UNIVERSITY OF LEICESTER

Programme Specification (Undergraduate)

FOR ENTRY YEAR: 2025/26

Date created: 10/07/2024 **Last amended:** 09/12/2024 **Version no.** 1 **Date approved by EQED:** Click or tap here to enter text.

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

F300 BSc Physics;

F3F5 BSc Physics with Astrophysics

F365 BSc Physics with Space Science

F3G6 BSc Physics with Data Science

F330 BSc Physics with Climate Science

F399 BSc Physics with Foundation Year

F303 MPhys Physics

F3FM MPhys Physics with Astrophysics;

F366 MPhys Physics with Space Science

FG36 MPhys Physics with Data Science

F331 MPhys Physics with Climate Science

Notes

1. All the above have the following variants
   a. With a Year in Industry
   b. With a Year Abroad
2. For all the above, the following exit awards apply
   a. CertHE
   b. DipHE
3. Students completing the Foundation Year of the BSc Physics with Foundation Year, and who meet the internal transfer requirements (see Section 10), will be eligible to transfer to any of the above-named programmes as an integrated programme of study.

a) HECOS Code

HECOS Code	%
100425	100* / 75**
100415 [astrophysics]	25**
101102 [space science]	25**
100379 [climate science]	25**
100370 [data science]	25**

Notes

*Physics BSc/MPhys is 100% 100425.

**All specialist degree pathways are 75% 100425 and 25% the specialist subject code.

2. Awarding body or institution:

University of Leicester

3. a) Mode of study

Full-time

b) Type of study

Campus-based

4. Registration periods:

All BSc Physics and variants.

The normal period of registration is 3 years. If including a Foundation Year, a Year in Industry, or a Year Abroad then the normal period of registration is 4 years. If including a Foundation Year, and either a Year in Industry or a Year Abroad, then the normal period of registration is 5 years.

The maximum period of registration is normally 5 years. If including a Foundation Year, a Year in Industry, or a Year Abroad, then the maximum period of registration is 6 years. If including a Foundation Year and either a Year in Industry or a Year Abroad, then the maximum period of registration is 7 years.

All MPhys Physics and variants

The normal period of registration is 4 years. If including a Foundation Year, a Year in Industry, or a Year Abroad then the normal period of registration is 5 years. If including a Foundation Year and either a Year in Industry or a Year Abroad, then the normal period of registration is 6 years.

The maximum period of registration is normally 6 years. If including a Foundation Year, a Year in Industry, or a Year Abroad, then the maximum period of registration is 7 years. If including a Foundation Year and either a Year in Industry or a Year Abroad, then the maximum period of registration is 8 years.

5. Typical entry requirements

Three A-levels including Physics and Mathematics; typical offers ABB-AAB to include Physics and Mathematics. International Baccalaureate 30 points to include Physics and Mathematics, at least one at Higher Level.

6. Accreditation of Prior Learning

APL will not be accepted for exemptions from individual modules, however may be considered for direct entry to year 2, on a case by case basis, and subject to the general provisions of the University APL policy.

For Foundation Year Variant: n/a

7. Programme aims

The programme aims to provide students with

- a coherent working knowledge of general physics, including the mathematical and computational skills necessary to enable modelling of the real world

- exposure to the frontiers of research in areas of physics such as astrophysics, space science, data science and climate science.
- an opportunity to explore their interests in and aptitudes for a range of areas of physics and technology
- the ability to perform open-ended investigative work in physics
- laboratory experience and a basic aptitude in the skills necessary to plan and execute an investigation and analyse data, including an understanding of uncertainty
- independent learning skills and professional and personal skills (presentation, clear communication, teamwork, time management)
- the opportunity for students to achieve their full potential by equipping them with the knowledge and skills for employment in research and development, education, government, and science-based industry, and for training at management levels in other professions

In addition, the MPhys degrees aim to provide students with:

- a coherent working knowledge of general physics and specialised knowledge in some areas up to Masters-level (FHEQ level 7)
- an introduction to advanced data analysis and theoretical modelling techniques in areas of physical science up to Masters-level (FHEQ level 7)
- the ability to undertake extended research in a specialist area of physics
- the ability to critically evaluate scientific research at the forefront of the discipline

In addition, for the 'with a Year abroad' variants

- The 'Year Abroad' variant of this programme is offered in accordance with the University's standard specification for the experiential year abroad variant.

