



# Global Pathway Programme

## MSc in Energy Science



**Trinity College Dublin**  
Coláiste na Tríonóide, Baile Átha Cliath  
The University of Dublin





國立清華大學  
NATIONAL TSING HUA UNIVERSITY



## 4 YEARS AT NATIONAL TSING HUA UNIVERSITY + 1 YEAR AT TRINITY

Graduate with a Degree from Ireland's Leading University

[www.tcd.ie/study](http://www.tcd.ie/study)

# Why Choose Trinity?



**1<sup>st</sup>**

Ireland's leading university

*(QS World University Ranking 2025)*



**1<sup>st</sup>**

1<sup>st</sup> in Ireland for employer reputation and alumni outcomes

*(QS World Rankings for Graduate Employability 2022)*



**1-2**

As a Trinity graduate you can remain in Ireland to work for 1 or 2 years, depending on your level of study



**4<sup>th</sup>**

Ireland is the world's 4<sup>th</sup> most competitive economy

*(IMD 2024)*



**7<sup>th</sup>**

Ireland has the 7<sup>th</sup> highest quality of life in the world

*(UN Human Development Index 2023/24)*



31<sup>st</sup> most international university in the world

*(Times Higher Education Ranking 2024)*



**87<sup>th</sup>**

Ranked 87<sup>th</sup> in the world

*(QS World University Rankings 2025)*



**91<sup>st</sup>**

91<sup>st</sup> in the world for graduate employability

*(QS Graduate Employability Rankings 2022)*



**TOP  
100  
UNIVERSITY**

Top 100 university in the world for 22 subjects

*(QS Subject Rankings 2024)*

2<sup>nd</sup>

Ireland is the 2<sup>nd</sup> safest  
country in the world

(Global Peace Index 2024)

35%

35% of our  
students are from  
outside Ireland,  
from 118 countries

500

Trinity has more than 500  
industry partners, including  
Meta, Google, IBM,  
Pfizer and more

## Trinity Top 100 University in the world for 22 Subjects

Accounting & Finance

Archaeology

Biological Sciences

Chemistry

Classics & Ancient History

Dentistry

Education

English Language and Literature\* (21st in the world)

Geography

History

Law

Materials Science

Medicine

Modern Languages

Nursing\* (26th in the world)

Performing Arts\* (40th in the world)

Pharmacy and Pharmacology\* (26th in the world)

Philosophy

Psychology

Politics & International Studies

Social Policy & Administration

Theology, Divinity and Religious Studies\*

(49th in the world)



(QS World Rankings 2024)

\*Ranked Top 50 in the QS World Rankings 2024



# Trinity's Location

## Why Ireland?

As a Trinity graduate you can remain in Ireland to work for 1 or 2 years, depending on level of study.

Find out more:

[www.irishimmigration.ie/my-situation-has-changed-since-i-arrived-in-ireland/third-level-graduate-programme](http://www.irishimmigration.ie/my-situation-has-changed-since-i-arrived-in-ireland/third-level-graduate-programme)



**Ireland is the 2nd safest country in the world**  
(Global Peace Index 2024)



**Ireland is the world's 4<sup>th</sup> most competitive economy.**  
(IMD 2024)

**People in Ireland are happy, ranking 17th in the world**  
(World Happiness Report 2024)

**Dublin is multi-national. 1 in 5 people in the city are non-Irish nationals, according to the Council of Europe.**

Trinity's central location makes it highly accessible for all forms of public transport: tram, rail and bus stops are right outside the University.  
[www.tcd.ie/maps](http://www.tcd.ie/maps)

**Ireland is an English speaking country in the EU.**

**Ireland has the 4<sup>th</sup> highest quality of life in the EU and 7<sup>th</sup> in the world according to UN Human Development Index 2023/24.**



**European hub for innovation and industry is based in Dublin:** Google, Meta, Microsoft, Intel, Pfizer and HP based here.



