume                                         | Weighting |
|--------------------|------------------------------------------------|-----------|
| Scientific Report  | Construction of a management plan (3500 words) | 70%       |

### Assessment Component 2

(Tick one)

☐ Written exam      ☒ Coursework      ☐ Practical

| Mode of assessment | Volume                                                                           | Weighting |
|--------------------|----------------------------------------------------------------------------------|-----------|
| Academic Poster    | Academic poster/presentation (1500 word equivalent, plus 15 minute presentation) | 30%       |

### Assessment Summary

| Activity type | Percentage  |
|---------------|-------------|
| Written exam  |             |
| Coursework    | 100%        |
| Practical     |             |
| <b>TOTAL</b>  | <b>100%</b> |

## INDICATIVE READING LIST

| Module Code    | ACNB6004                                                                                                                                                                                         |                          |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Module Title   | Habitat Management and Building Resilience                                                                                                                                                       |                          |
| Classification | Reading List entry                                                                                                                                                                               | Electronic *             |
| Essential      | Ausden, M. (2007) <i>Habitat Management for Conservation: A Handbook of Techniques (Techniques in Ecology &amp; Conservation)</i> . Oxford: Oxford University Press,                             | <input type="checkbox"/> |
| Essential      | Milner-Gulland, E. J. and Rowcliffe, J. M. (2008) <i>Conservation and Sustainable Use: A Handbook of Techniques (Techniques in Ecology &amp; Conservation)</i> . Oxford: Oxford University Press | <input type="checkbox"/> |
| Essential      | Hill, A. and Martinez-Diaz, L. (2019) <i>Building a Resilient Tomorrow: How to Prepare for the coming Climate Disruption</i> , New York: Oxford University Press                                 | <input type="checkbox"/> |

|           |                                                                                                                                                                                                     |                          |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Essential | Morrison, M.L. and Mathewson, H.A. (2015) <i>Wildlife, Habitat Conservation: Concepts, Challenges and Solutions (Wildlife Management and Conservation)</i> Baltimore: John Hopkins University Press | <input type="checkbox"/> |
| Further   | Leopold, A. (1968). <i>A Sand County Almanac and Sketches Here and There</i> . New York: Oxford University Press                                                                                    | <input type="checkbox"/> |