

Course Information Document: Undergraduate

For students starting in Academic Year 2019/2020

1. Course Summary

Names of programme(s) and award title(s)	BSc (Hons) Physics BSc (Hons) Physics with International Year (see Annex A for details)
Award type	Combined Honours <i>NB: all students who study a science Principal subject are candidates for the degree of Bachelor of Science (with Honours) (BSc Hons) irrespective of their second Principal subject.</i>
Mode of study	Full time
Framework of Higher Education Qualification (FHEQ) level of final award	Level 6
Duration	3 years 4 years with International Year between years 2 and 3
Location of study	Keele University – main campus
Accreditation (if applicable)	This subject/programme is accredited by: The Institute of Physics (IoP). For further details see the section on Accreditation below
Regulator	Office for Students (OfS)
Tuition Fees	UK/EU students: Fee for 2018/19 is £9,250* International students: Fee for 2018/19 is £14,690** <i>(if combined with a non- laboratory-based Principal Subject)</i> or £15,835** <i>(if combined with a laboratory-based Principal Subject)</i> The fee for the international year abroad is calculated at 15% of the standard year fee
Additional Costs	Please refer to the Additional costs section

* These fees are regulated by Government. We reserve the right to increase fees in subsequent years of study in response to changes in government policy and/or changes to the law. If permitted by such change in policy or law, we may increase your fees by an inflationary amount or such other measure as required by government policy or the law. Please refer to the accompanying Student Terms & Conditions. Further information on fees can be found at <http://www.keele.ac.uk/studentfunding/tuitionfees/>

** We reserve the right to increase fees in subsequent years of study by an inflationary amount. Please refer to the accompanying Student Terms & Conditions for full details. Further information on fees can be found at <http://www.keele.ac.uk/studentfunding/tuitionfees/>

How this information might change: Please read the important information at <http://www.keele.ac.uk/student-agreement/>. This explains how and why we may need to make changes to the information provided in this document and to help you understand how we will communicate with you if this happens.

2. What is a Combined Honours programme?

Combined Honours degrees are degrees that are taken in two different subjects, resulting in an *X and Y* degree title, for example *Physics and Mathematics*. If you are taking a Combined Honours programme, these will be the two subjects you applied for. These are referred to as your Principal Subjects.

In a Combined Honours degree you must take at least 135 credits in each Principal Subject (270 credits in total), accrued over all three levels of study, with at least 45 credits at each level of study (Levels 4, 5 and 6) in each of two Principal Subjects (90 credits per year). For Physics, the requirement is 60 credits in each year of study. The remaining available credits can be filled with modules from these subjects or other subjects entirely.

As a Combined Honours student you can choose to study just one subject in your final year of study, taking a minimum of 90 credits in this subject. This will result in an *X with Y* degree title, for example *Physics with Mathematics*.

Students taking the Route in *Subject X with Physics* might not necessarily be able to demonstrate that they have achieved all of the Programme's learning outcomes. Hence the *Subject X with Physics* Route will NOT be accredited by the IoP.

3. Overview of the Programme

Physics is one of the fundamental curiosity-driven science subjects that has been known to widely contribute to other areas of sciences and a range of industries such as power, nuclear, electronics, telecommunications, medical, pharmaceutical and food technology. In addition to the subject knowledge, Physics curriculum incorporates a number of transferable skills that can be widely exploited in research, education and in a wide variety of industrial sectors. This is evidenced by the wide range of positions being held by Keele Physics graduates.

The three year Combined Honours Physics programme at Keele aims to cover all of the topics which are defined as "Core Physics" by Institute of Physics (IOP) for all undergraduate Physics degrees in the UK. On successful completion of the Physics programme at Keele, students will be equally qualified and well prepared for postgraduate studies or graduate level employment.

All the required instruction in Mathematics and Computing to study Physics is incorporated within the Physics modules. We operate an open-door policy which enables students to have excellent and flexible access to staff to seek advice or feedback on their work. Activities in year 1 and 2 Laboratories are designed such that students should be able to develop necessary competence in laboratory activities by the end of year 2 and be able to undertake individual project in year 3.

