Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

MODULE DIRECTORY

LEVEL 7

ACADEMIC DISCIPLINE OF ARCHITECTURE, CONSTRUCTION AND THE ENVIRONMENT

WALES INSTITUTE OF SCIENCE AND ART

2025-2026

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INTRODUCTION

This Module Directory includes all the modules for Level 7 within the discipline of Architecture, Construction and the Environment, Wales Institute of Science and Art in the academic year 2025-2026.

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

Module Code	**ACAA7000**
Title	**Architectural Design B: Collaboration (Design Resolution)**
Date	**17/03/2023**
Level	**7**
Credits	**20**
Pre-Requisites	**None**

ARB/RIBA criteria addressed in this module	
The ability to create architectural designs that satisfy both aesthetic and technical requirements	**GC1**
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
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
Knowledge of the fine arts as an influence on the quality of architectural design	**GC3**
how the theories, practices and technologies of the arts influence architectural design	3.1
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
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	**GC5**
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
Understanding of the methods of investigation and preparation of the brief for a design project	**GC7**
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
the contributions of architects and co-professionals to the formulation of the brief, and the methods of investigation used in its preparation	7.3
RIBA THEMES AND VALUES	**T&V**
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	E3
Design pedagogies and architectural expression: critically evaluating authentic aesthetic, compositional, and spatial principles to synthesise socially, ecologically, and environmentally sustainable integrated studio projects	E5
GRADUATE ATTRIBUTES AT PART 2 LEVEL	**GA**
the ability to generate complex design proposals showing understanding of current architectural issues, originality in the application of subject knowledge and, where appropriate, to test hypotheses and speculations	1.1
the ability to evaluate and apply a comprehensive a range of visual, aural and written media to test, analyse, critically appraise and explain design proposals	1.2
problem-solving skills, professional judgement and the ability to take the initiative and make appropriate decisions in complex and unpredictable circumstances	1.6

AIM(S)

- To develop the skills of collaboration in architectural design which may be achieved at a variety of scales, for example, the creation of masterplan for a new settlement or urban quarter, the design of a community building, the design and construction of a small building are examples of appropriate design tasks.

- To allow small groups of students the opportunity to conceive and develop an architectural design on a real site, working in collaboration with an external agency, business, association or other body in response to a design brief taking into account the political, economic and social context.

LEARNING OUTCOMES

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

- create and present a design for a building or group of buildings in response to a design brief;

- demonstrate a practical understanding of the structural, constructional and environment strategies that underlie his/her design proposal and how it meets the needs of users and regulatory and life safety requirements;

- demonstrate a critical awareness of how her/his design relates to its cultural context and relevant theories of architecture.

INDICATIVE CONTENT

- Site context analysis: constraints and opportunities.

- Initial design proposal exploring alternative strategies.

- Development of chosen design approach to a full scheme design equivalent to RIBA Stage 3.

- Design report outlining response to context, structural principles, construction methods environmental strategy and response to climate change by mitigation and adaption.

- Interim and final presentations of progress to peers and tutors.

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		
TOTAL	**200**	**100%**

ASSESSMENT

Assessment Component 1
(Tick one)

☐ **Written exam** ☒ **Coursework** ☐ **Practical**

Mode of assessment	Volume	Weighting
Portfolio	Design proposals explained in drawings, models, sketchbooks and other documents as required by the subject of the project.	100%

Assessment Summary

Activity type	Percentage
Written exam	
Coursework	100%
Practical	
TOTAL	**100%**

This module is designed to meet in part the requirements of the ARB and RIBA (see above). The purpose of the module includes working in collaboration with other students but is assessed individually: students are required to identify their contributions to group submissions.

INDICATIVE READING LIST

Module Code	**ACAA7000**	
Module Title	**Architectural Design B: Collaboration (Design Resolution)**	
Classification	**Reading List entry**	**Electronic***
Essential	RIBA Plan of Work 2020	☒
Essential	RIBA Sustainable Outcomes Guide 2019	☒
Essential	Hetreed, J., Ross, A. and Baden-Powell, C. (2017) *The Architect's Pocket Book:* 5th ed. Abingdon: Routledge	☒
Essential	Unwin, S. (2020) *Analysing Architecture:* 5th ed. London: Routledge	☒
Essential	McMullan, R. (2017) *Environmental Science in Building:* 8th ed. London: Palgrave Macmillan	☐
Further	Goldsmith, S. (2000) *Universal Design,* Oxford: Architectural Press	☒
Further	Brown, G. Z. and DeKay, M. (2014) *Sun, Wind and Light: Architectural Design Strategies* Hoboken NJ: Wiley	☒
Further	Alread, J. and Thomas, L. (2007) *Design-Tech: Building Science for Architects* Oxford: Architectural Press	☒
Further	Edwards, B. (2014) *Rough Guide to Sustainability:* 4th ed. London: RIBA Publishing	☒
Further	Buxton, P. (ed) (2021) *Metric Handbook: Planning & Design Data:* 7th ed. Milton Park: Routledge	☒
Further	Further reading will be recommended at the start of the module depending on the location and nature of the design project. **Journals** *Architects Journal*	☒

	Building Design *Architecture Today* **Websites** www.architecture.com www.architectsjournal.co.uk www.bdonline.co.uk www.greatbuildings.com http://www.ajbuildingslibrary.co.uk	

Module Code	**ACAA7001**
Title	**Architectural Design C: Design Research**
Date	**17/03/2023**
Level	**7**
Credits	**20**
Pre-Requisites	**None**

ARB/RIBA criteria addressed in this module	
The ability to create architectural designs that satisfy both aesthetic and technical requirements	**GC1**
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
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
Adequate knowledge of the histories and theories of architecture and the related arts, technologies and human sciences	**GC2**
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
the application of appropriate theoretical concepts to studio design projects, demonstrating a reflective and critical approach	2.3
Knowledge of the fine arts as an influence on the quality of architectural design	**GC3**
how the theories, practices and technologies of the arts influence architectural design	3.1
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
Adequate knowledge of urban design, planning and the skills involved in the planning process.	**GC4**
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
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	**GC5**
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
RIBA THEMES AND VALUES	**T&V**
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	E2
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.	E3

History Theory and Methodologies: critically analysing and researching narratives and cultural, environmental, and social values in architecture to understand and extend architectural pedagogy	E4
GRADUATE ATTRIBUTES AT PART 2 LEVEL	**GA**
ability to generate complex design proposals showing understanding of current architectural issues, originality in the application of subject knowledge and, where appropriate, to test hypotheses and speculations	1
ability to evaluate and apply a comprehensive a range of visual, aural and written media to test, analyse, critically appraise and explain design proposals	2
problem solving skills, professional judgement, and ability to take the initiative and make appropriate decisions in complex and unpredictable circumstances	6

AIM(S)

- To apply architectural design and other appropriate research techniques to the investigation of an architecture-related problem or issue. Appropriate areas of investigation include, but are not limited to: building typologies, structural design, construction and environmental performance.

LEARNING OUTCOMES

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

- prepare and present conceptual building designs which explore or elucidate a research question and critically evaluate current research in the discipline;

- write a clearly structured report setting out aims, methods, findings and conclusions of a research study.

INDICATIVE CONTENT

- Review of academic research methods in general and the benefits and limitations of design as a research tool in particular.

- Definition of a research question.

- Design research exercises.

- Preparation of a design-based research report.

- Interim and final presentations of progress and conclusions.

