

## Programme Specification (Undergraduate)

FOR ENTRY YEAR: 2025/26

Date created: 28/11/2024      Last amended: 14/03/2025  
by EQED: Click or tap here to enter text.

Version no. 1 Date approved

### 1. Programme title(s) and code(s):

STEM Foundation Year

The STEM Foundation Year programme provides progression onto BSc / Integrated Masters degrees in Chemistry, Computer Science, Creative Computing, Engineering, Environmental Science, Geography, Geology, Mathematics, and Physics. It is not available as a stand-alone award.

#### a) HECOS Code

Chemistry with foundation year	100417
Computer Science with foundation year	100366
Creative Computing with foundation year	100368
Engineering with foundation year	100184
Environmental Science with foundation year	100381
Geography with foundation year	100409
Geology with foundation year	100395
Mathematics with foundation year	100403
Physics with foundation year	100425

#### b) UCAS Code

Chemistry with foundation year	F991
Computer Science with foundation year	G991
Creative Computing with foundation year	G993
Engineering with foundation year	H991
Environmental Science with foundation year	XNNN
Geography with foundation year	F992
Geology with foundation year	F993
Mathematics with foundation year	G992
Physics with foundation year	F995

### 2. Awarding body or institution:

University of Leicester

### 3. a) Mode of study

Full-time

## **b) Type of study**

Campus-based

### **4. Registration periods:**

The STEM Foundation Year will count towards the normal and maximum registration period of the degree programme that a student may progress to.

The normal period of registration for the STEM Foundation Year is one year (progressing to a 3 or 4 year UG degree).

The maximum period of registration for the STEM Foundation Year is 2 years.

### **5. Typical entry requirements**

A-level: BCC/CCC or points equivalent from best three A-levels, to include appropriate subject(s) For the Computer Science and Creative Computing pathways a science subject is preferred but not required.

BTEC Diploma: DDM in an appropriate scientific or engineering discipline.

Access to HE courses in Science and Engineering: 45 L3 credits, including 24 at Distinction.

International equivalents of the above.

Students must be at least 17 on the programme start date.

The STEM Foundation Year is designed to provide a route to higher education for applicants who do not have the necessary entry requirements for first year entry to the undergraduate programmes.

### **6. Accreditation of Prior Learning**

Not applicable

### **7. Programme aims**

The programme aims to:

- Develop the professional attributes and study skills that will equip students to thrive in an undergraduate degree programme and beyond
- Enable students to progress to an appropriate undergraduate programme through the acquisition of discipline specific knowledge at the required standard

### **8. Reference points used to inform the programme specification**

- QAA Benchmarking Statements
- Framework for Higher Education Qualifications (FHEQ)
- UK Quality Code for Higher Education
- [Education Strategy](#)
- [University Assessment Strategy](#) [login required]
- University of Leicester Periodic Developmental Review Reports
- External Examiners' reports (annual)
- United Nations Education for Sustainable Development Goals
- Student Destinations Data
- Specification documents for various A-level mathematics qualifications
- Specification documents for various A-level science (Physics, Chemistry, Geography, Geology, Computer Science) qualifications

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### 9. Programme Outcomes

Unless otherwise stated, programme outcomes apply to all awards specified in 1. Programme title(s).

#### a) Knowledge and Critical Understanding

##### i) Competence in an appropriate body of knowledge

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: recall and apply discipline-specific knowledge to solve problems and draw appropriate conclusions.	Lectures Workshops Course texts/specially-prepared resources Small-group tutorials	Workshop problems Core learning exercises Group work/Peer learning in sessions Tutorial problems Mock exam	Core Learning Exercises FS0050 Revision Notes End-of-Module Exams

##### ii) Breadth of knowledge

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: apply mathematical techniques to solve discipline-specific problems	Lectures Workshops Course texts/specially-prepared resources Small-group tutorials	Workshop problems Core learning exercises Group work/Peer learning in sessions Tutorial problems Mock exam	Core Learning Exercises End-of-Module Exams

iii) Understanding of source materials

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: evaluate the reliability of information and numerical data	Lectures Workshops/Labs Course texts/specially-prepared resources VLE instructions/recordings Small-group tutorials	Workshop problems/Lab problems Group work/Peer learning in sessions Academic Integrity training Presentation research	Core learning exercises/Lab reports Online Test Presentation
Students should be able to: use electronic resources to find and evaluate information	Lectures VLE instructions/recordings	Academic Integrity training Presentation research	Online Test Presentation

