MODULE SPECIFICATION

Module Code:	AUR619

Module Title:	Construction Technology 3

Level:	6	**Credit Value:**	20

Cost Centre(s):	GABE	JACS3 **code**: HECoS code:	K190 (ADT) K220 (CM) 100122 (ADT) 100149 (CM)

Faculty	FAST	**Module Leader:**	David Cheesbrough

Scheduled learning and teaching hours	24 hrs
Guided independent study	176 hrs
Placement	0 hrs
Module duration (total hours)	200 hrs

Programme(s) in which to be offered (not including exit awards)	Core	Option
BSc (Hons) Architectural Design Technology	✓	☐
BSc (Hons) Construction Management	✓	☐

Pre-requisites

Office use only
Initial approval: 29/08/2019 Version no: 1
With effect from: 01/09/2019
Date and details of revision: Version no:

Module Aims

This module aims to give students a thorough knowledge of those developments in Construction methods that are collectively known as Modern Methods of Construction (MMC), Beginning with drivers for and barriers to change the student will study how these MMCs have developed and what share of the market they now have. Both on site and off site manufacture will be covered as well as site procedures for each.

Sustainability, in terms of both economic and social factors and the materials used, will be important factors in this module. Life-cycle and cost-benefit analysis, along with a study of ethical sourcing will precede a section on Renewable technologies and Futureproofing buildings. Issues of Time procurement and Building Research Establishment Environmental Assessment Method (BREEAM) standards will form the concluding aims of this module.

Intended Learning Outcomes

Key skills for employability

KS1	Written, oral and media communication skills
KS2	Leadership, team working and networking skills
KS3	Opportunity, creativity and problem solving skills
KS4	Information technology skills and digital literacy
KS5	Information management skills
KS6	Research skills
KS7	Intercultural and sustainability skills
KS8	Career management skills
KS9	Learning to learn (managing personal and professional development, self-management)
KS10	Numeracy

	At the end of this module, students will be able to	Key Skills	
1	Evaluate the drivers for and barriers to MMC and present on one technology.	KS1	KS5
		KS10	
2	Critically analyse the suitability of MMC for a variety of construction situations.	KS1	KS4
		KS6	KS7
3	Critically review the factors of MMC that contribute to the debate surrounding affordability and sustainability.	KS1	KS4
		KS5	KS6

Transferable skills and other attributes

- Students will advance their knowledge of construction types and systems;
- Students will understand how their choices of the latest construction types and systems impact on the ratings and monitoring of the buildings they are applied to;
- Students will appreciate how the development of advanced techniques contribute to the sustainability of the construction industry.

Derogations

None

Assessment:

Indicative Assessment Tasks:

Assignment 1: Students will deliver a detailed presentation on one MMC.

Assignment 2: Students will have an in class test that will test their knowledge of the critical differences between using MMC and building in a traditional manner.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)	Duration or Word count (or equivalent if appropriate)
1	1	Presentation	50%	2,000
2	2 & 3	In-class test	50%	2 hrs

Learning and Teaching Strategies:

The learning and teaching strategy has been developed to ensure that students are aware of all aspects of the use of MMC in modern construction.

Assessment 1 will provide an opportunity for an in depth discussion of how MMC affects the built environment and provides early feedback to enable students to develop the skills and abilities to successfully complete the module.

There will be a combination of approaches used:

Key lectures will impart relevant theory and identify best practice examples of MMC.

Directed study and feedback to the peer group will be used to reinforce learning.

Visits to suitable sites will enable students to see MMC in action .

Syllabus outline:

- A definition of MMC;
- Knowledge of the history and development of mass market MMCs;

- Drivers for change in the Construction Industry;
- How barriers to MMCs are perceived;
- Skills for MMCs.

Semester 2 will concentrate on

- Change needed within the Industry;
- Sustainability (both material and fiscal);
- Planning for MMCs;
- Relevant legislation;
- Industry advancements;
- Just in Time working;
- Whole Life Costing.

Indicative Bibliography:

Essential reading

Gaze, C. et al. (2014), *MMC in Housing.* London: BRE Trust. (All 4 Parts)

Watts, A. (2018), *Modern Construction Handbook*. 5th ed. Basel, Switzerland: Birkhauser.

Other indicative reading

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

Chartered Institute of Building www.ciob.org.uk

Institute for Civil Engineering www.ice.org.uk

Royal Institute of British Architects www.architecture.com

Designing Buildings Wiki www.designingbuildings.co.uk

Students will be guided to online resources during the length of the course and through the VLE.

Other sources:

IHS Database www.ihsti.com