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		
TOTAL	**200**	**100%**

ASSESSMENT

Assessment Component 1
(Tick one)

☐ **Written exam** ☒ **Coursework** ☐ **Practical**

Mode of assessment	Volume	Weighting
Portfolio	Design studies and report, sketchbooks and other documents as required by the subject of the project.	100%

Assessment Summary

Activity type	Percentage
Written exam	
Coursework	100%
Practical	
TOTAL	**100%**

INDICATIVE READING LIST

Module Code	**ACAA7001**	
Module Title	**Architectural Design C: Design Research**	
Classification	**Reading List entry**	**Electronic***
Essential	Creswell, J. W. (2018) *Research Design: Qualitative and Mixed Methods Approaches:* 5th ed. California: Sage Publications	☒
Essential	Fellows, R. (2008) *Research Methods for Construction*. Chichester: Wiley-Blackwell	☒
Essential	Groat, L. and Wang, D. (2013) *Architectural Research Methods:* 2nd ed. Hoboken NJ: Wiley	☒
Essential	Knight, A. (2008) *Advanced Research Methods in the Built Environment* Hoboken NJ: Wiley	☐
Essential	RIBA Plan of Work 2020	☒
Further	RIBA Sustainable Outcomes Guide 2019	☒
Further	Hetreed, J., Ross, A. and Baden-Powell, C. (2017) *The Architect's Pocket Book:* 5th ed. Abingdon: Routledge	☒
Further	Unwin, S. (2020) *Analysing Architecture:* 5th ed. London: Routledge	☒
Further	Goldsmith, S. (2000) *Universal Design* Oxford: Architectural Press	☒
Further	Brown, G. Z. and DeKay, M. (2014) *Sun, Wind and Light: Architectural Design Strategies* Hoboken NJ: Wiley	☒
Further	Alread, J. and Thomas, L. (2007) *Design-Tech: Building Science for Architects* Oxford: Architectural Press	☒
Further	Edwards, B. (2014) *Rough Guide to Sustainability:* 4th ed. London: RIBA Publishing	☒
Further	Buxton, P. (ed) (2021) *Metric Handbook: Planning & Design Data:* 7th ed. Milton Park: Routledge	☒
Further	Further reading will be recommended at the start of the module depending on the location and nature of the design project **Journals** *Architects Journal*	☒

	Building Design *Architecture Today* **Websites** www.architecture.com www.architectsjournal.co.uk www.bdonline.co.uk www.greatbuildings.com http://www.ajbuildingslibrary.co.uk	

Module Code	**ACAA7006**
Title	**Research Methods for Architects**
Date	**17/03/2023**
Level	**7**
Credits	**20**
Pre-Requisites	**None**

ARB/RIBA criteria addressed in this module	
GRADUATE ATTRIBUTES AT PART 2 LEVEL	**GA**
Critical understanding of how knowledge is advanced through research to produce clear, logically argued and original written work relating to architectural culture, theory and design	4
,ability to identify individual learning needs and understand the personal responsibility required to prepare for qualification as an architect	7

AIM(S)

- To offer every student the opportunity to investigate in depth a personal interest related to architecture. This is a subject that they wish to research in preparation for the final year research paper module ACAA7008 Understanding Architecture via Research.

LEARNING OUTCOMES

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

- define and justify a subject for study, identifying sources of information relevant to the study: for example: a literature review; auditing a module offered as part of another UWTSD programme, a building, or group of buildings to be studied in detail;
- agree the form of presentation or documentation to be produced for assessment;
- carry out independent investigation in consultation with a member of the programme team;
- present findings to peers and programme staff in an agreed format.

INDICATIVE CONTENT

- To be determined by the student in consultation with the Programme Team.

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		
TOTAL	**200**	**100%**

ASSESSMENT

Assessment Component 1
(Tick one)

☐ **Written exam** ☒ **Coursework** ☐ **Practical**

Mode of assessment	Volume	Weighting
Individually Determined	3,000 words or equivalent	50%

Assessment Component 2
(Tick one)

☐ **Written exam** ☐ **Coursework** ☒ **Practical**

Mode of assessment	Volume	Weighting
Presentation	15 minutes	50%

Assessment Summary

Activity type	Percentage
Written exam	
Coursework	50%
Practical	50%
TOTAL	**100%**

This module is designed to meet in part the requirements of the ARB and RIBA (see above).

INDICATIVE READING LIST

A reading list tailored to the nature of the study will be created by the student in consultation with relevant advisers and confirmed by the module leader

Module Code	**ACAA7006**	
Module Title	**Research Methods for Architects**	
Classification	**Reading List entry**	**Electronic***
Essential	Creswell, J. W. (2018) *Research Design: Qualitative and Mixed Methods Approaches:* 5th ed. California: Sage	☒
Essential	Fellows, R. (2008) *Research Methods for Construction* Chichester: Wiley-Blackwell	☒
Essential	Groat, L. and Wang, D. (2013) *Architectural Research Methods:* 2nd ed Hoboken NJ: Wiley	☒
Essential	Knight, A. (2008) *Advanced Research Methods in the Built Environment* Hoboken NJ: Wiley	☒
Further	Further reading to be determined following selection of area of study **Journals** *Architects Journal* *Building Design* *Architecture Today* **Websites** www.architecture.com www.architectsjournal.co.uk www.bdonline.co.uk www.greatbuildings.com http://www.ajbuildingslibrary.co.uk	☒

Module Code	ACBA7000
Title	Building Maintenance and Asset Management
Date	15/04/2019
Level	7
Credits	20
Pre-Requisites	None

AIM(S)

- To develop an understanding of the importance of adopting a pro-active approach to effective asset management principles, procedures and practices.

LEARNING OUTCOMES

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

- Develop and critically assess an asset management strategy for a portfolio of premises, applying appropriate procedures for building maintenance.

- Evaluate and apply construction and building pathology principles for the identification and analysis of construction defects.

INDICATIVE CONTENT

- Understanding Building Design

- Building pathology and the diagnosis of building defects

- Condition Surveys and Appropriate Repair Methodologies

- The Building Manual

- Maintenance Strategies. Maintenance Planning and Management

- Budgeting for Maintenance

- Application of Quality, Value and Risk Management within the context of Building Maintenance and Facilities Management

- The Development of Facilities Management, Charting Trends within Organisations and Exploring the Potential of these Methods to Contribute to Core Business Efficiency

- Principles of Performance Measurement. Benchmarking, Processes and Facilities Audits

- Building and Managing Multi-disciplinary Teams including the role of specialist contractors and consultants

- Application of BIM

- Preventive Maintenance
- Lean Maintenance for 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	0	0%
TOTAL	**200**	**100%**

ASSESSMENT

Assessment Component 1
(Tick one)

☐ **Written exam** ☒ **Coursework** ☐ **Practical**

Mode of assessment	Volume	Weighting
Essay	4,000 words	70%

Assessment Component 2
(Tick one)

☐ **Written exam** ☐ **Coursework** ☒ **Practical**

Mode of assessment	Volume	Weighting
Presentation	12 minutes	30%

Assessment Summary

Activity type	Percentage
Written exam	0%
Coursework	70%
Practical	30%
TOTAL	**100%**

READING LIST

Module Code	**ACBA7000**	
Module Title	**Building Maintenance and Asset Management**	
Classification	**Reading List entry**	**Electronic***
Essential	Chanter, B., Swallow, P. (2017) Building Maintenance Management 2nd Ed. Wiley-Blackwell	☐
Essential	Wood, B.J.B. (2009) Building Maintenance. Wiley-Blackwell.	X
Further	Bell, R., Harris, J. (2012) Asset Management and Maintenance Audits. BSRIA.	☐
Further	British Standards Institution (2011) Procurement of Facility-Related Services – BS 8572:2011	☐

Module Code	**ACBA7001**
Title	**Building Services and Energy Performance in Buildings**
Date	**15/04/2019**
Level	**7**
Credits	**20**
Pre-Requisites	**None**

AIM(S)

- To develop the student's knowledge and understanding of building services design, supply and maintenance strategy, defining the key principles of efficient energy procurement options, their sustainable use and asset management.

