# ST912-15 Statistical Frontiers

## 23/24

**Department**
> Statistics

**Level**
> Taught Postgraduate Level

**Module leader**
> Krzysztof Latuszynski

**Credit value**
> 15

**Assessment**
> 100% coursework

**Study location**
> University of Warwick main campus, Coventry

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## Description

### Introductory description

This module runs in term 2 and is usually taken by PhD students in the Warwick Centre for Doctoral Training in Mathematics and Statistics.

Each topic will be presented by a different lecturer, who is an expert in the research area. The lectures are intended to introduce a particular research topic, provide a short overview and stimulate your interest in this particular area. Taken as a whole, the module gives a (necessarily partial and incompete) idea of the breadth of the research interests and expertise within the Department and should thus help you discover the supervisory capacity that is available to you.

[Module web page](#)

### Module aims

The aims of this module are to provide a snapshot of the frontiers of statistical inference research in a broad range of different areas, thus giving the students an awareness of the nature, breadth and current limitations of statistics research.

### Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

Each lecturer will choose a particular topic that links in with their research interests and expertise,

give some background and give an overview of the state of the art in the area. Each topic will have a separate lecturer who will be an expert in the research area.

## Learning outcomes

By the end of the module, students should be able to:

- Understand tools and techniques used in modern research in probability and mathematical finance
- By the end of the course students should be able to understand how to apply Statistical tools in various applied problems.
- By the end of the course students should be able to compare the potency of different statistical approaches.
- Understand some of the current research ideas in Statistics

## Research element

The topics are on typically about the research frontier. Students will be asked to write short essays that could be considered a first introduction into research in these areas. They will also give a short research presentation on one topic. All of these topics are selected from the areas presented by the lecturers in the module, and are chosen by the students.

## Subject specific skills

Having a thorough understanding of the principles of Statistical analysis and Probability.

## Transferable skills

Being able to use Statistics and Probability in a variety of applied contexts.

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# Study

## Study time

| Type | Required |
| --- | --- |
| Lectures | 27 sessions of 1 hour (100%) |
| Total | 27 hours |

## Private study description

Weekly revision of lecture notes and materials, wider reading, practice exercises and preparing for examination.

# Costs

No further costs have been identified for this module.

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# Assessment

You do not need to pass all assessment components to pass the module.

## Assessment group A1

| | Weighting | Study time |
|---|---|---|
| Oral examination | 50% | |

The oral examination will take the form of a short (15-20 minutes) presentation on a topic of your choice, followed by questions. This will take place during term 3.

| | Weighting | Study time |
|---|---|---|
| Coursework | 50% | |

The coursework component will be assessed in the form of THREE short essays, each of which should be a maximum of 5 pages.

## Feedback on assessment

Written feedback will be provided for the problem sets and oral examination within 20 working days.

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# Availability

# Courses

This module is Core optional for:

- RSTA-G4P0 Postgraduate Research Statistics
  - Year 1 of G4P0 Statistics (Research)
  - Year 1 of G4P0 Statistics (Research)
  - Year 1 of G4P0 Statistics (Research)
  - Year 1 of G4P0 Statistics (Research)
  - Year 1 of G4P0 Statistics (Research)
  - Year 1 of G4P0 Statistics (Research)
  - Year 1 of G4P0 Statistics (Research)
- TMAA-G3G2 Postgraduate Taught Mathematics and Statistics
  - Year 1 of G3G2 Mathematics and Statistics
  - Year 1 of G3G2 Mathematics and Statistics

This module is Optional for:

- Year 1 of TMAA-G1PD Postgraduate Taught Interdisciplinary Mathematics (Diploma plus

MSc)

This module is Option list A for:

- RMAA-G1PG Postgraduate Research Mathematics of Systems
  - Year 1 of G1PG Mathematics of Systems
  - Year 1 of G1PG Mathematics of Systems

This module is Option list B for:

- Year 1 of TMAA-G1P0 Postgraduate Taught Mathematics

This module is Option list C for:

- TMAA-G1PD Postgraduate Taught Interdisciplinary Mathematics (Diploma plus MSc)
  - Year 1 of G1PD Interdisciplinary Mathematics (Diploma plus MSc)
  - Year 2 of G1PD Interdisciplinary Mathematics (Diploma plus MSc)
- TMAA-G1PC Postgraduate Taught Mathematics (Diploma plus MSc)
  - Year 1 of G1PC Mathematics (Diploma plus MSc)
  - Year 2 of G1PC Mathematics (Diploma plus MSc)