COURSE SPECIFICATION DOCUMENT

Academic School / Department: Business and Economics

Programme: BA Business Administration

FHEQ **Level:**   3

Course Title: Functions with Applications

Course Code: MTH 3120

Course Leader: Ana Oliveira

Student Engagement Hours: 160 (Standard 4- credit BA Course)
Lectures: 40
Seminar / Tutorials: 20
Independent / Guided Learning: 100

Semester: Fall, Spring, Summer

Credits: 16 UK CATS credits
                                     8 ECTS credits
                                     4 US credits

Course Description:
This course is designed to provide students with the necessary mathematical background for calculus courses and its applications to some business and economics courses. It covers the fundamentals of real-valued functions, including polynomial, rational, exponential and logarithmic functions and introduces students to the concepts of derivative and integral calculus with its applications to specific concepts in micro- and macro-economics.

Prerequisites:
MTH 3000 (or Mathematics assessment exemption)

Aims and Objectives:
The aim of this course is to provide the necessary mathematical skills for more advanced mathematics courses as well as some business and economics courses and to give students the opportunity to investigate a range mathematical applications, including business, economics, and the social and life sciences.

Programme Outcomes:
   Ai, Bi, Ci

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September 2019

A detailed list of the programme outcomes are found in the Programme Specification.

This is located at the archive maintained by the Registry and found at: https://www.richmond.ac.uk/programme-and-course-specifications/

Learning Outcomes:
By the end of this course, successful students should be able to:

- Have an understanding of the fundamental concepts of algebra including exponents and radicals; factorising polynomials and solving inequalities
- Have an understanding of functions and be able to solve standard problems using a library of functions
- Have an understanding of graphs of functions and be able to graph different types of functions
- Have an understanding of simple derivatives and integration and its application
- Have an understanding of how the concepts of functions apply in a Business and Economic context

Indicative Content:

- Exponents and radicals; factoring polynomials
- Solving linear and non-linear inequalities
- Functions: transformation; combination; composition and inverse
- Graphing of functions
- Quadratic, rational, exponential and logarithmic functions
- Exponential and logarithmic equation and models
- Derivatives and integration with applications to Business and Economics

Assessment:
This course conforms to the Richmond University Math Assessment Norms approved at Academic Board and located at: https://www.richmond.ac.uk/policies/

Teaching Methodology:
Course material is presented and analysed 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.

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Indicative Text(s):

Larson, R. "Precalculus" CENGAGE Learning, 10th Edition, 2017.

Frankil Demana, Bert Waits, Gregory Foley, Daniel Kennedy and Dave Bock. "Precalculus: Graphical, Numerical, Algebraic" Pearson, 9th Edition 2015

Journals

Web Sites

See syllabus for complete reading list

Change Log for this CSD:

Nature of Change	Date Approved & Approval Body (School or AB)	Change Actioned by Registry Services
Course description	27th Nov 17	Y
Aims and objectives	27th Nov 17	
Learning outcomes	27th Nov 17	
Indicative content	27th Nov 17	
Indicative Text	Sept 2019	