Programme Specification (Undergraduate) FOR ENTRY YEAR: 2021/22

Date created: 26/02/21 **Last amended:** 09/03/2023 **Version no.** 3

1. Programme title(s) and code(s):

MGeol Applied and Environmental Geology F611
MGeol Applied and Environmental Geology with a Year in Industry*
* selected when on course.

a) HECOS Code

HECOS Code	%
100395	67%
101104	33%

b) UCAS Code (where required)

F611

2. Awarding body or institution:

University of Leicester

3. a) Mode of study

Full-time

b) Type of study

Campus-based

4. Registration periods:

The normal period of registration is four years (five years for year in industry)

The maximum period of registration is six years (seven years for year in industry)

5. Typical entry requirements

A-level: AAB including at least two from: Biology, Chemistry, Computer Science, Environmental Science, Geography, Geology, Maths or Physics.

International Baccalaureate: Pass diploma with 34 points including some science based subjects at higher level.

6. Accreditation of Prior Learning

APL will not be accepted for exemptions from individual modules, however may be considered for direct entry to year 2, on a case by case and subject to the general provisions of the University APL policy.

7. Programme aims

The programme aims to

1) provide students with a breadth of knowledge of Applied and Environmental Geology, and exposure to areas of research at the cutting edge of the Applied and Environmental Earth Sciences;

2) provide students with a thorough understanding of the theoretical and practical applications of Applied and Environmental Geology in the study of the Earth, and environmental and societal issues;
3) equip students with transferable and subject-specific skills necessary for a career in the Earth Sciences, other science based industries, education, and for training at management levels in other professions;
4) promote the development of ICT and written, oral and presentation skills appropriate for a science graduate at the MGeol level;
5) stimulate students to develop a wide range of independent and team skills;
6) ensure that students benefit from an extensive programme of work in the field, developing fundamental geological knowledge through observation and critical analysis as well as developing personal and character skills;
7) provide students, via the curriculum and research expertise of staff, with a first training in research and research techniques appropriate for further postgraduate study or a research position in industry;
8) provide students with the environment in which to develop their interest in Applied and Environmental Geology;
9) enthuse and motivate all students to achieve their full potential in their degree course.
10) provide breadth and depth, via advanced M-level modules, in the subject area of Applied and Environmental Geology;
11) provide students with a training in, and appreciation of, research methods in Applied and Environmental Geology.

8. Reference points used to inform the programme specification

Degree programmes broadly concerned with earth sciences

2.4 It is anticipated that all graduates have appropriate knowledge of the main aspects of the Earth sciences, as listed:

- A holistic view of the present and past interactions between components of the Earth system, including the effects of extra-terrestrial influences on these interactions.
- The cycling of matter and the flows of energy into, between and within the solid Earth, the Earth's surface, the hydrosphere, the atmosphere and the biosphere.
- The study of the biological, chemical and physical processes that underpin our understanding of the structure, materials and processes relevant to the Earth and planetary bodies.
- The central paradigms in the Earth sciences: uniformitarianism (the present is the key to the past); the extent of geological time; evolution (the history of life on Earth); and plate tectonics
- Geological time, including the principles of stratigraphy, the stratigraphic column, the methods of geochronology, the rates of Earth processes, major events in Earth history, the evolution of life as revealed by the fossil record, the quaternary and anthropocene.
- Collection and analysis of Earth science data in the field, and the appropriate presentation, manipulation and extrapolation of these sometimes incomplete data in both two and three- dimensions, including the generation of geological maps and cross sections.
- The study of structures, materials and processes that includes an appreciation of temporal and spatial variations at appropriate scales.
- The study of the structure, the composition and the materials of the solid Earth (core, mantle, crust, asthenosphere, lithosphere and so on), the hydrosphere, the atmosphere, the cryosphere and the biosphere, and the processes operating within and between them.
- An understanding of other planetary bodies.

