

These programme regulations should be read in conjunction with the University's [core regulations for undergraduate programmes](#), and the [marking and classification conventions for undergraduate programmes](#).

## **MSci Earth Sciences (F644)**

1. This programme is available at Durham City, in a full-time mode of study.
2. Candidates shall choose one of the following Routes through Level 1 to Level 3:

### **Geology Route**

### **Environmental Route**

### **Geophysics Route**

### **Geoscience Route**

### **Climate Science Route**

## **Geology Route Levels 1 – 3**

### **Level 1 (Certificate)**

3. Candidates shall study and be assessed in the following modules:

		<b>Credit value</b>
Earth Materials #	<a href="#">GEOL1021</a>	20
Field Studies #	<a href="#">GEOL1051</a>	20
Understanding Earth Sciences #	<a href="#">GEOL1101</a>	20
Introductory Data Science for Geoscientists	<a href="#">GEOL1151</a>	20

4. Candidates shall also study and be assessed in modules to the value of 20 credits from List A:

#### **List A:**

		<b>Credit value</b>
Mathematical Methods in Geosciences $\Phi$	<a href="#">GEOL1061</a>	20
Further Mathematics for Geoscientists	<a href="#">GEOL1081</a>	20

5. Candidates shall also study and be assessed in modules to the value of 20 credits from List B:

#### **List B:**

		<b>Credit value</b>
Environment and Sustainability	<a href="#">GEOL1161</a>	20
Modules up to 20 credits offered by any Boards of Studies (including appropriate credit-bearing language modules offered by the University's Centre for Foreign Language Study).		

### **Level 2 (Diploma)**

6. Candidates shall study and be assessed in the following modules:

		<b>Credit value</b>
Sedimentary Environments	<a href="#">GEOL2031</a>	20
Fieldwork (Geological)	<a href="#">GEOL2191</a>	20
Igneous and Metamorphic Processes	<a href="#">GEOL2231</a>	20
Research Skills for Geoscientists	<a href="#">GEOL2341</a>	20
Lithospheric Structures and Imaging	<a href="#">GEOL2351</a>	20

7. Candidates shall also study and be assessed in modules to the value of 20 credits from List C:

#### **List C:**

		<b>Credit value</b>
Isotopes in Environmental and Climate Sciences	<a href="#">GEOL2171</a>	20
Earth Systems Modelling and Analysis	<a href="#">GEOL2321</a>	20
Modules up to 20 credits offered by any Boards of Studies (including appropriate credit-bearing language modules offered by the University's Centre for Foreign Language Study).		

### Level 3 (Degree)

8. Candidates shall study and be assessed in the following module:

Dissertation ~	<a href="#">GEOL3022</a>	<b>Credit value</b> 40
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9. Candidates shall also study and be assessed in modules to the value of 80 credits from List D:

<b>List D:</b>		<b>Credit value</b>
Environmental Geochemistry	<a href="#">GEOL3041</a>	20
Volcanology and Magmatism	<a href="#">GEOL3527</a>	10
Earth Structure and Dynamics	<a href="#">GEOL3491</a>	20
Earth Sciences into Schools	<a href="#">GEOL3251</a>	20
Atmospheric Circulation and Dynamics	<a href="#">GEOL3387</a>	10
Western Alps field trip (Anatomy of a subduction zone)	<a href="#">GEOL3367</a>	10
Tectonic Processes and Renewable Geo-resources	<a href="#">GEOL3357</a>	10
Monitoring the Oceans: Geohazards & Climate Change	<a href="#">GEOL3377</a>	10
Polar Quaternary Environmental Processes	<a href="#">GEOL3437</a>	10
The Geochemical Evolution of the Earth	<a href="#">GEOL3467</a>	10
Volcanic Hazards and Impacts	<a href="#">GEOL3457</a>	10
Environmental Management	<a href="#">GEOL3477</a>	10
Geophysical Data Applications for the Workplace	<a href="#">GEOL3507</a>	10
Earth Systems and Climate	<a href="#">GEOL3501</a>	20

Modules up to the value of 20 credits offered by any Boards of Studies (including appropriate credit-bearing language modules offered by the University's Centre for Foreign Language Study).