4. Aims of the Programme

The broad aims of the programme are to enable you to:

- achieve a knowledge and understanding of the fundamentals of Physics and be able to apply this knowledge and understanding to solving problems;
- develop competence in the application of mathematics and computing to physical problems;
- develop competence in laboratory activities by the end of year 2 and have undertaken project work both individually and within a team by the end of year 3;
- acquire a range of subject-specific skills including how to formulate and tackle problems in Physics; how to plan, manage, execute and report the results of an investigation; how to use mathematics to describe the physical world; and how to deploy these skills to tackle issues within the subject;
- You will acquire a range of cognitive, generic and transferable skills including problem-solving skills,

investigative skills, analytic skills, communication skills, IT skills, time management skills and interpersonal skill.

5. What you will learn

The intended learning outcomes of the programme (what students should know, understand and be able to do at the end of the programme), can be described under the following headings:

- Subject knowledge and understanding
- Subject specific skills
- Intellectual skills
- Key or transferable skills (including employability skills)

Subject knowledge and understanding

The subject knowledge in the Combined Honours Physics programme is underpinned by a core curriculum as set out by the Institute of Physics and includes the fundamentals of classical and quantum mechanics, electromagnetism, optics, thermodynamics, solid state, atomic and nuclear physics, together with the mathematics that is used to describe them. Successful students will be able to demonstrate:

- knowledge of the fundamental principles of Physics and competence in applying these principles to diverse areas of the subject;
- the ability to solve problems in Physics using appropriate mathematical tools including the ability to make sensible approximations;
- the ability to execute, and analyse critically, an experiment or investigation and draw valid conclusions. You will be able to estimate the level of uncertainty in your results and compare these results with expected outcomes, theoretical predictions or with published data. You will be able to evaluate the significance of your results in this context;
- If you specialise in Physics, via major honours, in your final year you develop a wider knowledge and understanding of advanced topics and their applications and acquire skills in the critically reading and understanding published work in Physics.

Subject specific skills

Successful students will have:

- the ability to work safely in a laboratory and to have a knowledge and awareness of standard safety procedures;
- a sound familiarity with laboratory apparatus and techniques;
- competent use of appropriate IT packages/systems for the analysis of data and the retrieval of information;
- an ability in numerical manipulation and estimation and the ability to present and interpret information graphically;
- an ability to use mathematical techniques and analysis to model physical behaviour;
- an ability to record and communicate scientific information, in particular through clear and accurate scientific reports;
- an ability to question, learn and assimilate knowledge and to evolve your views of the world in response to that new knowledge;
- an ability to contribute through research to the development of knowledge in Physics;
- (if you Major in Physics in your final year) an ability to acquire knowledge and understanding of science for yourself, and to work productively on scientific problems on an individual basis.

Intellectual skills

Successful students will be able to:

- analyse and solve problems;
- evaluate evidence and make critical judgements;
- interpret and critique text;
- interpret and critique mathematical and numerical information;
- abstract and synthesise information;
- develop a reasoned argument;
- assess contrasting theories, explanations and policies;
- take responsibility for your own learning and critique that learning.

Key or transferable skills (including employability skills)

Successful students will have:

- the ability to manage your own learning and to make appropriate use of text books, research-based materials and other learning resources;
- the ability to find information and make responsible use of it;
- the ability to listen;
- the ability to make effective written and oral presentations;
- the ability to work with numerical data;
- the ability to make sensible estimates;
- an awareness of the costs and benefits of your actions;
- the ability to work effectively with a variety of types of Information Technology;
- the ability to plan, manage, execute and report an investigation;
- the ability to learn and gain understanding;
- the ability to work effectively both as an individual and as part of a team;
- the ability to sustain motivation for an extended period of time;
- a recognition of your responsibilities as an individual and as part of a team, an organisation.

