

Statistics

CAO code: DN200 Option: Mathematical, Physical & Geological Sciences (MPG)

Sample pathway for a degree in Statistics *

YEAR 1

ENGAGE WITH THE PRINCIPLES

STATISTICS

Topics include:

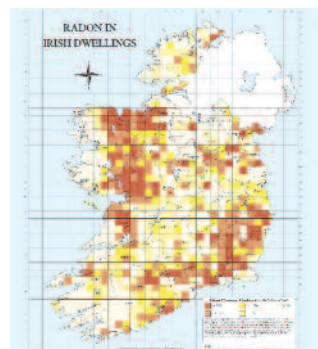
- ▶ Applications of Differential Equations
- ▶ Statistical Modelling
- ▶ Research Methods for Science

MATHEMATICS

Topics include:

- ▶ Calculus in the Mathematical and Physical Sciences
- ▶ Linear Algebra in the Mathematical and Physical Sciences
- ▶ Mathematical Analysis
- ▶ Numbers & Functions

- ▶ Two Elective modules
- ▶ One Small-Group Project



A map of Ireland showing radon in Irish dwellings.

Map by the EPA's Office of Radiological Protection

YEAR 2

CHOOSE YOUR SUBJECTS

STATISTICS

Topics include:

- ▶ Probability Theory
- ▶ Inferential Statistics
- ▶ Linear Models

MATHEMATICS

Topics include:

- ▶ Calculus of Several Variables
- ▶ Computational Science

- ▶ Two Elective modules

- Learn how statistics is used in areas as diverse as biotechnology, finance, marketing, science, medicine and even psychology

YEAR 3

FOCUS ON YOUR CHOSEN SUBJECT

STATISTICS – Topics include:

- ▶ Statistical Data Mining
- ▶ Survey Sampling
- ▶ Linear Algebra 2
- ▶ Data Structures & Algorithms

- ▶ Time Series
- ▶ Survival Models
- ▶ Bayesian Analysis
- ▶ Design of Experiments

- ▶ Two Elective modules

YEAR 4

REFINE YOUR KNOWLEDGE

STATISTICS – Topics include:

- ▶ Stochastic Models
- ▶ Multivariate Analysis
- ▶ Monte Carlo Inference

- ▶ Actuarial Statistics
- ▶ Applied Statistical Modelling
- ▶ Nonparametric Statistics

- ▶ Categorical Data Analysis
- ▶ Data Programming

“ The data analytics I have learned are currently some of the most highly sought after skills by employers, and can be applied to a broad range of areas including finance, insurance, marketing and pharmaceutical companies. If it wasn't for the flexibility of the UCD Science programme I would never have ventured into Statistics, and would have missed out on the chance to enter into the area of Mathematics I now love. **Melanie Dwayne, Student** ”

BSc (Honours) Statistics

MSc (Taught)

- ▶ MSc Statistics
- ▶ MSc Actuarial Science
- ▶ MSc Meteorology

PhD

- ▶ Students can pursue a PhD in universities in Ireland or abroad in areas as diverse as Bayesian Statistics, Pharmaceutical, Medical and Educational Statistics, Epidemiology, Econometrics, Environmental and ecological modelling

Industry

- ▶ Data Analytics and Business Analytics
- ▶ Data Science
- ▶ Pharmaceutical
- ▶ Actuarial Science
- ▶ Banking & Finance
- ▶ Insurance
- ▶ CSO

Conversion Courses

- ▶ Professional Master of Education (PME)
- ▶ Graduate Diploma in Actuarial Science
- ▶ MSc Quantitative Finance

*See pages 4 and 5 for information on the terminology used above. Potential combinations shown here are examples only and are not guaranteed by UCD. Topics are subject to change each year.

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