Postgraduate programme in Statistics and Data Science (online)
Certificate, Diploma and Master of Science

Simon Wilson
Course Director
Is this the course for me?

• Year 1 (for a PG Certificate) is an introductory course in statistics;

• It continues to a higher technical level in Year 2 (PG Diploma) and Master of Science (Year 3);

• It also takes a brief look at some of the non-statistical aspects of data science;

• It is a part-time programme;

• Reasons that students take this course:
  • Knowledge of how to use and interpret common statistical techniques is useful in their career;
  • They are a researcher who sees that there will be a need for some statistical analyses in their research but have very little experience of using them;
  • They are considering a career change into data science but have very little experience of statistical methods.
Entrance requirements

• A Bachelor’s (first) degree in any subject;

• Demonstrate some knowledge of high school-level mathematics, either through your degree or a high school qualification:
  • Although the course tries to keep a low technical level, knowledge of subjects like basic calculus and manipulating matrices will be needed;
  • Leaving Cert / A-level or equivalent in mathematics is sufficient;
  • Having passed an introductory mathematics course in your degree (‘Mathematics 101’) will also be sufficient.

• If English is not your first language then you will also have to satisfy TCD’s language requirement for postgraduate students.
Year 1 programme by semester

<table>
<thead>
<tr>
<th>Semester 1 (Sep – Dec)</th>
<th>Semester 2 (Jan – Apr)</th>
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</thead>
<tbody>
<tr>
<td>Introduction to Statistical Concepts and Methods (10 credits)</td>
<td>Regression (10 credits)</td>
</tr>
<tr>
<td>Implementing statistical methods in R (5 credits)</td>
<td>Foundations of Data Science 1 (5 credits)</td>
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</tbody>
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- Currently there are no elective modules;
Progression to the PG Diploma

- If you successfully pass the PG Certificate then you have the option to continue to Year 2 to work towards a PG Diploma in Statistics and Data Science;
- You can continue straight into Year 2 (in 2025/26) or come back to it within 5 years from completing the PG Cert.

<table>
<thead>
<tr>
<th>Semester 1 (Sep – Dec)</th>
<th>Semester 2 (Jan – Apr)</th>
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</thead>
<tbody>
<tr>
<td>Advanced Linear Models 1 (5 credits)</td>
<td>Advanced Linear Models 2 (5 credits)</td>
</tr>
<tr>
<td>Foundations of Data Science 2 (5 credits)</td>
<td>Time Series (5 credits)</td>
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<tr>
<td>Experimental Design (5 credits)</td>
<td>Multivariate Analysis (5 credits)</td>
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Progression to the Master of Science

• If you successfully pass the PG Diploma then you have the option to continue to Year 3 in 2026/27 to work towards a Master of Science;

• You can continue straight into Year 3 (in 2026/27) or come back to it within 5 years from completing the PG Diploma.

• In this year there are no structured taught modules;

• You work with a supervisor (member of TCD faculty) on a dissertation that explores some state-of-the-art research in statistics;

• This continues to be done entirely online.
A fully online course

• There will be no need at all to go to TCD campus for any aspect of the course (classes, labs or any exam);

• The main advantages are:
  • Anyone who cannot make it to our campus each week can still take the course;
  • Greater flexibility in when you study for the course during the week.
How does the online course work?

• Each week a new set of material will be released to TCD’s online teaching website;

• You work through this material, which consists of reading tasks, a video lecture, some homework and maybe a short quiz;

• Each week there are live sessions with TCD teaching staff where you can ask questions, go through homework, etc.

• Your grade for each module is determined through a mixture of homework, projects and/or a take-home examination:
  
  • Your overall course grade each year comes from a weighted average of the module marks.
Title page for first week’s session
The Study element

Study Task 1 (Presentation) HTML

Click the title above and study the presentation 'Data Summaries and Graphs'.

Study Task 1 (PDF) HTML

Click the title above to access a printable version of the presentation.

Study Task 1 (Audio Version) HTML

To download an audio version of the presentation for offline use, click here.
How to apply

• Applications are through TCD’s online course application system at https://www.tcd.ie/courses/postgraduate/how-to-apply

• Application deadline is 31st July 2024.
Fees

- Fees for 2024/25 are:
  - €3,060 per year for an EU student;
  - €7,160 per year for a non-EU student;
- Fees may rise from year to year;
- Eligibility for the EU fee is based on residency for study or work in the EU and not on citizenship; see https://www.tcd.ie/academicregistry/fees-and-payments/ for more details.
Further Information

• The course website contains more information about all aspects of the programme; see


• Please e-mail the course director at simon.wilson@tcd.ie if you have any other query.
Thank you