6. How is the Programme taught?

Learning and teaching methods used on the programme vary according to the subject matter and level of the module. They include the following:

- Lectures
- Tutorials
- Laboratory Classes
- Exercise/Problem-Solving Classes
- Individual Progress Interviews
- Problem Sheet Assignments
- Group and Individual projects
- Directed Reading and Independent Study
- Use of e-learning/the Keele Learning Environment (KLE)

Apart from these formal activities, students are also provided with regular opportunities to talk through particular areas of difficulty, and any special learning needs they may have, with their Personal Tutors or module lecturers on a one-to-one basis.

These learning and teaching methods enable students to achieve the learning outcomes of the programme in a variety of ways.

7. Teaching Staff

The Physics academic staff exhibit a research profile with two main areas of expertise; astrophysics and condensed matter physics. Keele performs internationally renowned work in the fields of exoplanets, stellar physics (both observational and theoretical), high energy extragalactic astrophysics and in the study of soft

condensed matter such as polymers and biological molecules. All research-active staff play a role in teaching and most also undertake administrative roles, either within our teaching or research activities. The teaching and research profiles of the staff that currently deliver the Physics programme can be found at <http://www.keele.ac.uk/physics/people/>. Timetabled teaching is always lead by academic staff.

The University will attempt to minimise changes to our core teaching teams, however, delivery of the programme depends on having a sufficient number of staff with the relevant expertise to ensure that the programme is taught to the appropriate academic standard.

Staff turnover, for example where key members of staff leave, fall ill or go on research leave, may result in changes to the programme's content. The University will endeavour to ensure that any impact on students is limited if such changes occur.

8. What is the Structure of the Programme?

The academic year runs from September to June and is divided into two semesters. The number of weeks of teaching will vary from course to course, but you can generally expect to attend scheduled teaching sessions between the end of September and mid-December, and from mid-January to the end of April.

Our degree courses are organised into modules. Each module is usually a self-contained unit of study and each is usually assessed separately with the award of credits on the basis of 1 credit = 10 hours of student effort. An outline of the structure of the programme is provided in the tables below.

There are three types of module delivered as part of this programme. They are:

- Compulsory modules – a module that you are required to study on this course;
- Optional modules – these allow you some limited choice of what to study from a list of modules;
- Elective modules – a free choice of modules that count towards the overall credit requirement but not the number of subject-related credits.

A summary of the total credit requirements per year is as follows, with a minimum of 90 subject credits (compulsory plus optional) required for each year across both of your Principal Subjects. This document has information about *Physics* modules only; please also see the document for your other subject.

Module credit requirements for Physics					
Year	Compulsory	Optional		Electives	
		Min	Max	Min	Max
1	60	0	0	0	0
2	60	0	0	0	0
3*	30	30	30	0	0

* in year 3 there is the option to choose to specialise in one of your subjects, taking a minimum of 90 credits in this subject rather than taking modules from both subjects

The Physics Principal Course is modular in structure, and is taken in combination with another principal subject as part of a Combined Honours course. At the end of year 2 (level 5), you may also be able to specialise in one of your two principal subjects in your final year.

Module lists

Year 1 (Level 4)

At level 4, Physics and Astrophysics students require a common knowledge and skills base. Therefore, many of the modules taught at level 4 are common to Physics and Astrophysics disciplines. You will study FOUR lecture-based modules of core Physics.

The lecture-based modules are supported by problem classes and assessed problem sheets with an end of semester examination in each. These modules also include lectures, problems classes and tutorials in

mathematics, and laboratory classes, which are an essential part of physics. The module descriptors provide detailed synopses of each module with suggested study reading and are available on the KLE.

Compulsory modules	Module Code	Credits	Semester
Mechanics, Gravity and Relativity	PHY-10022	15	1
Nature of Matter	PHY-10024	15	1
Oscillations and Waves	PHY-10020	15	2
Electricity and Magnetism	PHY-10021	15	2
Optional modules	Module Code	Credits	Semester
None			

Year 2 (Level 5)

At level 5 you continue to be taught the fundamentals of Physics. Modules are common to Physics and Astrophysics in the first semester of the second year, but diverge significantly from the second semester of the second year onwards.

In the first semester you take an Optics Laboratory and a short series of classes in developing your mathematical skills. In the second semester you take an instrumentation and measurement laboratory incorporating a mini-project.