# Global Pathway Programme

Study a master's programme in Trinity, Ireland's leading University. As part of the Global Pathway Programme, following completion of your undergraduate degree at National Tsing Hua University, you can transfer to Trinity to enter the MSc in Energy Science programme.

## Why Study Energy Science at Trinity?

Trinity is Ireland's leading university, steeped in history with a reputation for excellence in education and research. While our campus dates back over four hundred years, our research facilities and institutes sit right in the twenty first century. The MSc in Energy Science is designed to equip students with the theoretical knowledge and the practical skills to develop careers in the global energy sector.

## International Dimension

Trinity attracts a global community of academics dedicated to addressing challenges of vital importance to the world around us and has a diverse student body with students from 119 different countries. As Ireland's oldest and highest-ranking university, Trinity strives to educate global citizens who will shape the world's future.

## English Language Support

All modules on this programme are taught in English but students can avail of Trinity's extensive language-learning facilities. The Centre for English Language Learning and Teaching focuses specifically on the development of student's academic English skills to support their current and future university studies.

All students can enrol on the "English for Academic Purposes" course. [www.tcd.ie/slcscs/english/trinity\\_in-sessionnal\\_programme/index.php](http://www.tcd.ie/slcscs/english/trinity_in-sessionnal_programme/index.php)

## 4 Years at National Tsing Hua University + 1 Year at Trinity

## Application Requirements

Your application should consist of the following documents:

- Cover letter outlining your interest in the degree.
- Curriculum Vitae.
- Transcript of academic results.
- Copies of degree certificates.
- Contact details of two academic references.
- English language certificate

## Admission Requirements

- A minimum GPA of 3.0/4.0, approximately equivalent to an overall grade of 70-75%, is required for entry.







## Programme Information

The MSc in Science of Energy consists of six taught modules worth 10 ECTS each. These are structured around a crosscutting introductory module. The introductory module is designed to furnish students with all of the basic physics, chemistry and engineering concepts that are required to become an "Energy Scientist". These basics are complemented by essential "Economics of Energy" and "Principles of Energy Policy".

Now with the ability to understand and analyse the competing aspects of all of the essential science, engineering and economics pertinent to the energy discipline, the students proceed to Five specialised technically orientated core modules; "Conventional Energy Sources & Technologies", "Power systems, power electronics and electrical systems", "Sustainable Energy Sources & Technologies I & II", and "Managing the impact of Energy Utilisation".

With these modules completed and examined in the months September to April, students proceed to a 15 week research project worth 30 ECTS in a leading research laboratory or in industry in the months of May-August.

### Introduction to Energy Science

- Content and Philosophy of Energy Science
- Environmental Impact of Energy Utilisation
- Economics of Energy & Energy Regulation & Policy
- Thermodynamics, Reaction Kinetics and Heat Transfer
- Introduction to Electromagnetism
- Materials for Energy Applications

### Core 1: Conventional Energy Sources & Technologies

- Fossil fuels, Combustion, Engines & Emissions
- Nuclear Reactions, Materials & Reactor Technology

### Core 2: Sustainable Energy Sources & Technologies

- Electrochemical Cell Technology I
- Photovoltaics
- Carbon Dioxide Capture & Storage

### Core 3: Electric Power Generation & Distribution

- Power Systems, Analysis & Smart Grids
- Electric Machines & Power Electronics

### Core 4: Sustainable Energy Sources & Technologies II

- Biofuels, Biomass & Hydrogen
- Wind Energy Generation & Storage

### Core 5: Managing the Impact of Energy Utilisation

- Raw Materials & Natural Resource Management
- Techniques for Quantitative Analysis & Characterisation of
- Energy Critical Raw Materials
- Nuclear Safety & Environmental Impact

### Research Project in Academia or Industry

#### Note:

Programmes and programme titles may be subject to change.



## Application Deadline

Please check individual programmes for application deadlines. Generally, students must submit their application to Trinity by 30 June at the latest but early application is strongly advised.

