

Programme Specification (Undergraduate)

FOR ENTRY YEAR: 2025/26

Date created: 28/11/2024Last amended: 27/05/2025Click or tap here to enter text.

Version no. 1 Date approved by EQED:

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

STEM International Foundation Year

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

b) UCAS Code

Geography with international foundation year	
Geology with international foundation year	
Chemistry with international foundation year	
Engineering with international foundation year	
Environmental Science with international foundation year	
Physics with international foundation year	
Mathematics with international foundation year	
Computer Science with international foundation year	
Creative Computing with international foundation year	

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 International 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 International Foundation Year is one year (progressing to a 3 or 4 year UG degree).

The maximum period of registration for the STEM International 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).

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 International 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
- Develop the transferable academic skills and English language knowledge required to succeed at the University of Leicester

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
- <u>University Assessment Strategy</u> [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:	Lectures	Workshop problems	Core Learning Exercises
recall and apply discipline-specific knowledge to solve problems and	Workshops	Core learning exercises	End-of-Module Exams
draw appropriate conclusions.	resources	Mock exam	

ii) Breadth of knowledge

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

iii) Understanding of source materials

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to:	Workshops/Labs	Workshop problems/Lab problems	Core learning exercises/Lab reports

evaluate the reliability of information	Course texts/specially-prepared	Group work/Peer learning in sessions	Report
and numerical data	resources		Poster Presentation
	Small-group classes	Guided Independent Study	
Students should be able to:			Report
use electronic resources to find and evaluate information	Small-group classes	Group work/Peer learning in sessions Guided Independent Study	Poster 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:	Workshops/Labs	Workshop problems/Lab problems	Core learning exercises/Lab reports
evaluate the reliability of information and numerical data	Course texts/specially-prepared resources	Group work/Peer learning in sessions	Report Poster Presentation
	Small-group classes	Guided Independent Study	

ii) Critical engagement

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

iii) Presentation of an argument

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to:	Small-group classes		Reflective Presentation
use IT to summarise and communicate ideas, in verbal form		Presentation training	Poster Presentation

iv) Independent research

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to:			Report
use electronic resources to find and evaluate information	Small-group classes	Group work/Peer learning in sessions Guided Independent Study	Poster Presentation

v) Relevant technical skills

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

vi) Autonomous working

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to:	Induction sessions	Core learning exercises	Core Learning Exercises

demonstrate the ability to work	Assessment Planner	Guided Independent study	Reflective Presentation
autonomously	Small-group classes	Group work/Peer learning in sessions	Report
			Poster Presentation

vii) Presentation of research findings

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to:	Small-group classes		Reflective Presentation
use IT to summarise and communicate ideas, in verbal form		Presentation training	Poster Presentation

c) Transferable skills

i) Verbal, written and digital communication

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to:	Small-group classes		Reflective Presentation
use IT to summarise and communicate ideas, in verbal form		Presentation training	Poster Presentation
Students should be able to:	Lectures	Workshop problems	Core Learning Exercises
communicate discipline-specific ideas,	Workshops	Core learning exercises	Short Answer Test
in written form	Course texts/specially-prepared	Group work/Peer learning in sessions	Report
	resources	Formative writing tasks	Poster Presentation
	Small-group classes	Mock exam	Written Exam
			End-of-Module Exams

ii) Numeracy

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

iii) Self-reflection

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

iv) Problem solving

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

v) Organisation and management

	Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
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Students should be able to:	Induction sessions	Induction activities	Online Test
engage in professional practices such	Course texts/specially-prepared	Workshop engagement	Reflective Presentation
as effectively managing their time and workload, organising their course	resources	Assessment Planner record-keeping	End-of-Module Exams
materials and revision notes,	Assessment Planner	Group work/Peer learning in sessions	
maintaining consistent engagement			
necessary		Guided Independent Study	

vi) Teamwork

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



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10. Progression points

This programme follows the standard Scheme of Progression set out in <u>Senate Regulations</u> – 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 module:

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.

For students intending to study on the STEM International Foundation Year, there are the additional progression requirements to engage with at least 75% of the FS0051 Academic English Language and Skills for STEM 1, and at least 75 % of the FS0052 Academic English Language and Skills for STEM 2, oncampus taught classes; pass the Poster Presentation and Written Exam components of FS0052 Academic English Language and Skills for STEM 2; and engage with at least 75% of the requirements of the Discipline-Specific Engagement component of FS0052 Academic English Language and Skills for STEM 2

School-specific progression requirements are given below.

