

# IE3E2-24 Introduction to Secondary Teaching in Physics

**20/21**

**Department**

Centre for Teacher Education

**Level**

Undergraduate Level 3

**Module leader**

Will Haywood

**Credit value**

24

**Module duration**

10 weeks

**Assessment**

100% coursework

**Study locations**

University of Warwick main campus, Coventry Primary  
A Warwick Partnership School

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## Description

### Introductory description

This module takes place in term 2 and is specially designed to give you a taste of what it is like to be a teacher. You will explore your subject from a new perspective through engaging sessions at university led by teaching fellows and visiting teachers and have opportunity to support teaching and learning in practice through a placement in a local school.

The module is hosted by the Centre for Teacher Education (currently rated 'Outstanding' by OFSTED). Anyone who completes the module is automatically eligible for an interview for the Postgraduate Certificate in Education (PGCE) initial teacher training course (providing all entry requirements for Initial Teacher Training are met).

[Module web page](#)

### Module aims

1. To develop knowledge and understanding about the UK education system and what it is like to be a secondary physics teacher.

2. To develop knowledge and understanding about key themes in education.
3. To provide a professional experience supporting the teaching of physics.
4. To develop key transferable skills through a professional placement.
5. To develop skills in personal reflection on professional practice.
6. To relate educational theory to practice within school.
7. To raise aspirations of school students towards study in Higher Education.

## Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

As part of the module you will complete a ten day (or equivalent) placement in a school. Whilst on placement under the guidance and supervision of an in-school mentor you will develop your understanding of the teaching of physics. This will be achieved through a range of activities that may include such as: - lesson observations, supporting lessons, 1 to 1 teacher, small group teaching, and leading part of, or even entire lessons.

To prepare for and support you for placement you will participate a series of workshops at the university. These are highly interactive, practice based sessions, delivered by visiting teachers from local secondary schools. Sessions cover topics such as behaviour management, lesson planning and questioning.

The theory which underpins the practice of teaching is explored concurrently through seminars led by CTE Teaching Fellows. The seminars begin by discussing the UK education system and national curriculum before exploring a range of key themes in education such as how students learn, how ideas develop in physics, using assessment for learning and specific aspects of pedagogy relating to the teaching of physics.

## Learning outcomes

By the end of the module, students should be able to:

- LO1 Critically analyse and reflect on key themes in education
- LO2 Critically analyse and reflect on current issues in teaching physics
- LO3 Demonstrate engagement with supporting the teaching of physics
- LO4 Demonstrate professional behaviour and conduct
- LO5 Critically reflect on practice in teaching physics
- LO6 Demonstrate engagement with raising the aspirations of school students towards study in Higher Education

## Indicative reading list

Student Guide to Literacy in Science

ASE guide to secondary science education

Exploring young people's views on science education

Successful science: strengths and weaknesses of school science teaching

Teaching secondary physics

Starting science ... again?: making progress in science learning

What successful science teachers do: 75 research-based strategies

Science formative assessment: 75 practical strategies for linking assessment, instruction, and learning

Five easy lessons: strategies for successful physics teaching

Teaching science: developing as a reflective secondary teacher

Good practice in science teaching: what research has to say

Teaching secondary physics

Teaching secondary science using ICT

How science works: exploring effective pedagogy and practice

Science learning, science teaching

## **Interdisciplinary**

Through exploring the teaching and pedagogy of your subject you will consider and build connections between your subject, educational theory, the psychology of learning and cognition and also consider elements of policy, society and sociology.

## **Subject specific skills**

You will develop skills relevant for teaching and the development of practice such as reflection. You will also develop skills relevant to the academic study of education such as analysis and critique. The module will also develop your skills in the pedagogy of your subject.

## **Transferable skills**

Critical Thinking

Problem Solving

Active Lifelong Learning

Communication (verbal and written)

Teamwork and working effectively with others

Information literacy (research skills)

ICT Literacy

Citizenship (local and global)

Ethical Values

Inter-cultural learning and diversity awareness

Professionalism

Organisational awareness

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## **Study**

## **Study time**

Type	Required
Seminars	7 sessions of 2 hours (6%)
Practical classes	8 sessions of 2 hours (7%)
Placement	75 hours (31%)
Assessment	135 hours (56%)
Total	240 hours

## Private study description

No private study requirements defined for this module.

## Costs

Category	Description	Funded by	Cost to student
Other	In the UK, anyone working with children is required to have a Disclosure & Baring Services (DBS) check. The Centre for Teacher Education will cover the costs of this, however, you will need to provide the relevant proof of identification and address prior to the start of the module.	Department	£0.00
Field trips, placements and study abroad	You will be responsible for your travel arrangements to the placement. Placements are assigned to align with bus routes and opportunities for car share where possible. If this would be prohibitive of you taking the module then contact CTE and we can discuss options for available support.		

