BDLU E7Z01: Building Technology 1

Full Title:	Building Technology 1
Language of Instruction:	English

Module Code:	BDLU E7Z01

Credits:	10

Valid From:	Semester 1 - 2015/16 (September 2015)

Module Delivered in	9 programme(s)

Module Description:	This module aims to familiarise students with standard building technologies associated with domestic buildings in masonry construction and with single-storey lightweight framed construction and to provide students with the drafting skills to depict these.

Learning Outcomes:

On successful completion of this module the learner should be able to

1. Define and describe the basic principles, including sustainability, and processes of general building construction, past and current, in buildings of masonry construction and of lightweight framed/skeletal construction.
2. Interpret, analyse and prepare working drawings and details associated with sustainable buildings of masonry construction and of lightweight framed/skeletal construction.
3. Describe the range of site operations involved in the safe construction of buildings of masonry construction and of lightweight framed/skeletal construction.

Module Content & Assessment

Indicative Content
Introduction to structural forms masonry, framed/skeletal and space
Substructure strip, raft and short pile/ground beam foundations; rising walls; ground supported slabs; suspended timber ground floor; basements (retaining walls, tanking & cavity drained systems); piling (displacement & replacement); safety related to excavations
External walls brickwork and blockwork; cavity wall construction including insulation; openings (head, jamb, cill & threshold); safety related to working at height (access, scaffolding); retrofitting of insulation
Roofs cut timber (rafters, purlins & joists); pre-fabricated trussed rafters; pitched roof coverings (sarking, slating & tiling); roof drainage (gutters & downpipes); roof ventilation; roof details (eaves, ridge & verge); flat roofs (cold, warm sandwich, inverted and green); flat roof coverings (built-up felt, asphalt, single-ply membranes, metal sheet); safety related to working at height (access, scaffolding); retrofitting of insulation
Intermediate floors timber; concrete; structure (one-way, two-way, ribbed, waffle, prefabricated); sound insulation; fire resistance; access floors; safety related to working at height (temporary access, temporary support, guarding of openings)
Staircases timber; concrete; metal; standard and ambulant disabled
Partitions loadbearing & non loadbearing; stud partitions; timber and metal
Chimneys stacks, fireplaces and flues
External finishes pointing; rendering; weatherboarding; tile & slate hanging
Internal finishes to solid and boarded backgrounds; suspended ceilings; thin surface finishes; integral finishes on concrete and stonework
Windows and glazing casements; vertical & horizontal sliding; glass types & use; replacement of windows
Doors and ironmongery internal and external types including fire doors & frames
Structural frame timber framed; steel framed structures (steel trusses, girders, castellated beams); joints; space frames, space decks & large span roof structures; portal frames (steel, concrete & timber); cladding (eaves, verge & ridge details)
Drainage internal, external, septic tanks and other on-site wastewater treatment systems
Drawing techniques introduction to basic drawing techniques, use of scales, using common symbols/lines/materials in section and abbreviations, using proper layout techniques, line weights, lettering styles, basic dimension techniques.

Assessment Breakdown	%
Course Work	50.00%
End of Module Formal Examination	50.00%

Full Time

Course Work							
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Marks Out Of*	*Pass Marks*	*Assessment Date*	*Duration*
Continuous Assessment	A portfolio of approximately six sketches and/or finished drawings (carrying approximately equal marks) of construction details relating to external envelope of masonry construction will be prepared over the course of the module. Sketch 6 is to be submitted in week 1 semester 2.	1	25.00	100	40	Every Week	90
Continuous Assessment	A portfolio of approximately six sketches and/or finished drawings (carrying approximately equal marks) of construction details relating to buildings of masonry construction and single-storey framed buildings will be prepared over the course of the module.	1	25.00	100	40	Every Week	90

No Project

No Practical

End of Module Formal Examination							
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Marks Out Of*	*Pass Marks*	*Assessment Date*	*Duration*
Formal Exam	Examination requiring written and sketched answers	1,3	50.00	100	40	End-of-Semester	120

Reassessment Requirement

A repeat examination
Reassessment of this module will consist of a repeat examination. It is possible that there will also be a requirement to be reassessed in a coursework element.

Reassessment Description
Students will be given an opportunity to remediate part or all of their CA performance by the autumn/repeat examination boards by repeating part or all of the same or similar CA.

DKIT reserves the right to alter the nature and timings of assessment

Module Workload & Resources

Workload: Full Time

Workload Type	Workload Description	Hours	Frequency	Average Weekly Learner Workload
Lecture	Theory based lectures and explanation of tasks to be undertaken in practical classes	2.00	Every Week	2.00
Practical	Guided preparation of sketches and/or finished drawings contributing towards portfolio of relevant construction details.	2.00	Every Week	2.00
Directed Reading	Completion of portfolio of sketches and/or finished drawings of relevant construction details over the course of the module.	1.00	Every Week	1.00
Independent Study	Preparation for final examination.	2.00	Every Week	2.00
			Total Weekly Learner Workload	7.00
			Total Weekly Contact Hours	4.00

This course has no Part Time workload.

Resources

Recommended Book Resources

Chudley, R. and Greeno, R. 2013, *Building construction handbook*, 9th Ed., Routledge London [ISBN: 9780080970615]

Emmitt, S. & Gorse, C. 2010, *Barry's Introduction to the Construction of Buildings*, 2nd. ed. Ed., Wiley Oxford [ISBN: 1405188548]

Farrell, E., McCarthy, J. and McFeely, A. 2004, *Homebond House Building Manual*, 4th ed. Ed., National House Building Guarantee Company Ltd. Dublin [ISBN: 0952361442]

Foster, J. 2007, *Structrure and Fabric part 1*, 7th. ed. Ed., Prentice Hall Harlow [ISBN: 9780131970946]

Foster, J., Harington, R. and Greeno, R. 2007, *Structure and fabric : part 2*, 7th. ed. Ed., Prentice Hall Harlow [ISBN: 9780131970960]

Hannon, M. 2003, *Architectural Technology*, 1st. ed. Ed., EEC Direct Toomevara, Co. Tipperary [ISBN: 1902148037]

Seeley, I. 1995, *Building Technology*, Palgrave McMillan Basingstoke [ISBN: 0333620960]

Thompson 1993, *Introduction to Construction Drawing*, E. Arnold London [ISBN: 0340568232]

Riley, M. & Cotgrave, A. 2013, *Construction Technology 1: House Construction*, 3rd ed. Ed., Palgrave & McMillan Basinstoke [ISBN: 1137030177]

This module does not have any article/paper resources

Other Resources

On-line datbase: *IHS Database*
http://Available to registered students via DkIT Library website

Module Delivered in

Programme Code	Programme	Semester	Delivery
DK_EARCT_8	Bachelor of Science (Honours) in Architectural Technology	1	Mandatory
DK_EBSUR_8	Bachelor of Science (Honours) in Building Surveying	1	Mandatory
DK_ECMGT_8	Bachelor of Science (Honours) in Construction Management	1	Mandatory
DK_EARCT_7	Bachelor of Science in Architectural Technology	1	Mandatory
DK_ECMGT_7	Bachelor of Science in Construction Management	1	Mandatory
658	Bachelor of Science in Construction Surveying	1	Mandatory
DK_ECTEC_7	Bachelor of Science in Construction Technology	1	Mandatory
656	Higher Certificate in Science in Construction Surveying	1	Mandatory
657	Higher Certificate in Science in Construction Technology	1	Mandatory