- Earth science terminology, nomenclature and classification of rocks, minerals, fossils, and geological structures.
- The identification of rocks, minerals, fossils, and geological structures.
- Surveying and measurement both in the field and laboratory, and using quantitative and instrumental techniques.
- An awareness that the understanding and knowledge gained from the subject and its application has to be considered within a wider socio-economic and environmental context. This may include:
- the exploration for and development of Earth resources (for example, hydrocarbons, minerals, water, carbon dioxide sequestration, aggregates and radioactive waste)
- the use of past climates to understand climate change
- geological aspects of human impact on the environment
- geohazards (for example, flooding, earthquakes, volcanic eruptions and landslides) and their impact on society and the environment
- an Earth science perspective on sustainability, environmental impact and social awareness.

2.5 Typical programme elements might include: engineering geology; geochemistry; geological mapping; geomorphology; geophysics; geographic information systems and remote sensing applications; hydrogeology; igneous and metamorphic petrology, local and global tectonics; mineralogy; mineral deposits; natural hazards;; palaeobiology; palaeoclimatology; palaeontology; petroleum geology; petrology; sedimentology; stratigraphy; and structural geology.

2.6 Applications of the subject areas might include the exploration, development and remediation/storage of Earth resources (e.g. hydrocarbons, minerals, water, carbon dioxide sequestration, aggregates & radioactive waste), using past climates to understand climate change and the impact on the environment and society, civil engineering projects (e.g. land restoration, site investigations and waste disposal and understanding geohazards (e.g. flooding, earthquakes, volcanic eruptions and landslides.

In addition, the Programme Specifications were informed by:

- QAA Benchmarking Statement
- Framework for Higher Education Qualifications (FHEQ)
- UK Quality Code for Higher Education
- University Learning Strategy
- University Assessment Strategy
- University of Leicester Periodic Developmental Review Report
- External Examiners' reports (annual)
- United Nations Education for Sustainable Development Goals
- Student Destinations Data

9. Programme Outcomes

Unless otherwise stated, programme outcomes apply to all awards specified in 1. Programme title(s).

a) Discipline specific knowledge and competencies

i) Mastery of an appropriate body of knowledge

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Discuss and explain the general principles and techniques of Applied and Environmental Geology, including the structure, composition and evolution of the Earth, its interrelationships with the hydrosphere, cryosphere, biosphere, and atmosphere and the perturbations of these systems by extraterrestrial influences.	Lectures; Tutorials; Practical classes; Seminars; Field Courses; Demonstrations; Example sheets; Resource-based learning; Directed reading; Problem-solving classes.	Written and practical examinations, including short-answer and essay examinations; Problem-based examinations; Coursework; Module tests; Essays; Assessment of field reports and maps; Poster presentations; Field notebooks; Problem-based exercises, written reports.
Describe the issues associated with exploitation of resources and the protection of the environment. Lectures; Tutorials; Practical classes; Seminars; Field Courses; Demonstrations; Example sheets; Resource-based learning; Directed reading; Problem- solving classes.	Lectures; Tutorials; Practical classes; Seminars; Field Courses; Demonstrations; Example sheets; Resource-based learning; Directed reading; Problem-solving classes.	Written and practical examinations, including short-answer and essay examinations; Problem-based examinations; Coursework; Module tests; Essays; Assessment of field reports and maps; Poster presentations; Field notebooks; Problem-based exercises, written reports.

ii) Understanding and application of key concepts and techniques

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Describe, identify and interpret a range of geological materials in the laboratory and field; select appropriate techniques to enable this; and explain geological relationships.	Lectures; Tutorials; Practical classes; Field Courses; Demonstrations; Example sheets; Resource-based learning; Directed reading.	Written and practical examinations, including short-answer and essay examinations; Problem-based examinations; Field notebooks.
Examine, record and interpret the geology (senso lato) of a region via a range of field-based techniques.	Lectures; Tutorials; Practical classes; Field Courses; Demonstrations; Independent field work.	Practical examination; Report and field notebook and map assessment
Explain geological time, rates and fluxes, and the techniques required to determine them.	Lectures, Tutorials, Practical classes; Seminars; Field Courses; Demonstrations; Example sheets; Resource-based learning; Directed reading; Problem-solving classes.	Written and practical examinations, including short-answer and essay examinations; Problem-based examinations.