Compulsory modules	Module Code	Credits	Semester
Quantum Mechanics	PHY-20006	15	1
Optics and Thermodynamics	PHY-20027	15	1
Statistical mechanics and Solid State Physics	PHY-20026	15	2
Nuclear and Particle Physics	PHY-20009	15	2
Optional modules	Module Code	Credits	Semester
None			

Year 3 (Level 6)

Compulsory modules	Module Code	Credits	Semester
Physics Project	PHY-30007	15	1-2
Electromagnetism	PHY-30012	15	1
Optional modules	Module Code	Credits	Semester
Cosmology	PHY-30001	15	1 or 2
Physics of the Interstellar Medium	PHY-30002	15	2
The Physics of Compact Objects	PHY-30003	15	2
Quantum Physics of Atoms and Molecules	PHY-30009	15	2
Polymer Physics	PHY-30010	15	1 or 2
Particle Physics and Accelerators	PHY-30033	15	1
Binary Stars and Extrasolar Planets	PHY-30024	15	1 or 2
Life in the Universe	PHY-30025	15	1 or 2
Computational Methods in Physics and Astrophysics	PHY-30026	15	1 or 2
Data Analysis and Model testing	PHY-30027	15	2
The Physics of Galaxies	PHY-30028	15	1 or 2
Quantum Mechanics II	PHY-30029	15	2
Physics of Fluids	PHY-30030	15	2
Atmospheric Physics	PHY-30031	15	2
Plasma Physics	PHY-30032	15	2

NB: if you choose to specialise in Physics in your final year you will study the following modules:

Compulsory modules	Module Code	Credits	Semester
Physics Project	PHY-30007	15	1-2
Electromagnetism	PHY-30012	15	1
Dissertation and Communication Skills	PHY-30015	15	1-2
Optional modules	Module Code	Credits	Semester
Cosmology	PHY-30001	15	1 or 2
Physics of the Interstellar Medium	PHY-30002	15	2
The Physics of Compact Objects	PHY-30003	15	2
Quantum Physics of Atoms and Molecules	PHY-30009	15	2
Polymer Physics	PHY-30010	15	1 or 2
Particle Physics and Accelerators	PHY-30033	15	1
Binary Stars and Extrasolar Planets	PHY-30024	15	1 or 2
Life in the Universe	PHY-30025	15	1 or 2
Computational Methods in Physics and Astrophysics	PHY-30026	15	1 or 2
Data Analysis and Model testing	PHY-30027	15	2
The Physics of Galaxies	PHY-30028	15	1 or 2
Quantum Mechanics II	PHY-30029	15	2
Physics of Fluids	PHY-30030	15	2
Atmospheric Physics	PHY-30031	15	2
Plasma Physics	PHY-30032	15	2

You may, in addition to modules listed, include in level 6 of your Physics course one suitable programme approved elective module from another Principal Course, provided that you are not taking the Principal Course from which that module is derived as part of your Combined Honours combination.

You will find that in teaching you we put emphasis on problem solving. This occurs in examples classes where you solve practice problems in physics in class with staff to assist you, in laboratory teaching where you will be expected to address practical problems and in your directed work for assessment. You are encouraged to call upon module leaders and the director of study for guidance. The staff will be willing to see you at almost any time and you will have one-to-one progress interviews each semester. The teaching team will monitor your progress and we will contact you if we find that you are not achieving all that you should and advise you on how to improve.

You will benefit from a flexible approach to learning the mathematical skills that are essential to the learning and application of Physics. You will find that the classes on mathematics in level 4 are presented in a series of blocks. An assessment test is taken at the end of the class blocks. You will also attend supplementary supporting tutorials in mathematics.

