



# BSc in Earth Sciences – Stage 2 Modules

If you have taken ***GEOL10060 Introduction to Earth Sciences*** in ***Stage 1*** you can take core Earth Science modules in ***Stage 2***

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UCD School of Earth Sciences

# Earth Sciences Degree @ UCD

## STAGE 1

### ONE MANDATORY MODULE

GEOL10060  
Introduction to Earth  
Sciences

Must be taken in  
STAGE 1 OR STAGE 2

GEOL10070  
Understanding Earth Systems

## STAGE 2

### TWO MANDATORY MODULES

GEOL20210  
Field Geology and  
Mapwork  
(West of Ireland)

GEOL20250  
Crystals to  
Sedimentary Rocks

Must be taken in  
STAGE 2 OR STAGE 3

GEOL20200  
Dynamic Earth

## STAGE 3

GEOL30040  
Sedimentary  
Environments

GEOL30240  
Igneous Petrology

GEOL30350  
Geological Structures

Working with Earth  
Science data

GEOL30250  
Geological Mapping  
(Mayo)

Invertebrate  
Palaeontology and  
Stratigraphy

GEOL30110  
Metamorphism & Earth  
Evolution

GEOL30340  
Low Temperature  
Geochemistry

GEOL30320  
Geological Fieldwork  
(England)

GEOL30400  
Earth observation & GIS

## STAGE 4

GEOL40190  
Ore Geology

GEOL40740  
Marine Geoscience

GEOL40500  
Applied Geophysics

Hydro & Engineering  
Geology

GEOL40510  
Independent project

Advanced Earth Systems

Geoscience for the  
Energy Transition

GEOL40490  
Quaternary Geology

GEOL40470  
Geological Fieldwork  
(Spain)

GEOL40290  
Basin Analysis

## RECOMMENDED OPTION MODULES

Can only be taken in Stage 1

GEOL10030  
Field Geology Level 1  
(Antrim)

Can be taken in Stages 1 or 2

GEOL10040  
Earth,  
Environment and  
Society

GEOL10050  
Earth and  
Humanity

Can be taken in Stages 1 or 2

GEOL20110  
Global  
Environmental  
Change

GEOL20180  
Geoscience for  
Sustainability

GEOL20240  
Medical Geology

# Stage 2 - Earth Sciences

## TWO MANDATORY MODULES:

GEOL20250  
Crystals to  
Sedimentary  
Rocks



GEOL20210  
Field Geology  
and Mapwork



**THIS MODULE MUST BE TAKEN IN  
EITHER STAGE 2 OR STAGE 3:**

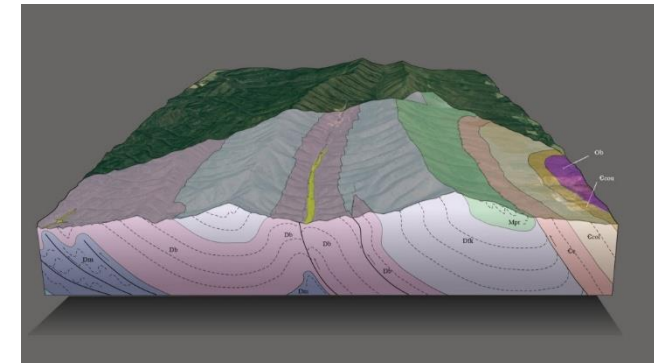
GEOL20200  
Dynamic Earth



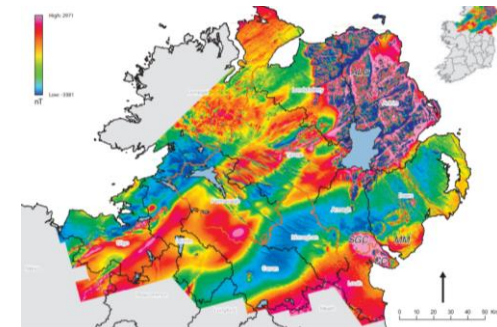
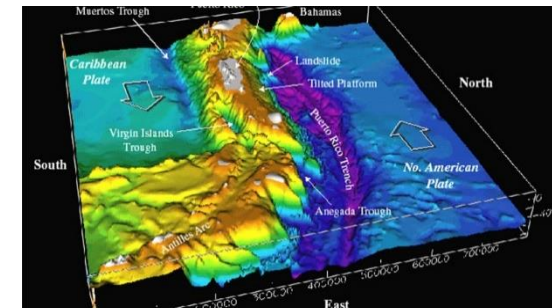
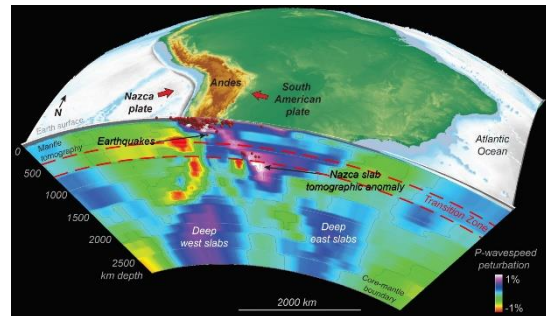
Provides a fundamental understanding of the materials that form our planet



