Programme Specification: Post Graduate Taught

For Academic Year 2026/27

1. Course Summary

Names of programme and award title(s)	MSc in Renewable Energy
Award type	Taught Masters
Mode of study	Full-time Part-time
Framework of Higher Education Qualification (FHEQ) level of final award	Level 7
Normal length of the programme	1 year full-time or 2 years part-time
Maximum period of registration	The normal length as specified above plus 3 years
Location of study	Keele Campus
Accreditation (if applicable)	N/A
Regulator	Office for Students (OfS)
Tuition Fees	**UK students:** Full-time fee for 2026/27 is £11,700 Part-time fee for 2026/27 is £6,400* **International students:** Full-time fee for 2026/27 is £18,200

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.*

* *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/*

2. Overview of the Programme

The MSc Renewable Energy programme provides an advanced, interdisciplinary education in sustainable energy technologies, materials innovation, environmental policy, and professional scientific practice. Through a blend of theoretical study, case-based applied learning, commercial awareness, and independent research, the programme prepares graduates to tackle complex challenges in the transition to low-carbon energy systems.

The curriculum integrates core scientific principles with real-world issues, such as climate change, energy economics, resource scarcity, renewable technology optimisation, and sustainability-driven decision-making. Students engage with specialist modules covering advanced materials for green technologies, renewable energy systems, sustainability analysis, climate-economic policy, and the commercial landscape of science.

The programme culminates in an independent research project, enabling students to apply their knowledge to a significant research question within renewable energy, supported by training in research methods, professional development, and communication skills.

Both full-time and part-time routes are available, allowing flexible progression while maintaining a strong foundation in scientific, analytical, and employability skills.

3. Aims of the programme

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

- Develop an advanced scientific understanding of renewable energy systems, environmental impacts, and sustainability considerations.
- Develop advanced competencies in research methods, academic integrity, literature evaluation, communication, and professional scientific practice.
- Build a strong sense of professional identity and employability through self-assessment, planning, reflective practice, and evidence-based career development.
- Apply the knowledge and skills gained throughout the programme in an independent research project, demonstrating mastery of scientific inquiry and communication.
- Explore the material, technical, and engineering challenges that limit current renewable technologies, and understand how advanced materials can address these challenges.
- Understand the commercial and industrial environment of scientific work, developing business literacy and teamwork skills relevant to scientific industries.
- Gain insight into the global climate crisis, energy systems, and the economic and policy instruments used to deliver climate targets at multiple scales.
- Build confidence and skill in evaluating complex sustainability problems using ethical, scientific, economic, and socio-political frameworks.

4. 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
- Key or transferable skills (including employability skills)

Subject knowledge and understanding

Successful students will be able to:

- The key scientific and engineering principles underlying modern renewable energy technologies.
- Research processes in science, including research ethics, funding, publication, and impact pathways.
- The materials challenges facing renewable technologies, such as cost, scarcity, and efficiency, and how advanced materials research supports sustainable energy solutions.
- Global climate-energy-economic systems and the policy instruments used to drive decarbonisation at local, national, and international scales.
- Sustainability frameworks and methods for evaluating complex environmental, ethical, and policy-related issues.
- The commercial environment of science, including industrial research practices, competitive analysis, project costing, and event planning within scientific contexts.

Subject specific skills

Successful students will be able to:

- Analyse and evaluate renewable energy technologies using scientific, environmental, and technical metrics.
- Perform advanced literature searches, critically evaluate peer-reviewed sources, and apply rigorous research ethics and integrity principles.
- Design, implement, and report an independent research project using appropriate scientific methodologies, data analysis techniques, and interpretive frameworks.
- Assess material properties and select or design materials appropriate for high-performance green technologies.
- Apply economic and policy analysis tools to evaluate climate strategies and energy transitions.
- Critically evaluate complex sustainability scenarios and lead evidence-based professional discussions, negotiations, and conflict-resolution exercises.
- Develop commercially viable scientific project proposals and work effectively within project teams to deliver business-oriented scientific outputs.