In addition, for the 'with Industry' variants

- The 'Year in industry' variant of this programme is offered in accordance with the University's standard specification for year in industry programme variants.
- To provide experience of applications of professional and discipline-specific skills in Industry and to reinforce knowledge through its use in different environments.

For the Foundation Year variants, see Foundation Year Programme Specification

8. Reference points used to inform the programme specification

- Institute of Physics (IOP) degree accreditation [https://www.iop.org/education/support-work-higher-education/degree-accreditation-recognition]
- QAA Benchmarking Statement for Physics and Astronomy (2019) [https://www.qaa.ac.uk/the-quality-code/subject-benchmark-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 Report
- External Examiners' reports (annual)
- United Nations Education for Sustainable Development Goals
- Student Destinations Data

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: demonstrate a coherent working knowledge of general physics; solve model problems in physics using appropriate mathematical and/or computational tools	Lectures; tutorials; open ended group projects; computer classes; problem-solving workshops	open ended group project work; independent reading; computer classes; problem-solving workshops	Examinations; coursework problems; physics challenge problem sessions; computer tasks; project reports and presentation
Students should be able to: plan and conduct experiments and apply common experimental and computer modelling techniques	Laboratory practical classes; open ended group project work; computer classes; research project supervision	open ended group project work; independent reading; computer classes; experiments in laboratory practical classes	physics challenge problem sessions; real-time practicals; lab and project reports; computer tasks; presentations on project work
Students should be able to: discuss and describe some current research themes in physics; formulate evidence based scientific arguments	Elective module lectures; research project supervision; tutorials	Independent reading; research project work; tutorial discussions; [MPhys only: preparation of journal papers]	written reports and presentations; practical work; elective coursework; [MPhys only: student-led journal]

ii) Breadth of knowledge

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: recall and apply the basic concepts and laws of physics and related mathematics in core areas of physics including classical mechanics, relativity, quantum physics, electromagnetism, thermodynamics and statistical physics, the physics of light and waves, and the properties of matter	Lectures; specified reading; problem-solving workshops; tutorials	Problem-solving workshops; problem-based learning; open ended group project work; independent reading; preparation for physics challenge sessions; [MPhys only: preparation of journal papers]	Examinations; coursework problems; physics challenge sessions; [MPhys only: student-led journal]

iii) Understanding of source materials

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Gather and critically evaluate information from a range of technical and scientific sources	Lectures; tutorials; research project supervision; group research projects	Independent reading; guided and independent project work; preparation for physics challenge sessions; [MPhys only: preparation of journal papers]	Specialist elective coursework; research and group project reports and presentations; physics challenge sessions; [MPhys only: student-led journal]

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: Identify and use reliable and authentic sources; critically assess sources for authenticity and quality	Tutorials; research project supervision	Discussion in tutorials; research projects; preparation for physics challenge sessions; independent reading; comparison of lab work with published scientific results; [MPhys	Research project report and presentation; physics challenge sessions; lab reports; [MPhys only: student-led journal]

		only: preparation of journal papers and reviews]	
MPhys only: critically evaluate current research at the forefront of the discipline	Research project; lectures	Research projects; independent reading; discussion in specialist electives	Research project report and presentation; specialist elective coursework

ii) Critical engagement

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: critically appraise data and discuss its limitations; draw quantitative conclusions from sample data; critically assess and compare scientific theories in some areas	Lectures; recommended reading; laboratory practical classes; open ended group project work; computer practical classes; research projects; tutorials	Interpret results from experiments in laboratory classes; guided and independent research; group project work; report writing and presentation planning; computing tasks; preparation for physics challenge sessions	written reports for lab work and project work; presentations for project work; real-time practical work; computer exercises; written examinations; physics challenge problem sessions
Students should be able to: identify and work with differing points of view in discussions	Tutorials; open ended group project work; research projects	Discussion in tutorials; working in a group on open-ended projects; preparation for physics challenge sessions; [MPhys only: student-led editorial boards and journal reviews]	Group lab reports; physics challenge sessions; research project presentation; research and group project report; [MPhys only: student-led journal]

iii) Presentation of an argument

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: present a coherent point of view to explain a physical argument or the interpretation of data	Lectures; tutorials; research project supervision; laboratory practical classes; open ended group projects	Interpret results of experiments in laboratory classes; research project; draw conclusions from group project work; report writing and presentation planning; preparation for physics	Group and individual lab reports; physics challenge sessions; research project presentation and report; elective module coursework; [MPhys only: student-led journal]