LEARNING OUTCOMES

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

- Understand the issues involved in managing building services and critically analyse building engineering services maintenance strategies.

- Critically evaluate sustainable energy procurement and its management.

INDICATIVE CONTENT

- Building Comfort and Productivity

- Building Services design and provision

- Energy Management, Policy, Audit, Procurement routes, Efficiency of choice, Monitoring and Control, Metering, Benchmarking, Building Logs.

- The potentials for renewable energy sources incorporation.

- Measuring post occupancy performance

- Energy performance certificates

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%
TOTAL	**200**	**100%**

ASSESSMENT

Assessment Component 1
(Tick one)

☐ **Written exam** ☒ **Coursework** ☐ **Practical**

Mode of assessment	Volume	Weighting
Essay	4,000 words,	70%

Assessment Component 2
(Tick one)

☐ **Written exam** ☐ **Coursework** ☒ **Practical**

Mode of assessment	Volume	Weighting
Presentation	12 minutes	30%

Assessment Summary

Activity type	Percentage
Written exam	0%
Coursework	70%
Practical	30%
TOTAL	**100%**

READING LIST

Module Code	**ACBA7001**	
Module Title	**Building Services and Energy Performance in Buildings**	
Classification	**Reading List entry**	**Electronic***
Essential	*Managing your Building Services – KS02* (CIBSE Knowledge Series, 2012)	☐
Essential	Hall, F. & Greeno, R. (2017) – *Building Services Handbook.* Routledge	☐
Essential	Obrart, A. & Parlour, R. (2017) – *Building Services: Engineering for Architects and Professionals.* Integral	☐
Further	Chadderton, D.V. (2004) - *Building Services Engineering*. Spon	☐
Further	CIBSE (2016) – *Energy Efficiency in Buildings (Guide F)*	☐
Further	CIBSE (2016) – *Log Book Toolkit TM31*	☐
Further	Thomas, R. (2006) – *Environmental Design*. Taylor Francis	☐
Journals	Building Services Journal (CIBSE)	☐
Journals	FM World (BIFM)	☐

Module Code	**ACBA7001N**
Title	**Building Services and Energy Performance in Buildings**
Date	**15/04/2019**
Level	**7**
Credits	**Non-Assessed Short Course**
Pre-Requisites	**None**

AIM(S)

- To develop the student's knowledge and understanding of building services design, supply and maintenance strategy, defining the key principles of efficient energy procurement options, their sustainable use and asset management.

LEARNING OUTCOMES

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

- Understand the issues involved in managing building services and critically analyse building engineering services maintenance strategies.

- Critically evaluate sustainable energy procurement and its management.

INDICATIVE CONTENT

- Building Comfort and Productivity

- Building Services design and provision

- Energy Management, Policy, Audit, Procurement routes, Efficiency of choice, Monitoring and Control, Metering, Benchmarking, Building Logs.

- The potentials for renewable energy sources incorporation.

- Measuring post occupancy performance

- Energy performance certificates

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%
TOTAL	**200**	**100%**

READING LIST

Module Code	**ACBA7001N**	
Module Title	**Building Services and Energy Performance in Buildings**	
Classification	**Reading List entry**	**Electronic***
Essential	*Managing your Building Services – KS02* (CIBSE Knowledge Series, 2012)	☐
Essential	Hall, F. & Greeno, R. (2017) – *Building Services Handbook.* Routledge	☐
Essential	Obrart, A. & Parlour, R. (2017) – *Building Services: Engineering for Architects and Professionals.* Integral	☐
Further	Chadderton, D.V. (2004) - *Building Services Engineering.* Spon	☐
Further	CIBSE (2016) – *Energy Efficiency in Buildings (Guide F)*	☐
Further	CIBSE (2016) – *Log Book Toolkit TM31*	☐
Further	Thomas, R. (2006) – *Environmental Design*. Taylor Francis	☐
Journals	Building Services Journal (CIBSE)	☐
Journals	FM World (BIFM)	☐

Module Code	**ACBA7002**
Title	**Construction Technology and Building Information Management**
Date	**15/04/2019**
Level	**7**
Credits	**20**
Pre-Requisites	**None**

AIM(S)

- To generate knowledge and understanding of the design, construction and evolution of our traditional and future building stock by providing a vehicle for 'Learning from the past' to aid the buildings and facilities that will shape tomorrow.

- To critically review the impact that BIM, laser scanning, robotics, drones and virtual digital technologies will have in helping shape and enhance the performance of buildings and facilities in the future.

LEARNING OUTCOMES

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

- Evaluate how past and present technologies can inform decisions for future design, construction, use and new uses.

- Critically analyse and appraise existing developments and settlements making recommendations that can enhance sustainability and performance.

INDICATIVE CONTENT

- Awareness and understanding of the context of traditional sites and settlements, and how their development interacted with and made use of natural resources and environments in order to aid habitation and how this is nowadays challenged.

- Evolution of building forms and techniques throughout the centuries. Analysis of form, function and materials from ancient civilisations to the present day,. Can we learn from the past to inform tomorrow?

- Building typologies and challenges.

- Conservation Philosophies, Principles; International Charters; Sustainability, Significance and conservation management planning for new uses.

- Biometrics, Robotics, digital imaging, Intelligence, 'The Internet of Things'

- BIM as a strategic design, management and evaluation tool throughout an asset's life-cycle.

- Obsolescence, climate change and impacts on built assets

- Natural building technologies. Breathability concepts. Low carbon, low cost, low energy, technologies

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%
TOTAL	**200**	**100%**

ASSESSMENT

Assessment Component 1
(Tick one)

☐ **Written exam** ☒ **Coursework** ☐ **Practical**

Mode of assessment	Volume	Weighting
Essay	4,000 words,	70%

Assessment Component 2
(Tick one)

☐ **Written exam** ☐ **Coursework** ☒ **Practical**

Mode of assessment	Volume	Weighting
Presentation	12 minutes	30%

Assessment Summary

Activity type	Percentage
Written exam	0%
Coursework	70%
Practical	30%
TOTAL	**100%**

READING LIST

Module Code	**ACBA7002**	
Module Title	**Construction Technology and Building Information Management**	
Classification	**Reading List entry**	**Electronic***
Essential	Wu, P., and Wang X. (2019) Innovative Production And Construction: Transforming Construction Through Emerging Technologies.	☐
Essential	Sacks, R. Eastman E., et al. (2018) BIM Handbook: A Guide to Building Information Modeling for Owners, Designers, Engineers, Contractors, and Facility Managers. Wiley.	☐
Essential	Watts, A. (2016). Modern Construction: Case Studies Paperback – 31 Oct 2016	☐
Further	*Journal of Building Pathology and Refurbishment* http://www.emeraldgrouppublishing.com/products/journals/journals.htm?id=ss#	☐
Further	Groak, S. (1992).*The Idea of Building: Thought and Action in the Design and Production of Buildings*. E & FN SPON	☐

Further	Bryan, T., (2010) *Construction Technology: Analysis and Choice*	☐
Further	Brand, S. (1994) *How Buildings Learn*. Viking Press. ISBN 978-0-670-83515-7	☐
Further	Building Conservation Directory: Accessed at: http://buildingconservation.com. This long-established portal contains numerous papers written by experts that address the underlying case material.	☒
Further	Brand, S. (1998) - How Buildings Learn A book and six-part BBC 2 documentary video series which is intended for public domain use and today openly accessible via the internet on 'You Tube'.	☒

Module Code	**ACBA7002N**
Title	**Construction Technology and Building Information Management**
Date	**15/04/2019**
Level	**7**
Credits	**Non-Assessed Short Course**
Pre-Requisites	**None**

AIM(S)

- To generate knowledge and understanding of the design, construction and evolution of our traditional and future building stock by providing a vehicle for 'Learning from the past' to aid the buildings and facilities that will shape tomorrow.