### Environmental Route Levels 1 – 3

#### Level 1 (Certificate)

10. Candidates shall study and be assessed in the following modules:

Field Studies #	<a href="#">GEOL1051</a>	<b>Credit value</b> 20
Understanding Earth Sciences #	<a href="#">GEOL1101</a>	20
Introductory Data Science for Geoscientists	<a href="#">GEOL1151</a>	20
Environment and Sustainability	<a href="#">GEOL1161</a>	20

11. Candidates shall also study and be assessed in modules to the value of 20 credits from List A:

<b>List A:</b>		<b>Credit value</b>
Mathematical Methods in Geosciences $\Phi$	<a href="#">GEOL1061</a>	20
Further Mathematics for Geoscientists	<a href="#">GEOL1081</a>	20

12. Candidates shall also study and be assessed in modules to the value of 20 credits from List B:

<b>List B:</b>		<b>Credit value</b>
Earth Materials	<a href="#">GEOL1021</a>	20

Modules up to the value of 20 credits offered by any Boards of Studies (including appropriate credit-bearing language modules offered by the University's Centre for Foreign Language Study).

#### Level 2 (Diploma)

13. Candidates shall study and be assessed in the following modules:

Sedimentary Environments	<a href="#">GEOL2031</a>	<b>Credit value</b> 20
Isotopes in Environmental and Climate Sciences	<a href="#">GEOL2171</a>	20
Fieldwork (Environmental)	<a href="#">GEOL2201</a>	20
Research Skills for Geoscientists	<a href="#">GEOL2341</a>	20
Environmental Geophysics	<a href="#">GEOL2331</a>	20

14. Candidates shall also study and be assessed in modules to the value of 20 credits from List C:

<b>List C:</b>		<b>Credit value</b>
Earth Systems Modelling and Analysis	<a href="#">GEOL2321</a>	20
Igneous and Metamorphic Processes	<a href="#">GEOL2231</a>	20
Modules up to the value of 20 credits offered by any Boards of Studies (including appropriate credit-bearing language modules offered by the University's Centre for Foreign Language Study).		

### Level 3 (Degree)

15. Candidates shall study and be assessed in the following modules:

		<b>Credit value</b>
Dissertation ~	<a href="#">GEOL3022</a>	40
Environmental Geochemistry	<a href="#">GEOL3041</a>	20
Environmental Management	<a href="#">GEOL3477</a>	10

16. Candidates shall also study and be assessed in modules to the value of 50 credits from List D:

<b>List D:</b>		<b>Credit value</b>
Volcanology and Magmatism	<a href="#">GEOL3527</a>	10
Earth Structure and Dynamics	<a href="#">GEOL3491</a>	20
Earth Sciences into Schools	<a href="#">GEOL3251</a>	20
Atmospheric Circulation and Dynamics	<a href="#">GEOL3387</a>	10
Western Alps field trip (Anatomy of a subduction zone)	<a href="#">GEOL3367</a>	10
Tectonic Processes and Renewable Geo-resources	<a href="#">GEOL3357</a>	10
Monitoring the Oceans: Geohazards & Climate Change	<a href="#">GEOL3377</a>	10
Polar Quaternary Environmental Processes	<a href="#">GEOL3437</a>	10
The Geochemical Evolution of the Earth	<a href="#">GEOL3467</a>	10
Volcanic Hazards and Impacts	<a href="#">GEOL3457</a>	10
Geophysical Data Applications for the Workplace	<a href="#">GEOL3507</a>	10
Earth Systems and Climate	<a href="#">GEOL3501</a>	20
Modules up to the value of 20 credits offered by any Boards of Studies (including appropriate credit-bearing language modules offered by the University's Centre for Foreign Language Study).		