## Fees

The fees for the current academic year are available [here](#). Students on this programme may be eligible for a scholarship.



# Accommodation

Trinity is committed to ensuring that all international students have a positive experience while preparing to make the move to Dublin.

Partnerships students will be prioritised for Trinity approved accommodation provided they apply by May 1<sup>st</sup>. More information on accommodation options while at Trinity can be found here: [www.tcd.ie/accommodation](http://www.tcd.ie/accommodation)



# Student Life at Trinity

Immerse yourself in a broad range of sports clubs and student societies and get a real sense of the 'Trinity Experience'.

## Your first days at Trinity

### Freshers' Week

Trinity offers orientation to all new postgraduate and undergraduate students prior to the start of the academic year during a week known as Freshers' Week. It is a chance for you to meet your classmates, attend information sessions and sign up to one of many clubs and societies at Trinity. Find out more at: [www.tcd.ie/students/orientation](http://www.tcd.ie/students/orientation)

A specific International Postgraduate Student Orientation takes place before teaching commences. Details are available at: [www.tcd.ie/students/orientation/postgraduates](http://www.tcd.ie/students/orientation/postgraduates)

### Trinity Education

After the excitement of Freshers' Week, teaching term starts, and you will be settling into your course. Most of your classes at Trinity will be a mixture of lecturers, tutorials and some practicals. Tutorials are less formal and usually take place in smaller groups, giving you a chance to delve deeper into the studied topics with your classmates and teaching assistants.

### Trinity in Twelve Weeks

The "Trinity in Twelve Weeks" virtual programme aims to continue your orientation during your first semester and help your transition to university life. The programme has a new theme every week, from study and exam skills to how to look after yourself while at university. Your mentors will be in touch with you every week to let you know what the week's theme is and to arrange events and activities. Find out more at: [www.tcd.ie/students/orientation/twelve-weeks](http://www.tcd.ie/students/orientation/twelve-weeks)

### Pathway to Belonging

"Pathway to Belonging" is an 8-week pre-departure orientation programme for international students. This webinar series is an invaluable resource that will provide insider tips, important information and a sneak peek into campus life.

### Trinity Clubs & Societies

As a student at Trinity, you will be able to choose from over 49 sports clubs including aikido, basketball, Gaelic football, surfing, hockey, rugby, soccer, table tennis, badminton and many more. You will also automatically be a member of our Sports Centre. The Sports Centre is where the majority of our fitness classes and programmes take place, 7 days a week. Facilities include a 25-metre swimming pool, climbing wall and a fully equipped gym. [www.tcd.ie/sport](http://www.tcd.ie/sport)

At Trinity, we have over 120 student societies which constitute some of the most dynamic and active university student societies in Ireland, allowing you to develop new skills or put your existing ones into action with everything from the International Student Society to the Zoological Society. Find out more at: [www.trinitysocieties.ie](http://www.trinitysocieties.ie)





# Career Opportunities

Your Career Journey at Trinity

Our graduates are highly sought after by employers across all sectors and many have gone on to successful careers around the globe. See below for just a few examples of the diverse organisations that have recruited Trinity graduates in recent years. The Trinity Careers Service supports students in exploring their career ambitions for the future and planning how to achieve them. Find out more about the Careers Service at: [www.tcd.ie/careers](http://www.tcd.ie/careers)

## Did you know?

Trinity is a Top 100 University for Graduate Employability

QS GRADUATE EMPLOYABILITY RANKING 2022

Trinity has over 500 industry partners including Microsoft, Google, IBM, Pfizer, Roche, AIB and many more.



## Where some of our Trinity graduates are now employed













# International Student Supports

Trinity is an exciting place, full of opportunities to learn, make friends, and experience new things.

While Trinity delivers world class courses, it is not just about your academic development: we also want Trinity to be a place where you can develop socially, responsibly, culturally and personally.