		challenge sessions; [MPhys only: journal papers and reviews]	

iv) Independent research

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: use library sources and online materials to supplement recommended texts and sources to explore syllabus components	Lectures; tutorials; research project supervision; open ended group projects; problem-based learning	Discussion in tutorials; discussion and feedback during project supervision; specialist elective coursework; preparation for physics challenge sessions	Physics challenge sessions; research project presentation and report; specialist elective coursework assessment
Students should be able to: demonstrate progress on an open ended research project and evidence this in a substantial report;	Tutorials; guided and independent research project; open ended group projects;	Discussion in tutorials; discussion and feedback during project supervision; group project and lab work;	Group project reports; research project presentation and report;
Students should be able to: engage in independent study to solve unseen real-world problems that may cross topic boundaries	Tutorials; physics challenge; research project supervision; [MPhys only: physics special topics]	Discussion in tutorials; physics challenge preparation; research project; [MPhys only: preparation of student-led journal articles]	Physics challenge; research project presentation and report; [MPhys only: student-led journal]

v) Relevant technical skills

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: apply appropriate mathematical techniques to solve physics-based problems	Lectures; tutorials; guided and independent research project; problem solving workshops	Elective coursework; open ended group project work; research project work; preparation for physics challenge sessions	Examinations; coursework problems; physics challenge sessions; research project report and presentation; specialist elective coursework

Students should be able to: competently use a range of standard laboratory equipment; describe and adhere to laboratory safety procedures; plan and implement scientific experiments	Laboratory guidance and training; open ended group projects; lectures; tutorials; research project supervision	open ended group project work; conduct experiments in laboratory practical classes; research project	Real-time practicals; lab book; lab reports; group project reports; research project presentation and report
Students should be able to: demonstrate awareness of data handling methods to handle uncertainty with a particular focus on data from the physical sciences	Lectures; practical lab classes; computer classes; guided and independent research projects	Analyse results from experiments in laboratory classes; guided and independent research projects; group project work; research project work	research and group project reports and presentations; lab reports; computer tasks
Students should be able to: design, write and implement computer code to solve physics-based problems.	Computer classes; research project supervision; laboratory practical classes; open ended group projects	Computer tasks; analysis of data from lab experiments; analysis of data or execution of simulations of computer calculations for research projects	Computer tasks; research project report and presentation

vi) Autonomous working

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: work independently and make effective use of resources in guided independent study	Tutorials; research project supervision; laboratory practical classes; open ended group projects	Problem-solving workshops; plan, analyse, interpret experiments in laboratory classes; independent reading; apply initiative and problem solving in research project; group project work; preparation for physics challenge sessions	Examinations; Individual lab reports; physics challenge sessions; research project presentation and report; specialist elective coursework
Students should be able to: independently distil information from	Tutorials; research project supervision; laboratory practical classes; open ended group projects	Problem-solving workshops independent reading; apply initiative and problem solving in research project; group project work;	Group and individual lab reports; physics challenge sessions; research

a variety of sources into coherent arguments and discussion		preparation for physics challenge sessions	project presentation and report; specialist elective coursework

vii) Presentation of research findings

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: clearly communicate the findings of scientific investigations and research	Research project supervision; laboratory practical classes; open ended group projects; physics challenge sessions; [MPhys only: physics special topics]	Writing individual and group reports on experimental work; research project reports; reports for specialist elective coursework; presentations; [MPhys only: journal papers and reviews]	Group and individual lab reports; research project reports and presentations; presentations and written work for specialist elective coursework; physics challenge sessions; [MPhys only: student-led journal]
Students should be able to: Use appropriate techniques to solve a problem, then test and evaluate the solution, and document the process clearly using appropriate communication methods.	Lectures; tutorials; guided research project; laboratory practical classes; open ended group projects; problem-based learning; [Mphys only: physics special topics training]	Coursework problem sets; independent reading; problem solving and record keeping in research projects; group project work; preparation for physics challenge sessions; [Mphys only: preparation of journal papers]	Examinations; Individual and group lab reports; physics challenge sessions; research project presentation and report; coursework problem sets; [MPhys only: student-led journal]
[MPhys only] Students should be able to write a clear and concise scientific paper or report	Physics Special Topics training; research project supervision; tutorials	Writing, reviewing and editing student-led journal articles; final-year research project	Research project reports; student-led journal