For further information on the content of modules currently offered, including the list of elective modules, please visit: www.keele.ac.uk/recordsandexams/az

9. Final and intermediate awards

Credits required for each level of academic award are as follows:

Honours Degree	360 credits	You will require at least 120 credits at levels 4, 5 and 6. Combined Honours: A minimum of 135 credits in each Principal Subject (270 credits in total), with at least 45 credits at each level of study
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		(Levels 4, 5 and 6) in each of two Principal Subjects (90 credits per year). Your degree title will be X <i>and</i> Y (e.g. 'Physics and Mathematics'). If you choose to study one Principal subject in your final year of study a minimum of 90 credits in that subject is required. Your degree title will be X <i>with</i> Y (e.g. 'Physics with Mathematics').
Diploma in Higher Education	240 credits	You will require at least 120 credits at level 4 or higher and at least 120 credits at level 5 or higher
Certificate in Higher Education	120 credits	You will require at least 120 credits at level 4 or higher

Physics with International Year: in addition to the above students must pass a module covering the international year in order to graduate with a named degree in Physics with international year. Students who do not complete, or fail the international year, will be transferred to the three-year Physics programme.

10. How is the Programme assessed?

The wide variety of assessment methods used within Physics at Keele reflects the broad range of knowledge and skills that are developed as you progress through the degree programme. Teaching staff pay particular attention to specifying clear assessment criteria and providing timely, regular and constructive feedback that helps to clarify things you did not understand and helps you to improve your performance. The following list is representative of the variety of assessment methods used within Physics:

- **End of module examinations** test the ability of the student to describe, explain, and critically discuss the principles of the subject and to demonstrate competence in applying these principles to applications and to solve problems from appropriate areas of the discipline.
- **Assessed Problem Sheets** assess the student's skills in solving numerical and other problems within the discipline by drawing on their scientific understanding and knowledge, and experience of experimental techniques
- **Laboratory and Project Reports** – structured proformas and full lab reports are formal summaries of work carried out in the laboratory and test students' understanding of the practical aspects of the programme and develop the skills necessary to enable students to present and analyse their results.
- **Observation of laboratory skills and laboratory notebooks:** Throughout the extensive laboratory and other practical work in this programme, many types of assessment are utilised to achieve the learning outcomes. Notebooks are used to communicate the results of work accurately and reliably and to encourage good working practice, including managing risk assessments and following safe working practices.
- **Oral and/or Poster presentations** on project work demonstrate the ability of the student to present complex concepts and information in a clear and concise manner, to interact and communicate effectively to a wide range of professional environments, including to both scientific and non-scientific audiences.
- **In-class exercises and tests** taken either conventionally or online via the Keele Learning Environment (KLE) assess students' subject knowledge and their ability to apply it in a more structured and focused way.
- **Individual or group oral presentations** assess individual student's subject knowledge and understanding. They also test their ability to work effectively as members of a team, to communicate

what they know orally and visually, and to reflect on these processes as part of their own personal development.

Marks are awarded for summative assessments designed to assess your achievement of learning outcomes. You will also be assessed formatively to enable you to monitor your own progress and to assist staff in identifying and addressing any specific learning needs. Feedback, including guidance on how you can improve the quality of your work, is also provided on all summative assessments within three working weeks of submission, unless there are compelling circumstances that make this impossible, and more informally in the course of tutorial and seminar discussions.

Year 1 (Level 4) lecture modules are assessed by a mixture of continuous assessment (mostly in the form of problem classes and problem sheets) and examination. The skills component of these modules is assessed on your work at the bench, your understanding of the experiment as displayed in discussion with the staff in the laboratory and in the laboratory reports you are required to write. Problem classes and tests that occur periodically throughout the year assess the mathematics component. The computational strand is assessed by demonstration of use of computer code.

Year 2 (Level 5) lecture modules are assessed by a mixture of continuous assessment (mostly in the form of problem classes and problem sheets), laboratory work and examination. Laboratory work is assessed on your work at the bench, your understanding of the experiment as displayed in discussion with the staff in the laboratory and in the laboratory reports you are required to write. The laboratory work is connected to the content of the lecture modules and the marks for the laboratory are therefore convolved with the examination and continuous assessment marks to give a final mark for each module.