**b) Cognitive and Practical Skills**

i) Selection and analysis of sources

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: evaluate the reliability of information and numerical data	Lectures Workshops/Labs Course texts/specially-prepared resources VLE instructions/recordings Small-group tutorials	Workshop problems/Lab problems Group work/Peer learning in sessions Academic Integrity training Presentation research	Core learning exercises/Lab reports Online Test Presentation

ii) Critical engagement

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: record and reflect on their learning experiences	VLE instructions/recordings Small-group tutorials	Group work/Peer learning in sessions Tutorial engagement	Mock Exam Marking Reflective Statement

iii) Presentation of an argument

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: use IT to summarise and communicate ideas, in verbal form	VLE instructions/recordings Small-group tutorials	Guided Independent study Practice Presentations	Presentation

iv) Independent research

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: use electronic resources to find and evaluate information	Lectures VLE instructions/recordings	Academic Integrity training Presentation research	Online Test Presentation

v) Relevant technical skills

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: recognise and describe patterns in data	Lectures Workshops/Labs Course texts/specially-prepared resources Small-group tutorials	Workshop problems/Lab problems Core learning exercises Group work/Peer learning in sessions	Core Learning Exercises Lab/Project reports End-of-Module Exams

Students should be able to: use IT to process data	Workshops/Labs Course texts/specially-prepared resources	Workshop problems/Lab problems Group work/Peer learning in sessions	Core learning exercises/Lab reports
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vi) Autonomous working

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: demonstrate the ability to work autonomously	Induction sessions Assessment Planner	Core learning exercises Guided Independent study	Core Learning Exercises Revision Notes Presentation Reflective Statement

vii) Presentation of research findings

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: use IT to summarise and communicate ideas, in verbal form	VLE instructions/recordings Small-group tutorials	Guided Independent study Practice Presentations	Presentation

**c) Transferable skills**

i) Verbal, written and digital communication

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: use IT to summarise and communicate ideas, in verbal form	VLE instructions/recordings Small-group tutorials	Guided Independent study Practice Presentations	Presentation
Students should be able to:	Lectures	Workshop problems	Core Learning Exercises

communicate discipline-specific ideas, in written form	Workshops Course texts/specially-prepared resources Small-group tutorials	Core learning exercises Group work/Peer learning in sessions Tutorial problems Mock exam	FS0050 Revision Notes End-of-Module Exams
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ii) Numeracy

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: apply mathematical techniques to solve discipline-specific problems	Lectures Workshops Course texts/specially-prepared resources Small-group tutorials	Workshop problems Core learning exercises Group work/Peer learning in sessions Tutorial problems Mock exam	Core Learning Exercises End-of-Module Exams

iii) Self-reflection

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: record and reflect on their learning experiences	VLE instructions/recordings Small-group tutorials	Group work/Peer learning in sessions Tutorial engagement	Mock Exam Marking Reflective Statement

iv) Problem solving

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to:	Lectures Workshops	Workshop problems Core learning exercises	Core Learning Exercises End-of-Module Exams

apply mathematical techniques to solve discipline-specific problems	Course texts/specially-prepared resources Small-group tutorials	Group work/Peer learning in sessions Tutorial problems Mock exam	
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v) Organisation and management

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to:  engage in professional practices such as effectively managing their time and workload, organising their course materials and revision notes, maintaining consistent engagement with sessions and seeking support as necessary	Induction sessions  Course texts/specially-prepared resources  Assessment Planner	Induction activities  Workshop engagement  Assessment Planner record-keeping  Tutorial engagement	Online Test  Revision Notes  Reflective Statement  End-of-module Exams

vi) Teamwork

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to:  work in groups to solve discipline-specific problems	Workshops  Small-group tutorials	Workshop engagement  Tutorial engagement	Engagement



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### 10. Progression points

This programme follows the standard Scheme of Progression set out in [Senate Regulations](#) – see the version of Senate Regulation 5 governing undergraduate programmes relevant to the year of entry.

The following additional award requirements for this programme have been approved.