### Geophysics Route Levels 1 – 3

#### Level 1 (Certificate)

17. Candidates shall study and be assessed in the following modules:

		<b>Credit value</b>
Field Studies	<a href="#">GEOL1051</a>	20
Further Mathematics for Geoscientists	<a href="#">GEOL1081</a>	20
Understanding Earth Sciences	<a href="#">GEOL1101</a>	20
Introductory Data Science for Geoscientists	<a href="#">GEOL1151</a>	20

18. Candidates shall also study and be assessed in modules to the value of 40 credits from List A:

<b>List A:</b>		<b>Credit value</b>
Earth Materials	<a href="#">GEOL1021</a>	20
Environment and Sustainability	<a href="#">GEOL1161</a>	20
Modules up to 20 credits offered by any Boards of Studies (including appropriate credit-bearing language modules offered by the University's Centre for Foreign Language Study).		

#### Level 2 (Diploma)

19. Candidates shall study and be assessed in the following modules:

		<b>Credit value</b>
Geophysical Methods	<a href="#">GEOL2361</a>	20
Research Skills for Geoscientists	<a href="#">GEOL2341</a>	20

Earth Systems Modelling and Analysis	<a href="#">GEOL2321</a>	20
Lithospheric Structures and Imaging	<a href="#">GEOL2351</a>	20
Environmental Geophysics	<a href="#">GEOL2331</a>	20

20. Candidates shall also study and be assessed in modules to the value of 20 credits from List B:

<b>List B:</b>		<b>Credit value</b>
Isotopes in Environmental and Climate Sciences	<a href="#">GEOL2171</a>	20
Igneous and Metamorphic Processes	<a href="#">GEOL2231</a>	20
Modules up to the value of 20 credits offered by any Boards of Studies (including appropriate credit-bearing language modules offered by the University's Centre for Foreign Language Study).		

### Level 3 (Degree)

21. Candidates shall study and be assessed in the following modules:

		<b>Credit value</b>
Dissertation ~	<a href="#">GEOL3022</a>	40
Monitoring the Oceans: Geohazards and Climate Change	<a href="#">GEOL3377</a>	10
Earth Structure and Dynamics	<a href="#">GEOL3491</a>	20

22. Candidates shall also study and be assessed in modules to the value of 50 credits from List C:

<b>List C:</b>		<b>Credit value</b>
Environmental Geochemistry	<a href="#">GEOL3041</a>	20
Volcanology and Magmatism	<a href="#">GEOL3527</a>	10
Earth Sciences into Schools	<a href="#">GEOL3251</a>	20
Atmospheric Circulation and Dynamics	<a href="#">GEOL3387</a>	10
Western Alps Field Trip (Anatomy of a subduction zone)	<a href="#">GEOL3367</a>	10
Tectonic Processes and Renewable Geo-resources	<a href="#">GEOL3357</a>	10
Polar Quaternary Environmental Processes	<a href="#">GEOL3437</a>	10
The Geochemical Evolution of the Earth	<a href="#">GEOL3467</a>	10
Volcanic Hazards and Impacts	<a href="#">GEOL3457</a>	10
Environmental Management	<a href="#">GEOL3477</a>	10
Geophysical Data Applications for the Workplace	<a href="#">GEOL3507</a>	10
Earth Systems and Climate	<a href="#">GEOL3501</a>	20
Modules up to the value of 20 credits offered by any Boards of Studies (including appropriate credit-bearing language modules offered by the University's Centre for Foreign Language Study).		

