Module Details for ST1002 STATISTICAL ANALYSIS I

**Current Record**

Module Details

**Module Code** ST1002

**Module Name** ST1002 STATISTICAL ANALYSIS I

**Module Short Title**

**ECTS** 5

**weighting**

**Semester/term taught** Michaelmas term

**Contact Hours** *Lecture: 2 hours per week*

*Lab hours: 1 hour per week*

*Total hours: 33 hours*

**Module Personnel** Associate Professor Myra O’Regan

**Learning Outcomes** To explain basic statistical theory and apply the techniques to data. Students should be able to describe and interpret the results in a detailed fashion. More precisely students should be able to

Explain the nature of data

Generate appropriate descriptive statistics
Illustrate data with appropriate graphical techniques

Calculate simple probabilities

Understand how various statistical distributions are used

Select a random sample

Create estimates and confidence intervals of population parameters from samples

Carry out and interpret the results of statistical tests including

  Independent t-tests

  Chi-square test

  Explain the ideas behind simple linear regression

**Module Learning Aims**

The aim of the course is to introduce the students to basic statistical concepts. There will be considerable emphasis on the use of a statistical package to analyse data.

**Module Content**

- Nature of data

- Descriptive statistics

- Displaying data using graphs
Laws of probability
Bayes Rule
Binomial Distribution
Poisson Distribution
Exponential Distribution

• Normal Distribution

• Select random sample

• Confidence intervals for means and proportions

• Hypothesis testing

• Independent t-tests

• Chi-Square tests

• Simple linear regression

**Recommended Reading List**


**Module Pre Requisite**
None
Module Co: None
Requisite:

Assessment:
Details: Assessment is by written examination (contributing 80% to the overall mark) and a series of assessments to be completed (contributing 20% to the overall mark). To pass the module, students must achieve a mark of 40% in both the written examination and the continuous assessment components.

Class and lab attendance is compulsory. Students will be required to attend 80% of labs and lectures. Non attendance will result in an additional project to complete. Students will work together in groups to complete labs.

In the supplemental examinations, assessment is by written examination only, which contributes 100% of the overall mark.

Module Website
Module approval date
Approved By
Academic Start Year
Academic 2016/17
Year of Data