



Programme Specification

Sustainable Technology [Frenchay]

Version: 2026-27, v1.0, Validated

Contents

Programme Specification.....	1
Section 1: Key Programme Details.....	2
Part A: Programme Information	2
Section 2: Programme Overview, Aims and Learning Outcomes	2
Part A: Programme Overview, Aims and Learning Outcomes	2
Part B: Programme Structure.....	6
Part C: Higher Education Achievement Record (HEAR) Synopsis	7
Part D: External Reference Points and Benchmarks	7
Part E: Regulations	8

Section 1: Key Programme Details

Part A: Programme Information

Programme title: Sustainable Technology [Frenchay]

Highest award: MSc Sustainable Technology [Frenchay]

Awarding institution: UWE Bristol

Teaching institutions: UWE Bristol

Study abroad: No

Year abroad: No

Sandwich year: No

Credit recognition: No

School responsible for the programme: CATE School of Engineering, College of Arts, Technology and Environment

Professional, statutory or regulatory bodies: Not applicable

Modes of delivery: Full-time

Entry requirements: For current entry requirements, see the UWE public website.

For implementation from: 01 January 2027

Programme code: J91C12

Section 2: Programme Overview, Aims and Learning Outcomes

Part A: Programme Overview, Aims and Learning Outcomes

Overview: This programme builds the technical expertise and real-world social insight to lead impactful decarbonisation and sustainable technology projects. Students will gain hands-on experience, benefit from industry partnerships, and

unlock strong career pathways in the rapidly expanding green jobs sector. The course combines technical training in renewable energy, infrastructure design and circular-economy solutions, alongside a deep understanding of the environmental, social and economic forces shaping climate change. This expertise will equip students to create lasting change that benefits society and supports our planet's recovery.

This programme is suitable for numerically literate students who want to deepen their understanding of sustainable technologies, and we welcome graduates from Engineering backgrounds as well as graduates from Technical and Science backgrounds.

Graduates from the MSc will develop understanding of the technical and infrastructure requirements for decarbonisation and energy transition, as well as wider insight into environmental, social, and economic sustainable development regulations and societal needs.

Features of the programme: UWE Bristol has strong industry links, enabling students to gain valuable contacts throughout the degree. Our partnerships with employers such as City Leap, Atkins, Suez, and Temple Quarter give students opportunities for networking, placements, site visits and professional practice projects.

As an Energy Institute Learning Affiliate, UWE Bristol can support students in exploring pathways to professional recognition, such as becoming a Chartered Energy Manager or Chartered Environmentalist.

Educational Aims: Sustainability is no longer a niche field - it's a priority for almost every organisation. Employers across the UK and globally are urgently seeking people with the technical understanding and problem-solving skills to help them decarbonise, adapt to climate change and meet environmental goals. The demand for green skills is growing, yet many employers struggle to find qualified staff. This master's helps students step into that skills gap with confidence.

Students will learn about:

Sustainable Infrastructure Projects & Design,
Digital Modelling and Simulation for Sustainable Systems,
Renewable Energy & Low-Carbon Technologies,
Professional Practice in Sustainability and Environmental Management,
Research and Project Management.

The course is programmatic by design, and provides real-world projects to gain experience for graduate employability. Graduates will be prepared for roles such as Sustainability Analyst, Energy Transition Analyst, Decarbonisation Consultant Engineer or ESG Consultant. These roles focus on cutting carbon emissions, optimising energy use, improving infrastructure, enhancing nature, and helping organisations meet their sustainability targets. Students will develop the skills to evaluate technologies, model scenarios, plan low-carbon transitions and support organisations through meaningful change.

Career options aren't limited to engineering or energy companies. Almost every organisation needs people who understand sustainability. Students will be able to contribute to social value projects, support energy efficiency initiatives and help organisations respond to climate and ecological challenges.

Whether students are starting out, upskilling, or changing direction, this master's gives them the technical foundation, hands-on experience, and professional confidence to help organisations meet their net zero goals and make a significant contribution to society.

Programme Learning Outcomes:

On successful completion of this programme graduates will achieve the following learning outcomes.

Programme Learning Outcomes

- PO1. Critically analyse complex environmental and technological systems, integrating digital tools, sustainable technologies, and project management strategies while considering socio-political, economic, and environmental factors influencing sustainability in both local and global contexts.

