

Why study a Continuing Professional Development (Programme with the TCD School of Social Science & Philosophy?

Our CPD programmes will improve your on-the-job performance and enhance your career prospects in a digital era. The suite of our CPD programmes will enable you to enhance your skills in Data Science and provide an entry-level knowledge of the fundamental skills needed in social data analysis. These modules have been co-created with key industry partners to address the scarcity of training in data science in Ireland. Our School offers six CPD courses (See following pages for information on individual modules):

- Applied Behavioural Science (link to [video](#))
- Big Data, AI, and Ethics (link to [video](#))
- Statistics and Regression Analysis (link to [video](#))
- Social Data Analysis (link to [video](#))
- Python for Social Data Science (link to [video](#))
- R for Social Data Science (link to [video](#))

Who is this course for?

Working professionals from the private, public and not-for-profit sectors. Managers; HR professionals; product developers; market researchers; service providers; marketers / brand managers and compliance officers from the financial, insurance, legal, IT and consumer products / services industries.



Contact

School of Social Sciences and Philosophy

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Continuing Professional Development

School of Social Sciences and Philosophy



www.tcd.ie/ssp/CPD/

Applied Behavioural Science

This is an exciting new module which will equip working professionals with an understanding of the drivers of human behaviour and with the necessary skills to apply these insights to improve decision making, engagement and performance within their organisations. While the module will provide participants with a solid grasp of the theory which underpins behavioural science, there will be a strong emphasis on teaching participants how to apply this knowledge in a variety of real-life organizational contexts.



On completion of the module, participants will:

- Understand the psychological, sociological and economic processes that drive human behaviour.
- Be able to critically assess the evidence base relating to these processes.
- Be capable of predicting the role which different influences will have on within- and between-group interactions and be able to suggest approaches for improving outcomes.
- Understand the mechanisms that underpin different models of human behaviour and how these can be used to design contextually-appropriate interventions and policies aimed at changing behaviour.
- Have a solid grasp of how behavioural insights can be applied to change behaviour and improve a wide-range of outcomes within organisations.

What topics will you cover?

- What is behavioural science? How does it relate to the world of work?
- How do we make decisions? Errors in judgement: cognitive biases and heuristics.
- How does the social context influence our behaviour? The role of social norms, influence, rituals, social identity, trust etc.
- How can 'nudges' and 'choice architecture' be used to change behaviour?
- Real-world applications of behavioural science - recruitment; board decisions; market research; product design; marketing / brand-building and worker well-being.
- Behavioural science in a digital environment.
- Building an evidence base – how to test policies and/or products using surveys; observation / ethnographic studies; panel data; lab and field experiments.
- Applying behavioural science ethically.

How is the course delivered?

The CPD will be delivered online over 8 weeks with one 2-hour session each week. There will also be 9 hours of asynchronous material. In order to be awarded the Certificate of Completion in Applied Behavioural Science participants will need to attend and actively participate.

Cost

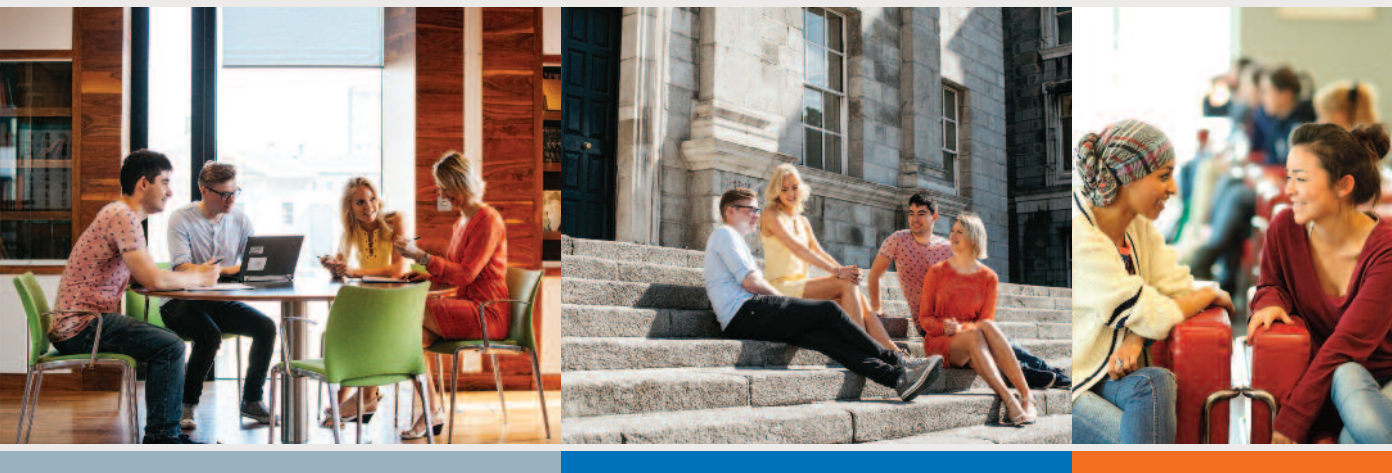
The CPD fee is €1,500.

