## COURSE SPECIFICATION FORM

<table>
<thead>
<tr>
<th>Department/School:</th>
<th>Mathematics</th>
<th>Academic Session:</th>
<th>2017-18</th>
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<tbody>
<tr>
<td>Course Title:</td>
<td>Inference</td>
<td>Course Value:</td>
<td>(UG courses = unit value, PG courses = notional learning hours) 200 hr</td>
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<tr>
<td>Course Code:</td>
<td>MT5432</td>
<td>Course JACS Code:</td>
<td>G350</td>
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<tr>
<td>Availability:</td>
<td>Term 2</td>
<td>Status:</td>
<td>Optional Condonable</td>
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<tr>
<td>Pre-requisites:</td>
<td>-</td>
<td>Co-requisites:</td>
<td>-</td>
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### Aims:
This is a graduate level course intended to provide the mathematical theory underlying the main principles and methods of statistics, in particular, to introduce the mathematical theory of parametric estimation and hypotheses testing.

### Learning Outcomes:
On completion of the course, students should be able to demonstrate a deep understanding of some of the advanced concepts and results of the theory of estimation and hypothesis testing with main emphasis on the general methodology rather than special models occurring in applications; formulate statistical problems in rigorous mathematical terms; select and apply appropriate tools of mathematical statistics and advanced probability to analyse and solve the problems; understand and construct mathematical proofs of some of the main theoretical results of mathematical statistics; understand the concepts and results in asymptotic theory of estimation.

### Course Content:

### Teaching & Learning Methods:
- 44 hours of lectures and examples classes.
- 156 hours of private study, including work on problem sheets and examination preparation.
- This may include discussions with the course leader if the student wishes.

### Key Bibliography:
- Statistical Inference – G Casella and R L Berger (Duxbury 2001) Library reference 518.1 CAS

### Formative Assessment & Feedback:
- Formative assignments in the form of 8 problem sheets.
- The students will receive feedback as written comments on their attempts.

### Summative Assessment:
- **Exam:** 100% Written exam. Two hours.
- **Coursework:**

The information contained in this course outline is correct at the time of publication, but may be subject to change as part of the Department’s policy of continuous improvement and development. Every effort will be made to notify you of any such changes.

Updated September 2017