Key or transferable skills (including employability skills)

Successful students will be able to:

- Present scientific information clearly and professionally to both technical and non-technical audiences.
- Evaluate their current skills, identify development needs, and construct a coherent training plan to progress towards their desired career path.
- Map their skills and experiences to the requirements of specific job roles and communicate their professional profile effectively to employers.
- Use critical thinking, problem-solving, data literacy, and analytical reasoning to address sustainability and energy challenges.
- Manage time, resources, and independent learning effectively, demonstrating autonomy, initiative, and reflective practice.
- Demonstrate leadership, teamwork, communication, and negotiation skills in complex professional contexts.

Keele Graduate Attributes

The Keele Graduate Attributes are the qualities (skills, values and mindsets) which you will have the opportunity to develop during your time at Keele through both the formal curriculum and also through co- and extra-curricular activities (e.g., work experience, and engagement with the wider University community such as acting as ambassadors, volunteering, peer mentoring, student representation, membership and leadership of clubs and societies). Our Graduate Attributes consist of four themes: **academic expertise, professional skills, personal effectiveness, and social, environmental and ethical responsibility.** You will have opportunities to engage actively with the range of attributes throughout your time at Keele: through your academic studies, through self-assessing your own strengths, weaknesses, and development needs, and by setting personal development goals. You will have opportunities to discuss your progress in developing graduate attributes with, for example, Academic Mentors, to prepare for your future career and lives beyond Keele.

5. 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 and Expert-Led Sessions

Lectures introduce core scientific principles, theories, and conceptual frameworks in renewable energy, climate policy, materials science, sustainability, and professional practice. These are delivered by academic experts and, where appropriate, guest speakers from industry and public-sector organisations.

- Laboratory Work and Technical Workshops

Practical sessions support modules focusing on the science and engineering of renewable energy and materials innovation. Laboratory learning helps students to understand energy conversion processes, analyse materials for a greener future, develop experimental and data-handling skills, and apply scientific methods to investigate renewable energy performance.

- Computational and Analytical Training

Several modules integrate software tools and analytical methods used in energy modelling, materials design, and sustainability assessment. Students engage with data analysis, modelling and simulation, and environmental and economic evaluation tools. This equips graduates with industry-relevant quantitative skills.

- Professional Skills Workshops

Modules such as the *Professional Scientist Toolkit* and *Professional Development Portfolio* incorporate structured training workshops in research methods and integrity, literature searching and evaluation, presentation and communication techniques, career planning, and reflective practice. Workshops often involve peer-review exercises and iterative draft development.

- Commercial and Enterprise-Focused Activities

In *The Business of Science* module, students undertake activities that replicate industrial practice, such as competitor analysis, developing a commercial project proposal, budgeting and event planning, working in multidisciplinary teams. These activities develop commercial awareness and transferable business skills.

- Seminars and Guided Discussions

Seminar sessions allow students to debate scientific, technical, and policy issues in small groups. These discussions are especially important in modules such as Climate Crisis, Energy and the World Economy, Case Studies in Sustainability, and The Business of Science. Students explore conflicting evidence, ethical dilemmas, and real-world scenarios while developing critical thinking and communication skills.

- Case-Based Learning

Several modules use real-world case studies to help students apply academic concepts to contemporary energy challenges. Through structured problem-solving activities, students analyse sustainability trade-offs, climate policies, energy economics, environmental impacts, and materials and technological constraints. This approach develops decision-making, evaluation, and negotiation skills essential for professional practice.

- Supervised Research

The *Independent Research Project* provides the opportunity to design and conduct an original piece of research. Students receive one-to-one supervision from academic staff, with meetings used to refine research questions, plan and conduct experiments or analyses, interpret data, and develop the final report. This is the capstone experience of the programme, demonstrating mastery of scientific inquiry.

- Independent Learning

Independent study is a major component of Master's-level learning. Students are expected to engage critically with the research literature, explore topics beyond the taught material, apply self-directed study skills, and reflect on their development as scientists. Independent work prepares students for the research project and professional scientific roles.

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 Academic Mentors 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.

6. Teaching Staff

The MSc in Renewable Energy is delivered by a team of expert academics within the School of Chemical and Physical Sciences (SCPS) at Keele University. The School's staff represent a broad spectrum of scientific disciplines, with active research programmes across physics, chemistry, materials science, environmental science, and related fields. Academic profiles for staff who contribute to teaching and research supervision can be found at: https://www.keele.ac.uk/scps/ourpeople

The SCPS academics involved in this programme bring extensive expertise in the scientific foundations and applied technologies of renewable energy. Many also have professional experience in industrial and commercial laboratory environments, ensuring that teaching reflects both cutting-edge research and real-world scientific practice. In addition to the core programme team who design, coordinate, and deliver modules, several members of the Faculty of Natural Sciences contribute to the MSc through specialist project supervision, technical support, and research mentoring.