Discover how to observe, describe and interpret geological data in time and space



Explore how different types of data can be used to understand the Earth



# What can you do with Earth Sciences?



RESEARCH, TEACHING AND COMMUNICATION

[Read More](#)



MINING & QUARRYING

[Read More](#)



ENERGY

[Read More](#)



ENGINEERING GEOLOGY

[Read More](#)



ENVIRONMENTAL GEOLOGY & CONTAMINATED LAND

[Read More](#)



HYDROGEOLOGY

[Read More](#)



NATURAL HAZARDS AND RISK

[Read More](#)



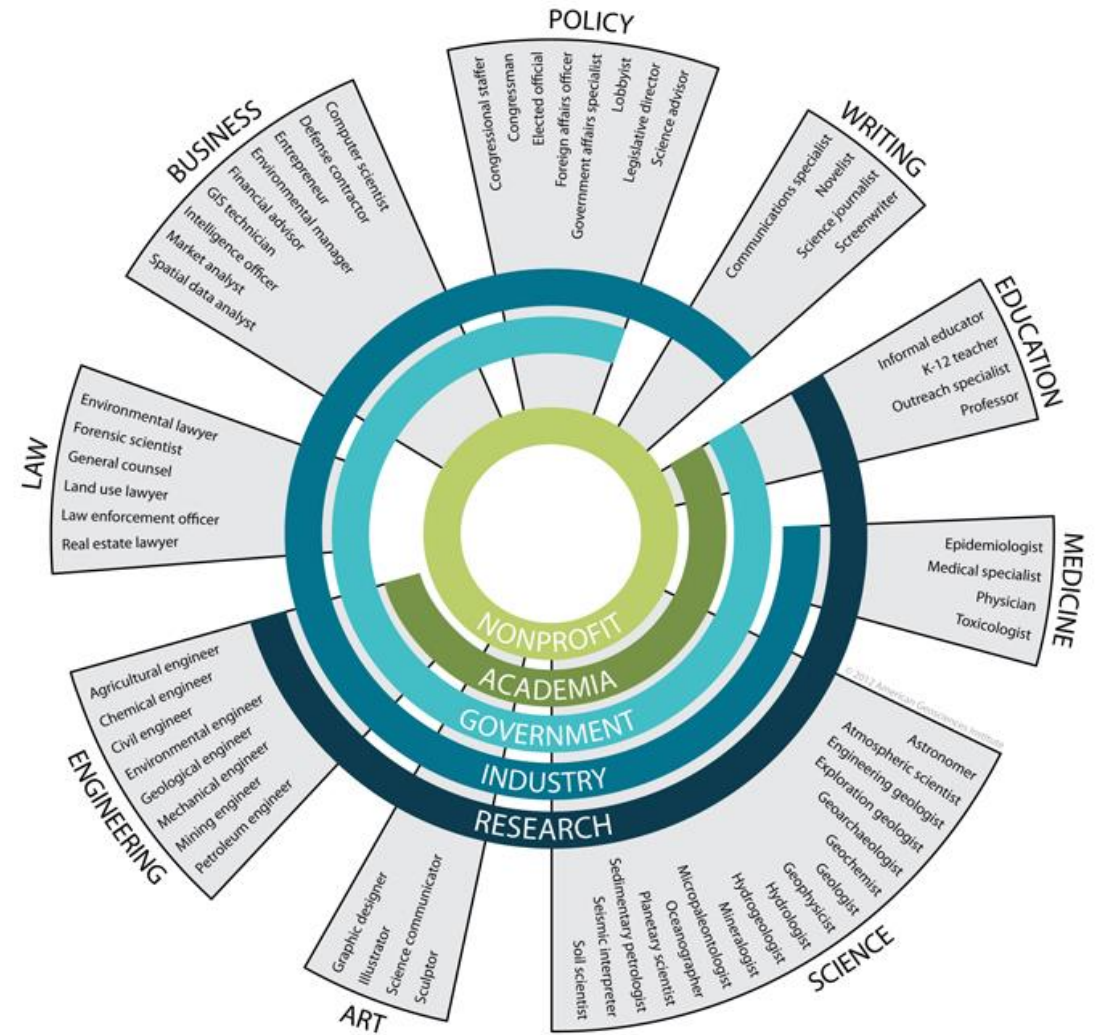
Find out what geoscience jobs are needed for a sustainable future in our [Geoscience for the Future poster](#)

**OTHER JOB SECTORS**

Geologists may apply their skills in a broad range of other sectors, from Forensic Geology to Charities and Aid organisations.

