MODULE SPECIFICATION

EDUCATIONAL PRINCIPLES AND PRACTICE IN STEM

This information is for academic case approval only. For a full set of module information, please go to PaMIS or contact the Quality and Enhancement Office on QEO@salford.ac.uk

Short Module Title:	EPPSTEM

Module Description:

The module will provide you with an introduction to teaching and learning at key stage 4 (level 2 GCSE qualifications) through the application of core educational concepts. You will design and deliver an educational activity for a laboratory, workshop or through an online interactive system. The module will provide a taster for students considering teaching as a career.

Module Level	Level 5	JACS-HESA Code	X900
Module Credit Value	20		
Owning School	School of Science, Engineering and En...		
Contributing School		Percentage delivered by another school	0
Is this module available to International Students?			Yes

COLLABORATIVE DELIVERIES

Institution 1	
Institution 2	
Institution 3	

INDICATIVE LEARNING HOURS

Lecture:	10	Practical Classes and Workshops:	
Seminar:	5	Supervised studio/workshop time:	21
Tutorial:		Fieldwork:	
Project supervision:		External Visits:	
Demonstration:		Work Based Learning:	
Placement:		Year Abroad:	
Guided Independent Study		Total:	

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Module Aims:

1. To introduce core educational concepts and theory relevant to teaching key stage 4.

2. To enable students to desing and deliver a teaching activity effectively.

3. To develop team working and problem-solving skills.

4. To enable students to explore their aspirations for teaching careers through practical experience.

Intended Learning Outcomes: Knowledge and Understanding:

1. Understand effective strategies of teaching, learning and assessment.
2. Draw on educational theory to design a practical workshop suitable for key stage 4 that is relevant to the curriculum and meets the needs of all pupils.
3. Apply your subject knowledge and skills to deliver a practical workshop for key stage 4 pupils that is well organised, clearly communicated and provides a relevant educational experience for the pupils.
4. Use problem solving, communication, time management and teamworking skills to support the implementation of a shared project: a practical workshop.
5. Use a formal model of reflection to critically analyse the workshop (comprising the effectiveness of the activity and contributions of the members of the group, including their own) to identify their learning in relation to their career ambitions.

Intended Learning Outcomes: Key Subject Specific Skills:

Pre-Requisites:

Co-requisites:

ETHICS

| *Does this module require ethical approval?* | No ethical approval is required |
| *Will students require individual ethical approval for an assessment task?* | No ethical approval is required. |

ASSESSMENT TASKS

| *Is this module eligible for compensation?* | Yes | *Mark Calculation Method* | Method A |

KIS Type	Description	ILO of this task	Weight	Pass/Fail Only?	Duration/ Word Count	Component Pass Req'd?	eSubmission	Organiser?

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Practical	Observation of implementation of taught activity	1,2,3,4	50	☐	15 mins	No	No	School
Coursew...	Self-reflective Assessment	1,2,3,4, 5	50	☐	2500 w...	No	Yes	School
				☐		No	Yes	

There is no Programme Specific Regulation for additional assessments

Learning Teaching and Assessment Strategies:

The five key educational theory sessions will be delivered as lectures to the cohort as a whole (see syllabus outline for details).

Each theory session will be followed by a subject specific seminar with a relevant tutor to discuss how that theory would apply to specific key stage 4 subjects. Students would have the choice of joining one of the following specialised seminar groups (which are tailored to specific key stage 4 curricula), depending upon their degree specialism and teaching interest:

- Biology
- Chemistry
- Physics
- Maths
- Geography

Students would then have dedicated workshop time to develop and practice their taught activity (10 sessions at 2 hours each) before delivering it to a small group. These workshops would be supervised by subject tutors on the first year but in subsequent years, this role should be taken on by a peer-mentor from the previous cohort. The taught activity should be approximately an hour in length, with each member of the group leading the activity for up to 15 minutes.

Assessment:

Students will plan a taught activity as a group and then submit this plan for formative feedback from a tutor. This is in addition to the feedback students will receive on their proposed activity from tutors during the weekly supervised workshop sessions.

Students will be assessed on two summative coursework components:

1. Implementation of taught activity

2. Reflection on taught activity

Reassessment Strategies:

Students will be able to resubmit coursework in the reassessment period.

Syllabus Outline:

Students will study the following theoretical aspects:

- Pedagogical methods including modelling and explanation
- Planning effective teaching
- Principles of assessment
- Inclusive teaching; understanding the needs of pupils (including SEND, EAL, PP etc)
- Reflective practice

Depending on their chosen specialism, they will also study the content of a relevant GCSE curriculum or exam specification to enable them to link their studies to the requirements at key stage 4.

Students will then apply their studies to develop a (curriculum relevant) taught activity relevant for key stage 4 pupils.

Indicative texts:

Hattie, J. (2009). Visible Learning: A synthesis of over 800 meta-analyses relating to achievement. London, Routledge.

Brookfield, S. D. (1995). Becoming a critically reflective teacher. San Francisco, John Wiley and Sons, Inc.

Brown, P. C., et al. (2014). Make it stick, Harvard University Press.

Didau, D. and N. Rose (2016). What Every Teacher Needs to Know about... Psychology, John Catt Educational Limited.

Christodoulou, D. (2014). Seven myths about education, Routledge.

Green, C. (2016). Secondary Science, Crown House Publishing Ltd.

Green, J. (2020). Powerful Ideas of Science and How to Teach Them, Routledge.

Boaler, J. (2016). Mathematical mindsets : unleashing students' potential through creative math, inspiring messages, and innovative teaching. San Francisco, CA, San Francisco, CA : Jossey-Bass a Wiley Brand.

Hazzan, O., et al. (2014). Guide to teaching computer science, Springer.

Up to date lists should be accessed at www.salford.ac.uk/readinglists

IMPLEMENTATION

Year of first delivery:	2021/22
Module Leader:	Claire Ellison
Approval Date:	21/05/2021

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