c) Transferable skills

i) Verbal, written and digital communication

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: clearly communicate scientific concepts to a variety of audiences	Tutorials; physics challenge sessions; research project supervision; enterprise challenge; skills-focussed lab sessions; [MPhys only: physics special topics training]	Tutorials; preparation for physics challenge sessions; guided and independent research projects; group projects; enterprise challenge; [MPhys only: student-led journal]	physics challenge; group and individual project presentations and reports; enterprise challenge; [MPhys only: student-led journal]
Students should be able to: write concise and clear scientific reports, laboratory reports and project summaries; write CVs; clearly discuss some areas of current research in physics in written form	Tutorials; physics challenge sessions; research project supervision; skills-focussed lab sessions	Writing individual and group reports on experimental work; research project reports; CV discussions in lab classes and tutorials; written reports for specialist elective coursework	Group and individual lab reports; CV; research project reports; specialist elective coursework

ii) Numeracy

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: use analytical and graphical methods; analyse data; solve numerical problems involving e.g. calculus, linear algebra, vector and Fourier methods; apply and assess methods of numerical approximation	Lectures; tutorials; problem-solving workshops; open ended group projects; research project supervision; computer practical classes; laboratory practical classes	problem-based learning; open ended group projects; research project; computer practical classes; experiments in laboratory classes; preparation for physics challenge sessions; [MPhys only: preparation of journal papers]	Examinations; lab and project reports; oral presentations; real-time assessed practical work; assessed computer tasks; coursework exercises; physics challenge problem sessions; [Mphys only: student-led journal]
Students should be able to: Use appropriate software, or develop new	computer practical classes; laboratory practical classes; open ended group projects; research project supervision	Computer classes and tasks; processing and analysing data from	lab and project reports; presentations; assessed computer tasks

software, to help solve scientific problems		experiments in laboratory classes; research project work	

iii) Self-reflection

Intended Learning Outcome	Module Code	Teaching methods	Learning Activities	Assessment Type
Students should be able to: review classroom discussions and feedback, and reflect on their level of understanding and ongoing development	Core: PA1010, PA2010 and PA3010 tutorial sessions; PA1900 and PA2900 lab skills training and careers sessions; PA3280	Tutorial discussions; physics challenge sessions; project supervision	Reviewing tutorial discussions; independent reading; writing reflective summaries in lab modules; presentation and challenge in physics challenge sessions; research project progress records and reviews	Reflective accounts for lab modules PA1900, 2900; formative assessment of CVs; physics challenge presentation assessment; research project progress

iv) Problem solving

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: analyse scientific problems; apply physics knowledge and problem solving ability to novel applications; write software to solve numerical problems	Lectures; tutorials; laboratory classes; research project supervision; computer classes; problem-based learning	Experiments in laboratory classes; guided and independent project work; preparation for physics challenge sessions; problem-solving workshops; computer classes	Written examinations; lab and project reports; presentations; real-time assessed practical work; assessed computer tasks; assessed coursework exercises; physics challenge problem sessions.
Students should be able to: plan and implement projects and experimental tests	laboratory classes; research project supervision; computer classes	Experiments in laboratory classes; project work; computer classes	lab and project reports; presentations; real-time practical work; research project reports and presentations

v) Organisation and management

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: develop and enhance their study skills.	Tutorial sessions; problem-solving workshops; feedback sessions; practical lab classes; research project supervision	Discussions in tutorials; recording lab and project work, reflecting on progress; writing lab reports; preparing for physics challenge sessions; elective coursework	Project reports and presentations; group and individual lab reports; coursework for elective modules; physics challenge sessions
Students should be able to: work independently and manage their time appropriately.	Structured academic tutorial support in each year decreasing through the programme; increasing levels of guided independent work in later years	Structured support and guidance through tutorials, student support workshops, lab skills sessions, research project induction and supervision meetings; problem-solving workshops; research project	Meeting deadlines; research project progress, report and presentation; individual lab reports; real-time lab
Students should be able to: organise and manage an independent and/or group open ended investigation	Laboratory classes; research project supervision	Group research projects; guided and independent research projects; project work in electives coursework	Research project progress, reports, and presentations; group project reports; electives coursework

vi) Teamwork

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: discuss concepts and formulate plans working with peers; organise time and tasks coherently between group members; produce joint reports/presentations	Open ended group projects; research projects; enterprise challenge	Working on pair and group experiments in laboratory classes; guided project work in small teams; preparation for physics challenge sessions in teams; problem-solving workshops working in small groups	Physics challenge presentations; group lab reports; enterprise challenge presentation
MPhys only: Students should be able to: work in small teams to write and review student scientific articles	Physics special topics sessions	Working as a team to conceive, write and review student-led journal articles	Student-led journal