In Year 3 (Level 6) modules stand alone. Lecture modules are assessed using a mixture of continuous assessment (mostly in the form of problem sheets) and examination. The project modules are assessed in terms of the originality and ingenuity you display, the quality and methods of research employed and on the final report. You are given the opportunity to display these qualities in a project plan, an interim report, a one-to-one interview and in your final report. The Dissertation and Communication Skills module is assessed on the scientific content and presentation of the dissertation and also on an oral presentation and a poster presentation that you are required to produce

11. Contact Time and Expected Workload

This contact time measure is intended to provide you with an indication of the type of activity you are likely to undertake during this programme. The data is compiled based on module choices and learning patterns of students on similar programmes in previous years. Every effort is made to ensure this data is a realistic representation of what you are likely to experience, but changes to programmes, teaching methods and assessment methods mean this data is representative and not specific.

Undergraduate courses at Keele contain an element of module choice; therefore, individual students will experience a different mix of contact time and assessment types dependent upon their own individual choice of modules. The figures below are an example of activities that a student may expect on your chosen course by year/stage of study. Contact time includes scheduled activities such as: lecture, seminar, tutorial, project supervision, demonstration, practical classes and labs, supervised time in labs/workshop, fieldwork and external visits. The figures are based on 1,200 hours of student effort each year for full-time students.

Activity	Year 1 (Level 4)	Year 2 (Level 5)	Year 3 (Level 6)
Scheduled learning and teaching activities	39%	40%	28%
Guided independent Study	61%	60%	72%
Placements	0%	0%	0%

12. Accreditation

This subject/programme is accredited by The Institute of Physics (IoP). Please note the following:

- Graduates with accredited BSc degrees are eligible for Associate Membership of the IoP. After a period of relevant post-degree experience and professional development they may apply for full membership of the IoP and for Chartered Physicist status.

13. Regulations

The University Regulations form the framework for learning, teaching and assessment and other aspects of the student experience. Further information about the University Regulations can be found at: <http://www.keele.ac.uk/student-agreement/>

Course Regulations

A student who has completed a semester abroad will not normally be eligible to transfer onto the International Year option.

14. Other learning opportunities

Study abroad (semester)

Students on the Physics programme have the potential opportunity to spend a semester abroad in their second year studying at one of Keele's international partner universities.

Exactly which countries are available depends on the student's choice of degree subjects. An indicative list of countries is on the website (<http://www.keele.ac.uk/studyabroad/partneruniversities/>); however this does not guarantee the availability of study in a specific country as this is subject to the University's application process for studying abroad.

No additional tuition fees are payable for a single semester studying abroad but students do have to bear the costs of travelling to and from their destination university, accommodation, food and personal costs. Depending on the destination they are studying at additional costs may include visas, study permits, residence permits, and compulsory health checks. Students should expect the total costs of studying abroad to be greater than if they study in the UK, information is made available from the Global Education Team throughout the process, as costs will vary depending on destination.

Whilst students are studying abroad any Student Finance eligibility will continue, where applicable students may be eligible for specific travel or disability grants. Students studying in Erasmus+ destinations may be eligible for grants as part of this programme. Students studying outside of this programme may be eligible for income dependent bursaries at Keele.

Students travel on a comprehensive Keele University insurance plan, for which there are currently no additional charges. Some governments and/or universities require additional compulsory health coverage plans; costs for this will be advised during the application process.

Study Abroad (International Year)

A summary of the International Year, which is a potential option for students after completion of year 2 (Level 5), is provided at Annex A.

Other opportunities

Also there are other opportunities such as *Physics Ambassador Scheme* and *e-mentoring scheme* for students to enhance their employability skills.

15. Additional costs

As to be expected there will be additional costs for inter-library loans and potential overdue library fines, print and graduation.

We do not anticipate any further costs for this undergraduate programme.

16. Document Version History

Date of first approved version (v1.0): 5th October 2018

Revision history

Version number ¹	Author	Date	Summary of and rationale for changes

¹ 1.1, 1.2 etc. are used for minor changes and 2.0, 3.0 etc. for major changes (as defined in the University's Guidance on processes supporting curriculum changes)

Annex A

Physics with International Year

Please note: in order to be eligible to take the International Year option your other subject must also offer this option. Please refer to the information published in the course document for your other subject.

