

Module Title:	Construction Mathematics
Module Code:	BSCS01C
Level:	4
Credits:	15
Pre-Requisites:	None

Module Description:

The module is designed to develop the students' understanding of fundamental mathematical knowledge and analytical techniques to construction related applications. Students will therefore identify, analyse, apply, and evaluate mathematical techniques within construction related scenarios.

Indicative Content:

- Analytical methods appropriate to the construction process: testing, control and programming of construction operations.
- Analytical methods related to surveying: determination of coordinates, traversing, and trapezoidal and Simpson's rule.
- Application of analytical methods to structural building systems: trigonometric methods, framework analysis, beam calculations.

Learning and Teaching Methods:

The module will be delivered using lectures, tutorials and seminars and case studies which integrate mathematical theory and practice. Where appropriate applications from the students' workplace should be used to enhance the learning. Contextualisation is a key component and should be reflected in the teaching and learning strategies employed and the module assessments.

Specific Learning Resources:

Bibliography

Highly Recommended

Stroud, K.A. (2009) *Foundation Mathematics* Cheltenham: Basingstoke: Palgrave Macmillan

Recommended

Stroud, K.A. and Booth, D.J. (2007) *Engineering Mathematics 6th Ed* Basingstoke: Palgrave Macmillan

Singh, K. (2003) *Engineering Mathematics through Applications* Basingstoke: Palgrave Macmillan

Module Specifications: *Schools of Construction & Engineering*

Durka, F. Al Nageim, H. Morgan, W. and Williams, D. (2010) Structural Mechanics 8th Edition Harlow: Pearson Education Ltd

Background Reading

Soloman, R.C. (1999) Essential Mathematics for Technicians Oxford Macmillan Education

Greer, A. Taylor, G.W (2005) BTEC National Further Mathematics Cheltenham Nelson Thornes

Module Learning Outcomes

Subject Specific Learning Outcomes

On successful completion of this module you will be able to:

LO | Select and effectively use the necessary range of numerical methods for calculating, checking and presenting solutions to construction problems.

LO | Apply a variety of analytical methods or techniques to construction problems.

LO | Select and apply graphical solutions to construction problems.

Assessment Title or element	Weighting (%)
Course Work	60%
Examination (unseen)	40%

Information correct at point of publication.