Year Abroad

In addition, for the ‘with a Year abroad’ variants the additional programme outcomes apply

Year in Industry

In addition, for the Year in Industry’ variants the additional programme outcomes apply

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. This includes the standard progression requirements for Integrated Masters students.

The following additional progression requirements for this programme have been approved by the University.

For practical reasons it is not possible for re-assessment to be offered for the following Laboratory and practical- or project- based modules, as per SR 5.35:

- PA1900
- PA2900
- PA3241
- PA3243
- PA3245
- PA3900

The Board of Examiners has discretion to ask students to resubmit one or more assessed coursework elements where it is possible for students to achieve a pass mark for the module by improving their mark in individual coursework elements. This will typically be in cases of mitigating circumstances. Missed practical work is not resittable.

The following modules are pre-requisite for progression and are not eligible for compensation and must therefore be passed at 40.00%, or 50.00% for PA4900:

- PA1900
- PA2900
- PA3900
- PA4900

In the event that a student does not attain the MPhys progression criteria, they will be transferred to the BSc programme.

Foundation Year

For the requirements for progression from the Foundation Year, see the STEM Foundation Year programme specification for the year of entry.

In cases where a student has failed to meet a requirement to progress, they will be required to withdraw from the course.

Progression on a specialist Physics degree

Students taking a specialist degree pathway have additional progression requirements; the expectations in Years 1 and 2, to progress to the next level on a specialist pathway, are summarised in the table below.

	Astrophysics	*Space Science*	*Climate Science*	*Data Science*
Year 1 – expected to study one of:	PA1601, PA1602 PA1603	PA1601, PA1602, PA1604	PA1602, PA1603, PA1604	PA1601, PA1603, PA1604
Year 2 – required to study one of:	PA2601, PA2602, PA2603	PA2603, PA2604, PA2605	PA2602, PA2605, PA2606	PA2601, PA2604, PA2606

To progress from Year 3 to Year 4 of an MPhys on a specialist degree pathway, students must attempt 30 credits of appropriately themed elective modules in Year 3 and successfully pass (with a mark of at least 40.00%) an appropriately themed research project. In Year 4, students must take an appropriately themed advanced research project and select at least 15 credits of appropriately themed elective modules.

In cases where a student on a specialist degree fails to take the required speciality credits, but successfully attains the criteria to progress, they will be transferred to the corresponding Physics degree (BSc or MPhys).

a) Course transfers

Students may transfer to one of the specialist degree pathways if they have the right prerequisites given above.

Students taking any combination of elective modules may transfer to a Physics degree.

Transfer from MPhys to the relevant BSc degrees is possible at any point prior to the end of the final year of study. Transfer from BSc to the relevant MPhys degrees is possible where students meet the progression criteria for the MPhys.

Transfer to Year Abroad and Year in Industry degrees is possible up to the end of year 2 (for BSc) and year 3 (for MPhys) where students have been accepted onto these programmes.

b) Year abroad

For the Year Abroad variant (for experiential Year Abroad only) the additional progression points apply

c) Year in Industry

For the Year in Industry variant, the additional progression points apply

11. Criteria for award and classification

This programme follows the standard scheme of undergraduate award and classification set out in Senate Regulations – see the version of *Senate Regulation 5 governing undergraduate programmes* relevant to the year of entry.

12. Special features

Group problem solving; student-centred learning; research-based projects; problem-based learning; opportunity of industry, business, or education-led group research projects; Space Park Leicester student enterprise challenge; [MPhys only] student-led scientific journal.

For the Year Abroad variant (for experiential Year Abroad only) the additional Special Features apply

For the Year in Industry variant. The University recognises that undertaking a work placement as part the programme of study can enhance career prospects and provide added value, and as such this programme includes a 'year in industry' variant.

By experiencing real-world scenarios and applying skills and knowledge to a professional environment, students can gain a unique insight into how their studies can be utilised in industry.