#### Semester 1 Progression Board (January/February):

For modules assessed in Semester 1. Resits will be offered for these modules where failed, apart from any non-resittable coursework assessment components, as detailed in the module specification documents. The Semester 1 Progression Board will recommend termination of a student from their course where a student has failed any Semester 1 module, at Grade F, and cannot reach the pass mark for the module after resit of the re-sittable assessment components.

#### Progression from Year 0 to Year 1:

Students will be required to pass **all** Foundation Year modules within their stream.

The pass mark for all modules is 40%. Compensation is not permitted on this programme.

Resits will **normally** be offered for all modules **except** for the following lab-based modules:

- FS0023 Laboratory Skills
- FS0024 Engineering Principles and Experimentation
- CH0062 Introductory Chemistry Practical

Reassessment will ordinarily be offered on one occasion only. Certain coursework assessment components are not-resittable, as detailed in the module specification documents.

School-specific progression requirements are given below.

- For students intending to study a degree in **Computer Science or Creative Computing**, there are **no other** additional progression requirements.
- For students intending to study a degree in **Environmental Science, Geography, or Geology** there are the additional progression requirement to complete at least six out of the eight lab sessions and associated write-ups for **CH0062 Introductory Chemistry Practical**, and to pass the examination component of **GY0011 Principles of Earth Science and Earth Systems** (see Appendix 3: Progression Table).
- For students intending to study a degree in **Mathematics**, there are the additional progression requirements to pass the examination component of both **FS0031 Mathematics 1** and **FS0032 Mathematics 2** (see Appendix 3: Progression Table).
- For students intending to study a degree in **Physics**, there are the additional progression requirements to pass the examination component of both **FS0031 Mathematics 1** and **FS0032 Mathematics 2**, and to complete at least four out of the five laboratory sessions and associated write-ups for FS0023 Laboratory Skills in each semester (see Appendix 3: Progression Table).
- For students intending to study a degree in **Engineering**, there are the additional progression requirement to pass the examination component of both **FS0031 Mathematics 1** and **FS0032 Mathematics 2**, and to complete at least four out of the five experimental sessions and associated write ups for FS0024 Engineering Principles and Experimentation in each semester (see Appendix 3: Progression Table).
- For students intending to study a degree in **Chemistry**, there are the additional progression requirements to pass the examination component of **FS0030 Fundamental Mathematics**, and

to complete at least six out of the eight lab sessions and associated write-ups for **CH0062 Introductory Chemistry Practical** (see Appendix 3: Progression Table).

Where a student fails to meet the progression requirement to obtain 40% in the examination component of a mathematics module (FS0030, FS0031 and/or FS0032), a resit of the examination will be offered even if the module has been passed.

A student who passes 120 credits, but fails to meet the School-specific progression requirements described above after reassessment, may be offered a transfer to another course with alternative progression requirements, at the discretion of the School. In cases where a student has failed to meet a requirement to progress, and there is no offer to transfer to another course, the student will be required to withdraw from the course.

Upon progression to Year 1, a student may transfer to any of the undergraduate degrees offered by the School within their discipline.

A foundation certificate is available on request to any student who completes and passes all the modules for the Foundation Year but does not progress to the degree programme.

## 11. Research-inspired Education

Students on this programme will advance through the four quadrants of the University of Leicester Research-inspired Education Framework as follows:

RiE Quadrant	Narrative
<b>Research-briefed</b> Bringing staff research content into the curriculum.	Students on the STEM Foundation Year engage with the Research-inspired Education Framework in a way that prepares them for their progression in their discipline-specific integrated degrees.  •Research-briefed: Foundation Year modules incorporate staff research and recent developments in STEM fields. Students encounter authentic research content in all streams.
<b>Research-based</b> Framed enquiry for exploring existing knowledge.	•Research-based: Structured inquiry activities, such as lab experiments and guided research, develop students' skills in exploring existing knowledge. These experiences provide a foundation for more advanced research tasks in their chosen disciplines.
<b>Research-oriented</b> Students critique published research content and process.	•Research-oriented: Students critique and analyse published research through presentations and data analysis tasks. These activities nurture critical thinking and familiarise students with the research process, preparing them for independent inquiry.
<b>Research-apprenticed</b> Experiencing the research process	•Research-apprenticed While opportunities to undertake original research are limited in the Foundation Year, students gain foundational skills and insights,

and methods; building new knowledge.	<p>enabling deeper engagement in research and innovation as they progress further in their degree programmes.</p> <p>The STEM Foundation Year serves as a springboard, introducing students to research culture and inquiry-based learning while building transferable skills. As students advance to their respective Schools, they engage further with discipline-specific research opportunities, projects, and creative activities.</p>
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**As part of studying at a research-intensive university, students on this programme have the following extra or co-curricular opportunities available to them to gain exposure to research culture:**