### Geoscience Route Levels 1 – 3

23. Candidates shall study and be assessed in the following modules:

		<b>Credit value</b>
Field Studies	<a href="#">GEOL1051</a>	20
Understanding Earth Sciences	<a href="#">GEOL1101</a>	20
Introductory Data Science for Geoscientists #	<a href="#">GEOL1151</a>	20

24. Candidates shall study and be assessed in modules to the value of 20 credits from List A:

<b>List A:</b>		<b>Credit value</b>
Mathematical Methods in Geosciences Φ	<a href="#">GEOL1061</a>	20
Further Mathematics for Geoscientists	<a href="#">GEOL1081</a>	20

25. Candidates shall study and be assessed in modules to the value of 40 credits from List B:

<b>List B:</b>		<b>Credit value</b>
Earth Materials	<a href="#">GEOL1021</a>	20
Environment and Sustainability	<a href="#">GEOL1161</a>	20
Modules up to 20 credits offered by any Boards of Studies (including appropriate credit-bearing language modules offered by the University's Centre for Foreign Language Study).		

### Level 2 (Diploma)

26. Candidates shall study and be assessed in the following module:

		<b>Credit value</b>
Research Skills for Geoscientists	<a href="#">GEOL2341</a>	20

27. Candidates shall study and be assessed in modules at least to the value of 20 credits from List C:

<b>List C:</b>		<b>Credit value</b>
Isotopes in Environmental and Climate Sciences	<a href="#">GEOL2171</a>	20
Igneous and Metamorphic Processes	<a href="#">GEOL2231</a>	20
Earth Systems Modelling and Analysis	<a href="#">GEOL2321</a>	20

28. Candidates shall study and be assessed in modules at least to the value of 20 credits from List D:

<b>List D:</b>		<b>Credit value</b>
Sedimentary Environments	<a href="#">GEOL2031</a>	20
Lithospheric Structures and Imaging	<a href="#">GEOL2351</a>	20
Environmental Geophysics	<a href="#">GEOL2331</a>	20

29. Candidates may choose to study and be assessed in ONE module to the value of 20 credits from List E:

<b>List E:</b>		<b>Credit value</b>
Geophysical Methods	<a href="#">GEOL2361</a>	20
Fieldwork (Geological)	<a href="#">GEOL2191</a>	20
Fieldwork (Environmental)	<a href="#">GEOL2201</a>	20

30. Candidates may choose to study and be assessed in modules to the value of 40 credits as below:

Modules up to the value of 40 credits offered by any Boards of Studies (including up to 20 credits of appropriate language modules offered by the University's Centre for Foreign Language Study).

### **Level 3 (Degree)**

31. Candidates shall study and be assessed in the following module:

		<b>Credit value</b>
Dissertation ~	<a href="#">GEOL3022</a>	40

32. Candidates shall also study and be assessed in modules to the value of 80 credits from List F:

<b>List F:</b>		<b>Credit value</b>
Environmental Geochemistry	<a href="#">GEOL3041</a>	20
Volcanology and Magmatism	<a href="#">GEOL3527</a>	10
Earth Structure and Dynamics	<a href="#">GEOL3491</a>	20
Earth Sciences into Schools	<a href="#">GEOL3251</a>	20
Atmospheric Circulation and Dynamics	<a href="#">GEOL3387</a>	10
Western Alps field trip (Anatomy of a subduction zone)	<a href="#">GEOL3367</a>	10
Tectonic Processes and Renewable Geo-resources	<a href="#">GEOL3357</a>	10
Monitoring the Oceans: Geohazards & Climate Change	<a href="#">GEOL3377</a>	10
Polar Quaternary Environmental Processes	<a href="#">GEOL3437</a>	10
The Geochemical Evolution of the Earth	<a href="#">GEOL3467</a>	10
Volcanic Hazards and Impacts	<a href="#">GEOL3457</a>	10
Environmental Management	<a href="#">GEOL3477</a>	10
Geophysical Data Applications for the Workplace	<a href="#">GEOL3507</a>	10
Earth Systems and Climate	<a href="#">GEOL3501</a>	20

Modules up to the value of 40 credits offered by any Boards of Studies (including up to 20 credits of appropriate language modules offered by the University's Centre for Foreign Language Study).