This will not only showcase their abilities to future employers but will also enhance their studies upon returning to university to complete your programme.

To understand the special features for year in industry undergraduate programme variants, this programme specification should be read in conjunction with the programme specification content which can be found here. This outlines details including programme aims, support, progression and duration.

12a. 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
	Our programme provides the training to ensure the students become junior researchers by the end of their degrees. Students start their degree by learning the fundamental principles of key physical concepts and get the necessary mathematical support which is essential in understanding these topics. Across the programme students develop crucial transferable skills for both research and future employment, including report writing, group work, presentation skills, reading research papers, and library skills, including searching and using reference manager software.
Research-briefed Bringing staff research content into the curriculum.	• **Research briefed** – Staff introduce their research content into teaching where possible, for example, using worked examples from their research, how theories are applied and why they are useful.
Research-based Framed enquiry for exploring existing knowledge.	• **Research based** – Students work in groups on problems in workshops within a number of core modules. Laboratory modules teach the students the important of the scientific method, experimental techniques and the importance of keeping a professional lab book, data analysis. Students work in pairs conducting an experiment designed around inquiry-based activities.
Research-oriented Students critique published research content and process.	• **Research oriented** – Students use physics to solve real world problems in these modules. Teams present their solutions, to their peers who critiquing the material and the process.
Research-apprenticed Experiencing the research process and methods; building new knowledge.	• **Research apprenticed** –Students Work individually and in groups to present your findings from data management and critical appraisals, especially in field-based research projects. Field courses and a research design module provide essential environments for research training. The final year project which runs all year, provides students with the tools to critique published content and experience and engage with the research process. All students will push the boundaries of knowledge in their final dissertation project based on their independent research, supported by an

	expert supervisor. The final year poster presentations allow students to communicate their research in a similar way to a first year PhD student.

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:

The School has a full programme of weekly "Space lates" events hosted in Space Park, to which Undergraduate students are encouraged to attend through promotion via standard student comms channels (e.g. Teams and email)

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. All Physics teaching staff attend Teaching Enhancement meetings (held three times a year) where examples of good practice are shared. These meetings also provide a forum to enhance what is delivered and teaching and assessment methodologies. The Director of Teaching and Learning is a member of the Universities Educational Leadership Group, Teaching staff attend other educational meetings. Summer research internship scheme offers students the opportunity to undertake research in one of the School's research groups.

13. Indications of programme quality

- Institute of Physics accreditation
- QAA Subject Review
- Academic Review
- External examiners reports
- Destinations of Leavers from Higher Education (DLHE) survey

14. 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 [log-in required].

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.

Updates to the programme

Academic year	**Module**	**Change**
2025/26	PA1601 Introduction to Astrophysics, Climate Science, and Data Science	Previously I*ntroduction to Astrophysics, Modern Physics and Space Science*
2025/26	PA1602 Introduction to Astrophysics, Climate Science, and Space Science	Previously *Introduction to Applied Physics, Astrophysics and Space Science*
2025/26	PA1603 Introduction to Astrophysics, Data Science, and Space Science	Previously *Introduction to Applied Physics, Astrophysics and Modern Physics*
2025/26	PA1604 Introduction to Climate Science, Data Science, and Space Science	Previously *Introduction to Applied Physics, Modern Physics and Space Science*

Physics BSc

Level 4/Year 1 2025/26

Credit breakdown (both BSc and MPhys)

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

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Year long	PA1010	PHYSICS SKILLS AND PROFESSIONAL DEVELOPMENT 1	n/a
Year long	PA1110	MECHANICS	15 credits
Year long	PA1130	ELECTRICITY AND MAGNETISM	15 credits
Semester 2	PA1120	LIGHT AND MATTER	15 credits
Semester 2	PA1140	WAVES AND QUANTA	15 credits
Year long	PA1900	EXPERIMENTAL PHYSICS 1	15 credits
Semester 1	PA1710	MATHEMATICAL PHYSICS 1.1	15 credits
Semester 2	PA1720	MATHEMATICAL PHYSICS 1.2	15 credits

Notes

The teaching for Year Long modules PA1110, PA1130 is completed in Semester 1; some assessment activities may take place in Semester 2