Register at www.tcd.ie/ssp/CPD

Big Data, AI and Ethics

The Big Data, AI & Ethics module is part of a programme of Continuous Professional Development in the area of Applied Social Data Analysis that the School of Social Sciences and Philosophy will deliver.

Addressing the scarcity of training in data science in Ireland and co-created with key industry partners, the Big Data, AI & Ethics programme trains participants in the fundamental knowledge and skills of social data analysis.



Big Data, AI & Ethics examines some of the most pressing ethical issues raised by social data. It introduces participants to key philosophical tools for addressing such problems and will enable participants to identify and respond to new ethical challenges in this area. It will equip participants to identify and reflect on new ethical issues and challenges raised by the use of social data and prepare participants to be able to formulate guidelines for the ethical use of social data.

What topics will you cover?

This CPD on the philosophy and ethics of social data will critically examine the ethical and philosophical issues raised by social data. It will cover topics such as digital identity, algorithmic fairness and diversity, transparency of data and algorithms, privacy and data protection. It will adopt an interactive approach and the discussion will revolve around concrete case studies and examples.

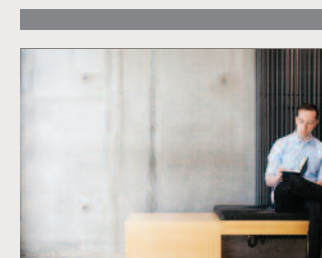
How is the course delivered?

The CPD will be delivered online over 6 weeks with two 2-hour sessions each week (2 hours X 2 days X 6 weeks) and 1 hour of asynchronous material. This will be preceded by 2 hours of preparatory online instruction. In order to be awarded the Certificate of Completion in Big Data, AI, & Ethics, participants will need to have completed all required CPD exercises.

Cost

The CPD fee is €1,500.

Register at www.tcd.ie/ssp/CPD



Statistics and Regression Analysis

The CPD in Statistics and Regression Analysis will provide participants with an understanding of key statistical and econometric methods used to analyse social data and how to implement them using the statistical software package R. The CPD overviews key statistical concepts necessary to analyse social data, introduces participants to regression analysis and demonstrates the use of these methods with practical applications.



On successful completion of the CPD, participants will be able to:

- Explain and apply statistical terminology to the analysis of social data;
- Formulate questions in the language and abstractions of statistics;
- Solve simple problems related to the topics in the CPD;
- Conduct their own basic statistical analysis using R.

What topics will you cover?

The first part of Statistics and Regression Analysis reviews key statistical concepts necessary to analyse social data, such as graphical and numerical data description; probability theory; discrete and continuous random variables; sampling; confidence intervals; hypothesis testing.

The second part of the CPD introduces participants to basic multiple regression analysis, modelling of non-linear relationships, and dummy variables.

The CPD has an applied focus, demonstrating the use of these methods with practical applications using real world datasets and using the statistical software package R.

How is the course delivered?

The CPD will be delivered online over 6 weeks. There will be one synchronous 1-hour class for the first 5 weeks. There will also be 3 hours of asynchronous material for the first 5 weeks:

- 0.5-hour long videos-based lecture
- 5-hour long R tutorial
- 1-hour long self-study time

There will be a take-home assignment for the last week. In order to be awarded the Certificate of Completion in Statistics and Regression Analysis, participants will need to have completed all required CPD exercises.

Cost

The CPD fee is €1,500.

Register at www.tcd.ie/ssp/CPD

Participants are expected to have basic computer skills and some quantitative experience through prior training in statistics.

Social Data Analysis

The CPD in Social Data Analysis teaches participants how to apply quantitative methods to conduct causal impact analysis using data. In particular, participants will learn how econometric methods can be used to answer questions related to human behaviour and strategic decision-making with the help of regression based econometric methods.



On successful completion of this CPD participants will be able to:

- determine which methods can be used to analyse different datasets for addressing different questions of relevance to the social sciences;
- critically assess findings of studies that apply these methods;
- design their own randomized experiments;
- conduct their own causal regression analysis using the statistical software package R.



What topics will you cover?

The CPD focuses on applied causal regression analysis providing an understanding of econometric methods for use with data. In particular, the CPD covers regression-based evaluation methods to assess the casual relationships between different factors at play. These include the use of panel data, difference-in-differences estimation, regression discontinuity design, randomized experiments, and natural or quasi-experiments.

The CPD has an applied focus, demonstrating the use of econometric methods with practical applications using real world datasets using the statistical software package R. It will also refer to examples from recent studies that apply those methods to answer key questions in the social sciences.

How is the course delivered?

The CPD will be delivered over 6 weeks. The course will be fully online with the following structure per week:

- 1h 30m: Introduction to the topic – recorded video
- 1h online lecture
- 30m: applications in R (the software) – recorded video
- 1 hour self-study (exercises)

Students will give presentations during the last week of the module. In order to be awarded the Certificate of Completion in Social Data Analysis, participants will need to have delivered the final presentation.

