

# EP310-15 Introduction to Secondary Biology Teaching

21/22

**Department**

Centre for Teacher Education

**Level**

Undergraduate Level 3

**Module leader**

Holly Heshmati

**Credit value**

15

**Assessment**

100% coursework

**Study location**

University of Warwick main campus, Coventry

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## Description

### Introductory description

This module takes place in term 2 and is specially designed to introduce you to Science- Biology curriculum and pedagogy in the Secondary school age range. You will explore your subject from a new perspective through engaging sessions at university led by teaching fellows and visiting teachers. Practical workshops will examine the content of Secondary Science- Biology National Curriculum and how to address barriers to learning in Science- Biology through the development of effective teaching approaches and resources.

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 of Science- Biology teaching in the UK education system and some of the approaches to learning that support secondary students in the subject.
2. To develop knowledge and understanding of Science- Biology education and the secondary curriculum.

3. To develop key transferable skills through engagement with 11-18 education.
4. To develop skills in personal reflection on professional practice.
5. To relate educational theory to education practice.

## **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.

The theory which underpins the practice of Science- Biology teaching is explored through seminars led by CTE Teaching Fellows. The seminars begin by discussing the current context of 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 the school curriculum and using assessment for learning and specific aspects of pedagogy relating to the teaching of Science- Biology.

As part of the module you engage in Science- Biology education through developing materials, resources and teaching approaches to support learning in Science- Biology. You will develop your practical understanding of the teaching of Science- Biology. Indicative activities might include: developing learning resources, providing exemplar materials to a professional brief, producing online learning resources.

To prepare for and support you for this 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 pitching and sequencing resources to support learning, overcoming barriers to learning and effective questioning.

## **Learning outcomes**

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

- LO1 Critically analyse and reflect on key issues in Science- Biology education in school.
- LO2 Critically reflect on practice in teaching Science- Biology in school.
- LO3 Apply learning theory to school Science- Biology teaching practices.
- LO4 Demonstrate professional skills in supporting learning in Science- Biology.

## **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

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

Teaching science: developing as a reflective secondary teacher Good practice in science teaching: what research has to say

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. You will develop your written communication skills in producing both academic and professional evidence-informed rationales for practice.

## Subject specific skills

You will develop skills relevant for teaching and the development of practice such as communication, peer and professional collaboration and 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  
Reasoning and 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
Lectures	2 sessions of 1 hour (7%)
Seminars	7 sessions of 2 hours (47%)
Practical classes	7 sessions of 2 hours (47%)
Total	30 hours

### Private study description

No private study requirements defined for this module.

## Costs

No further costs have been identified for this module.

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## Assessment

You must pass all assessment components to pass the module.

### Assessment group A

	Weighting	Study time
A critical review on an issue in Science-Biology Education	50%	60 hours
A short (1000 word, approximately 4 sources) annotated bibliography on a chosen issue in Biology Education followed by a 500 word discussion and conclusion on the implications for teaching Science- Biology.		
Poster	50%	60 hours
A poster presentation of a learning resource, artefact or materials designed to support children's learning in Science- Biology with a supporting rationale relating to , secondary biology curriculum, learning or pedagogic theory.		

### Feedback on assessment

Formative: During the course of the module students will have the opportunity to submit one critical review entry.

Summative: A written feedback sheet and in-text comments will be provided on each component.

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## Availability

### Courses

This module is Core optional for:

- Year 3 of ULFA-C1A6 Undergraduate Biochemistry with Industrial Placement (MBio)

This module is Option list A for:

- Year 3 of UBSA-C700 Undergraduate Biochemistry
- ULFA-C1A2 Undergraduate Biochemistry (MBio)
  - Year 3 of C1A2 Biochemistry

- Year 3 of C700 Biochemistry
- UBSA-3 Undergraduate Biological Sciences
  - Year 3 of C100 Biological Sciences
  - Year 3 of C100 Biological Sciences
- Year 3 of ULFA-C1A1 Undergraduate Biological Sciences (MBio)
- UBSA-C1B9 Undergraduate Biomedical Science
  - Year 3 of C1B9 Biomedical Science
  - Year 3 of C1B9 Biomedical Science
  - Year 3 of C1B9 Biomedical Science
- ULFA-C1A3 Undergraduate Biomedical Science (MBio)
  - Year 3 of C1A3 Biomedical Science
  - Year 3 of C1B9 Biomedical Science

This module is Option list B for:

- Year 3 of UBSA-C700 Undergraduate Biochemistry
- ULFA-C1A2 Undergraduate Biochemistry (MBio)
  - Year 3 of C1A2 Biochemistry
  - Year 3 of C700 Biochemistry
- Year 4 of ULFA-C702 Undergraduate Biochemistry (with Placement Year)
- UBSA-3 Undergraduate Biological Sciences
  - Year 3 of C100 Biological Sciences
  - Year 3 of C100 Biological Sciences
- Year 3 of ULFA-C1A1 Undergraduate Biological Sciences (MBio)
- Year 4 of ULFA-C113 Undergraduate Biological Sciences (with Placement Year)
- Year 3 of ULFA-C1A5 Undergraduate Biological Sciences with Industrial Placement (MBio)
- UBSA-C1B9 Undergraduate Biomedical Science
  - Year 3 of C1B9 Biomedical Science
  - Year 3 of C1B9 Biomedical Science
  - Year 3 of C1B9 Biomedical Science
- ULFA-C1A3 Undergraduate Biomedical Science (MBio)
  - Year 3 of C1A3 Biomedical Science
  - Year 3 of C1B9 Biomedical Science
- Year 3 of ULFA-C1A7 Undergraduate Biomedical Science with Industrial Placement (MBio)
- ULFA-CB18 Undergraduate Biomedical Science with Placement Year
  - Year 4 of CB18 Biomedical Science with Placement Year
  - Year 4 of CB18 Biomedical Science with Placement Year
  - Year 4 of CB18 Biomedical Science with Placement Year
- Year 3 of ULFA-B140 Undergraduate Neuroscience (BSc)
- Year 3 of ULFA-B142 Undergraduate Neuroscience (MBio)
- Year 3 of ULFA-B143 Undergraduate Neuroscience (with Industrial Placement) (MBio)