- To critically review the impact that BIM, laser scanning, robotics, drones and virtual digital technologies will have in helping shape and enhance the performance of buildings and facilities in the future.

LEARNING OUTCOMES

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

- Evaluate how past and present technologies can inform decisions for future design, construction, use and new uses.

- Critically analyse and appraise existing developments and settlements making recommendations that can enhance sustainability and performance.

INDICATIVE CONTENT

- Awareness and understanding of the context of traditional sites and settlements, and how their development interacted with and made use of natural resources and environments in order to aid habitation and how this is nowadays challenged.

- Evolution of building forms and techniques throughout the centuries. Analysis of form, function and materials from ancient civilisations to the present day,. Can we learn from the past to inform tomorrow?

- Building typologies and challenges.

- Conservation Philosophies, Principles; International Charters; Sustainability, Significance and conservation management planning for new uses.

- Biometrics, Robotics, digital imaging, Intelligence, 'The Internet of Things'

- BIM as a strategic design, management and evaluation tool throughout an asset's life-cycle.

- Obsolescence, climate change and impacts on built assets

- Natural building technologies. Breathability concepts. Low carbon, low cost, low energy, technologies

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%
TOTAL	**200**	**100%**

READING LIST

Module Code	**ACBA7002N**	
Module Title	**Construction Technology and Building Information Management**	
Classification	**Reading List entry**	**Electronic***
Essential	Wu, P., and Wang X. (2019) Innovative Production And Construction: Transforming Construction Through Emerging Technologies.	☐
Essential	Sacks, R. Eastman E., et al. (2018) BIM Handbook: A Guide to Building Information Modeling for Owners, Designers, Engineers, Contractors, and Facility Managers. Wiley.	☐
Essential	Watts, A. (2016). Modern Construction: Case Studies Paperback – 31 Oct 2016	☐
Further	*Journal of Building Pathology and Refurbishment* http://www.emeraldgrouppublishing.com/products/journals/journals.htm?id=ss#	☐
Further	Groak, S. (1992).*The Idea of Building: Thought and Action in the Design and Production of Buildings*. E & FN SPON	☐
Further	Bryan, T., (2010) *Construction Technology: Analysis and Choice*	☐
Further	Brand, S. (1994) *How Buildings Learn*. Viking Press. ISBN 978-0-670-83515-7	☐
Further	Building Conservation Directory: Accessed at: http://buildingconservation.com. This long-established portal contains numerous papers written by experts that address the underlying case material.	☒
Further	Brand, S. (1998) - How Buildings Learn A book and six-part BBC 2 documentary video series which is intended for public domain use and today openly accessible via the internet on 'You Tube'.	☒

Module Code	**ACBA7003**
Title	**Energy and Resource Management**
Date	**15/04/2019**
Level	**7**
Credits	**20**
Pre-Requisites	**None**

AIM(S)

- To provide students with the knowledge and understanding of energy and resource management issues, including the decarbonisation agenda and resource management concerns using current issues as case studies, to appropriately consider strategies for use

LEARNING OUTCOMES

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

- Understand and evaluate current energy and resource management practices, including provision of energy, transmission, key resource management concerns and use of such resources. This will include assessment of Government and wider strategies in relation to decarbonisation and resource protection.

- Appraise methods of provision of energy within a wide range of operations, using practical examples and research-led innovations to formulate innovative solutions, as well as considering key resource management issues of the day

INDICATIVE CONTENT

- The current world energy management issue, including key sources and associated problems, available resources and reserves, use patterns, methods of generation and transmission, etc.

- Stresses and strains related to energy management issues, including focus on issues-of-the-day, background to issues, responses, drivers and barriers, etc.

- Resource issues including availability, reserves and resources, legacy issues and current topical concerns.

- Legislative and policy context, including measures implemented to date regarding significant issues of the time (especially decarbonisation and resource efficiency), wider policy context, emerging policies and their potential to effect change.

- Implementation of solutions to date in relation to significant challenges, including approaches, timeframes, monitoring and success rates

- Consideration of research into new and innovative solutions to significant issues, including the current state-of-the-art of such research and development, level of market readiness, assessment of innovation of approach, etc.

- Energy management in organisations: ISO50001. Application to building operation (energy savings, systems, passive design, etc.).

- Resource management. Impact of life cycle of products.
- Waste management and circular economy.
- The above will be delivered using a mixed approach, including standard lectures, tutorial sessions utilising a flipped learning approach and practical demonstrations via visits.

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%
TOTAL	**200**	**100%**

ASSESSMENT

Assessment Component 1
(Tick one)

☐ **Written exam** ☒ **Coursework** ☐ **Practical**

Mode of assessment	Volume	Weighting
Written formal report	4,250	75%

Assessment Component 2
(Tick one)

☐ **Written exam** ☐ **Coursework** ☒ **Practical**

Mode of assessment	Volume	Weighting
Presentation	10 minutes	25%

Assessment Summary

Activity type	Percentage
Written exam	0%
Coursework	75%
Practical	25%
TOTAL	**100%**

READING LIST

Module Code	**ACBA7003**	
Module Title	**Energy & Resource Management**	
Classification	**Reading List entry**	**Electronic***
Essential	Boyle G (2012) *Renewable Energy: Power for a Sustainable Future*. 3rd ed. Oxford: Oxford University Press	☐
Essential	Beggs C (2009) *Energy: Management, Supply and Conservation*. 2nd ed. Abingdon, Oxon: Routledge	☐

Essential	Anderson D (2014) *Environmental economics and natural resource management*. Fourth ed. London: Routledge, Taylor & Francis Group	☐
Essential	Mitchell B (2019) *Resource & Environmental Management*. 3rd ed. New York: Oxford University Press	☐
Further	BP (2018) *Statistical Review of World Energy*. Available online and annually updated	☒
Further	Energy Efficiency journal	☒
Further	Energy & Buildings journal	☒
Further	Energy Conversion and Management journal	☒
Further	Environment and Society: Advances in Research journal	☒
Further	Energy Policy journal	☒
Further	Sustainable Energy Technologies journal	☒
Further	Braathan NA and Serret Y (2007) *Instrument mixes for Environmental Policy*. Paris: OECD Publishing.	☒
Further	Energy & Environment journal	☒
Further	Energy Conversion and Management journal	☒
Further	Environment and Society: Advances in Research journal	☒
Further	Journal of Environmental Management	☒
Further	Sustainable Energy Technologies journal	☒

Module Code	**ACBA7004**
Title	**Environmental Planning and Policy**
Date	**15/04/2019**
Level	**7**
Credits	**20**
Pre-Requisites	**None**

AIM(S)

- To provide an understanding of policy formulation, structure and implementation and to examine specific aspects of planning systems, including Environmental Assessment and its effect on the economy, society and the environment

LEARNING OUTCOMES

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

- Demonstrate an in depth understanding of the environmental implications of developing strategic policies and plans and the ramifications of such policies on the environment and associated economy.

- Critically assess policy formulation, implementation and impact based on contextual analysis.

INDICATIVE CONTENT

- An introduction to National, European and global policies.

- Application of specific strategic policies such as Shoreline Management, landscape designations, stakeholder partnerships, and inputs from Government and NGO's.

- Analysis of the Strategic Environmental Assessment and Environmental Impact Assessment, including Mitigation and Compensation.

- The relationship between the environment and policy formulation.