Option modules

Delivery period	Code	Title	Credits
Year long	PA1601	INTRODUCTION TO ASTROPHYSICS, CLIMATE SCIENCE, AND DATA SCIENCE	15 credits
Year long	PA1602	INTRODUCTION TO ASTROPHYSICS, CLIMATE SCIENCE, AND SPACE SCIENCE	15 credits
Year long	PA1603	INTRODUCTION TO ASTROPHYSICS, DATA SCIENCE, AND SPACE SCIENCE	15 credits
Year long	PA1604	INTRODUCTION TO CLIMATE SCIENCE, DATA SCIENCE, AND SPACE SCIENCE	15 credits

Notes

This is an indicative list of option modules and not definitive of what will be available. Option module choice is also subject to availability, timetabling, student number restrictions and, where appropriate, students having taken appropriate pre-requisite modules. Students on a specialist degree pathway are expected (but not required) to select an elective module that includes their specialism (see Section 10)

Level 5/Year 2 2026/27

Credit breakdown (both BSc and MPhys)

Status	Year long	Semester 1	Semester 2
Core	75 credits	n/a	30 credits
Optional	n/a	n/a	15 credits

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Year long	PA2010	PHYSICS SKILLS AND PROFESSIONAL DEVELOPMENT 2	n/a
Semester 2	PA2230	CONDENSED MATTER PHYSICS	15 credits
Year long	PA2240	ELECTROMAGNETIC FIELDS	15 credits
Year long	PA2260	RELATIVITY, QUANTUM PHYSICS AND PARTICLES	15 credits
Year long	PA2710	MATHEMATICAL PHYSICS 2	15 credits
Semester 2	PA2720	THERMAL AND STATISTICAL PHYSICS	15 credits
Year long	PA2900	EXPERIMENTAL PHYSICS 2	30 credits

Notes
The teaching for Year Long option modules PA2240, PA2260, PA2710 is completed in Semester 1; some assessment activities may take place in Semester 2

Option modules

Delivery period	Code	Title	Credits
Semester 2	PA2601	INTERMEDIATE ASTROPHYSICS AND DATA SCIENCE	15 credits
Semester 2	PA2602	INTERMEDIATE ASTROPHYSICS AND CLIMATE SCIENCE	15 credits
Semester 2	PA2603	INTERMEDIATE ASTROPHYSICS AND SPACE SCIENCE	15 credits

Delivery period	Code	Title	Credits
Semester 2	PA2604	INTERMEDIATE DATA SCIENCE AND SPACE SCIENCE	15 credits
Semester 2	PA2605	INTERMEDIATE CLIMATE SCIENCE AND SPACE SCIENCE	15 credits
Semester 2	PA2606	INTERMEDIATE CLIMATE SCIENCE AND DATA SCIENCE	15 credits

Notes

This is an indicative list of option modules and not definitive of what will be available. Option module choice is also subject to availability, timetabling, student number restrictions and, where appropriate, students having taken appropriate pre-requisite modules. Students on a specialist degree pathway must select an elective module that includes their specialism (see Section 10).

Level 6/Year 3 2027/28

Credit breakdown BSc

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

120 credits in total

Credit breakdown MPhys

Status	Year long	Semester 1	Semester 2
Core	30 credits	n/a	45 credits
Optional	n/a	30 credits	15 credits

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Year long	PA3010	PHYSICS SKILLS AND PROFESSIONAL DEVELOPMENT 3	n/a

Delivery period	Code	Title	Credits
Year long	PA3210	QUANTUM MECHANICS	15 credits
Semester 2	PA3230	RADIATION AND MATTER	15 credits
Semester 2	PA3280	PHYSICS CHALLENGE	15 credits
Semester 2	PA3900	RESEARCH PROJECT	15 credits
Semester 1	PA3250	MATHEMATICAL PHYSICS 3*	15 credits

Notes
* PA3250 is core for all MPhys degrees, elective for all BSc degrees.

The teaching for all Year Long modules in this block is completed in Semester 1; some assessment activities may take place in Semester 2

Skills Elective modules

Delivery period	Code	Title	Credits
Semester 1	PA3241	INDUSTRY PROJECT	15 credits
Semester 1	PA3242	ASTRODYNAMICS	15 credits
Semester 1	PA3243	ELECTRONICS	15 credits
Year long	PA3245	PHYSICS IN EDUCATION	15 credits
Semester 1	PA3246	PYTHON	15 credits
Semester 1	PA3247	NUMERICAL PROGRAMMING IN C++	15 credits
Semester 1	NT3100	SUSTAINABILITY ENTERPRISE PARTNERSHIP PROJECT	15 credits
Semester 1	PA3250	MATHEMATICAL PHYSICS 3*	15 credits

Notes
* PA3250 is core for all MPhys degrees, elective for all BSc degrees

This is an indicative list of option modules and not definitive of what will be available. Option module choice is also subject to availability, timetabling, student number restrictions and, where appropriate, students having taken appropriate pre-requisite modules. Students on a specialist degree pathway must select two 15 credit modules in total from the specialist elective and skills elective lists that are appropriate for their specialism. Additionally, students on a specialist degree pathway must complete a PA3900 research project in an area of physics appropriate to their specialism.