### **Climate Science Route Levels 1 – 3**

#### **Level 1 (Certificate)**

33. Candidates shall study and be assessed in the following modules:

Environment and Sustainability	<a href="#">GEOL1161</a>	<b>Credit value</b> 20
Introductory Data Science for Geoscientists #	<a href="#">GEOL1151</a>	20
Introduction to Climate Change	<a href="#">GEOG1261</a>	20

34. Candidates shall also study and be assessed in modules up to the value of 60 credits from List A:

<b>List A:</b>		<b>Credit value</b>
Earth Materials	<a href="#">GEOL1021</a>	20
Field Studies	<a href="#">GEOL1051</a>	20
Mathematical Methods in Geosciences $\Phi$	<a href="#">GEOL1061</a>	20
Further Mathematics for Geoscientists	<a href="#">GEOL1081</a>	20
Understanding Earth Sciences	<a href="#">GEOL1101</a>	20
Planet under Pressure	<a href="#">GEOG1061</a>	20
Modules to the value of 20 credits offered by any Board of Studies (including appropriate credit-bearing language modules offered by the University's Centre for Foreign Language Study).		

### Level 2 (Diploma)

35. Candidates shall study and be assessed in the following modules:

		<b>Credit value</b>
Isotopes in Environmental and Climate Sciences	<a href="#">GEOL2171</a>	20
Research Skills for Geoscientists	<a href="#">GEOL2341</a>	20

36. Candidates shall also study and be assessed in modules to the value of 80 credits, including at least 40 credits offered by Earth Sciences (GEOL codes), from List B:

<b>List B:</b>		<b>Credit value</b>
Sedimentary Environments	<a href="#">GEOL2031</a>	20
Fieldwork (Environmental)	<a href="#">GEOL2201</a>	20
Earth Systems Modelling and Analysis	<a href="#">GEOL2321</a>	20
Environmental Geophysics	<a href="#">GEOL2331</a>	20
Geophysical Methods	<a href="#">GEOL2361</a>	20
Climate Change: Geographical Perspectives	<a href="#">GEOG2661</a>	20
Glaciers and Glaciation	<a href="#">GEOG2531</a>	20
Reconstructing Environmental Change	<a href="#">GEOG2571</a>	20
Modules up to the value of 20 credits offered by any Board of Studies (including appropriate credit-bearing language modules offered by the University's Centre for Foreign Language Study).		

### Level 3 (Degree)

37. Candidates shall study and be assessed in the following modules:

		<b>Credit value</b>
Dissertation ~	<a href="#">GEOL3022</a>	40
Earth Systems and Climate	<a href="#">GEOL3501</a>	20

38. Candidates shall also study and be assessed in modules to the value of 60 credits from List C:

<b>List C:</b>		<b>Credit value</b>
Environmental Geochemistry	<a href="#">GEOL3041</a>	20
Earth Structure and Dynamics	<a href="#">GEOL3491</a>	20
Earth Sciences into Schools	<a href="#">GEOL3251</a>	20
Atmospheric Circulation and Dynamics	<a href="#">GEOL3387</a>	10
Monitoring the Oceans: Geohazards & Climate Change	<a href="#">GEOL3377</a>	10
Polar Quaternary Environmental Processes	<a href="#">GEOL3437</a>	10
The Geochemical Evolution of the Earth	<a href="#">GEOL3467</a>	10
Volcanic Hazards and Impacts	<a href="#">GEOL3457</a>	10
Environmental Management	<a href="#">GEOL3477</a>	10
Geophysical Data Applications for the Workplace	<a href="#">GEOL3507</a>	10
Sea Level Change and Coastal Evolution	<a href="#">GEOG3191</a>	20

Oceans Past and Present	<a href="#">GEOG3641</a>	20
Ice Age Environments	<a href="#">GEOG30K7</a>	10
Antarctic Environments	<a href="#">GEOG3817</a>	10
Archaeology and Global Sustainable Developments	<a href="#">ARCH3641</a>	20
Modules up to the value of 20 credits offered by any Board of Studies (including appropriate credit-bearing language modules offered by the University's Centre for Foreign Language Study).		

