

EP310-15 Introduction to Secondary Biology Teaching

24/25

Department

Centre for Teacher Education

Level

Undergraduate Level 3

Module leader

Holly Heshmati

Credit value

15

Module duration

10 weeks

Assessment

100% coursework

Study location

University of Warwick main campus, Coventry

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

Study

Study time

Type	Required
Lectures	2 sessions of 1 hour (1%)
Seminars	7 sessions of 2 hours (9%)
Practical classes	7 sessions of 2 hours (9%)
Total	150 hours

Type	Required
Assessment	120 hours (80%)
Total	150 hours

Private study description

No private study requirements defined for this module.

Costs

No further costs have been identified for this module.

Assessment

You must pass all assessment components to pass the module.

Assessment group A1

	Weighting	Study time
A critical review on an issue in Science-Biology Education	50%	60 hours
A short planning and reflection piece (500 words) on a chosen issue in Science- Biology Education followed by a group video presentation discussing the issue and 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.

Availability

Courses

This module is Optional 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 UBSA-C701 Undergraduate Biochemistry (with Intercalated Year)
- Year 3 of ULFA-C1A6 Undergraduate Biochemistry with Industrial Placement (MBio)
- UBSA-3 Undergraduate Biological Sciences
 - Year 3 of C100 Biological Sciences
 - Year 3 of C100 Biological Sciences
 - Year 3 of C102 Biological Sciences with Cell Biology
 - Year 3 of C103 Biological Sciences with Environmental Resources
 - Year 3 of C104 Biological Sciences with Microbiology
 - Year 3 of C105 Biological Sciences with Molecular Genetics
 - Year 3 of C107 Biological Sciences with Virology
- Year 3 of ULFA-C1A1 Undergraduate Biological Sciences (MBio)
- UBSA-4 Undergraduate Biological Sciences (with Intercalated Year)
 - Year 4 of C111 Biological Sciences with Cell Biology (with Intercalated Year)
 - Year 4 of C101 Biological Sciences with Intercalated Year
 - Year 4 of C109 Biological Sciences with Microbiology (with Intercalated Year)
 - Year 4 of C108 Biological Sciences with Molecular Genetics (with Intercalated Year)
 - Year 4 of C110 Biological Sciences with Virology (with Intercalated Year)
 - Year 4 of C521 Microbiology and Virology with Intercalated Year
 - Year 4 of C523 Virology (with intercalated year)
- 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)
- Year 4 of UBSA-CB19 Undergraduate Biomedical Science with Intercalated Year