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Select geological knowledge and data for modeling purposes (for example, for evaluation of scientific hypotheses, for hazard mitigation, or for resource estimation).	Lectures; Tutorials; Practical classes; Field Courses; Demonstrations.	Written and practical examinations, including short-answer and essay examinations; Problem-based examinations; field notebooks.
Describe the importance of geological materials as resources, their exploitation and associated environmental impact.	Lectures; Tutorials; Practical classes; Field Courses; Demonstrations.	Exam and group work.
Demonstrate and apply knowledge of safety procedures in the field.	Field-based practical classes and demonstrations	Demonstration and role play.
Discuss and explain the processes of mineral deposit formation and those processes that disseminate contaminants through the environment.	Lectures; Tutorials; Practical classes; Field Courses; Demonstrations.	Written and practical examinations, including short-answer and essay examinations; Problem-based examinations; field notebooks.
Demonstrate and apply knowledge of safety procedures in the laboratory.	Supervised classes and training with appropriate staff and supervisors.	MGeol research project diary and report.
Demonstrate a knowledge of a number of research techniques and procedures	Supervised laboratory classes, discussion sessions with project supervisors.	MGeol Research project poster, report, project diary, associated oral presentation.

iii) Critical analysis of key issues

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Identify theories paradigms, concepts and principles; apply scientific principles to evaluate current geological paradigms; and evaluate environmental and societal aspects of the Earth's resources.	Lectures; Tutorials; Practical classes; Field Courses; Demonstrations; Example sheets; Resource-based learning; Directed reading.	Written and practical examinations, including short-answer and essay examinations; MGeol research project report and project diary; Problem based examinations; Coursework; Module tests; Essays; Tutorial discussions.

iv) Clear and concise presentation of material

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Synthesise and interpret results, in order to effectively communicate (via written, oral, graphical means) data and ideas to a range of audiences.	Tutorials; Group seminars; Practical classes	Essays, essay-based examinations; independent projects; MGeol research project report, poster and project diary; contributions to tutorial discussions; poster displays; reports; group talks.

v) Critical appraisal of evidence with appropriate insight

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Debate geological ideas. Construct and test scientific hypotheses and analyse using geological data.	Lectures; Tutorials; Practical classes; Seminars; Field Courses; Demonstrations; Directed reading; Problem-solving classes.	Essays; essay- and practical examinations; reports; presentations.

vi) Other discipline specific competencies

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Conduct a range of field-based studies (e.g. geological mapping and recording of field observations).	Field courses, practical classes and demonstrations.	Report, field notebook, and geological map. Practical examinations.
Develop responsibility for the immediate working environment.	Field-based classes and projects.	Staff-monitoring of hazard assessment forms. Assessment of fieldwork.
Describe risks for hazard assessment for field-based work. Identify safe practice.	Field-based classes and projects.	Staff-monitoring of hazard assessment forms. Assessment of fieldwork.
Explain the geological structure and history of an area.	Field classes, lectures, practical classes.	Independent field project report.

b) Transferable skills

i) Oral communication

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Present geological data and theories using appropriate methods.	Tutorials; Group seminars/discussions; field-based presentations.	Oral presentations in tutorials and classes; MGeol research project oral presentation; MGeol poster discussions
Discuss and review geological topics in tutorial and other group discussions, and respond effectively to questioning.	Tutorials; Group seminars/discussions; field-based presentations.	Oral presentations in tutorials and classes

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Effectively lead and direct discussion of controversial subject-specific topics.	Discussion groups within module.	Oral presentation in classes and assessment of debating skills and contributions.

ii) Written communication

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Communicate effectively and appropriately in a variety of written formats including essays, reports, projects, CVs and posters	Tutorials, demonstrations and guidance notes	Assessed essays, reports, poster displays, and examinations
Draw and describe geological features, specimens and thin sections.	Practical classes, demonstrations, fieldwork, independent project work	Field notebooks; assessed practical folders; assessed reports.