- For students intending to study a degree in Computer Science or Creative Computing, there are no further progression requirements (see Appendix 3: Progression Table).
- For students intending to study a degree in Environmental Science, Geography, or Geology there is the additional progression requirement 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 further progression ٠ 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 further 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 Engineering, there are further progression requirement 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 Chemistry, there are further progression ٠ 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
	Students on the STEM International 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 Bringing staff research content into the curriculum.	•Research-briefed: Foundation Year modules incorporate staff research and recent developments in STEM fields. Students encounter authentic research content in all streams.
Research- based 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.
Research- oriented 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.
Research- apprenticed Experiencing the research process	•Research-apprenticed: While opportunities to undertake original research are limited in the Foundation Year, students gain foundational skills and insights, enabling deeper engagement in research and innovation as they progress further in their degree programmes.

and methods; building new knowledge.	The STEM International 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.

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 International 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 <u>exampapers@Leicester</u> [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	30 credits	45 credits	45 credits
Optional	n/a	n/a	n/a

120 credits in total

Delivery period	Code	Title	Credits
Sem 1	FS0030	Fundamental Mathematics	15 credits
Sem 1	FS0051	Academic English Language and Skills for STEM 1	15 credits
Sem 1	FS0061	Scientific Computing	15 credits
Sem 2	GY0011	Principles of Earth Science and Earth Systems	15 credits
Sem 2	FS0033	Introductory Data Analysis	15 credits
Sem 2	FS0052	Academic English Language and Skills for STEM 2	15 credits
Year long	FS0045	Introductory Earth and Environmental Science	30 credits

Stream 2: Chemistry

Credit breakdown

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

120 credits in total

Delivery period	Code	Title	Credits
Sem 1	FS0030	Fundamental Mathematics	15 credits
Sem 1	FS0043	Waves and Matter	15 credits
Sem 1	FS0051	Academic English Language and Skills for STEM 1	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
Sem 2	FS0052	Academic English Language and Skills for STEM 2	15 credits

Stream 3: Physics

Credit breakdown

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

120 credits in total

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 1	FS0051	Academic English Language and Skills for STEM 1	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
Sem 2	FS0052	Academic English Language and Skills for STEM 2	15 credits

Stream 4: Engineering

Credit breakdown

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

120 credits in total

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 1	FS0051	Academic English Language and Skills for STEM 1	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
Sem 2	FS0052	Academic English Language and Skills for STEM 2	15 credits

Stream 5: Mathematics

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

Delivery period	Code	Title	Credits
Sem 1	FS0031	Mathematics 1	15 credits
Sem 1	FS0041	Mechanics 1	15 credits
Sem 1	FS0051	Academic English Language and Skills for STEM 1	15 credits
Sem 2	FS0032	Mathematics 2	15 credits
Sem 2	FS0033	Introductory Data Analysis	15 credits
Sem 2	FS0052	Academic English Language and Skills for STEM 2	15 credits
Year long	FS0060	Introduction to Programming	30 credits

Stream 6: Computing

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	FS0034	Computational Mathematics	15 credits
Sem 1	FS0062	Introductory Linux	15 credits
Sem 1	FS0051	Academic English Language and Skills for STEM 1	15 credits
Sem 2	FS0063	Algorithms and Logic	15 credits
Sem 2	FS0033	Introductory Data Analysis	15 credits
Sem 2	FS0052	Academic English Language and Skills for STEM 2	15 credits
Year long	FS0060	Introduction to Programming	30 credits

Appendix 2: Module specifications

See undergraduate <u>module specification database [log-in required]</u> (Note - modules are organized by year of delivery).

Appendix 3: Progression Table

Degree Programme	Additional Progression Requirements
All	In addition to passing FS0051 and FS0052 with a module mark of at least 40%, a student must engage with at least 75% of the FS0051 and at least 75% of the FS0052 on-campus taught classes. In addition to passing FS0052 with a module mark of at least 40%, a mark of at least 40% must be obtained in each of the Poster Presentation and Written Exam components of FS0052.
Chemistry BSc with Foundation Year	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 BSc with Foundation Year	None
Creative Computing BSc with Foundation Year	None
Engineering BEng with Foundation Year	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.
Environmental Science BSc with Foundation Year	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 BSc with Foundation Year	In addition to passing CGY0011 with a module mark of at least 40%, a mark of at least 40% must be obtained in the GY0011 exam.
Geology BSc with Foundation Year	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	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
BSc with Foundation Year	and FS0032 exams.
Physics and Astronomy	
BSc with Foundation Year	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.