- Environmental policy formulation, implementation and monitoring.

- Environmental Impact Assessment formulation, including auditing.

- Methods of assessing environmental impacts.

- Evaluation of policies and their effects on society, the economy and the environment.

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%
TOTAL	**200**	**100%**

ASSESSMENT

Assessment Component 1
(Tick one)

☐ **Written exam** ☒ **Coursework** ☐ **Practical**

Mode of assessment	Volume	Weighting
Report	4,000 words	70%

Assessment Component 2
(Tick one)

☐ **Written exam** ☐ **Coursework** ☒ **Practical**

Mode of assessment	Volume	Weighting
Presentation	12 mins	30%

Assessment Summary

Activity type	Percentage
Written exam	0%
Coursework	70%
Practical	30%
TOTAL	**100%**

READING LIST

Module Code	**ACBA7004**	
Module Title	**Environmental Planning and Policy**	
Classification	**Reading List entry**	**Electronic***
Essential	Morrison-Saunders, A. (2018) Advanced introduction to EIA. Edward Edgar	☒
Essential	Kraft, M.E. (2018) environmental policy and politics. Taylor & Francis	☒
Essential	Vig, N.J. & Kraft, M.E. (2017) Environmental policy: New directions for the 21st century. CQ Press	☒
Further	Fortlage, C.A. (2017) Environmental Assessment: A practical guide. Routledge	☒
Further	Mareddy, A.R. (2017) Environmental Impact Assessment: Theory and Practice. Elsevier/BH	☒
Further	MacKinnon, A.J. (2018) the application of science in EIA. Routledge	☒
Further	Dibie, R.A. (2014) Comparative perspectives on environmental policies and issues. Routledge, London.	☐
Further	Tromans, S. (2012) Environmental Impact Assessment	☐

	Bloomsbury: West Sussex	
Further	Journal of Environmental Assessment	☒
Further	Journal of Environmental Management	☒

Module Code	**ACBA7004N**
Title	**Environmental Planning and Policy**
Date	**15/04/2019**
Level	**7**
Credits	**Non-Assessed Short Course**
Pre-Requisites	**None**

AIM(S)

- To provide an understanding of policy formulation, structure and implementation and to examine specific aspects of planning systems, including Environmental Assessment and its effect on the economy, society and the environment

LEARNING OUTCOMES

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

- Demonstrate an in depth understanding of the environmental implications of developing strategic policies and plans and the ramifications of such policies on the environment and associated economy.

- Critically assess policy formulation, implementation and impact based on contextual analysis.

INDICATIVE CONTENT

- An introduction to National, European and global policies.

- Application of specific strategic policies such as Shoreline Management, landscape designations, stakeholder partnerships, and inputs from Government and NGO's.

- Analysis of the Strategic Environmental Assessment and Environmental Impact Assessment, including Mitigation and Compensation.

- The relationship between the environment and policy formulation.

- Environmental policy formulation, implementation and monitoring.

- Environmental Impact Assessment formulation, including auditing.

- Methods of assessing environmental impacts.

- Evaluation of policies and their effects on society, the economy and the environment.

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%
TOTAL	**200**	**100%**

READING LIST

Module Code	**ACBA7004N**	
Module Title	**Environmental Planning and Policy**	
Classification	**Reading List entry**	**Electronic***
Essential	Morrison-Saunders, A. (2018) Advanced introduction to EIA. Edward Edgar	☒
Essential	Kraft, M.E. (2018) environmental policy and politics. Taylor & Francis	☒
Essential	Vig, N.J. & Kraft, M.E. (2017) Environmental policy: New directions for the 21st century. CQ Press	☒
Further	Fortlage, C.A. (2017) Environmental Assessment: A practical guide. Routledge	☒
Further	Mareddy, A.R. (2017) Environmental Impact Assessment: Theory and Practice. Elsevier/BH	☒
Further	MacKinnon, A.J. (2018) the application of science in EIA. Routledge	☒
Further	Dibie, R.A. (2014) Comparative perspectives on environmental policies and issues. Routledge, London.	☐
Further	Tromans, S. (2012) Environmental Impact Assessment Bloomsbury: West Sussex	☐
Further	Journal of Environmental Assessment	☒
Further	Journal of Environmental Management	☒

Module Code	ACBA7005
Title	GIS and Habitat Management
Date	15/04/2019
Level	7
Credits	20
Pre-Requisites	None

AIM(S)

- To critically examine habitat management and apply GIS as a spatial planning tool

LEARNING OUTCOMES

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

- Evaluate habitat management in practice and assess conflict analysis of stakeholder groups.
- Evaluate and critically appraise the use of GIS software as an aid to the management of stakeholder interests, constructing a management plan using appropriate techniques and software.

INDICATIVE CONTENT

- Monitoring habitats through ecological surveys – Phase I
- Practicalities of managing resources (both finances and people)
- Underpinning legislation linked to biodiversity and public access (health & safety, risk assessment)
- Spatial planning and conflict analysis of terrestrial and coastal/marine habitats
- Management Plan construction
- Investigating secondary data acquisition e.g. maps, digitising, scanning and appropriate attribute data management of spatial data sets.
- Investigate the use of remotely sensed data acquisition techniques for a given environmental model (e.g. LIDAR, GPS).
- Implementation of environmental models using appropriate GIS software solutions.

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%
TOTAL	**200**	**100%**

ASSESSMENT

Assessment Component 1
(Tick one)

☐ **Written exam** ☒ **Coursework** ☐ **Practical**

Mode of assessment	Volume	Weighting
Report and mapping	6,000 words	100%

Students will produce a management plan based on an appropriate habitat (terrestrial or coastal). This will likely involve analysis of a previous management plan for that site for critical evaluation, a habitat audit using scientifically underpinned methodologies, spatial planning of species/key habitats using GIS as a mapping tool and subsequently the production of a site report and accompanying display of data via software.

Assessment Summary

Activity type	Percentage
Written exam	0%
Coursework	100%
Practical	0%
TOTAL	**100%**

READING LIST

Module Code	**ACBA7005**	
Module Title	**GIS and Habitat Management**	
Classification	**Reading List entry**	**Electronic***
Essential	Longley, P.A., Goodchild, M.F., Maguire, D.J., and Rhind, D.W. (2015) *Geographic Information Science and Systems.* 4th Ed. John Wiley & Sons, USA.	☐
Essential	Heywood, I., Cornelius, S. and Carver, S. (2011) An Introduction to Geographical Information Systems,4th Ed. Prentice Hall, Harlow.	☐
Essential	Alexander, M. (2013) *Management Planning for Nature Conservation: A Theoretical Basis & Practical Guide,* 2nd Edition, Springer. 536pp	☐
Further	Ausden, M. (2016). *Habitat Management for Conservation: A Handbook of Techniques (Techniques in Ecology & Conservation)* Oxford University Press, 430pp	☒
Further	Students are expected to access **current** research through academic journals such as: British Wildlife Journal Environmental Conservation Journal	☒

Module Code	**ACBA7006**
Title	**Management of the Integrated Working Environment**
Date	**15/04/2019**
Level	**7**
Credits	**20**
Pre-Requisites	

AIM(S)

- To develop knowledge and understanding of the resource issues involved in managing buildings and their support services in a responsive and cost-effective way, at a time of great change in how facilities are conceived and operated.

LEARNING OUTCOMES

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

- Evaluate current resource management methods for a wide range of resources in building operations, including energy provision, and establish risk management strategies which affect property management.

- Critically evaluate support services for example contracting, procurement processes, health and safety.

INDICATIVE CONTENT

- Managing Support Services and flexible organisations.

- Working environments (formal and informal).