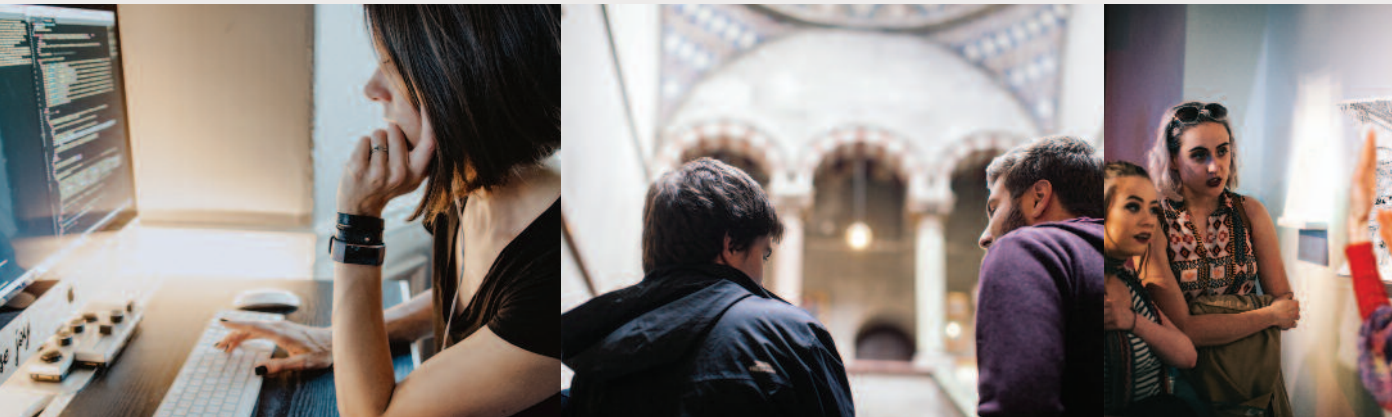
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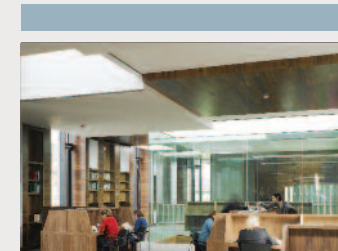
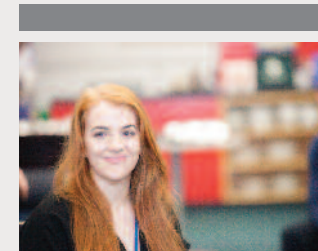
Python for Social Data Science

Python for Social Data Science will introduce participants to basic computer programming skills for social data analysis. In particular, it will introduce participants to the Python programming language, which is a state-of-the-art tool for data analysis. The aim is for participants to acquire basic programming skills.



On successful completion of this CPD, participants will be able to:

- Describe basic programming terminology, structures, and conventions.
- Demonstrate familiarity with the Python programming language, including the ability to write, execute and debug scripts for social data analysis.
- Design project workflows through GitHub
- Perform data wrangling and visualization tasks using Python.



What topics will you cover?

Python for Social Data Science introduces participants to the core programming concepts e.g., functions, variables, conditions, loops, data structures, working with libraries. It also covers data management and visualization. Best practices in project workflow and version control will be introduced using Github. Participants will engage with the material in a hands-on environment, which will include coding homework/exercises throughout the CPD.

How is the course delivered?

The CPD will be delivered over 6 weeks. The course will be fully online with two 2 hour classes per week and 1 hour of preparatory online instruction. In order to be awarded the Certificate of Completion for Python for Social Data Science, participants will need to have completed all required CPD exercises.

Cost

The CPD fee is €1,500.

Register at www.tcd.ie/ssp/CPD

R for Social Data Science

R for Social Data Science will introduce participants to basic computer programming skills for social data analysis. In particular, it will introduce participants to the R programming language, which is an open-sourced and cross-platform tool for statistical analysis. The aim is for participants to acquire basic programming skills.



What topics will you cover?

R for Social Data Science introduces participants to the core programming concepts e.g., functions, variables, conditions, loops, data structures, working with libraries, interacting with APIs. It also covers data management and visualization. Best practices in project workflow and version control will be introduced using Github. Participants will engage with the material in a hands-on environment, which will include coding homework/exercises throughout the CPD.

How is the course delivered?

The CPD will be delivered online over 8 weeks with two 1.5-hour sessions each week and 1 hour of asynchronous material. In order to be awarded the Certificate of Completion for R for Social Data Science, participants will need to have completed all required CPD exercises.

Cost

The CPD fee is €1,500.

Register at www.tcd.ie/ssp/CPD

On successful completion of this CPD participants will be able to:

- Describe basic programming terminology, structures, and conventions.
- Demonstrate familiarity with the R programming language, including the ability to write, execute and debug scripts for social data analysis.
- Design project workflows through GitHub
- Perform data wrangling and visualization tasks using R.