Specialist Elective modules

Delivery period	Code	Title	Credits
Year long	PA3601	MEDICAL PHYSICS	15 credits
Semester 2	PA3602	STELLAR ASTROPHYSICS	15 credits
Year long	PA3603	THE SPACE ENVIRONMENT	15 credits
Semester 2	PA3604	ELEMENTARY PARTICLES: THE STANDARD MODEL AND BEYOND	15 credits
Year long	PA3605	QUASARS AND COSMOLOGY	15 credits
Semester 2	PA3606	PLANETARY PHYSICS	15 credits
Semester 2	GY3424	REMOTE SENSING OF THE ENVIRONMENT	15 credits
Semester 1	PA3420	CLIMATE CHANGE: IMPACTS, VULNERABILITY AND ADAPTATION	15 credits
Semester 2	PA3607	MODELS AND METHODS FOR SCIENTIFIC DATA	15 credits

Notes
This is an indicative list of option modules and not definitive of what will be available. Option module choice is also subject to availability, timetabling, student number restrictions and, where appropriate, students having taken appropriate pre-requisite modules. Students on a specialist degree pathway must select two 15 credit modules from the specialist elective and skills elective lists that are appropriate for their specialism. Additionally, students on a specialist degree pathway must complete a PA3900 research project in an area of physics appropriate to their specialism.

The teaching for all Year Long option modules in this block is completed in Semester 1; some assessment activities may take place in Semester 2

Level 7/Year 4 2028/29

Credit breakdown

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

Status	Year long	Semester 1	Semester 2
Optional	30 credits	Choose an item.	30 credits

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Year long	PA4010	PHYSICS SKILLS AND PROFESSIONAL DEVELOPMENT 4	n/a
Semester 1	PA4980	PHYSICS SPECIAL TOPICS	15 credits
Year long	PA4900	ADVANCED RESEARCH PROJECT	45 credits

Notes
n/a

Option modules

Delivery period	Code	Title	Credits
Semester 1	PA4601	QUANTUM THEORY OF SOLIDS	15 credits
Year long	PA4602	SCIENTIFIC DATA ANALYSIS	15 credits
Year long	PA4603	SPACE PLASMAS AND PLANETARY ATMOSPHERES	15 credits
Year long	PA4604	RADIATIVE PROCESSES IN ASTROPHYSICS	15 credits
Semester 2	PA4607	ADVANCED SPACE SCIENCE	15 credits
Semester 2	PA4608	SUPERMASSIVE BLACK HOLES AND EXOPLANETS	15 credits
Year long	PA4609	GENERAL RELATIVITY AND QUANTUM FIELDS	15 credits
Semester 2	PA4611	COMPUTATIONAL FLUID AND SPACE-PHASE FLOWS	15 credits
Semester 1	PA4201	EARTH OBSERVATIONS OF THE ATMOSPHERE	15 credits
Semester 2	MA4022	DATA MINING AND NEURAL NETWORKS	15 credits

Additional options for Physics with Space Science only

Delivery period	Code	Title	Credits
Semester 1	PA4613	SPACE FLIGHT DYNAMICS AND PROPULSION	15 credits
Year long	PA4612	HUMAN SPACEFLIGHT AND NUCLEAR SYSTEMS	15 credits

Notes

This is an indicative list of option modules and not definitive of what will be available. Option module choice is also subject to availability, timetabling, student number restrictions and, where appropriate, students having taken appropriate pre-requisite modules. Students on a specialist degree pathway must select at least one 15 credit option module that is appropriate for their specialism. Additionally, students on a specialist degree pathway must complete a PA4900 research project in an area of physics appropriate to their specialism.

The teaching for all Year Long option modules in this block is completed in Semester 1; some assessment activities may take place in Semester 2

Appendix 2: Module specifications

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