University of the West of Scotland

Module Descriptor

Session: 2023/ 2024

Title of Module: Leading Learning in Science & Mathematics			
Code: EDUC08039	SCQF Level: 8 (Scottish Credit and Qualifications Framework)	Credit Points:10	ECTS: 5 (European Credit Transfer Scheme)
School:	School of Education & Social Sciences		
Module Co-ordinator:	Laura Lindsay		

Summary of Module
This module will focus on developing an understanding of extending and supporting children's learning in Science and Mathematics in the Early Years.
This module will allow students to investigate theories of learning including behaviourist, cognitive and social constructivist approaches. The importance of leadership and teamwork in Early Learning and Childhood settings will be extended, taking account of own and others' roles in leading learning in Science and Mathematics.
Students will be encouraged to evaluate feelings towards, experiences and understanding of Science and Mathematics within their own education, reflecting on the impact of this upon children's experiences in the Early Years. Students will apply theories of learning in the workplace, inspiring colleagues and /or leading learning in the area of Science and/or Mathematics. Students will begin to reflect upon equity of access for all children to experiences in the areas of Science and Mathematics in the Early Years.
Students will develop their understanding of the language of science and mathematical and numerical concepts, enabling them to plan, deliver and evaluate curricular experiences with confidence. Students will explore the nature of scientific enquiry and problem solving, supporting young children to develop these skills in an Early Years setting.

Module Delivery Method					
Face-To-Face	Blended	Fully Online	HybridC	Hybrid 0	Work-Based Learning
☐	☒	☐	☐	☐	☐
See Guidance Note for details.					

Campus(es) for Module Delivery
The module will **normally** be offered on the following campuses / or by Distance/Online Learning: (Provided viable student numbers permit) (tick as appropriate)

Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
☐	☐	☐	☒	☐	☒	Add name

Term(s) for Module Delivery
(Provided viable student numbers permit).

Term 1	☐	Term 2	☒	Term 3	☐

Learning Outcomes:
These should take cognisance of the SCQF level descriptors and be at the appropriate level for the module.
At the end of this module the student will be able to:

L1	Demonstrate knowledge and understanding of theories of learning, reflecting upon approaches which promote learning effectively within the Early Years.
L2	Demonstrate understanding of the language of Science and Mathematics: planning, delivering and evaluating activities in the area of Science and Mathematics.
L3	Begin to reflect upon equity of access for all children, with a focus on learning in the areas of Science and Mathematics.
L4	Apply knowledge and understanding to lead learning in the area of Science and/or Mathematics, evaluating practice.

Employability Skills and Personal Development Planning (PDP) Skills	
SCQF Headings	During completion of this module, there will be an opportunity to achieve core skills in:
Knowledge and Understanding (K and U)	SCQF Level **8** Knowledge of theories of learning, including behaviourist, cognitive and constructivist approaches. Knowledge of the language of Science and Mathematics and the foundations of scientific enquiry and mathematical thinking in the Early Years.
Practice: Applied Knowledge and Understanding	SCQF Level **8**

	Carry out routine lines of enquiry, development or investigation into effective strategies which support Science and Mathematical development in the Early Years. Lead learning and/ or small-scale change in the area of Science and Mathematics within the workplace.
Generic Cognitive skills	SCQF Level **8** Evaluate evidence-based solutions to support equitable access to Science and Mathematics in an Early Years setting. Reflect upon own and other's attitudes towards Science and Mathematics, and how this may impact upon children's experiences.
Communication, ICT and Numeracy Skills	SCQF Level **8** Convey complex information to a range of audiences and for a range of purposes associated with relevant professional contexts
Autonomy, Accountability and Working with others	SCQF Level **8** Take continuing account of own and others' roles, responsibilities and contributions in carrying out and evaluating learning experiences across the curriculum.

Pre-requisites:	Before undertaking this module the student should have undertaken the following:	
	Module Code:	**Module Title:**
	Other:	
Co-requisites	**Module Code:**	**Module Title:**

Learning and Teaching	
In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours.	
Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	**Student Learning Hours** (Normally totalling 200 hours): (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture/Core Content Delivery	18
Work Based Learning/Placement	50

Independent Study	32
	Hours Total 100

**Indicative Resources: (eg. Core text, journals, internet access)

The following materials form essential underpinning for the module content and ultimately for the learning outcomes:

Brunton, P. and Thornton, L. (2009) S*cience in the early years: Building firm foundations from birth to five.* London: SAGE Publishing.

Montague-Smith, A., Cotton, T., Hansen, A. and Price, A. (2017) M*athematics in early years education* 4th edn. London: Routledge.

Moomaw, S. (2013) *Teaching STEM in the early years: activities for integrating science, technology, engineering and mathematics.* St Paul, NM: Redleaf Press.

(**N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

Attendance and Engagement Requirements

In line with the Student Attendance and Engagement Procedure: Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time.

For the purposes of this module, academic engagement equates to the following:
In line with the Student Attendance and Engagement Procedure, Students are defined as academically engaged if they are regularly engaged with timetabled teaching sessions, course-related learning resources including those in the Library and on VLE, and complete assessments and submit these on time.

Equality and Diversity

Aligned with the overall commitment to equality and diversity stated in the Programme Specifications, the module supports equality of opportunity for students from all backgrounds and with different learning needs. Using VLE, learning materials will be presented electronically in formats that allow flexible access and manipulation of content (part-time and distant learning students should check with their programme leader for any queries). The module complies with University regulations and guidance on inclusive learning and teaching practice. Specialist assistive equipment, support provision and adjustment to assessment practice will be made in accordance with UWS policy and regulations.

The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code.

(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

Supplemental Information

Divisional Programme Board	Education
Assessment Results (Pass/Fail)	Yes ☐No ☒
School Assessment Board	Early Years
Moderator	Conny Gollek
External Examiner	I.Birnie
Accreditation Details	None
Changes/Version Number	

Assessment: (also refer to Assessment Outcomes Grids below)
Formative assessment opportunities will be provided through discussion and workshop activities throughout the course of the module. Digitally enabled, efficient and effective formative feedback will provide students with guidance on how to gauge and inform progress, including peer-assessment.
Assessment 1 Part A: Completion of three learning stories. Students will demonstrate an ability to plan, deliver and evaluate children's learning in the areas of Science and/or Mathematics in an Early Years Setting. Students will reflect upon theories of learning used to support and extend children's knowledge and understanding (30%).
Assessment 2 Part B: Digital Floor book. Students will create a floor book of evidence of an area where they have led learning in the area of Science or Mathematics within the workplace. Students will demonstrate their ability to identify strategies which support child-led practice and inclusion, evaluating success (70%).
(N.B. (i) **Assessment Outcomes Grids** for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed. (ii) An **indicative schedule** listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Module Handbook.)

Assessment Outcome Grids

Component 1

Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Learning Outcome (5)	Weighting (%) of Assessment Element	Timetabled Contact Hours
	✓	✓				30	0

Component 2

Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Learning Outcome (5)	Weighting (%) of Assessment Element	Timetabled Contact Hours
			✓	✓		70	0
Combined Total for All Components						**100%**	**0 hours**

Change Control:

What	When	Who
Further guidance on aggregate regulation and application when completing template	16/01/2020	H McLean
Updated contact hours	14/09/21	H McLean
Updated Student Attendance and Engagement Procedure	19/10/2023	C Winter
Updated UWS Equality, Diversity and Human Rights Code	19/10/2023	C Winter
Guidance Note 23-24 provided	12/12/23	D Taylor
General housekeeping to text across sections. .	12/12/23	D Taylor

Version Number: MD Template 1 (2023-24)