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:**	4
Course Title:	Probability and Statistics I
Course Code:	MTH 4120
Course Leader:	Ana Oliveira
Student Engagement Hours:	120
Lectures:	30
Seminar / Tutorials:	15
Independent / Guided Learning :	75
Semester:	Fall/Spring/Summer
Credits:	12 UK CATS credits 6 ECTS credits 3 US credits

Course Description:
An introductory course in probability primarily designed for business economics and psychology majors. The course coverage will include: descriptive statistics, elementary probability theory, random variables and expectations, discrete probability distributions (Binomial and Poisson distributions), continuous probability distribution (Normal distribution), linear regression analysis and correlations, elementary hypothesis testing and Chi-square tests, non-parametric methods and SPSS lab sessions targeting applications of statistical concepts to business, economics and psychology and interpretations of hardcopies. All practical work will be produced using SPSS statistical software.

Prerequisites: MTH3000 or MTH3110 or Mathematics Assessment exemption.

Aims and Objectives:
The course aims to provide students with an understanding of a number of topics in probability and statistics. We will encourage students to develop a keen interest in the subject based on their specific majors. In particular, the course will help students develop the right statistical vocabulary, understand and apply essential ideas and concepts of statistics, perform some of the most useful statistical methods such as using statistical tables and SPSS statistical software, be able to discern which statistical method is most

appropriate in a given situation and be aware of the assumptions and pitfalls of the various statistical methods used. Students should be able to interpret and explain meaningfully an SPSS statistical output.

Programme Outcomes:

Combined Studies: Ai, Aiii, Ci, Cii, Ciii, Di, Diii
Economics: A2, A4, D
Business: B4, D2, D3
Psychology: Bi, Biii, Cii

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 a broad understanding of the concept of probability, random variables, discrete and continuous probability distribution and their applications in solving problems
- Have a broad understanding of how to organise raw data, use statistical software and interpret results
- Have a broad understanding of the principles of linear regression analysis and how to estimate model parameters by using least square method and interpret model parameters using examples of business, economics and psychology
- Have a broad understanding of the principles of non-parametric methods, their viability and usefulness

Indicative Content:

- Introduction to statistical terms and definitions, types of data and its organisation
- Measures of Location and Measures of Dispersion
- Probability
- Binomial Distribution
- Poisson Distribution
- Normal Distribution and applications
- Hypothesis Testing
- Simple Linear Regression
- Non-Parametric Methods
- Use of statistical software throughout

Assessment:

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

Teaching Methodology:

The Course will consist of interactive learning sessions of material presented using PowerPoint slides, small group discussions, and individual projects.

Bibliography:

IndicativeText(s):

Mann, P.S., "*Introductory Statistics*", 7th Edition, Wiley 2010

Pallant Julie, "*SPSS Survival Manual*", 3rd Edition, Open University Press, 2007

Journals

Web Sites

Please Note: The core and the reference texts will be reviewed at the time of designing the semester syllabus

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Change Log for this CSD:

Major or Minor Change?	Nature of Change	Date Approved & Approval Body (School or LTPC)	Change Actioned by Academic Registry