



## Short Course in Physics (10 ECTS credits)

This course is particularly aimed at graduates in earth or life sciences, who did not take physics as part of their degree and who wish to teach physics up to Junior Certificate level. Successful completion of this course will serve as part-fulfillment, along with a post-graduate qualification in education and the appropriate primary degree, of the Teaching Council's conditions for registration as a post-primary teacher in Ireland.

Students registered on a full-time course in Trinity College Dublin will need the written permission of their Course Director or Head of School to be allowed take this course concurrently with their degree.

Other interested people are also welcome to take this course and their attention is drawn to the entry requirements.



## Foundation Physics for Earth and Life Sciences

This course is aimed at students who may have no prior background in physics but who would like to learn about how physics affects the world around them, in particular the impact physics has on the earth and life sciences. This course may be of particular interest to those considering a career in post-primary teaching. It carries 10 credits (ECTS).

It is a foundation course of 44 hours of lectures and tutorials and 33 hours of experimental laboratory work and includes the following topics: physics of motion (mechanics), biomechanics, physics of hearing and seeing (waves), electricity and magnetism and bioelectricity, radioactivity, nuclear physics and related medical applications, heat, pressure and fluids and some of their biological, geological and medical applications.

### Learning Outcomes

- Demonstrate the application of classical physics within the biological, biomedical and earth sciences
- Connect the study of wave phenomena and electromagnetism with ultrasound diagnostics and vision
- Relate basic knowledge of atomic and nuclear physics to radiation diagnostics and therapy, and to geological applications
- Prepare a brief report, including error analysis, on a simple physical experiment
- Through homework: (i) identify the appropriate concepts, principles, and relations that apply to the problem; (ii) provide a reasonable and appropriate explanation of why they apply; and (iii) solve physics problems at a foundation level.

### Admission criteria

Applications will be considered from students or graduates of degrees in earth or life sciences or from others who can demonstrate the necessary ability in mathematics e.g. have completed first-year mathematics in an undergraduate degree in a technical subject.

### How to apply

Interested applicants should contact the School Manager, School of Physics, Dr. Colm Stephens, e: [colm.stephens@tcd.ie](mailto:colm.stephens@tcd.ie) t: +353 (1) 896 2024. See <http://www.tcd.ie/Physics/Foundation> for more details.

### Fee

€1,000 (waged)  
€500 (students or unwaged)

### Dates

This is a daytime course and there will be two separate intakes of students in the academic year 2020/21. Please indicate when applying which intake/module you are applying for. Applicants should note that confirmed dates for the running and assessment of the course cannot be definitively confirmed at time of going to press due to the COVID-19 pandemic.

### Module: PYU11F10: Semester 1, 2020/21

The course is expected to begin in September 2020 and be completed by the end of 2020. A three-hour end-of-course examination will be scheduled most likely in early 2021.

**Application deadline:** Monday, 7 September 2020

### Module: PYU11F20: Semester 2, 2020/21

The course is expected to begin in early 2021 and be completed by summer 2021. A three-hour end-of-course examination will be scheduled on completion of the course.

**Application deadline:** Monday, 18 January 2021

### Lecture and Lab Class Times

In each semester lectures/tutorials are likely to take place on Mondays, Tuesdays and Wednesdays (Daytime). A number of these lectures may be given remotely and students may participate online. The three-hour practical class will be held on four weeks on either Friday morning or afternoon.