- Impact that modern working/co-working practices will have on organisations, output measures and brand loyalty.

- Space Management and Planning processes and techniques, linking with BIM, CAFM and augmented realities.

- Customer relationships and service provision.

- Innovative workplace design

- The importance of applying sustainable practices across the organisation and throughout the supply chain.

- Environmental analysis and legislation (Waste and Carbon and Energy resource management).

- Risk assessment and risk management. Types of risks affecting property.

- Health and safety. Health and Safety at Work Act, CDM Regulations, COSHH, fire prevention, accessibility, waste management, etc.

- Analysis of processes. Business process management. Process maps and procedures. Improvement of process efficiency.

- Resource management. Asset life cycle. Maintenance and repair. End of life.

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%
TOTAL	**200**	**100%**

ASSESSMENT

Assessment Component 1
(Tick one)

☐ **Written exam** ☒ **Coursework** ☐ **Practical**

Mode of assessment	Volume	Weighting
Report	4000 words,	70%

Assessment Component 2
(Tick one)

☐ **Written exam** ☐ **Coursework** ☒ **Practical**

Mode of assessment	Volume	Weighting
Presentation/Poster	12 minutes	30%

Assessment Summary

Activity type	Percentage
Written exam	0%
Coursework	70%
Practical	30%
TOTAL	**100%**

READING LIST

Module Code	ACBA7006	
Module Title	**Management of the Integrated Working Environment**	
Classification	**Reading List entry**	**Electronic***
Essential	Castellano, W.G. (2017). Practices for Engaging the 21st Century Workforce: Challenges of Talent Management in a Changing Workplace	☒
Essential	Maitland, A.; Thomson, P. (2014). Future Work (Expanded and Updated): Changing organizational culture for the new world of work.	☐
Essential	Mitchell B (2019) *Resource & Environmental Management*. 3rd ed. New York: Oxford University Press	☒
Essential	Meyer, P. (2010). From Workplace to Playspace: Innovating, Learning and Changing through a Dynamic Engagement. Wiley imprint.	☒
Further	Binggeli, C. (2003). *Building Systems for Interior Designers,* Wiley. .	☐
Further	Clements-Croome, D. (Ed). (2005). *Creating the Productive Workplace* (Spon).	☐
Further	Booty, F. (Ed). *Facilities Management Handbook* Butterworth.	☐
Further	Brand, S. (1994) *How Buildings Learn*. Viking Press. ISBN 978-0-670-83515-7	☐
Further	Energy & Environment journal	☒
Further	Energy Conversion and Management journal	☒
Further	Brand, S. (1998) - How Buildings Learn A book and six-part BBC 2 documentary video series which is intended for public domain use and today openly accessible via the internet on You Tube.	☒

Module Code	ACBA7007
Title	Strategic Management for Conservation
Date	15/04/2019
Level	7
Credits	20
Pre-Requisites	None

AIM(S)

- To provide a forum in which knowledge acquired can be developed and integrated into strategic management within the field of environmental conservation, both temporally and spatially from national and international perspectives, whilst evaluating and critically assessing the need for a sustainable economy, that preserves and enhances the environment.

LEARNING OUTCOMES

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

- Demonstrate an in depth understanding of the environmental implications of developing strategic management.
- Consider the ramifications of climate change within the natural and business environment, and the strategies for minimising anthropogenic impacts.

INDICATIVE CONTENT

- An introduction to strategic management,
- The importance of strategic management and environmental policy in different contexts specifically, commercial, industrial and, conservation.
- Application of specific strategic goals through the utilisation of management techniques, which include investigation into Environmental Management Systems, and their accreditation.
- Analysis of the business environment using PESTEL and SWOT frameworks including environmental assessment.
- The relationship between the environment, business culture, entrepreneurship and consumer attitudes which include Reverse logistics, ‘green’ marketing, packaging and eco-labelling.
- Strategic position and choice. Environmental policy formulation and implementation for business.
- Environmental management systems and strategies and their relevance to reducing human impacts on the natural environment, utilising specific examples from a circular economy approach.
- Environmental Management Systems, their design and implementation e.g. ICM.

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%
TOTAL	**200**	**100%**

ASSESSMENT

Assessment Component 1
(Tick one)

☐ **Written exam** ☒ **Coursework** ☐ **Practical**

Mode of assessment	Volume	Weighting
Report	4000 words	70%

Assessment Component 2
(Tick one)

☐ **Written exam** ☐ **Coursework** ☒ **Practical**

Mode of assessment	Volume	Weighting
Presentation	12 mins	30%

Assessment Summary

Activity type	Percentage
Written exam	0%
Coursework	70%
Practical	30%
TOTAL	**100%**

READING LIST

Module Code	**ACBA7007**	
Module Title	**Strategic Management for Conservation**	
Classification	**Reading List entry**	**Electronic***
Essential	Bears, R.C. (2018) Natural resource management and the circular economy. Springer	☒
Essential	Hyde, P. & Reeve, P. (2015) Essentials of environmental management. Routledge	☒
Essential	O'Riordan (2014) Environmental science for environmental management. Routledge	☒
Essential	Tonelli, M. & Cristoni, N. (2018) Strategic management and the circular economy. Routledge	☒
Further	Akkucuk, U. (2018) The circular economy and its implications on sustainability and the green supply chain. IGI global.	☐
Further	Christopher, J. (2004) Environmental Management and Development, Taylor & Francis Ltd.	☐

Further	David, F. (2007) Strategic Management: Concepts and Cases, Prentice-Hall	☐
Further	Dyer, J. (2018) Strategic Management: concepts and Cases. Wiley	☒
Further	Journal of Environmental Assessment Policy and Management	☐
Further	Journal of Coastal Management	
Further	Journal of Environmental Management	☐
Further	Journal of Sustainable Development	
Further	Lovett, J.C. & Ockwell, D.G (2007) A handbook of environmental management Elgar: Cheltenham	☐
Further	Schaltegger, S. (2018) An introduction to corporate environmental management: Striving for sustainability. Routledge	☐
Further	Strategic Management Journal	☐

Module Code	ACBA7008
Title	Strategic Property, Finance and Procurement
Date	15/04/2019
Level	7
Credits	20
Pre-Requisites	None

AIM

To develop and broaden the student's knowledge and understanding of strategic property management, procurement strategies and contractual management issues in order that they can make a significant contribution to business and property strategy.

LEARNING OUTCOMES

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

- Critically evaluate the performance of property, within the context of both operational estates use and within investment; analyse and apply methods by which facilities managers can realise the true potential of property portfolios through proactive management

- Critically evaluate procurement systems and methods; develop strategies for the optimum legal and financial procurement of facilities and supporting management contracts

INDICATIVE CONTENT

- Strategic Property Management principles, including an introduction to valuation and appraisal methodologies.

- Management of property within the context of multi-asset portfolios

- Landlord and tenant management issues within both a legal and business context

- Social and ethical responsibilities, occupiers liabilities and the legal and economic implications of insurance

- Procurement Procedures - the selection and appointment of consultants, suppliers and specialists and the resulting monitoring of their performance

- Contractual and Financial Management systems

- Financial management, investment appraisal and corporate tax allowances.

