Module Specification

Mathematics Outreach

Version: 2028-29, v1.0, Approved

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Part 1: Information

Module title: Mathematics Outreach

Module code: UFCEVM-15-3

Level: Level 6

For implementation from: 2028-29

UWE credit rating: 15

ECTS credit rating: 7.5

College: College of Arts, Technology and Environment

School: CATE School of Computing and Creative Technologies

Partner institutions: None

Field: Computer Science and Creative Technologies

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: This module provides students with practical experience in communicating mathematics to diverse audiences beyond the university setting. Students engage directly with schools, community organisations, and public audiences to develop their mathematical communication, pedagogy, and professional skills. Through a flexible portfolio of outreach activities, students gain first-hand experience of making mathematics accessible, engaging, and relevant to different audiences in a variety of settings. The module emphasises reflective

practice, enabling students to critically evaluate their experiences and identify effective teaching and communication strategies.

Features: Not applicable

Educational aims: The aim of this module is to familiarise the student with the current landscape of practical mathematics and communicating maths to various audiences.

Outline syllabus: Topics are likely to include but are not limited to:

Foundations of Mathematics Education and Communication:

Introduction to the National Curriculum for mathematics.
Common misconceptions in mathematics.
Theories of learning mathematics.
Lesson planning and observation.

Planning and Delivering Mathematics Outreach:

Planning effective mathematics sessions for diverse audiences e.g. schools, community groups, public events.
Adapting mathematical content for different audiences.
Communicating mathematics.
Presentation skills for mathematics.

Professional Practice in Educational Settings:

Safeguarding and working with children and young people.
Professional conduct, within school and community environments.
Effective collaboration: working with teachers, support staff, and community partners.
School culture, classroom management, and supporting diverse learners.
Health and safety in outreach contexts.

Reflective Practice:

Recording and documenting outreach experiences.
Developing a professional outreach portfolio.
Evaluating the impact of outreach activities.
Reflective writing.

Part 3: Teaching and learning methods

Teaching and learning methods: Scheduled contact includes guest lectures, group workshops, and one-to-one supervision sessions, which support students in planning activities and preparing portfolio assessments, with a focus on reflective practice and professional development.

School placement typically comprises eight half days in a secondary school setting. Additional outreach activities could include (but is not limited to) science fairs, community events, mathematics enrichment activities, peer mentoring, or other documented mathematics communication work undertaken prior to or during the module. These activities enable students to understand the broader social impact of mathematics education and develop transferable skills in planning, teamwork, professional conduct, and adaptive communication that are valuable for careers in education, public engagement, industry, and research.

Self-study includes: engaging with mathematics education resources; preparing outreach sessions and materials; maintaining activity logs; researching mathematical content for different audiences; and developing reflective writing that integrates theory with practice.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Plan, deliver, and communicate mathematics outreach activities clearly for diverse audiences in educational and community settings.

MO2 Critically reflect on mathematics outreach experiences, integrating theory with practice.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 80 hours

Work based learning = 50 hours

Face-to-face learning = 20 hours

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://uwe.rl.talis.com/modules/ufcevm-15-3.html

Part 4: Assessment

Assessment strategy: Summative Assessment: Portfolio
The module is assessed through a portfolio with three components:

Plan of Activities
A plan of outreach activities demonstrating clear objectives, pedagogical principles, and professional presentation.

Activity Logs
Systematic documentation of outreach activities illustrating professional development and conduct.

Reflection
Critical analysis of outreach experiences demonstrating self-awareness, integration of theory with practice, and well-structured reflective writing.

Formative Assessment:
Students receive support through guest lectures, peer feedback workshops, online

resources (portfolio guidelines, templates), and ongoing feedback from placement advisors.

The resit assessment will match the first sit.

Assessment tasks:

Portfolio (First Sit)
Description: Portfolio (2000 - 3000 words)
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2

Portfolio (Resit)
Description: Portfolio (2000 - 3000 words)
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Mathematics [Frenchay] BSc (Hons) 2026-27