- PO2. Demonstrate practical proficiency in environmental and sustainability-related tasks, including project analysis and design, laboratory and field data analysis, application of modelling and simulation tools, technical reporting, and delivery of solutions aligned with industry needs.
- PO3. Apply advanced analytical, critical thinking, and research skills to investigate complex sustainability challenges, design innovative research approaches, and conduct independent scholarly research including a critical literature review, that promotes sustainable practices and professional ethics.
- PO4. Demonstrate professional competencies including teamwork and leadership, alongside the application of digital technologies for risk and resource management, to enable the delivery of complex sustainability and environmental engineering projects.
- PO5. Design, evaluate, and optimise sustainable technological and environmental solutions for real-world challenges using emerging knowledge, advanced modelling techniques, and integrated management approaches that bridge theory and professional practice.
- PO6. Evaluate and apply circular economy principles and sustainable resource management strategies to support environmental project delivery, decarbonisation, social value, biodiversity protection, nature-based solutions, and resilient infrastructure development.
- PO7. Critically evaluate environmental governance frameworks, including policies, regulations, legal instruments, and international sustainability protocols, to support responsible decision-making and effective responses to global environmental challenges.
- PO8. Communicate effectively, ethically, and professionally, build relationships and networks, and stay up to date with knowledge advances and aware of the rapidly changing world.

Assessment strategy: Students will be assessed on each module, with formative opportunities with staff and fellow students in order to hone their skills.

Throughout the course, students will complete professionally relevant assignments that reflect the real-world tasks in the green industry. Students are assessed through a blend of presentations, modelling exercises, written assignments, and oral exams (vivas) that show how to understand and apply sustainable technologies.

Students will also build evidence of professional practice, which they present in a portfolio to demonstrate work-based learning and technical development.

The research project is assessed through a dissertation report, giving students the opportunity to demonstrate their specialist knowledge and contribute to emerging conversations around decarbonisation and sustainable systems.

Student support: UWE Bristol excels at student support. The wider university structure offer excellent support for Learning Support Needs, Neurodiversity and International Students, as well as an extensive Library, Wellbeing, and Careers Service. Local campus life provides ample access to sports and nature activities, as well as the vibrant Bristol region.

UWE Bristol's excellent links to local industries present opportunities for Field Trips to see Sustainable Technologies in operation. Particular highlights include a trip to see the Bristol City Leap Heat Network, a trip to Bristol Port to learn about the Local Industrial Decarbonisation Plan, and a trip to Suez's plant at Avonmouth to see Waste to Energy Recovery in action.

Part B: Programme Structure

Year 1

Students must take 180 credits in Year 1.

Year 1 Compulsory Modules

Students must take 165 credits from the modules in Compulsory Modules.

Module Code	Module Title	Credit
UFMECB-30-M	Sustainable Infrastructure Projects & Design 2026-27	30
UFMECE-30-M	Digital Modelling and Simulation for Sustainable Systems 2026-27	30
UFMECH-15-M	Renewable Energy & Low-Carbon Technologies 2026-27	15
UFMFTF-60-M	Dissertation (Masters) 2026-27	60

UBGMF4-30-M	Professional Practice 2026-27	30
-------------	-------------------------------	----

Year 1 Optional Modules

Students must take 15 credits from the modules in Optional Modules.

Module Code	Module Title	Credit
UFMEC9-15-M	Project Management for Sustainable Outcomes 2026-27	15
UFMEC7-15-M	Sustainable Engineering in Practice 2026-27	15
UFMEC8-15-M	Projects in Global Environments 2026-27	15

Part C: Higher Education Achievement Record (HEAR) Synopsis

This programme equips students with advanced knowledge and skills in the development and application of sustainable technologies to address global environmental and energy challenges. Through a combination of taught modules, professional practice, and an independent research project, students develop expertise in areas such as renewable energy systems, low-carbon infrastructure, digital modelling, and circular economy.

The programme fosters interdisciplinary thinking, enabling students to gain strong analytical, problem-solving, and research skills to critically assess the environmental, economic, and societal impacts of technological solutions. Graduates demonstrate the ability to design and implement solutions for the transition to a more sustainable future.

Part D: External Reference Points and Benchmarks

The programme has been designed to meet the requirements of Engineering UK's Accreditation of Higher Education Programmes (AHEP4), which is the Engineering Professional Bodies' standard for engineering education. The School of Engineering has excellent relationships with the Institution of Engineering and Technology and is an Energy Institute Learning Affiliate.

Students will be supported in their aims for Chartership depending on their background, including requirements for Chartered Engineer status, Chartered Energy Manager, or Chartered Environmentalist.

To ensure quality education the programme has been designed to meet:

Industrial Advice;

QAA UK Quality Code for HE (October 2019);

Framework for higher education qualifications (FHEQ);

Subject benchmark statement for Higher Education qualifications in engineering (October 2019);

Strategy 2030;

University policies;

Staff research projects;

Engineering Council: AHEP4.

Part E: Regulations

Approved to University Regulations and Procedures: Academic regulations and procedures - Academic information | UWE Bristol