International Year Programme
Students registered for Combined Honours Physics may either be admitted for or apply to transfer during their period of study at Level 5 to the Combined Honours programme in both their principal subjects, providing that they meet the progression criteria outlined in this document. Students accepted onto the International Year programme will have an extra year of study at an international partner institution after they have completed Year 2 (Level 5) at Keele. Students who successfully complete both the second year (Level 5) and the International Year will be permitted to progress to Level 6. Students who fail to satisfy the examiners in respect of the International Year will normally revert to the Combined Honours programme without the International Year and progress to Level 6 on that basis. The failure will be recorded on the student's final transcript. Study at Level 4, Level 5 and Level 6 will be as per the main body of this document. The additional detail contained in this annex will pertain solely to students registered for 'Physics with International Year'.
International Year Programme Aims
In addition to the programme aims specified in the main body of this document, the international year programme of study aims to provide students with: 1. Personal development as a student and a researcher with an appreciation of the international dimension of their subject 2. Experience of a different culture, academically, professionally and socially
Entry Requirements for the International Year
Students may apply to the 4-year programme during Level 5. Admission to the International Year is subject to successful application, interview and references from appropriate staff. The criteria to be applied are: • Academic Performance (an average of 60% across all modules at Level 5 is normally required) • General Aptitude (to be demonstrated by application for study abroad, interview during the 2nd semester of year 2 (Level 5), and by recommendation of the student's personal tutor, 1st and 2nd year tutors and programme director)
Student Support
Students will be supported whilst on the International Year via the following methods: • Phone or Skype conversations with Study Abroad tutors, in line with recommended Personal Tutoring meeting points. • Support from the University's Global Education Team
Learning Outcomes
In addition to the learning outcomes specified in the main text of the Programme Specification, students who complete a Keele undergraduate programme with International Year will be able to: i) Describe, discuss and reflect upon the cultural and international differences and similarities of

- different learning environments
- ii) Discuss the benefits and challenges of global citizenship and internationalisation
- iii) Explain how their perspective on their academic discipline has been influenced by locating it within an international setting.

In addition, students who complete 'Physics with International Year' will be able to:

- iv) Engage effectively in academic and scientific discourse in an international setting;
- v) Integrate, apply and develop fundamental physical principles to describe and explain phenomena and solve problems within the context of specialised areas of Physics.

Please note that students on Combined Honours programmes with International Year must meet the subject-specific learning outcomes for BOTH their principal subjects.

These learning outcomes will all be assessed by the submission of a satisfactory individual learning agreement, the successful completion of assessments at the partner institution and the submission of the reflective portfolio element of the international year module.

Course Regulations

Students registered for the 'Physics with International Year' are subject to the course specific regulations (if any) and the University regulations. In addition, during the International Year, the following regulations will apply:

Students undertaking the International Year must complete 120 credits, which must comprise *at least 40%* in the student's discipline area.

This may impact on your choice of modules to study, for example you will have to choose certain modules to ensure you have the discipline specific credits required.

Students are barred from studying any Physics module with significant overlap to Level 6 modules to be studied on their return. Significant overlap with Level 5 modules previously studied should also be avoided.

Additional costs for the International Year

Tuition fees for students on the International Year will be charged at 15% of the annual tuition fees for that year of study, as set out in Section 1. The International Year can be included in your Student Finance allocation, to find out more about your personal eligibility see: www.gov.uk

Students will have to bear the costs of travelling to and from their destination university, accommodation, food and personal costs. Depending on the destination they are studying at additional costs may include visas, study permits, residence permits, and compulsory health checks. Students should expect the total costs of studying abroad be greater than if they study in the UK, information is made available from the Global Education Team throughout the process, as costs will vary depending on destination.

Students studying in Erasmus+ destinations may be eligible for grants as part of this programme. Students studying outside of this programme may be eligible income dependent bursaries at Keele.

Students travel on a comprehensive Keele University insurance plan, for which there are currently no additional charges. Some Governments and/or universities require additional compulsory health coverage plans; costs for this will be advised during the application process.