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%
TOTAL	**200**	**100**

ASSESSMENT

Assessment Component 1
(Tick one)

☐ **Written exam** ☒ **Coursework** ☐ **Practical**

Mode of assessment	Volume	Weighting
Report	4,000 words,	70%

Assessment Component 2
(Tick one)

☐ **Written exam** ☐ **Coursework** ☒ **Practical**

Mode of assessment	Volume	Weighting
Presentation/Poster	12 minutes	30%

Assessment Summary

Activity type	Percentage
Written exam	0%
Coursework	70%
Practical	30%
TOTAL	**100%**

READING LIST

Module Code	**ACBA7008**	
Module Title	**Strategic Property, Finance and Procurement**	
Classification	**Reading List entry**	**Electronic***
Essential	Pitt, M. (2019) Facilities Management As A Strategic Business Tool, Elsevier.	☐
Essential	Lowry, D. (2017) The Complete Guide to Facility Management.	☐
Essential	Ee, S. (2015) Value-Based Facilities Management: How Facilities Practitioners Can Deliver Competitive Advantage to Organisations.	☒
Further	Barrett, B; Finch, E. (2013) Facilities Management: The Dynamics of Excellence.	☐
Further	Staiger, R. (2018). Foundations of Real Estate Financial Modelling.	☒
Further	ISURV Electronic Online Subscription (RICS, annual)	☒
Further	OGC Achieving Excellence in Construction Procurement (2007)	☒

Further	CIRIA Value by Competition: A Guide to the Competitive Procurement of Consultancy Services for Construction	☒
Further	RICS Practice Statements. Available at www. RICS and I.Surv.	☒

Module Code	ACBA7009
Title	Sustainable Development
Date	15/04/2019
Level	7
Credits	20
Pre-Requisites	None

AIM(S)

- To provide the student with the skills to assess Sustainable Development and its application in different scenarios, long-term benefits and costs to society.

LEARNING OUTCOMES

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

- Engage with the complexity of sustainable development and critically evaluate current key trends.

- Analyse how human actions can impact on society, economy and the environment and these influence sustainable development.

INDICATIVE CONTENT

- Sustainable development: concept, principles, background, main groups of interest, critique.

- Natural resources. Natural capital and ecological deficit. Ecological footprint and biocapacity. Economic growth and conflict.

- Present social theory behind the concept of Sustainable Development: Ecological Modernisation, Green capitalism, Green consumerism, Environmental Economics and the Green Paradigm.

- Political ecology. Relationships between political, economic and social factors with the environment.

- Sustainable Development Goals.

- Indicators for sustainable development.

- Well-being of Future Generations (Wales) Act

- Policies and strategies for sustainable development in different study areas, for example:
  - Energy
  - Transport
  - Environmental and social justice
  - Health and education
  - Poverty
  - Cities, urban planning and construction industry
  - Agriculture
  - Tourism

- Participation, local and central government
- Equality

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%
TOTAL	**200**	**100%**

ASSESSMENT

Assessment Component 1
(Tick one)

☐ **Written exam** ☒ **Coursework** ☐ **Practical**

Mode of assessment	Volume	Weighting
Essay	4,000 words	70%

Assessment Component 2
(Tick one)

☐ **Written exam** ☐ **Coursework** ☒ **Practical**

Mode of assessment	Volume	Weighting
Presentation	12 minutes	30%

Assessment Summary

Activity type	Percentage
Written exam	0%
Coursework	70%
Practical	30%
TOTAL	**100%**

READING LIST

Module Code	**ACBA7009**	
Module Title	**Sustainable Development**	
Classification	**Reading List entry**	**Electronic***
Essential	Blewitt, J. (2012) *Understanding Sustainable Development*. Earthscan.	☐
Essential	Petrillo, A., Bellaviti, P. (2018) *Sustainable Urban Development and Globalization*. Springer.	☐
Essential	Meadows, H., Wright, D. (2008) Thinking in Systems: A Primer. Chelsea Green Publishing.	☐
Further	Kibert, C.J. et at (2011) *Working Towards Sustainability: Ethical Decision Making in a Technological World*. John Wiley & Sons.	☐

Further	Bjorn Lomborg (2018) *Prioritizing Development: A Cost Benefit Analysis of the United Nation's Sustainable Development Goals*. Cambridge University Press.	☐
Further	*Sustainable Development*. John Wiley & Sons. ISSN: 1099-1719	X
Further	*Journal of Sustainable Development*. Canadian Center of Science and Education. ISSN: 1913-9071	X
Further	Sustainable Development Goals. https://sustainabledevelopment.un.org	X
Further	Well-being of Future Generations (Wales) Act 2015. http://futuregenerations.wales/about-us/future-generations-act/	X

Module Code	ACFA7003
Title	Masters Project
Date	11/04/2019
Level	7
Credits	60
Pre-Requisites	None

AIM(S)

- To allow the student to advance their knowledge and understanding by undertaking and managing a significant project of their own choice, related to the major themes of their MSc programme.

LEARNING OUTCOMES

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

- critically identify and develop an advanced research topic
- review appropriate literature by contextualising and integrating the study into the continuing development of knowledge and understanding of chosen research topic
- critically formulate a series of research objectives and devise strategies to support these
- demonstrate and display advanced critical, analytic and creative thinking
- demonstrate advanced professional skills to present information both orally and in a written form

INDICATIVE CONTENT

The Masters Project is an essential part of the degree; it is the culmination of the Masters programme. As such, it has been designed and conceived as an integral part of the programme. Preparation for the Masters Project begins early in the programme, and students acquire analytical and other research skills throughout part 1. This underpins and enhances the student's ability to undertake research.

- Formulation and rationale for suitable post-graduate research objectives
- Application of an appropriate methodology for the investigation.
- Collation and communication - recording and organising information, analysis of results, communicating the results, referencing, plagiarism.
- Critical review of appropriate literature within a conceptual/theoretical framework.
- Determination of research results.
- Critical appraisal of the results/solutions of the investigation.
- Project planning - project time scale control
- Oral/visual critique and presentation of the results of the investigation.

- Written and verbal critique of the research
- Intellectual property - copyright, trademarks, patents.
- Social and cultural context, and ethical issues
- Intellectual property - copyright, trademarks, patents.
- Social and cultural context, and ethical issues

Study Time Allocation

The study time for the module is divided as follows:

Activity type	Hours	Percentage
Scheduled learning	15	2.5%
Independent learning	585	97.5%
Placement learning	0	0%
TOTAL	**600**	**100%**

ASSESSMENT

Assessment Component 1

☐	**Written exam**	☒	**Coursework**	☐	**Practical**

Mode of assessment	Volume	Weighting
Masters Project	15,000 words equivalent Students will produce a research portfolio of work appropriate to the nature of their project. This will vary slightly according to the nature of the project undertaken. Portfolio elements may include a selection of the following, to be agreed with the external examiner: • Written Report (all students) • Exhibition Board (all students) • Presentation slides • Hardware and/or software implementation	80%

Assessment Component 2

☐	**Written exam**	☐	**Coursework**	☒	**Practical**

Mode of assessment	Volume	Weighting
Viva voce	15 mins (before questions)	20%

Assessment Summary

Activity type	Percentage
Written exam	0%
Coursework	80%
Practical	20%
TOTAL	**100%**

