UNIVERSITY of BRADFORD

Module Descriptor

Module Details	
Module Title	Construction Technology 1
Module Code	CSE4006-B
Academic Year	2024/5
Credits	20
School	School of Built Environment, Architecture & Creative Industries
FHEQ Level	FHEQ Level 4

Contact Hours	
Type	Hours
Lectures	24
Tutorials	32
External Visits	4
Directed Study	140

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Semester 1

Module Aims

In the UK, construction, demolition and excavation account for 60% of material use and waste generation. The construction sector is urgently required to formulate strategies consistent with the Net Zero Carbon Buildings Commitment, ultimately leading to climate-resilient developments.

The module aims to:

Introduce key concepts related to materials, structures, construction technologies, environmental science and carbon footprint of materials.

Appreciate the factors involved in the analysis and choice of materials, their physical properties, systems and techniques used in construction, and to examine traditional and modern domestic building methods used.

Introduce construction processes and highlight codes of practice and industry standards applicable to construction processes.

Explore the factors affecting the condition of existing buildings, their maintenance, retrofit and adaptation.

Explore and examine processes, products & systems in the construction of simple structures and civil engineering works including surveying techniques.

Outline Syllabus
Site survey methods, site investigation techniques. Physical and chemical properties and characteristics of materials including the properties of masonry, timber, concrete and steel. The environmental impact of specification choices; Critical appraisal and selection of alternative materials. Construction technologies of domestic buildings (traditional and modern). Ethics, regulatory frameworks and standards, health and safety issues. Technical drawing skills and conventions. Organisational skills: work to fulfil briefs and deadlines and to take on responsibility for work independently. Use of manual and digital tools to gather, and present information and to evaluate and communicate the outcomes of their learning.

Learning Outcomes	
Outcome Number	Description
01	Identify physical and chemical properties and characteristics of materials including the properties of masonry, timber, concrete and steel.
02	Explain the principles of construction technologies and relate them to domestic, medium and long span buildings.
03	Apply the range of health & safety legislation / regulations that affect designers and managers in charge of the construction process.
04	Illustrate principles of structural design, the construction techniques and materials used to attain appropriate strength, stability, and stiffness.
05	Develop simple technical drawings to standard industry conventions showing detailed interface assemblies with correct annotation, line weights, hatching, etc.

Learning, Teaching and Assessment Strategy

The teaching and learning methods have been selected to engage students in developing their knowledge and understanding of Construction Technology through formal learning opportunities such as lectures, tutorials, and external visits.

Throughout the module, students will be set formative assessment activities that will help develop confidence in tackling problems and in applying the knowledge and skills that they learn. The timely constructive feedback from formative assessments will support students develop the skills and knowledge required for the summative assessment.

The module will be delivered through lectures, case studies, site visits, in order to integrate theoretical and practical studies. Case studies will seek to develop working knowledge and practices of the construction industry. Learning and teaching is organised around a series of subject-based lectures providing an overview of professional and industry issues, principles of structures, environmental design and systems in buildings, materials and construction and sustainability. This knowledge and understanding is tested and developed through individual research and application.

The module will be summatively assessed through an Examination and by submitting a set of Technical Drawings. Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groups in small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, the use of the Forum facility on Canvas (for generic feedback).

If a student requires supplementary assessment for re-assessment, the method of assessment will be the same as original.

Mode of Assessment

Type	Method	Description	Weighting
Summative	Coursework - Patchwork Assessment	Create technical drawings (2000 words equivalent) and collate into a coherent set	50%
Summative	Examination - MCQ	Formal examination (120 minutes)	50%

Reading List

To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html

Please note:
This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.