Full list of services available to view at:  
[www.tcd.ie/study/international/student-experience/supports-services](http://www.tcd.ie/study/international/student-experience/supports-services)

We have many specific support services for international students including:

## Talk to our students

Do you have a question about student life, the campus or living in Dublin? Connect with our students at:  
[www.tcd.ie/global/talktostudents](http://www.tcd.ie/global/talktostudents)

## English for Academic Purposes

Trinity offers both pre-sessional and in-sessional English language programmes.  
Find out more at: [www.tcd.ie/slscs/english](http://www.tcd.ie/slscs/english)

## New to Dublin Programme

Student Ambassadors run this programme aimed at postgraduate students, covering everything from Dublin grocery shopping and public transport to making friends and adjusting to Dublin culture.

## Trinity Global Room

The Global Room team provides guidance and support to international students on a wide range of issues including immigration, accommodation and all aspects of life at Trinity.  
[www.tcd.ie/study/international/student-experience/global-room](http://www.tcd.ie/study/international/student-experience/global-room). For more information, please contact:  
[tcdglobalroom@tcd.ie](mailto:tcdglobalroom@tcd.ie)

## Visa and Immigration

Some, but not all, non-EU/EEA students require an entry visa for Ireland. We advise students to apply for their visas early.

To check if you need a visa, please visit the Immigration Service Delivery at the link below:  
[www.irishimmigration.ie/coming-to-study-in-ireland](http://www.irishimmigration.ie/coming-to-study-in-ireland)

Find out more at:  
[www.tcd.ie/study/international/arriving-in-ireland/visa-immigration](http://www.tcd.ie/study/international/arriving-in-ireland/visa-immigration)



## Did you know?

Trinity is ranked 31<sup>st</sup> Most International university in the world

TIMES HIGHER EDUCATION RANKING 2024





If you have any questions about studying at Trinity,  
please get in touch with us.

[www.tcd.ie/study](http://www.tcd.ie/study)

The Trinity Global team is dedicated to helping international students and we would be delighted to answer your questions. Please contact us at:

#### Trinity Global

East Theatre,  
Trinity College Dublin,  
the University of Dublin  
Dublin 2, Ireland.

[www.tcd.ie/study](http://www.tcd.ie/study)  
[study@tcd.ie](mailto:study@tcd.ie)

If you have further questions about your application status you can contact the Applications and Admissions Team in Trinity's Academic Registry.

#### Academic Registry

Trinity College Dublin, the University of Dublin,  
Watts Building,  
Dublin 2, Ireland.

+353 (0) 1 896 4500  
[www.tcd.ie/academicregistry](http://www.tcd.ie/academicregistry)  
[academic.registry@tcd.ie](mailto:academic.registry@tcd.ie)

## Join the Trinity Community



[www.instagram.com/tcdglobal](https://www.instagram.com/tcdglobal)



[www.x.com/tcdglobal](https://www.x.com/tcdglobal)



[www.linkedin.com/company/tcdglobal](https://www.linkedin.com/company/tcdglobal)



[www.facebook.com/tcdglobal](https://www.facebook.com/tcdglobal)



[www.youtube.com/user/trinitycollegedublin](https://www.youtube.com/user/trinitycollegedublin)



[www.trinity-experience-blog.com](http://www.trinity-experience-blog.com)

## Trinity's Dedicated Channels In-Country

### China

Bilibili: [space.bilibili.com/695604784](https://space.bilibili.com/695604784)→  
WeChat: [weixin.qq.com/r/gEiJkWXEcTgOrSHy9x2S](https://weixin.qq.com/r/gEiJkWXEcTgOrSHy9x2S)→  
Weibo: [m.weibo.cn/u/3905092477](https://m.weibo.cn/u/3905092477)→

### India

Instagram: [www.instagram.com/trinitycollegedublin\\_india](https://www.instagram.com/trinitycollegedublin_india)→

### The Americas

Future Applicants from the Americas please follow our dedicated Instagram Account:  
[www.instagram.com/tcdamericas](https://www.instagram.com/tcdamericas)→

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