COURSE DETAILS
Course Code: F71MA
Full Course Title: Statistical Models
SCQF Level: 11
SCAF Credits: 15
Available as Elective: No

DELIVERY LEVEL
Undergraduate: No
Postgraduate Taught: Yes
Postgraduate Research: No

COURSE AIMS
In this module students will

- develop an understanding of the different methodologies of statistical inference
- develop skills in practical, computer-based estimation and inference
- develop report writing and presentation skill
- develop independent research skills

LEARNING OUTCOMES – SUBJECT MASTERY
On completion of this course, students will be able to demonstrate:

- understanding of the theoretical bases of three main approaches to statistical inference and the relations between them
- ability to apply all three main approaches to inference in a number of examples
- ability to understand and assess applicability and limitations of these approaches working with data sets in a practical setting
- critical analysis of quantities of interest and conclusions made using statistical inference

On completion of this course, students will:

- develop their problem-solving skills
- gain ability to critically understand and apply relevant approaches to statistical inference in a practical setting

LEARNING OUTCOMES – PERSONAL ABILITIES
At the end of the course, students should be able to:

- Demonstrate the ability to learn independently
- Manage time, work to deadlines, and prioritise workloads
- Use an appropriate computer package to process data
- Present results in a way which demonstrates that they have understood the technical and broader issues of statistical inference

Students will organise their learning and working on a project through time management.

Students will:

- demonstrate high levels of numeracy required for working with data
- develop and demonstrate skills to communicate with peers as well as with academic staff
- develop and demonstrate skills in using statistical software

SYLLABUS

- Inference and decision making
  - Parameter estimation
  - Likelihood
  - Bayesian estimation and credibility theory
  - Hypothesis testing
- Project preparation
- Applied statistical project

COURSE RELATIONSHIPS

N/A

LOCATION AND ASSESSMENT METHODS

<table>
<thead>
<tr>
<th>Edi</th>
<th>SBC</th>
<th>Ork</th>
<th>Dub</th>
<th>Malay</th>
<th>IDL</th>
<th>COLL</th>
<th>ALP</th>
<th>OTH</th>
<th>Method</th>
<th>Weight</th>
<th>Exam Mins</th>
<th>Type</th>
<th>Diet</th>
<th>Synoptic Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Coursework</td>
<td>40</td>
<td></td>
<td>Assessment</td>
<td></td>
<td>Semester 1</td>
</tr>
<tr>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Examination</td>
<td>60</td>
<td>120</td>
<td>Assessment</td>
<td></td>
<td>Semester 1</td>
</tr>
<tr>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Examination</td>
<td>100</td>
<td>120</td>
<td>Reassessment</td>
<td></td>
<td>Semester 1</td>
</tr>
</tbody>
</table>