As per undergraduate years 1 to 4

**Teaching on this programme will be research-informed (it draws consciously on systematic inquiry into the teaching and learning process itself) in the following way:**

The School supports all staff involved in teaching to gain an accredited Higher Education teaching qualification, in which they demonstrate their use of teaching theory to support their own practice and reflect on their current teaching and continuing professional development.

The programme incorporates teaching strategies grounded in educational research, such as active learning, collaborative problem-solving, and formative assessment techniques, ensuring effective student engagement and knowledge retention.

Educators on the programme draw on scholarship in STEM education research, such as best practices for teaching complex concepts in engineering, computational thinking, or mathematical reasoning, to refine their approach and support diverse learning needs.

Some teaching staff are actively engaged in research within their fields, and their expertise and ongoing projects inform classroom teaching/tutoring, supporting a connection between education and professional research practices.

The programme design is informed by continuous feedback and systematic review, using data from student performance, engagement, and feedback to refine teaching approaches and materials.

## **12. Indications of programme quality**

The teaching methodology for the STEM Foundation Year programme has been informed from established foundation year programmes within the university, and nationally.

## **13. External Examiner(s) reports**

The details of the External Examiner(s) for this programme and the most recent External Examiners' reports for this programme can be found at [exampapers@Leicester](mailto:exampapers@Leicester) [log-in required].

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### Appendix 1: Programme structure (programme regulations)

The University regularly reviews its programmes and modules to ensure that they reflect the current status of the discipline and offer the best learning experience to students. On occasion, it may be necessary to alter particular aspects of a course or module.

#### Stream 1: Geoscience

##### Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	45 credits	30 credits	45 credits
Optional	n/a	n/a	n/a

120 credits in total

##### Core modules

Delivery period	Code	Title	Credits
Sem 1	FS0030	Fundamental Mathematics	15 credits
Sem 1	FS0061	Scientific Computing	15 credits
Sem 2	CH0062	Introductory Chemistry Practical	15 credits
Sem 2	GY0011	Principles of Earth Science and Earth Systems	15 credits
Sem 2	FS0033	Introductory Data Analysis	15 credits
Year long	FS0045	Introductory Earth and Environmental Science	30 credits
Year long	FS0050	Academic Support	15 credits

## Stream 2: Chemistry

### Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	15 credits	60 credits	45 credits
Optional	n/a	n/a	n/a

120 credits in total

### Core modules

Delivery period	Code	Title	Credits
Sem 1	FS0030	Fundamental Mathematics	15 credits
Sem 1	FS0043	Waves and Matter	15 credits
Sem 1	FS0061	Scientific Computing	15 credits
Sem 1	CH0065	Introduction to Chemistry 1	15 credits
Sem 2	CH0066	Introduction to Chemistry 2	15 credits
Sem 2	CH0062	Introductory Chemistry Practical	15 credits
Sem 2	FS0033	Introductory Data Analysis	15 credits
Year long	FS0050	Academic Support	15 credits

### Stream 3: Physics

#### Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	30 credits	45 credits	45 credits
Optional	n/a	n/a	n/a

120 credits in total

#### Core modules

Delivery period	Code	Title	Credits
Sem 1	FS0031	Mathematics 1	15 credits
Sem 1	FS0041	Mechanics 1	15 credits
Sem 1	FS0043	Waves and Matter	15 credits
Sem 2	FS0032	Mathematics 2	15 credits
Sem 2	FS0042	Mechanics 2	15 credits
Sem 2	FS0044	Electromagnetism and Quantum Physics	15 credits
Year long	FS0023	Laboratory Skills	15 credits
Year long	FS0050	Academic Support	15 credits

## Stream 4: Engineering

### Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	30 credits	45 credits	45 credits
Optional	n/a	n/a	n/a