## All Routes

### Level 4 (Degree)

39. Candidates shall study and be assessed in the following module:

Research Project ~	<a href="#">GEO4053</a>	<b>Credit value</b> 60
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40. Candidates shall also study and be assessed in modules to the value of 60 credits from List A or 40 credits from List A and 20 credits from Lists B:

<b>List A:</b>		<b>Credit value</b>
Science Communication	<a href="#">GEO4061</a>	20
Earth Science Field Seminar	<a href="#">GEO4081</a>	20
Earth Sciences into Industry	<a href="#">GEO4091</a>	20

<b>List B:</b>		<b>Credit value</b>
Monitoring the Oceans: Geohazards & Climate Change IV	<a href="#">GEO4207</a>	10
Polar Quaternary Environmental Processes IV	<a href="#">GEO4217</a>	10
Environmental Geochemistry IV	<a href="#">GEO4291</a>	20
Earth Structure & Dynamics IV	<a href="#">GEO4281</a>	20
The Geochemical Evolution of the Earth IV	<a href="#">GEO4257</a>	10
Atmospheric Circulation and Dynamics IV	<a href="#">GEO4267</a>	10

### Assessment, progression and award

41. At Level 1 students are required to attend a field course that is usually held in the Easter vacation.
42. At Levels 2 and 3 students are required to attend a field course if specified as part of a module.
43. Modules marked with the ~ symbol must be passed at 40% or above for the award of an honours degree. A mark of 30-39% cannot be compensated.
44. Modules marked with the # symbol must be passed at 40% or above in order to progress to the next level of study.
45. Students are required to take modules marked with a  $\Phi$  if they do not have A-Level Mathematics or equivalent at Grade B or above.
46. Students who fail to achieve the standard required under the Core Regulations for progression to Level 3 of the MSci Geoscience but who achieve the standard required for progression to Level 3 of a Bachelors programme may progress to Level 3 of the BSc Geology (for students who have taken the Geology route) or BSc Environmental Geosciences (for students who have taken the Environmental Geosciences route) or BSc Geophysics with Geology (for students who have taken the Geophysics with Geology route) or BSc Geoscience (for students who have taken the Geosciences route) or BSc Climate Science (for students who have taken the Climate Science route) at Honours level in accordance with the Core Regulations.
47. A student who is qualified to progress from Level 2 to Level 3 of the MSci Geoscience but wishes to transfer to Level 3 of the BSc in Geology (for students who have taken the Geology route) or BSc Environmental Geosciences (for students who have taken the Environmental Geosciences route) or BSc Geophysics with Geology (for students who have taken the Geophysics with Geology route) or BSc Geoscience (for students who have taken the Geosciences route) or BSc Climate Science (for students who have taken the Climate Science route) shall be permitted to do so.
48. Students whose achievement at the end of Level 3 does not qualify them to proceed to Level 4 may be awarded the degree of BSc Geology (for students who have taken the Geology route) or BSc Environmental Geosciences (for students who have taken the Environmental Geosciences

route) or BSc Geophysics with Geology (for students who have taken the Geophysics with Geology route) or BSc Geoscience (for students who have taken the Geosciences route) or BSc Climate Science (for students who have taken the Climate Science route) at Honours level in accordance with the Core Regulations for the award of a Bachelors degree.

49. Students whose achievement at the end of Level 4 does not qualify them to be awarded the degree of MSci Geoscience may be awarded the degree of BSc Geology (for students who have taken the Geology route) or BSc Environmental Geosciences (for students who have taken the Environmental Geosciences route) or BSc Geophysics with Geology (for students who have taken the Geophysics with Geology route) or BSc Geoscience (for students who have taken the Geosciences route) or BSc Climate Science (for students who have taken the Climate Science route) with Honours in accordance with the Core Regulations for the award of a Bachelors degree.

**Professional accreditation**

50. This programme is accredited by the Geological Society for a period of six years with effect from March 2022.