## Assessment

You must pass all assessment components to pass the module.

### Assessment group A1

Assessment component	Weighting	Study time	Eligible for self-certification
Portfolio of Short Tasks	50%	75 hours	Yes (extension)
You will have the opportunity to choose from a selection of short tasks which explore the key themes in teaching and education explored through the seminars. The combination of your tasks			

## Weighting

## Study time

## Eligible for self-certification

will add up to the total number of words.

Reassessment component is the same

### Assessment component

Reflective Essay	50%	60 hours	Yes (extension)
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The reflective essay is an opportunity to reflect on your experience in school and use a model for academic reflection to consider how your practice in supporting the teaching of your subject has developed.

Reassessment component is the same

## Feedback on assessment

Formative: During the course of the module you will have the opportunity to submit parts of the portfolio for formative feedback which can be acted on before final submission.

Summative: A written feedback sheet and in text comments will provided on the portfolio and essay.

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## Availability

## Courses

This module is Optional for:

- Year 2 of UESA-HN12 BEng Engineering Business Management
- Year 2 of UESA-HH73 BEng Manufacturing and Mechanical Engineering
- Year 2 of UESA-H310 BEng Mechanical Engineering
- Year 2 of UESA-H315 BEng Mechanical Engineering
- Year 2 of UESA-HH36 BEng Systems Engineering
- Year 2 of UESA-H112 BSc Engineering
- Year 2 of UESA-H636 MEng Electronic Engineering with Intercalated Year
- Year 2 of UESA-HH38 MEng Manufacturing and Mechanical Engineering with Intercalated Year
- Year 2 of UESA-H311 MEng Mechanical Engineering
- Year 2 of UESA-H316 MEng Mechanical Engineering

This module is Option list A for:

- Year 2 of UESA-H335 BEng Automotive Engineering
- Year 2 of UESA-H161 BEng Biomedical Systems Engineering
- Year 2 of UESA-H216 BEng Civil Engineering
- Year 2 of UESA-H63W BEng Electronic Engineering
- Year 2 of UESA-HH75 BEng Manufacturing and Mechanical Engineering
- Year 2 of UESA-HN11 BSc Engineering and Business Studies
- Year 2 of UESA-H336 MEng Automotive Engineering
- Year 2 of UESA-H163 MEng Biomedical Systems Engineering
- Year 2 of UESA-H217 MEng Civil Engineering
- Year 2 of UESA-H63X MEng Electronic Engineering
- Year 2 of UESA-HH76 MEng Manufacturing and Mechanical Engineering
- Year 2 of UESA-H316 MEng Mechanical Engineering
- Year 2 of UESA-H605 Undergraduate Electrical and Electronic Engineering
- Year 2 of UESA-H606 Undergraduate Electrical and Electronic Engineering MEng

This module is Option list B for:

- Year 2 of UESA-H335 BEng Automotive Engineering
- Year 2 of UESA-H216 BEng Civil Engineering
- Year 2 of UESA-H113 BEng Engineering
- Year 2 of UESA-HH75 BEng Manufacturing and Mechanical Engineering
- Year 2 of UESA-HH35 BEng Systems Engineering
- Year 2 of UESA-H112 BSc Engineering
- Year 2 of UESA-H336 MEng Automotive Engineering
- Year 2 of UESA-H217 MEng Civil Engineering
- Year 2 of UESA-H114 MEng Engineering
- Year 2 of UESA-HH76 MEng Manufacturing and Mechanical Engineering
- UESA-HH31 MEng Systems Engineering
  - Year 2 of HH31 Systems Engineering
  - Year 2 of HH35 Systems Engineering
- Year 2 of UESA-H605 Undergraduate Electrical and Electronic Engineering
- Year 2 of UPXA-FG33 Undergraduate Mathematics and Physics (BSc MMathPhys)
- Year 2 of UPXA-GF13 Undergraduate Mathematics and Physics (BSc)
- UPXA-FG31 Undergraduate Mathematics and Physics (MMathPhys)
  - Year 2 of GF13 Mathematics and Physics
  - Year 2 of FG31 Mathematics and Physics (MMathPhys)
- Year 2 of UPXA-F300 Undergraduate Physics (BSc)
- UPXA-F303 Undergraduate Physics (MPhys)
  - Year 2 of F300 Physics
  - Year 2 of F303 Physics (MPhys)
- Year 2 of UPXA-F3N1 Undergraduate Physics and Business Studies
- Year 2 of UPXA-F3N2 Undergraduate Physics with Business Studies