Academic staff are active researchers with strong track records in peer-reviewed publications, external research funding, national and international collaborations, and editorial roles within scientific journals. Many members of staff also contribute to public engagement, widening participation, and science-outreach activities. Their commitment to high-quality, inclusive education is reflected in innovative teaching practices designed to support students with diverse learning needs and disabilities, and to ensure that all learners thrive within an academically rigorous and supportive environment.

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.

7. What is the structure of the programme?

The academic year runs from September to September and is divided into three 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 two types of modules delivered as part of your programme. They are:

- Compulsory modules - a module that you are required to study in this course;

- Optional modules - these allow you some limited choice of what to study from a list of modules.

A summary of the credit requirements is as follows.

Year	Compulsory	Optional	
		Min	Max
Level 7	60	120	120

Module Lists

Level 7

Full-time route

Compulsory modules	Module Code	Credits	Period
Professional Scientist Toolkit	CPS-40007	30	Semester 1
Synoptic Topics in Renewable Energy	CPS-40017	30	Semester 1

Optional modules	Module Code	Credits	Period
Academic English for Postgraduate Students 1	ENL-40001	15	Semester 1
Professional Development Portfolio (30 credits)	CPS-40011	30	Semester 1-3
Professional Development Portfolio (15 credits)	CPS-40015	15	Semester 1-3
The Business of Science	CPS-40009	15	Semester 2
Materials for a Greener Future	CPS-40019	15	Semester 2
Climate Crisis, Energy and the World Economy	ECO-40026	30	Semester 2
Case Studies in Sustainability	ESC-40030	15	Semester 2
Independent Research Project	CPS-40005	60	Semester 2-3
Industrial Research Project	CPS-40013	60	Semester 2-3

Level 7 Module Rules

Students must choose CPS-40011 or CPS-40015 and CPS-40005 or CPS-40013. CPS-40015 can only be taken by international students who are taking the Academic English for PG Students module, ENL-40001. CPS-40013 can only be taken by those students who are carrying out an industrial research project in collaboration with a partner external to the university. These can be carried out at Keele or at the external partner's facilities.

In the optional modules, students would have to take CPS-40009 if selecting CPS-40019 to achieve the correct number of credits (30 credits). Students who came through Keele BSc Physics with Renewable Energy route cannot choose CPS-40019 as this module is the Level 7 version of the PHY-30057 module. Therefore, the CPS-40009 option would also not be available for these students.

Part-time route

Compulsory modules	Module Code	Credits	Year	Period
Synoptic Topics in Renewable Energy	CPS-40017	30	1	Semester 1
Professional Scientist Toolkit	CPS-40007	30	2	Semester 1

Optional modules	Module Code	Credits	Year	Period
Materials for a Greener Future	CPS-40019	15	1	Semester 2
Climate Crisis, Energy and the World Economy	ECO-40026	30	1	Semester 2
Case Studies in Sustainability	ESC-40030	30	1	Semester 2
The Business of Science	CPS-40009	15	1	Semester 2
Academic English for PG Students	ENL-40001	15	1	Semester 1
Professional Development Portfolio (30 credits)	CPS-40011	30	1	Semester 1-3
Professional Development Portfolio (15 credits)	CPS-40015	15	1	Semester 1-3
Independent Research Project	CPS-40005	60	2	Semester 2-3
Industrial Research Project	CPS-40013	60	2	Semester 2-3

The part-time route will be undertaken over a period of 2 years. This will involve 90 credits of taught content per year, split over 3 semesters.

Learning Outcomes

The table below sets out what students learn in the programme and the modules in which that learning takes place. Details of how learning outcomes are assessed through these modules can be found in module specifications.

