

EP304-15 Introduction to Secondary Mathematics 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 Mathematics 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 Mathematics National Curriculum and how to address barriers to learning in Mathematics 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 Mathematics 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 mathematics 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 mathematics 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 mathematics.

As part of the module you engage in mathematics education through developing materials, resources and teaching approaches to support learning in Mathematics. You will develop your practical understanding of the teaching of mathematics. 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 mathematics education in school.
- LO2 Critically reflect on practice in teaching mathematics in school.
- LO3 Apply learning theory to school mathematics teaching practices.
- LO4 Demonstrate professional skills in supporting learning in Mathematics.

Indicative reading list

The key readings found through above Talis Aspire link are advised. Key readings for University sessions will also be detailed on the session plan and will be available prior to the session. You should also ensure that you regularly read other relevant educational literature such as the Times Education and the Guardian Education supplements along with any other subject specific reading lists which have been provided.

[View reading list on Talis Aspire](#)

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%) |
| 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 A2

| | Weighting | Study time |
|--|-----------|------------|
| A critical review on an issue in Mathematics Education | 50% | 60 hours |
| A short planning and reflection piece (500 words) on a chosen issue in Mathematics Education followed by a group video presentation discussing the issue and implications for teaching Mathematics. | | |
| Poster | 50% | 60 hours |
| A poster presentation of a learning resource, artefact or materials designed to support children's learning in Mathematics with a supporting rationale relating to , secondary mathematics 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 2 of UESA-H335 BEng Automotive Engineering
- Year 2 of UESA-H161 BEng Biomedical Systems Engineering
- Year 2 of UESA-H216 BEng Civil Engineering
- Year 2 of UESA-H63W BEng Electronic Engineering
- Year 2 of UESA-H113 BEng Engineering
- Year 2 of UESA-HH75 BEng Manufacturing and Mechanical Engineering
- Year 2 of UESA-HH35 BEng Systems Engineering

- UESA-H112 BSc Engineering
 - Year 2 of H112 Engineering
 - Year 2 of H112 Engineering
- UIBA-N203 BSc in International Management
 - Year 2 of N203 International Management
 - Year 2 of N203 International Management
 - Year 2 of N238 International Management with Finance
 - Year 2 of N256 International Management with Marketing
 - Year 2 of N236 Management with Digital Innovation (with Placement Year)
 - Year 3 of N203 International Management
 - Year 3 of N203 International Management
 - Year 3 of N238 International Management with Finance
 - Year 3 of N256 International Management with Marketing
 - Year 3 of N236 Management with Digital Innovation (with Placement Year)
- Year 2 of UESA-H336 MEng Automotive Engineering
- Year 2 of UESA-H163 MEng Biomedical Systems Engineering
- Year 2 of UESA-H217 MEng Civil Engineering
- Year 2 of UESA-H63X MEng Electronic Engineering
- Year 2 of UESA-H114 MEng Engineering
- Year 2 of UESA-HH76 MEng Manufacturing and Mechanical Engineering
- UESA-H316 MEng Mechanical Engineering
 - Year 2 of H316 Mechanical Engineering MEng
 - Year 2 of H316 Mechanical Engineering MEng
- UESA-HH31 MEng Systems Engineering
 - Year 2 of HH31 Systems Engineering
 - Year 2 of HH35 Systems Engineering
- UIBA-NN35 Undergraduate Accounting and Finance
 - Year 2 of NN35 Accounting and Finance
 - Year 3 of NN35 Accounting and Finance
- UECA-3 Undergraduate Economics 3 Year Variants
 - Year 2 of L100 Economics
 - Year 2 of L100 Economics
 - Year 2 of L100 Economics
 - Year 2 of L116 Economics and Industrial Organization
 - Year 2 of L116 Economics and Industrial Organization
 - Year 3 of L100 Economics
 - Year 3 of L100 Economics
 - Year 3 of L100 Economics
 - Year 3 of L116 Economics and Industrial Organization
 - Year 3 of L116 Economics and Industrial Organization
- Year 2 of UESA-H605 Undergraduate Electrical and Electronic Engineering
- Year 2 of UESA-H606 Undergraduate Electrical and Electronic Engineering MEng
- UIBA-N140 Undergraduate International Business
 - Year 2 of N140 International Business
 - Year 3 of N140 International Business
- UMAA-G100 Undergraduate Mathematics (BSc)

- Year 2 of G100 Mathematics
- Year 2 of G100 Mathematics
- Year 2 of G100 Mathematics
- Year 3 of G100 Mathematics
- Year 3 of G100 Mathematics
- Year 3 of G100 Mathematics
- UMAA-G1NC Undergraduate Mathematics and Business Studies
 - Year 2 of G1NC Mathematics and Business Studies
 - Year 3 of G1NC Mathematics and Business Studies
- UMAA-GL11 Undergraduate Mathematics and Economics
 - Year 2 of GL11 Mathematics and Economics
 - Year 3 of GL11 Mathematics and Economics
- UPHA-V7ML Undergraduate Philosophy, Politics and Economics
 - Year 2 of V7MR Philosophy, Politics and Economics (Bipartite with Economics Major)
 - Year 2 of V7MP Philosophy, Politics and Economics (Bipartite)
 - Year 2 of V7MP Philosophy, Politics and Economics (Bipartite)
 - Year 2 of V7ML Philosophy, Politics and Economics (Tripartite)
 - Year 2 of V7ML Philosophy, Politics and Economics (Tripartite)
 - Year 2 of V7ML Philosophy, Politics and Economics (Tripartite)
 - Year 3 of V7MR Philosophy, Politics and Economics (Bipartite with Economics Major)
 - Year 3 of V7MP Philosophy, Politics and Economics (Bipartite)
 - Year 3 of V7MP Philosophy, Politics and Economics (Bipartite)
 - Year 3 of V7ML Philosophy, Politics and Economics (Tripartite)
 - Year 3 of V7ML Philosophy, Politics and Economics (Tripartite)
 - Year 3 of V7ML Philosophy, Politics and Economics (Tripartite)
- Year 2 of UPOA-M100 Undergraduate Politics