**RELATED LINKS:**

- [The Forensic Geoscience Group](#)
- [Geology for Global Development](#)



# What can you do with Earth Sciences?

## What do our undergraduates go on to do?

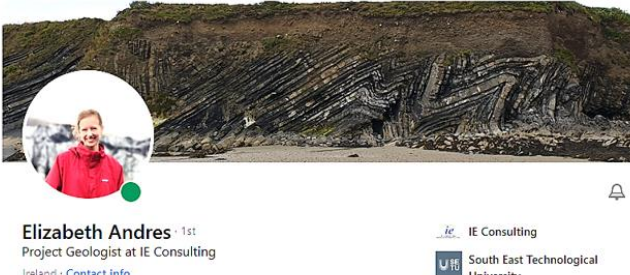
Employability of our graduates is **very good** both **within Ireland** and **overseas** (the large fieldwork component, emphasis on practical workplace skills and work placements are valued by employers)

Our graduates are employed in **geotechnical, mining, mineral exploration, hydrogeology** and **environmental** companies

Student **Work Placements** at the end of Stage 3 have lead to employment (e.g. with Arup in 2019 and 2024).

A 2024 focus group of employers emphasised the **high quality** of UCD SES graduates, their confidence and competence and the **need for more of our graduates** both now and in the **future**

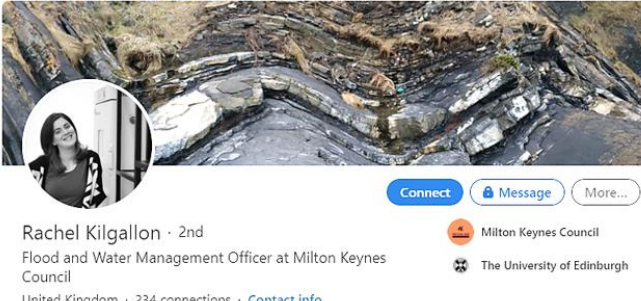
### • Engineering & Environmental Science



Elizabeth Andres · 1st  
Project Geologist at IE Consulting  
Ireland · Contact info

IE Consulting  
South East Technological University

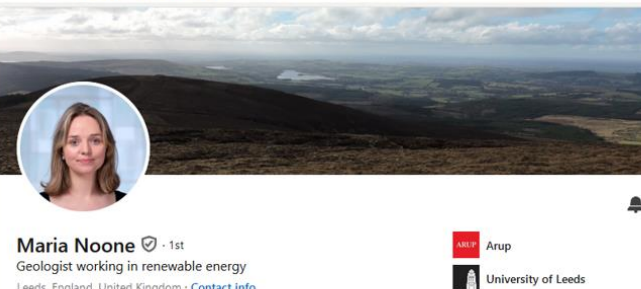
### • Water / CO<sub>2</sub> Storage



Rachel Kilgallon · 2nd  
Flood and Water Management Officer at Milton Keynes Council  
United Kingdom · 234 connections · Contact info

Milton Keynes Council  
The University of Edinburgh

### • Renewable Energy



Maria Noone · 1st  
Geologist working in renewable energy  
Leeds, England, United Kingdom · Contact info

Arup  
University of Leeds

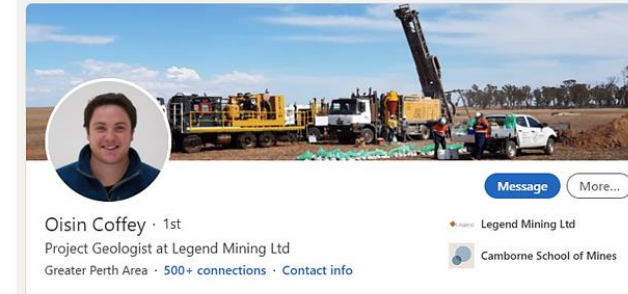
### • Data Analysis & Earth Observation



Divyajyoti (DJ) Sarkar · 1st  
Computational Scientist at Irish Centre for High-End Computing ICHEC  
Ireland · Contact info

Irish Centre for High-End Computing ICHEC  
University College Dublin

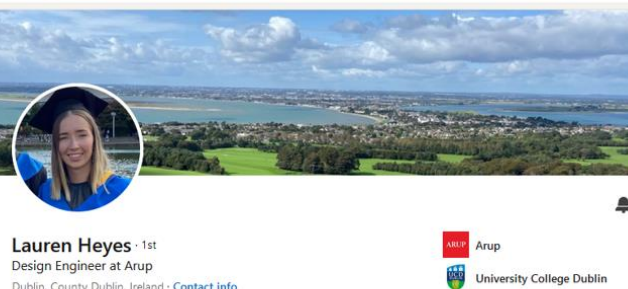
### • Mineral Exploration



Oisín Coffey · 1st  
Project Geologist at Legend Mining Ltd  
Greater Perth Area · 500+ connections · Contact info

Legend Mining Ltd  
Camborne School of Mines

### • Geotechnics



Lauren Heyes · 1st  
Design Engineer at Arup  
Dublin, County Dublin, Ireland · Contact info

Arup  
University College Dublin

# Earth Science & Sustainability



• Earth Science is directly involved in achieving more than half of the UN Sustainable Development Goals (and indirectly in several more).



# Who are we?



UCD School of Earth Sciences 2024

- 17 lecturers with research expertise covering a wide range of Earth Science topics
- 6 student-friendly admin/technical staff
- 10 post-doctoral researchers
- 28 graduate research students
- Host to the SFI Research Centre: Irish Centre for Research in Applied Geosciences





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