

Frequently asked Questions

What are the job prospects?

The smart green economy needs trained scientists and technologists to help Ireland develop and apply new greener technologies. Countries that have developed green economies have seen significant increases in green jobs. Remember that sustainable technology means sustainable careers!

What type of work will I be involved with?

Any company that manufactures a product or provides a service will need and want to use greener technologies to reduce the consumption of materials, energy use and waste generation. First and foremost, your work will require you to be a champion of sustainability. For example, you might be helping a company reduce its carbon footprint, devising a new process that recycles waste materials, working with a government agency or local authority to ensure that water is safe to drink and that air is safe to breathe, advising company personnel on how to achieve sustainability and how to reduce environmental impacts. You might be the researcher or entrepreneur that develops the first commercially successful green.....! If you can fill this space then CR365 is certainly for you!

What are the most helpful Leaving Certificate subjects?

Physics, Chemistry, Technology, Geography, Mathematics, Biology. It is particularly important to have a genuine interest in the environment, green technologies and sustainability.

I am not taking Physics or Chemistry at Leaving Certificate, can I still apply?

Yes – All first year science subjects will be taught at a level suitable for those who have not studied them before.



ENVIRONMENTAL SCIENCE & SUSTAINABLE TECHNOLOGY

ENQUIRIES TO

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Institiúid Teicneolaíochta Chorcaí
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Dámh na hInnealtóireachta agus na hEolaíochta
Faculty of Engineering & Science

What is Environmental Science & Sustainable Technology?



Environmental science and sustainable technology, as studied in CR365, is the application of physics and chemistry to monitor, and ultimately protect, the environment by developing and promoting cleaner technologies.

Sustainability means carrying out activities that can continue long into the future. There is gathering evidence that human activity is causing so much environmental damage that it cannot continue, i.e. it is unsustainable! Using sustainable technologies will help protect the environment for future generations. It should also help stabilise the global economy.

Minimum Entry Requirements



At least two Leaving Certificate subjects at Grade C3 minimum (Higher Level), together with a further four subjects at Grade D3 minimum (Ordinary or Higher level). The six subjects must include

Mathematics and either English or Irish.

Course Programme

This programme provides a comprehensive foundation in physics and chemistry with other modules in mathematics, instrumentation, computer technology and biology. There is a continual green ethos throughout the programme to stimulate graduates to become champions of sustainability by the provision of green technical and green managerial modules. There are modules on recycling, reduction, reuse, water quality and air quality to ensure that graduates are fully up to date with the legal, economic and technical aspects of these key topics. In addition to the

scientific and technical modules there are a number of modules to develop report writing, presentation skills, communication skills, research and team work. Furthermore, there is an emphasis on enquiry and project-based learning throughout the programme to encourage enterprise, independent learning and innovation. In the final year of the programme there is a major project in the area of environmental science and sustainable technology.

Despite the global recession, green employment opportunities and the range of green careers have continued to grow. The protection of the environment and the promotion of sustainable development are central to national and global economies. As the world's industries and markets become greener, the need for scientists who specialise in environmental science and sustainable technology will continue to grow. Being multiskilled and interdisciplinary, graduates of this programme can expect to find excellent employment opportunities, nationally and internationally, in areas such as environmental management, environmental consulting, green auditing, energy auditing, environmental monitoring, waste and emissions reduction, energy generation using sustainable technologies, carbon footprint reduction, research & development and business development.

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Course Programme

YEAR 1	
Semester 1 (Sept – Dec) Introduction to Environmental Science Creativity, Innovation & Teamwork Introduction to Physics Practical Computer Technology 1 General and Inorganic Chemistry Discrete Mathematics 1	Semester 2 (Feb – May) Introduction to Sustainable Technology Measurement and Calibration Physics Physical and Organic Chemistry Calculus 1 Computing One elective from: Climate Change and Energy Wind Energy Sustainability and Transport Free Choice

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Course Programme (cont.)

YEAR 2	
Semester 3 (Sept – Dec) Advanced Physics Analytical Chemistry 1 Mathematics for Science 2.1 Green Team Project Biomolecules and Cells One elective from: Climate Change and Energy Wind Energy Sustainability and Transport Free Choice	Semester 4 (Feb – May) Environmental Instrumentation 1 Calculus for Network Eng 2 Applied Optics Analytical Chemistry 2 Practical Computer Technology 2 Technical Writing and Presentations
YEAR 3	
Semester 5 (Sept – Dec) Green Auditing Statistics and Quality Methods Environmental Instrumentation 2 Physics of Materials Physics for Sustainability One elective from: Photovoltaic Systems Validation Science	Semester 6 (Feb – May) Environmental Instrument Systems Materials for Sustainability Methodological Research Work Placement/Project
YEAR 4	
Semester 7 (Sept – Dec) Reduction, Recycling & Reuse Engineering Project Management Instrument System Design Project - Research Phase Experimental Design & Analysis One elective from: Technology Entrepreneurship Sustainability Engineering Ocean Energy Conversion Building for Sustainability	Semester 8 (Feb – May) Project - Implementation Phase System Design Water Quality Air Quality Waste Management

Further Study

Graduates are eligible to apply for a post-graduate research degree at MSc and PhD levels.