**University of Suffolk**

**DEFINITIVE COURSE RECORD**

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|---|---|
| Course Title | **Subject Knowledge Enhancement: Secondary Mathematics** |
| Awarding Bodies | **University of Suffolk** |
| Level of Award[1] | **Professional short course** |
| Professional, Statutory and Regulatory Bodies Recognition | **Fulfils the requirements of a Subject Knowledge Enhancement (SKE) programme, as defined by the National College for Teaching & Leadership on behalf of the Department for Education** |
| Credit Structure[2] | **n/a** |
| Mode of Attendance | **Short course** |
| Standard Length of Course[3] | **24 weeks** |
| Intended Award | **N/A** |
| Named Exit Awards | **N/A** |
| Entry Requirements[4] | **Typical offer:**<br>**A university degree**<br>**Currently working in an educational setting, or holding an offer for Initial Teacher Training** |
| Delivering Institution | **University of Suffolk** |

This definitive record sets out the essential features and characteristics of the Subject Knowledge Enhancement: Secondary Mathematics course. The information provided is accurate for students entering level 7 in the 2018-19 academic year.[5]

**Course Summary**
Mathematics is an essential and compulsory subject at secondary level (Key Stages 3 and 4). It is also a subject where there is a relative scarcity of experienced and qualified teachers. For graduates intending to embark on an initial teacher training (ITT) course, as well as teachers who have trained to teach another subject, this is a professional development opportunity to improve your mathematical knowledge and skills in order to be able to add mathematics to the subjects you are able to teach.

This module fulfils the requirements of a Subject Knowledge Enhancement (SKE) programme, as defined by the National College for Teaching & Leadership on behalf of the Department for Education. The short course content will maintain currency with the National Curriculum, adapting to changes as and when appropriate.

This short course has been designed so that professionals working in education, or holding an offer for initial teacher training, can focus on their continuing professional development and mathematics knowledge enhancement.

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[1] For an explanation of the levels of higher education study, see the QAA Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies (2014)
[2] All academic credit awarded as a result of study at the University adheres to the Higher education credit framework for England.
[3] Where the course is delivered both full-time and part-time, the standard length of course is provided for the full-time mode of attendance only. The length of the part-time course is variable and dependent upon the intensity of study. Further information about mode of study and maximum registration periods can be found in the Framework and Regulations for Taught Postgraduate Awards.
[4] Details of standard entry requirements can be found in the Admissions Policy
[5] The University reserves the right to make changes to course content, structure, teaching and assessment as outlined in the Admissions Policy.

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**Course Aims**

- To provide the depth of specialist subject knowledge needed to teach mathematics at KS3 and KS4

- To encourage a reflective approach to the mastery of mathematical skills at this level, to take into account alternative approaches and methods and how this can translate into a differentiated approach to teaching and learning

- To develop a critical awareness of the role and importance of mathematics for problem solving, in the light of the increased emphasis placed on problem solving in the school curriculum

- To give an informed insight into how mathematics develops beyond KS4 in order that teachers can support pupils with progression and respond confidently to the needs of gifted and talented pupils

- To provide a framework for critical, analytical and evidence-based reflection on contemporary developments in the secondary mathematics curriculum

**Course Learning Outcomes**
The following statements define what students graduating from the Subject Knowledge Enhancement: Secondary Mathematics course will have been judged to have demonstrated in order to achieve the award. To complete this short course successfully, a student will have demonstrated their ability to:

1. Produce high quality solutions to mathematics questions of the type found in KS3 and KS4 sources and beyond, and to demonstrate a critical awareness of what makes for a "high quality" solution in the mathematics discipline

2. Identify, compare, discuss and evaluate alternative methods of solution, in terms of both conceptual understanding and practical implementation, and to reflect on the appropriateness of these alternatives for a given teaching and learning situation

3. Devise, articulate and critically evaluate problem-solving scenarios that are appropriate for a given mathematical competency, placing this within the context of the increased importance of problem solving within mathematical curriculum development, and reflecting on the implications of this for teaching and learning

4. Identify and place given mathematical tasks within the context of the National Curriculum at KS3 and KS4, and critically evaluate their appropriateness in terms of difficulty and scope

5. Evidence the skills required to exercise independent learning and to develop these skills to a high level so as to work with self-direction and originality, and communicate conclusions in an appropriate register for the discipline

**Course Design, Content and Structure**
The course focuses specifically on the mathematical content of the National Curriculum for Key Stages 3 and 4, and on the new GCSE specifications.

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Emphasis will be placed on problem solving, practical application, and mastery of technique. The mathematic topics covered in the course include:

- Number
- Algebra
- Ratio, proportion, rates of change
- Geometry and measures
- Probability
- Statistics
- Proof

- Critical and informed application of the above to problem solving, mathematical investigation and practical "real world" scenarios

- Extension of aspects of the above appropriate to confidently advise and teach pupils progressing to higher level study

- Fluency and reasoning using appropriate mathematical technique and terminology

- Appropriate use of technology to support learning in mathematics (e.g. scientific calculators, spreadsheets), demonstrating a critical awareness of limitations and implications

- Critical appraisal of research into the teaching and learning of mathematics at Key Stages 3 and 4, and the role of mathematics in the curriculum

**Awards**

On successful completion of the course, students will be awarded a Subject Knowledge Enhancement: Secondary Mathematics statement of completion.

**Course Delivery**

The course is delivered at Ipswich. Students studying on Subject Knowledge Enhancement: Secondary Mathematics are likely to have approximately 168 contact hours (21 full days over a 24 week period). The contact hours will be a mix of tutor-led classes, collaborative workshops and structured study of online resources. Students will normally be expected to undertake 17 hours of independent study in an average week, but should be prepared for this to vary based on assignment deadlines and class exercises.

**Course Assessment**

The assessment for this short course is through an assessment portfolio (100% weighting) that includes:

1. An examination (3 hours duration) covering the specialist subject knowledge matter

2. A critical analysis and pedagogical review of a mathematics examination paper. (Word count: 4000)

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**Course Team**
The academic staff delivering this course are drawn from a team that includes teaching specialists and current practitioners. All staff are qualified in their subjects with their own specialist knowledge to contribute.

**Course Costs**
Students undertaking Subject Knowledge Enhancement Secondary Mathematics will be charged tuition fees as detailed below:

|  | Tuition Fees |
|---|---|
| Short Course | £1,705 |

A bursary from NCTL to cover tuition fees may be available for ITT entrants but will be restricted to students having at least a 2:2.

Payment of tuition fees is due at the time of enrolment and is managed in accordance with the Tuition Fee Policy.

**Academic Framework and Regulations**
This course is delivered according the academic policies and procedures of the University and published on the website.