Subject Knowledge and Understanding	
Learning Outcome	**Module in which this is delivered**
The key scientific and engineering principles underlying modern renewable energy technologies.	Synoptic Topics in Renewable Energy - CPS-40017 Materials for a Greener Future - CPS-40019 Case Studies in Sustainability - ESC-40030
Research processes in science, including research ethics, funding, publication, and impact pathways.	Independent Research Project - CPS-40005 Professional Scientist Toolkit - CPS-40007 Industrial Research Project - CPS-40013
The materials challenges facing renewable technologies, such as cost, scarcity, and efficiency, and how advanced materials research supports sustainable energy solutions.	Independent Research Project - CPS-40005 Industrial Research Project - CPS-40013 Synoptic Topics in Renewable Energy - CPS-40017 Materials for a Greener Future - CPS-40019
Global climate-energy-economic systems and the policy instruments used to drive decarbonisation at local, national, and international scales.	Climate Crisis, Energy and the World Economy - ECO-40026 Case Studies in Sustainability - ESC-40030
Sustainability frameworks and methods for evaluating complex environmental, ethical, and policy-related issues.	Climate Crisis, Energy and the World Economy - ECO-40026 Case Studies in Sustainability - ESC-40030
The commercial environment of science, including industrial research practices, competitive analysis, project costing, and event planning within scientific contexts.	Professional Scientist Toolkit - CPS-40007 The Business of Science - CPS-40009

Subject Specific Skills	
Learning Outcome	**Module in which this is delivered**
Analyse and evaluate renewable energy technologies using scientific, environmental, and technical metrics.	Synoptic Topics in Renewable Energy - CPS-40017 Materials for a Greener Future - CPS-40019 Case Studies in Sustainability - ESC-40030
Perform advanced literature searches, critically evaluate peer-reviewed sources, and apply rigorous principles of research ethics and integrity.	Independent Research Project - CPS-40005 Professional Scientist Toolkit - CPS-40007 Industrial Research Project - CPS-40013 Case Studies in Sustainability - ESC-40030
Design, implement, and report an independent research project using appropriate scientific methodologies, data analysis techniques, and interpretive frameworks.	Independent Research Project - CPS-40005 Professional Scientist Toolkit - CPS-40007 Industrial Research Project - CPS-40013
Assess material properties and select or design materials appropriate for high-performance green technologies.	Synoptic Topics in Renewable Energy - CPS-40017 Materials for a Greener Future - CPS-40019
Apply economic and policy analysis tools to evaluate climate strategies and energy transitions.	Climate Crisis, Energy and the World Economy - ECO-40026 Case Studies in Sustainability - ESC-40030
Critically evaluate complex sustainability scenarios and lead evidence-based professional discussions, negotiations, and conflict-resolution exercises.	Climate Crisis, Energy and the World Economy - ECO-40026 Case Studies in Sustainability - ESC-40030
Develop commercially viable scientific project proposals and work effectively within project teams to deliver business-oriented scientific outputs.	Professional Scientist Toolkit - CPS-40007 The Business of Science - CPS-40009

Key or Transferable Skills (graduate attributes)	
Learning Outcome	**Module in which this is delivered**
Present scientific information clearly and professionally to both technical and non-technical audiences.	Professional Scientist Toolkit - CPS-40007
Evaluate current skills, identify development needs, and construct a coherent training plan to progress towards the desired career path.	Professional Development Portfolio (30 credits) - CPS-40011 Professional Development Portfolio (15 credits) - CPS-40015
Map skills and experiences to the requirements of specific job roles and communicate a professional profile effectively to employers.	Professional Development Portfolio (30 credits) - CPS-40011 Professional Development Portfolio (15 credits) - CPS-40015
Use critical thinking, problem-solving, data literacy, and analytical reasoning to address sustainability and energy challenges.	Independent Research Project - CPS-40005 Professional Scientist Toolkit - CPS-40007 Industrial Research Project - CPS-40013
Manage time, resources, and independent learning effectively, demonstrating autonomy, initiative, and reflective practice.	Independent Research Project - CPS-40005 Industrial Research Project - CPS-40013
Demonstrate leadership, teamwork, communication, and negotiation skills in complex professional contexts.	The Business of Science - CPS-40009

8. Final and intermediate awards

Master's Degree **MSc in Renewable Energy**	180 credits	You will require at least 150 credits at Level 7
Postgraduate Diploma	120 credits	You will require at least 90 credits at Level 7
Postgraduate Certificate	60 credits	You will require at least 45 credits at Level 7

9. How is the Programme Assessed?

The wide variety of assessment methods used on this programme 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 on your programme:

- Class Test
- Reports
- Literature reviews
- Technical reports
- Reflective diaries
- Oral presentations
- Poster presentations
- Portfolios
- Research Paper
- Research Proposal

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.

