

COURSE SPECIFICATION DOCUMENT

NOTE: ANY CHANGES TO A CSD MUST GO THROUGH ALL OF THE RELEVANT APPROVAL PROCESSES, INCLUDING LTPC.

Academic School/Department:	Business and Economics
Programme:	Combined Studies
FHEQ Level:	3
Course Title:	Fundamental of Mathematics
Course Code:	MTH 3000
Course Leader:	Ana Oliveira
Student Engagement Hours:	160
Lectures:	40
Seminar / Tutorials:	20
Independent / Guided Learning :	100
Semester:	Fall/Spring/Summer
Credits:	12 UK CATS credits 6 ECTS credits 3 US credits

Course Description:

A requirement for all students whose diagnostic mathematics placement reveals a need to study the fundamentals of mathematics. It is a comprehensive course dealing with the ordinary processes of arithmetic and number theory, elementary algebra, functions and manipulation of functions, geometry and applications of well known formulas, basic concepts in trigonometry, sets and logic, sequences and series arithmetic, further ideas in functions (inverse, exponential and logarithmic functions) and basic calculus (derivatives of functions and simple integration). This course may not be used to satisfy general education requirements in mathematics but may act as a prerequisite to a host of courses that require some essential mathematical knowledge.

Prerequisites: None

Aims and Objectives:

This course gives the student confidence and practice in dealing with a comprehensive range of basic mathematical processes including arithmetic and number theory, elementary algebra, functional manipulation, geometry, trigonometry and an introduction to basic calculus.

Programme Outcomes :

Ai, Bi, Ci

A detailed list of the programme outcomes are found in the Programme Specification. This is located at the Departmental/Schools page of the portal.

Learning Outcomes:

- Have an understanding and increased confidence of the elements of number manipulation and of basic algebra
- Have an understanding of functions, sequences, sets and logic
- Have an understanding of trigonometry associated with right-angle triangles as well as solutions of triangles
- Be able to grasp concepts of basic calculus

Indicative Content:

- Arithmetic of numbers: whole numbers, fractions and decimal
- Percentages and ratios; powers & indices
- Simplifying algebraic expressions
- Solution of linear and quadratic equations
- Sequences and series; sets and logic
- Functions: composite; inverse and graphs
- Introduction to trigonometry and solution of triangles
- Introduction to differentiation and integration

Assessment:

This course conforms to the Richmond University Special Programme Assessment Norms for Mathematics approved by Academic Council on 28 June 2012.

Teaching Methodology:

Course material is presented and analyzed in the following ways:

- a) Formal presentation of topics and worked exercises.
- b) Self-learning assignments and directed mathematical exercises.
- c) Participation in individual and group investigations.
- d) Where appropriate, students will be introduced to solution aids, such as hand-held calculators, mathematical tables and computer software.

Bibliography:

IndicativeText(s):

A. Croft and R. Davison, "Foundation Mathematics", Prentice-Hall, 5th Ed., 2010.

