Prifysgol Wrecsam
Wrexham University

Module specification

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Module Code	AUR5A3
Module Title	Modern Methods of Construction
Level	5
Credit value	20
Faculty	FACE
HECoS Code	100584
Cost Code	GABE

Programmes in which module to be offered

Programme title	Is the module core or option for this programme
BSc (Hons) Architectural Design Technology	Core
BSc (Hons) Construction Management	Core
BSc (Hons) Construction Management (DA)	Core
BSc (Hons) Building Surveying	Core
BSc (Hons) Building Surveying (DA)	Core
BSc (Hons) Quantity Surveying	Core
BSc (Hons) Quantity Surveying (DA)	Core

Pre-requisites

None

Breakdown of module hours

Learning and teaching hours	30 hrs
Placement tutor support	0 hrs
Supervised learning e.g. practical classes, workshops	0 hrs
Project supervision (level 6 projects and dissertation modules only)	0 hrs
Total active learning and teaching hours	**30** hrs
Placement / work-based learning	0 hrs
Guided independent study	170 hrs
Module duration (total hours)	**200** hrs

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Initial approval date	3rd July 2024
With effect from date	September 2024
Date and details of revision	
Version number	1

Module aims

This module aims to provide students with a thorough knowledge and appreciation of those developments in construction technology that are collectively known as Modern Methods of Construction (MMC).

By the end of the module, students will have gained an understanding of the main principles and practices of innovative offsite and onsite construction methods, developed proficiency in sustainability and environmental impact assessment methods and acquired knowledge of modern construction processes, materials, technologies and the overarching legislation.

Students will be given opportunities throughout the module to apply critical analysis and problem-solving skills to construction projects and scenarios, and to develop effective communication skills to fully articulate MMC concepts, analysis and evaluation.

Module Learning Outcomes - at the end of this module, students will be able to:

1	Demonstrate a detailed working knowledge and understanding of the key concepts, theories, and principles underpinning Modern Methods of Construction (MMC).
2	Critically assess MMC technologies and apply this knowledge to carry out a comparative analysis of MMC with more traditional forms of construction.
3	Evaluate the drivers for and barriers to MMC adoption, focusing on strategies to minimise negative effects and enhance positive outcomes throughout all stages of the lifecycle of project delivery.
4	Appraise the sustainability and environmental impact of MMC, for the purposes of climate change mitigation and to develop strategies for project resilience.
5	Synthesise knowledge of MMC to establish best practice in design innovation, construction management, building quality and cost control.

Assessment

Indicative Assessment Tasks:

This section outlines the type of assessment task the student will be expected to complete as part of the module. More details will be made available in the relevant academic year module handbook.

Assessment 1: Students will deliver a presentation of 15 minutes duration on MMC which will provide an opportunity for an in-depth discussion on how MMC adoption affects the built environment and provide early feedback that enables students to develop the skills and abilities necessary to successfully complete the module.

Assessment 2: Students will undertake an Examination of 2 hrs duration that will examine their knowledge and understanding of the critical differences between using MMC and building in a traditional manner and the impacts this can have on the natural and built environments.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)
1	1, 2, 3	Presentation	50%
2	4, 5	Examination	50%

Derogations

None.

Learning and Teaching Strategies

The pedagogical strategy for this module is one of teacher led learning as part of a planned lecture series, with activities and group discussion. A blended learning approach involving individual, group work and student led sessions aligned to the university's Active Learning Framework (ALF) will allow students to fully engage with, and actively take part in, both an on-campus and on-line delivered higher education learning experience. The Moodle VLE and other on-line materials and resources will be used to support student learning.

Guest lecturers with specific topic expertise or specialist knowledge from within the University or through the professional network related to the Built Environment will be engaged to augment and strengthen learning outcomes as necessary. Site visits undertaken as part of this, or other associated modules, will ensure real-world context for learning. The module assessments provide an opportunity for summative feedback to help enhance and develop the student skillset required for Level 5 study.

Indicative Syllabus Outline

- Introduction to Modern Methods of Construction (MMC)
- Drivers for change in the construction industry
- Principles of MMC
- Offsite and onsite construction techniques
- Sustainability in construction and sustainable development
- Resource efficiency and waste management
- MMC materials and technologies
- Communication skills development (presentation)
- Building design and MMC integration
- Processes and logistics in MMC
- Legislation and policy
- Sustainability and environmental impact analysis
- Whole-life costing
- Project specific MMC appraisal

- Problem-solving and critical analysis (in-class test).

Indicative Bibliography:

Essential reads

Watts, A. (2022), *Modern Construction Handbook.* 6th ed. Basel: Birkhauser.

Other indicative reading

Books

Cooke, B., and Williams, P. (2009), *Construction Planning, Programming and Control.* 3rd ed. Chichester: Wiley-Blackwell.

Stevenson, F. (2019), *Housing Fit for Purpose: Performance, feedback and learning*. London: RIBA Publishing.

Reports (available from IHS Technical Index: CIS)

Gaze, C., and Ross, K., and Nolan, E., and Novakovic, O., and Cartwright, P. (2007), *Modern Methods of Construction (MMC) in Housing: Parts 1-4 IP3/07*. Watford: BRE Trust.

Hairstans, R. (2020), *Off-site and Industrialised Timber Construction: Delivering quality and efficiency.* 2nd ed. High Wycombe: BM TRADA.

Ross, K. (2005), *Modern Methods of House Construction: A Surveyor's Guide FB11.* Watford: BRE Trust.

UK Government: House of Commons – Housing, Communities and Local Governement Committee (2019), *Modern Methods of Construction HC 1831*. London: Crown

Welsh Government. (2020), *Re-imagining social house building in Wales: A Modern Methods of Construction Strategy for Social Housing WG40025.* London: Crown.

Other sources

Royal Institution of Chartered Surveyors www.rics.org

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

Chartered Institute of Building www.ciob.org.uk

IHS CIS Database https://cis.ihs.com/CIS

Designing Buildings Wiki www.designingbuildings.co.uk