10. Accreditation

This programme does not have accreditation from an external body.

11. University 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/

If this programme has any exemptions, variations or additions to the University Regulations these will be detailed in an Annex at the end of this document titled 'Programme-specific regulations'.

12. What are the typical admission requirements for the Programme?

See the relevant course page on the website for the admission requirements relevant to this programme: https://www.keele.ac.uk/study/

Recognition of Prior Learning (RPL) is considered on a case-by-case basis and those interested should contact the Programme Director. The University's guidelines on this can be found here: https://www.keele.ac.uk/qa/programmesandmodules/recognitionofpriorlearning/

13. How are students supported on the programme?

Support for student learning on the programme is provided in the following ways:

All academic staff in the School of Chemical and Physical Sciences operate an open-door policy. This means that if a member of staff is available during the working day, they are happy to discuss any matter a student wishes to raise. If they are unavailable at that moment, a meeting will be arranged for a suitable later time.

Students have many opportunities to interact closely with staff through laboratory sessions, problem classes, tutorials, workshops, and other teaching activities, including online sessions. As a result, students and staff get to know one another quickly, and all students should feel comfortable approaching any lecturer, module tutor, or colleague who may be able to offer help or academic guidance. Feedback on formative and summative assessments is usually best obtained from the tutor who set and marked the work. However, once the semester's assessments are complete, a student's Academic Mentor may be the most appropriate person to discuss overall academic progress.

The Programme Leads for the MSc in Renewable Energy oversee all aspects of programme delivery. The School also has a Disability Inclusion Tutor (DIT), a Director of Education, and a designated Student Experience and Support Officer (SESO). In addition, specialist programme tutors support areas such as Assessments, Admissions, Engagement, and Careers & Employability.

Each student is assigned an Academic Mentor by the School. Academic Mentors will make contact within the student's first few days at Keele to arrange an introductory meeting and will check in at key points during the degree to review progress and identify any support needs. From the student's perspective, the Academic Mentor should be regarded as a trusted first point of contact for advice on both academic and personal matters. If the mentor cannot provide direct assistance, they will refer the student to the most appropriate support within the University. Alongside reviewing academic development, Academic Mentors can advise on general matters relating to the broader programme of study.

A Student Engagement and Retention Lead oversees the academic mentoring system across the School of Chemical and Physical Sciences, including monitoring student attendance and engagement. They are available to offer further guidance and to assist if any issues arise relating to academic mentoring.

14. Learning Resources

This programme is delivered in modern teaching rooms across the University, all equipped with computers, internet access, and projection facilities. Teaching spaces may be arranged in a traditional lecture layout or configured more informally to support collaborative work in small groups. Practical taught sessions will take place in our Central Science Laboratories, a spacious, well-equipped facility that enables a wide range of hands-on learning activities.

Practical research training will be conducted in specialist research laboratories within the Faculty of Natural Sciences, where students will gain authentic experience in observation, data collection, and interpretation through their research projects.

Individual module handbooks will include recommended reading lists comprising traditional text-based materials as well as electronic and multimedia resources accessible via the KLE. MS Teams will be used to enhance learning, communication, and support throughout the programme, providing a platform for discussion and the exchange of ideas. Where possible, students will be allocated space in a postgraduate taught office or within research group office areas, with access to University electronic resources via Wi-Fi or wired internet connection.

The University library provides extensive resources for this programme, both onsite and online. Further information is available at: https://www.keele.ac.uk/library/. Online library services can be accessed off-campus using the Keele username and password provided at enrolment.

Students will also have access to the University's IT Services, located in the library building. IT Services support all academic computing needs and maintain the University's computing infrastructure. A large number of open-access PCs are available for student use, all equipped with a standard software suite including Microsoft Office, web browsers, and relevant technical applications. Printing facilities are available in Schools and within the library building.

15. Other Learning Opportunities

- Research seminars provide a regular forum for presenting and discussing cutting-edge research across various renewable energy technologies.
- Guest lectures bring external perspectives and expertise into the academic environment, enriching both teaching and research activities.
- Career events play a key role in supporting student employability, professional development, and awareness of diverse career pathways within and beyond academia. These activities bridge research, education, and industry, equipping participants with the skills, insight, and networks needed for successful careers.