120 credits in total

### Core modules

Delivery period	Code	Title	Credits
Sem 1	FS0031	Mathematics 1	15 credits
Sem 1	FS0041	Mechanics 1	15 credits
Sem 1	FS0043	Waves and Matter	15 credits
Sem 2	FS0032	Mathematics 2	15 credits
Sem 2	FS0042	Mechanics 2	15 credits
Sem 2	FS0044	Electromagnetism and Quantum Physics	15 credits
Year long	FS0024	Engineering Principles and Experimentation	15 credits
Year long	FS0050	Academic Support	15 credits

## Stream 5: Mathematics

### Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	45 credits	30 credits	45 credits
Optional	n/a	n/a	n/a

120 credits in total

### Core modules

Delivery period	Code	Title	Credits
Sem 1	FS0031	Mathematics 1	15 credits
Sem 1	FS0041	Mechanics 1	15 credits
Sem 2	FS0032	Mathematics 2	15 credits
Sem 2	FS0042	Mechanics 2	15 credits
Sem 2	FS0033	Introductory Data Analysis	15 credits
Year long	FS0060	Introduction to Programming	30 credits
Year long	FS0050	Academic Support	15 credits



## Stream 6: Computing

### Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	45 credits	30 credits	45 credits
Optional	n/a	n/a	n/a

120 credits in total

### Core modules

Delivery period	Code	Title	Credits
Sem 1	FS0034	Computational Mathematics	15 credits
Sem 1	FS0062	Introductory Linux	15 credits
Sem 2	FS0063	Algorithms and Logic	15 credits
Sem 2	FS0064	The Digital World	15 credits
Sem 2	FS0033	Introductory Data Analysis	15 credits
Year long	FS0060	Introduction to Programming	30 credits
Year long	FS0050	Academic Support	15 credits

## Appendix 2: Module specifications

See undergraduate [module specification database \[log-in required\]](#) (Note - modules are organized by year of delivery).

### Appendix 3: Progression Table

Degree Programme	Additional Progression Requirements
Chemistry <i>BSc with Foundation Year</i>	In addition to passing FS0030 with a module mark of at least 40%, a mark of at least 40% must be obtained in the FS0030 exam.  In addition to passing CH0062 with a module mark of at least 40%, a student must complete at least six out of eight practical sessions and associated write-ups.
Computer Science <i>BSc with Foundation Year</i>	None
Creative Computing <i>BSc with Foundation Year</i>	None
Engineering <i>BEng with Foundation Year</i>	In addition to passing FS0031 and FS0032 with a module mark of at least 40%, a mark of at least 40% must be obtained in each of the FS0031 and FS0032 exams.  In addition to passing FS0024 with a module mark of at least 40%, a student must complete at least four out of the five experimental sessions and associated write-ups that occur in each semester.
Environmental Science <i>BSc with Foundation Year</i>	In addition to passing CH0062 with a module mark of at least 40%, a student must complete at least six out of eight practical sessions and associated write-ups.  In addition to passing GY0011 with a module mark of at least 40%, a mark of at least 40% must be obtained in the GY0011 exam.
Geography <i>BSc with Foundation Year</i>	In addition to passing CH0062 with a module mark of at least 40%, a student must complete at least six out of eight practical sessions and associated write-ups.  In addition to passing GY0011 with a module mark of at least 40%, a mark of at least 40% must be obtained in the GY0011 exam.
Geology <i>BSc with Foundation Year</i>	In addition to passing CH0062 with a module mark of at least 40%, a student must complete at least six out of eight practical sessions and associated write-ups.

	In addition to passing GY0011 with a module mark of at least 40%, a mark of at least 40% must be obtained in the GY0011 exam.
Mathematics <i>BSc with Foundation Year</i>	In addition to passing FS0031 and FS0032 with a module mark of at least 40%, a mark of at least 40% must be obtained in each of the FS0031 and FS0032 exams.
Physics and Astronomy <i>BSc with Foundation Year</i>	<p>In addition to passing FS0031 and FS0032 with a module mark of at least 40%, a mark of at least 40% must be obtained in each of the FS0031 and FS0032 exams.</p> <p>In addition to passing FS0023 with a module mark of at least 40%, a student must complete at least four out of the five laboratory sessions and associated write-ups that occur in each semester.</p>