INDICATIVE READING LIST

Module Code	**ACFA7003**	
Module Title	**Masters Project**	
Classification	**Reading List entry**	**Electronic***
Essential	McCormac, C. and Davis, J. (2015) *Research Project Success: The Essential Guide for Science and Engineering Students*, Cambridge: Royal Society of Chemistry	☒
Essential	Greenfield, T. (2016) *Research Methods for Postgraduates,* London: Arnold	☒
Essential	Cottrell, S. (2011) *Critical Thinking Skills: Developing Effective Analysis and Argument - Palgrave Study Guides, 2nd Edition,* London: Palgrave Macmillan	☒
Essential	Cottrell, S. Dissertations and Project Reports: A Step by Step Guide (Palgrave Study Skills, 2014)	☒
Essential	O'Leary, Z. (2013) *Doing Your Research Project (2nd Edition)*, SAGE Publications Ltd	☒
Further	O'Leary, Z. (2015) The Essential Guide to *Doing Your Research Project,* Newcastle upon Tyne: Sage	☒
Further	Kranzler, J. H. (2017) *Statistics for the Terrified,* Upper Saddle River: Prentice Hall	☒
Further	Dawson, C. W. (2009) *Projects in Computing and Information Systems: a Student's Guide, 2nd Edition,* Boston: Addison-Wesley	☒
Further	Dipankar, D. (2019) Engineering Research Methodology: A Practical Insight for Researchers. Springer	☐
Further	Fellows, R. and Liu, A. *Research Methods for Construction (*Blackwell Oxford, 2015)	☐
Further	Few, S. (2012) *Show Me the Numbers*, Burlingame: Analytics Press	☒
Further	Hughes, B. and Cotterell, M. (2009) *5th Software Project Management*, New York: McGraw-Hill	☐
Further	Phillips, J. (2010) *IT Project Management: On Track from Start to Finish*, New York: McGraw-Hill	☐
Further	Gregoire, T.G. & Valentine, H.T. (2008) *Sampling strategies for natural resources and the environment*. Chapman, London	☐
Further	Baase, S. (2012) *A Gift of Fire: Social, Legal, and Ethical Issues for Computing and the Internet: International Edition, 4th Edition,* Boston: Pearson	☐
Further	Collis, J. and Hussey, R. (2009) Business Research: a Practical Guide for Undergraduate and Postgraduate Students, 3rd Edition, London: Palgrave Macmillan	☐

Further	Cottrell, S. (2011) Critical Thinking Skills: Developing Effective Analysis and Argument - Palgrave Study Guides, 2nd Edition, London: Palgrave Macmillan	☐
Further	Davies, M. B. (2007) Doing a Successful Research Project, London: Palgrave Macmillan	☐
Further	Dawson, C. W. (2009) Projects in Computing and Information Systems: a Student's Guide, 2nd Edition, Boston: Addison-Wesley	☐
Further	Hewson, C. , Vogel, C. & Laurent, D. (2015) Internet research methods. Sage: London.	☐
Further	Few, S. (2012) Show Me the Numbers: Designing Tables and Graphs to Enlighten, Burlingame: Analytics Press	☐
Further	Quinn, M. J. (2010) Ethics for the Information Age: International Edition - 4th Edition, Boston: Pearson	☐
Further	Yin, R. K. (2008) Case Study Research: Design and Methods, 4th Edition, Newcastle upon Tyne: Sage	☐
Further	Spence, R. (2014) *Information Visualization: an Introduction,* Boston: Addison-Wesley	☐
Further	Thiel, D.V. (2014) Research methods for engineers. Cambridge UP	☒
Further	Wheater, C.P. & Cook, P.A. (2015) Using statistics to understand the environment Routledge	☐
Further	**Journals** ACM Transactions on Information Systems Behaviour and Information Technology Communications on the ACM International Journal of Electronic Commerce Journal of Strategic Information Systems Journal of Systems Management	☒
Further	**Websites** http://www.acm.org http://www.bized.co.uk http://www.managers.org.uk http://www.cbronline.com http://www.eevl.ac.uk http://juno.emeraldinsight.com http://www.ft.chadwyck.co.uk http://www.itwales.com http://www3.gartner.com http://www.silicon.com http://www.mckinseyquarterly.com http://www.zdnetweek.co.uk http://projectmanagement.ittoolbox.com/ http://www.ics.ltsn.ac.uk/resources/projman/index.html http://www.niwotridge.com/ Resources/PM-SWEResources/PMResources.htm http://www.tickit.org/international.htm http://www.bcs.org/ http://www.uml.org/ http://www.omg.org/	☒

Module Code	ACFA7004
Title	Research Methods and Professional Development
Date	11/04/2019
Level	7
Credits	20
Pre-Requisites	None

AIM(S)

- The aim of this module is for students to develop a problem solving approach to research to facilitate their production of a valid and reliable postgraduate dissertation.

LEARNING OUTCOMES

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

- Generate a project proposal that meets a given domain research requirements.
- Identify and visualise a complex research problem within a specific research domain, outline the investigative approach and comprehensively consider appropriate methods and solutions.
- Critically appraise the research process and its outcomes.

INDICATIVE CONTENT

- Core lectures on the principles of postgraduate research :
  - Research principles and approaches (e.g. the research process, purpose, sources of data including primary/secondary research, quantitative/qualitative data, objective/hypothesis formation, reliability, validity)
  - Research methodologies - historical, descriptive, correlational, comparative, experimental
  - Field data - survey design, questionnaires, sampling, statistical techniques, interviews, case studies, observation
  - Developing a proposal - research statement, research outline and design research schedule
  - Project planning - project time scale control
  - Intellectual property - copyright, trademarks, patents
  - Social and cultural context, and ethical considerations
- Writing up and publishing
- Domain specific research methods:
  - Research for engineering
  - Project planning for computing
  - Advanced Quantitative research methods
  - Advanced Qualitative research methods

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%
TOTAL	**200**	**100%**

ASSESSMENT

Assessment Component 1

☐ **Written exam** ☒ **Coursework** ☐ **Practical**

Mode of assessment	Volume	Weighting
Research Proposal	4,000 words	70%

Assessment Component 2

☐ **Written exam** ☐ **Coursework** ☒ **Practical**

Mode of assessment	Volume	Weighting
Presentation	10 mins (plus questions)	30%

Assessment Summary

Activity type	Percentage
Written exam	0%
Coursework	70%
Practical	30%
TOTAL	**100%**

INDICATIVE READING LIST

Module Code	**ACFA7004**	
Module Title	**Research Methods and Professional Development**	
Classification	**Reading List entry**	**Electronic***
Essential	Cottrell, S. (2011) Critical Thinking Skills: Developing Effective Analysis and Argument - Palgrave Study Guides, 2nd Edition, London: Palgrave Macmillan	☒
Essential	Cottrell, S. (2014) Dissertations and Project Reports: A Step by Step Guide, Palgrave Study Skills	☒
Essential	O'Leary, Z. (2013) Doing Your Research Project (2nd Edition), SAGE Publications Ltd	☒
Further	Dawson, C. W. (2009) Projects in Computing and Information Systems: a Student's Guide, 2nd Edition, Boston: Addison-Wesley	☒
Further	Dipankar, D. (2019) Engineering Research Methodology: A Practical Insight for Researchers. Springer	☐

Further	Fellows, R. and Liu, A. (2015) Research Methods for Construction, Oxford: Blackwell	
Further	Few, S. (2012) Show Me the Numbers, Burlingame: Analytics Press	☐
Further	Gregoire, T.G. & Valentine, H.T. (2008) Sampling strategies for natural resources and the environment. London : Chapman	☐
Further	Hart, C. (1998) Doing a Literature Review, Sage	☒
Further	Hewson, C., Vogel, C. & Laurent, D. (2015) Internet research methods. London: Sage	☐
Further	Kranzler, J. H. (2011) Statistics for the Terrified, 5th Edition, Upper Saddle River: Prentice Hall	☐
Further	Leedy. P. D. and Ormrod, J. E. (2012) Practical Research Planning and Design, 10th Edition, Boston: Pearson Education	☒
Further	Maylor, H. (2010) Project Management, Boston: Pearson Education	☐
Further	Oppenheim, A. (1992) Questionnaire Design, Interviewing and Attitude Measurement, London: Continuum	☒
Further	Spence, R. (2014) Information Visualization: an Introduction, Boston: Addison-Wesley	
Further	Thiel, D.V. (2014) Research Methods for Engineers. Cambridge UP	☒
Further	Wheater, C.P. & Cook, P.A. (2015) Using Statistics to Understand the Environment, Routledge	☒