16. Additional Costs

Activity	Estimated Cost
Equipment - All PPE equipment (laboratory coats and glasses) are provided by the school at no cost to the student. Students will be required to have two laboratory notebooks, these are provided at no cost to the student in the induction session and can be used for multiple modules/years. Replacement items are available from the school stores, the 2025/26 price for these are listed below: Laboratory Book - £2.00 Laboratory Glasses - £3.50 Laboratory Coat - £15 Students will be required to supply appropriate writing equipment, but this would be a minimal (<£10) cost. All core textbooks are available in the main University Library. To increase the availability of these resources, eBooks are also purchased alongside the printed text where available; these can be accessed through the University Library Catalogue.	£10
Additional costs may be incurred if the student wishes to purchase any book for themselves. In general, we only recommend they purchase the core textbook which is available for approximately £50.	£50
Total estimated additional costs	**£60**

These costs have been forecast by the University as accurately as possible but may be subject to change as a result of factors outside of our control (for example, increase in costs for external services). Forecast costs are reviewed on an annual basis to ensure they remain representative. Where additional costs are in direct control of the University we will ensure increases do not exceed 5%.

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 programme.

17. Quality management and enhancement

The quality and standards of learning in this programme are subject to a continuous process of monitoring, review and enhancement.

- The School Education Committee is responsible for reviewing and monitoring quality management and enhancement procedures and activities across the School.
- Individual modules and the programme as a whole are reviewed and enhanced every year in the annual programme review which takes place at the end of the academic year.
- The programmes are run in accordance with the University's Quality Assurance procedures and are subject to periodic reviews under the Revalidation process.

Student evaluation of, and feedback on, the quality of learning on every module takes place every year using a variety of different methods:

- The results of student evaluations of all modules are reported to module leaders and reviewed by the Programme Committee as part of annual programme review.
- Findings related to the programme from the annual Postgraduate Taught Experience Survey (PTES), and from regular surveys of the student experience conducted by the University, are subjected to careful analysis and a planned response at programme and School level.
- Feedback received from representatives of students on the programme is considered and acted on at regular meetings of the Student Staff Voice Committee.

The University appoints senior members of academic staff from other universities to act as external examiners on all programmes. They are responsible for:

- Approving examination questions
- Confirming all marks which contribute to a student's degree
- Reviewing and giving advice on the structure and content of the programme and assessment procedures

Information about current external examiner(s) can be found here:
http://www.keele.ac.uk/qa/externalexaminers/currentexternalexaminers/

18. The principles of programme design

The programme described in this document has been drawn up with reference to, and in accordance with the

guidance set out in, the following documents:

a. UK Quality Code for Higher Education, Quality Assurance Agency for Higher Education: http://www.qaa.ac.uk/quality-code
b. QAA Subject Benchmark Statement: The interdisciplinarity of the programme makes it difficult to align it with a single QAA Subject Benchmark Statement. Instead, the programme aligns with multiple benchmark statements, reflecting its broad scientific and applied nature.

- Physics QAA: in relation to the physical principles underpinning renewable energy technologies. This includes the ability to apply relevant and current research to contemporary questions in physics; plan and execute an open-ended research project or investigation demonstrating some originality; communicate complex scientific ideas, including concise and accurate presentation of experimental or project conclusions; and demonstrate an understanding of scientific research, including the ability to propose realistic directions for further development.
- Environmental Science QAA: in relation to environmental impacts, sustainability assessment, and the application of frameworks such as life cycle assessment and environmental impact assessment. This includes the ability to independently interrogate relevant literature, applying concepts, techniques, and data to a range of environmental questions, as well as designing and carrying out projects to address complex practical challenges.
- Engineering QAA: in relation to the design, analysis, and evaluation of renewable energy technologies and energy systems, including operational performance and limitations. This includes the ability to identify complex engineering problems, select appropriate tools, and develop safe, secure, and sustainable solutions that meet defined needs, as well as demonstrating creativity, innovation, teamwork, leadership, and communication skills.

c. Keele University Regulations and Guidance for Students and Staff: http://www.keele.ac.uk/regulations

Version History

This document

Date Approved: 11 June 2026

Previous documents

Version No	Year	Owner	Date Approved	Summary of and rationale for changes