Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

M.Sc. / P.Grad.Dip in Statistics and Sustainability
(1 Year Full-time)

E3

This full-time one-year multidisciplinary programme is intended for students who wish to deepen their statistical skills and develop an in-depth and applied understanding of sustainability from a variety of perspectives.

This is a flagship MSc Programme of Trinity College Dublin's **E3 'Engineering, Environment and Emerging Technology'** initiative and the course embodies the E3 mission to create a more sustainable future for our world.

The course is designed to cater for students from diverse backgrounds through flexible learning options in the course modules.

What is E3?

Balanced solutions for a better world

Trinity College Dublin has embarking on an ambitious project to expand education and research activities across three of its Schools: the Schools of Engineering, Natural Sciences, and Computer Science & Statistics. Recognising the importance for humanity in addressing the challenge of sustainable technological development, the expansion of the three Schools is being executed as a single strategic activity in the area of "Engineering, Environment, and Emerging Technologies", or E3.

The education of our students will be realised through the Martin Naughton E3 Learning Foundry, a state of the art 7,200 square metre facility based on the main Trinity campus, which will deliver new teaching facilities and an innovative interactive learning space for undergraduate and postgraduate students (*projected completion date of 2024).

E3 will educate engineers and scientists for employment in existing and new technology sectors, equip them with the skills and attributes to lead in the creation of new businesses, and place Ireland in a leadership role globally for the quality of its graduates in the STEM discipline

Project Ireland 2040
Building Ireland's Future

www.tcd.ie/e3/

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Course Structure

This postgraduate Programme in Statistics and Sustainability will provide students with a wide range of modelling, computing, and statistical skills. They will study a variety of sustainability topics that are key to developing solutions to environmental challenges. Students will gain experience of the development and application of statistical techniques and models, and geographic information systems (GIS) and remote sensing technologies, to local and global sustainability problems. They will be exposed to the underlying theory of the statistical methodologies studied to deepen their statistical skills and their ability to promote statistical innovation.

Communication skills will be developed via individual and team project work embedded in the curriculum, and there will be an emphasis on translating statistical outcomes to broad audiences in multiple contexts. Graduates will be equipped with the quantitative skills needed to promote data-based decision making and 'green' innovation.

The course runs full-time over a twelve-month period commencing late September and completing early September of the following year. Formal teaching is divided into two twelve-week semesters, running from September to December and from January to April.

By April, students will have chosen their Dissertation topic, in consultation with their chosen supervisor, and be ready to dedicate substantial time to researching and prototyping their work.

Your master's degree and what you will study

Module	ECTS
Foundations of Statistics	10
Advanced Linear Models I	5
Advanced Linear Models II	5
GIS: Geographic Information Systems	5
The Sustainable Green Organisation	5
Research Methods	5
Statistics and Sustainability Group Projects	5
Dissertation	30

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Optional Modules

The course comprises seven compulsory modules, and a Dissertation module. There are also 15 optional taught modules, from which students can choose modules worth a total of 20 ECTS. These options are split into two groups according to whether they are primarily statistics or sustainability modules. Students must choose at least one module from each group.

Statistics Modules:

Time Series, Multivariate Analysis, Applied Statistical Modelling, Data Analytics (10 ECTS – runs over two semesters).

Unless otherwise stated, all modules are worth 5 ECTS and run for one semester.

Sustainability Modules:

Air Pollution, Transportation Modelling & Planning, Transport Data and Evaluation, Energy Policy and Building Energy Demand, Global Environmental Change, Environmental Policy, Human-Biodiversity Interactions, Earth System Science: Deep Time, Life Cycle Assessment for Engineering Practice, Engineering for the Environment, Advanced Spatial Analysis using GIS.

Graduate skills & career opportunities

The programme will fill a clear statistical skills gap in the market in Ireland, and demand for this programme has been identified both nationally and internationally. Globally, statistical and data skills are in demand from industry and government organisations.

E3 graduates across all its constituent disciplines will share an experience of having learned and worked in a multidisciplinary environment, been educated by world-leading experts in areas of their specialisation and benefitted from best-in-class pedagogy. E3 graduates will be flexible, adaptable and creative individuals who bring deep disciplinary knowledge and problem-solving expertise to any problem they are presented with.

They will be highly sought after by indigenous and multinational companies in Ireland and will be equipped and ready to work in an international context if that is their chosen route.

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Scholarships

Students considering studying the MSc. In Statistics & Sustainability at Trinity College Dublin may wish to apply for one of our scholarships. International students are also encouraged to explore external funding options in their home countries. Students can apply for the following scholarships;

Postgraduate E3 Balanced Solutions for a Better World Scholarship Award:
1-year scholarships valued between €2,000 to €4,000 each, applied as a reduction to the tuition fees of a full-time programme.

The Global Excellence Postgraduate Scholarships:
1 year scholarship valued between €2000 to €5000 each, applied as a reduction to the tuition fees of a full-time postgraduate programme for the first year of study only.

Government of Ireland International Education Scholarships Programme: 1 year scholarship valued at €10,000 for applicants who have non-EU status and will pay tuition fees at the non-EU rate for this programme.

To find out more information on Trinity's scholarship options please visit:
https://www.tcd.ie/e3/education/scholarships/

Please email e3.team@tcd.ie for more information on E3 scholarship opportunities.

Entry Requirements

Applicants must have first class or upper second-class honours undergraduate degree that includes at least one year of university-level mathematics (including linear algebra and calculus topics). The programme also caters for applicants who already have an undergraduate degree in mathematics, statistics, or other highly quantitative subjects. The programme is designed to cater for students from these diverse backgrounds through flexible learning options in the programme modules.

Contact Us

If you have any questions about studying this new integrated degree, please get in touch with us!- and contact us at e3.team@tcd.ie

If you have further questions about the application process you can contact the Applications and Admissions Team at Trinity College Dublin on:
+353 (0) 1 896 4500 or
email : academic.registry@tcd.ie

For more information on this programme please see:
https://www.scss.tcd.ie/postgraduate/statistics-sustainability/

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