HE1004 Introduction to Statistical Theory and Methods

[Lecture: 26 hrs; Tutorial: 13 hrs]

This course provides a firm foundation for statistical methodology. Basic ideas and methodologies in probability and statistics which are useful for economics students are introduced. The emphasis will be on application of statistics rather than the statistical theory. Statistical packages will be used to illustrate analysis of real-world data.

Learning Objective

Students will learn how to analyse and interpret economic and business data for decision making. It will also enable students to further develop their analytical, econometric, writing and presentation skills, as well as strengthen their ability to work in a group.

Content

The main topics covered are: Probability, Random Variables and Statistical Distributions, Sampling Distributions, Estimation and Hypothesis Testing, Linear Regression.

Course Outline

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<th>Week</th>
<th>Topic</th>
<th>Lecture Hours</th>
<th>Tutorial Hours</th>
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<td>Introduction to Probability</td>
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<td>3 &amp; 4</td>
<td>Some Discrete Distributions</td>
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<td>5 &amp; 6</td>
<td>Some Continuous Distributions</td>
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<td>4</td>
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<tr>
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<td>13</td>
<td>Linear Regression</td>
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Learning Outcome

On successful completion of the course, students will be able to
- gain an understanding of some methods of statistical analysis
- use statistical packages to analyse real-world data
- interpret business and economic data for informed decision making.
Student Assessment
Student will be assessed as follows:

a. Continuous Assessment (40%)

10%: Tutorials participation. Take-home assignments will be distributed prior to the tutorials. Students will be required to present the solutions and will be evaluated based on the quality of their answers.

30%: Intra-semester test. Designed to allow students to demonstrate, in a practical way, findings and theories discussed in class.

b. Final Examination (60%)

The final exam is a cumulative and comprehensive assessment of students’ understanding of class materials.

Textbooks/References

Utts, JM & Heckard, RF

Keller, G & Warrack, B

Hogg, RV & Tanis, AT