**MAT002**STATISTICS

**Scheme**

Undergraduate

**Department**

Comp. Eng. & Tech (D)

**Level**

Level 0

**Tutor**

**Credits**

10

**Module Board**

Mathematics

**Description**

MODULE DESCRIPTOR   
  
TITLE: Statistics  
CODE: MAT002  
CREDITS: 10  
LEVEL: 0  
FACULTY: FAS  
MODULE BOARD: Level Zero  
PRE-REQUISITES: None  
CO-REQUISITES: None  
LEARNING HOURS: 100 of which 36 are contact hours  
  
AIMS:  
To develop the students? knowledge and competence in applying basic statistical techniques for the extraction, interpretation and presentation of data.  
  
LEARNING OUTCOMES:  
After completion of this module, the student will be able to demonstrate:-  
  
Knowledge:  
  
K1. Data collection, summary and display.  
K2. The basic principles involved in correlation and regression.  
K3. Awareness of the advantages and drawbacks of the various numerical and graphical summaries.  
K4. Basic probability up to and including the concept of independent events.  
  
Skills:  
  
S1. Application of basic numerical summaries (mean, median, mode, variance/standard deviation) associated with data.  
S2. Use a statistical package (e.g. MINITAB) to provide the necessary calculations and displays required in elementary data analysis.  
S3. Application of simple probability.  
  
CONTENT SYNOPSIS:  
  
Data collection: Reasons for sampling, good and bad samples, methods of sampling, random and non-random sampling, discrete ad continuous data.  
Statistical package (e.g. MINITAB or equivalent): Introduction to basic facilities offered, entering and exiting worksheet, entering and editing data, conserving worksheet and output, printing.  
Data display: Tabulation, graphs, bar charts, histograms, pie charts, pictograms, stem and leaf diagrams, ideas of symmetrical and non-symmetrical displays.  
Data relationships: Scatter diagrams, Pearsons produce moment correlation coefficient, limitations. Principle of least squares linear regression, prediction, limitations.  
Probability: Definitions of probability ? relative frequency, equally likely. Basic axioms. Mutually and exclusive events. Simple Probability calculations.  
  
  
  
  
  
TEACHING AND LEARNING:  
  
The module will be delivered by the use of lectures, tutorials, and self-paced directed study sessions involving the use of computer packages. The teaching will emphasise the need for the student to be familiar with the basic terms and methods used in elementary descriptive statistics. In addition the students will be encouraged to learn to use their judgement when reading and presenting statistical summaries.  
  
Lectures/tutorials: 36 hours  
Self-study: 64 hours.  
  
  
TEACHING AND LEARNING METHODS:  
  
Scheduled activities Independent study Placement Total hours  
Hours Detail Hours Detail Hours Detail   
36 workshops 64 Self study 100  
  
  
Total 100  
  
  
  
ASSESSMENT METHODS  
  
(Please ensure that the sequence numbering of the assessments is in the correct chronological order for the module, as this may affect funding.)  
  
  
  
  
Required For KIS return to HESA  
Seq. Element % of module assessment weighting Summary Pass Mark LO Written exam ? central timetable  
(% of the element) Written exam ? local timetable  
(% of the element) Coursework  
(% of the element) Practical  
(% of the element)  
% Type % Type % Type % Type  
001 TCT 50 K2 K4 S1 S3 100 TCT   
002 Coursework 50 K1 K3 S1 S2 100 Mini Project   
  
\* only populate if there is an approved programme specific regulation OR if the assessment is pass/fail   
  
(If the Pass Mark differs from the university regulations there must be a related programme specific regulation approved.)  
  
  
Assessment 001: a TCT that assesses learning outcomes K2, K4 S1 and S3.  
  
Assessment 002: is a statistical mini-project and assesses learning outcomes K1, K3, S1 and S2.  
  
  
INDICATIVE READING LIST ? (NB: New modules must have an extended reading list)  
  
AS Use of Maths Statistics (2003), Published by Nelson Thornes (Publishers) Ltd. ISBN 0-7487-6980-3.  
AS Use of Maths Algebra and Graphs (2003), Published by Nelson Thornes (Publishers) Ltd. ISBN 0-7487-6976-5.  
Intermediate Mathematics for GCSE (2001), Published by Collins Educational.  
ISBN 0 00 711509 1.  
  
SUPPORT MATERIAL:  
  
The University of Sund erland learning development centre (LDS) has a range of math skills support material and the student has access to one-to-one maths tuition.   
  
Additional support through the universities study skills provision is also available to students.  
  
  
  
PROGRAMMES USING THIS MODULE AS CORE/OPTION:   
a) Bsc (hons) applied biomedical sciences (core)  
b) Bsc (hons) biomedical sciences (core)  
c) Bsc (hons) biomedical studies (core)  
d) BSc (Hons) Sport and Exercise Development (core)  
e) BSc (Hons) Sport and Exercise science (core)  
f) BSc (Hons) Sport studies (core)  
g) Bsc (hons) sports coaching (core)  
h) Bsc (hons) psychology (core)  
i) Bsc (hons) psychology with counselling (core)  
j) Bsc (hons) sport and exercise psychology (core)  
  
  
Is the programme delivered On Campus or Off campus (please delete, as appropriate):   
  
Off campus   
  
College(s): Sunderland College, Shiney Row Centre  
  
Work based learning: No  
  
Professional Accreditation: No  
  
Module Leader   
Massoud Hajsadr, Sunderland College,   
  
  
Lead Deliverer   
Massoud Hajsadr, Sunderland College,   
  
  
JACs Code G300

**Assessments**

CW FINAL: Coursework (50%)

EXAM: Exam (50%)

**Availability**

1D: Semester 2 2013/4 City of Sunderland College

1D: Semester 2 2014/5 City of Sunderland College

A: Semester 1 2013/4 Sunderland

A: Semester 1 2014/5 Sunderland