

# New Science Education Course at Trinity College Dublin

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## Abstract

Applications are now open for the new Master in Science Education programme at Trinity College Dublin. The aim of the course is to give participants the academic and practical skills they need to develop a critical understanding of the role of science in society.

## Course Background

The course was designed to help scientists and educators meet the challenges that are facing science and science education in a time of rapid social and economic change. Science and technology are increasingly being regarded as the drivers of economic growth. Scientists are expected to find ways to combine their research with the commercialisation of ideas, while teachers are tasked with guiding the next generation of scientists towards education and career paths that will see them sustain a knowledge-based economy. With these challenges in mind — applicants to the new course can expect to explore the scientific method through theories of learning and engagement while taking advantage of opportunities to experience frontier research in science education, research and communication. The course is suitable for science educators at all levels. It is especially suitable for science teachers who wish to gain the academic theory and research skills needed to help further their professional development. This programme also caters for applicants with backgrounds in social science and humanities who have a professional interest in science education.

## Course Content

The course incorporates traditional aspects of science pedagogy and curriculum design but also includes growing areas of science education such as informal learning and public engagement. Course content includes the history of science, the scientific method, the philosophy of science, citizen science, responsible research and communication for different audiences. Emphasis is placed on skills that are becoming crucial to science in Ireland such as an understanding of science governance, funding, publishing, policy and ethics.

## Course Structure

The course can be taken on a one year full-time basis or on a two or three year part-time basis. This includes a taught component comprised of four modules (described below) organised largely outside of normal work hours, such as during the evenings and at weekends, and are held in Trinity College. There is also a research component — designing and implementing a research project and writing a dissertation under the guidance of a supervisor.



## Course Modules

- 1. Science in Society:** This module explores the relationship between science and society and considers the expectations and limitations of science, its role in society and how it serves as a platform to promote cultures of sustainability and progress.
- 2. Learning Theories:** This module introduces a range of learning theories from education, psychology, machine learning and neuroscience that together generate a new 'science of learning' and will concentrate closely on the work of Lev Semenovich Vygotsky, which is among the most influential in current educational research and practice.
- 3. Communicating Science:** This module examines the history and best practices of communicating science to different audiences as well as critical consideration of science curricula at all levels of education, formal and informal.
- 4. Frontier Research and Current Debates:** This module provides an opportunity to interact with frontier research being carried out in the university as well as the most pressing topics and concerns that STEM education faces nationally and internationally (where "STEM" is science, technology, engineering and mathematics).

## Further Information

The Master of Education (M.Ed.) in Science Education is a School of Education programme at Trinity College Dublin. For further information email [Master.Education@tcd.ie](mailto:Master.Education@tcd.ie), call +353 (0)1 896 3568 or +353 (0)1 896 1290 and find us on Twitter: @ScienceTCD. Applications are now open and can be made at: [www.tcd.ie/education/courses/masters/science](http://www.tcd.ie/education/courses/masters/science)

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