iii) Information technology

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Use spreadsheets or other software to enter, manipulate and display numerical data.	Subject-embedded exercises. Tutorials.	Assessed report; practical assignments.
Use appropriate software packages to prepare written reports, essays, posters and presentations (e.g. Word, PowerPoint)	Report-writing for tutorials; subject-embedded exercises; presentation to tutorial groups and classes.	Assessed report; tutorial and practical assignments; independent work assignments; MGeol Research project report, poster and oral presentation.
Critically review information from electronic sources.	Tutorial and class supported information retrieval for projects, essays and reports.	Assessed report; tutorial; practical assignments and independent work assignments (including MGeol research project report).

iv) Numeracy

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Select appropriate numerical, statistical and graphical methods to explain and interpret geological concepts.	Introduced in the first year within practical classes and tutorials.	Mid-semester progress tests and as components within subject specific modules throughout the three years of study; feedback on practical class assignments.

v) Team working

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Organize and work effectively within a team, and evaluate performance of self and of team.	Tutorials, seminars, practical classes, project work, and field-based discussions.	Tutorial-based assessments; assessed practical work, and team fieldwork.
Identify self and team goals and responsibilities for team working.	Tutorials, seminars, practical classes, project work, and field- based discussions.	Tutorial-based assessments; assessed practical work, and team fieldwork.

vi) Problem solving

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Solve numerical, spatial, temporal and geometrical problems.	Lectures, tutorials, practical and field classes, group work, projects.	Assessment of field notebooks, practical class work, project work and reports.
Solve problems with incomplete or contradictory information.	Field and practical classes, independent research supervisory sessions.	Dissertation; independent field project and poster; MGeol research project report and poster.

vii) Information handling

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Effectively search for, gather and utilise information relevant to geological problem solving.	Lectures, tutorials, practicals, study skills within tutorials, field and lab-based projects.	Tutorial assignments, project work.

viii) Skills for lifelong learning

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Demonstrate intellectual independence via independent research.	Independent project work, including field-based project work; MGeol research project; dissertation.	Assessed independent work. Coursework within modules; MGeol project report, poster, oral presentations, dissertation.
Develop and implement a personal plan of work to meet a deadline.	All of the above, and particularly independent project work.	Assessed independent work including MGeol research project; field project, coursework within modules.
Identify targets for personal, career and academic development.	All of the above, and particularly independent project work and in tutorials.	Assessed independent work. Successful Placement for Year in Industry Students
Plan and execute an independent research project	Project planning classes, supervisory sessions, independent research project.	Assessed MGeol research project

For Year in Industry students (only)

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated
Placement Preparation 1 and 2		
1. Select appropriate resources for researching/securing placement opportunities	Students are provided with dedicated and timetabled sessions to prepare to search and secure a year in industry. Problem solving classes, Masterclasses, Career development programmes, Independent research.	Formative module feedback through session tasks and exercises
2. Explain the process for applying for and securing a relevant placement	Students are provided with dedicated and timetabled sessions to prepare to search and secure a year in industry. Problem solving classes, Masterclasses, Career development programmes, Independent research.	Formative module feedback through session tasks and exercises
3. Construct effective applications for placement opportunities	Students are provided with dedicated and timetabled sessions to prepare to search and secure a year in industry. Problem solving classes, Masterclasses, Career development programmes, Independent research.	Formative module feedback through session tasks and exercises
4. Recognise suitable plans for transitioning into a placement	Students are provided with dedicated and timetabled sessions to prepare to search and secure a year in industry. Problem solving classes, Masterclasses, Career development programmes, Independent research.	Formative module feedback through session tasks and exercises
On Placement		
1. Apply the theoretical and practical aspects of the material studied at the University and demonstrate the personal and professional skills necessary for your role within the organisation.	Students undertake a minimum of 9 months experience in the workplace. Project supervision, independent research	Completion of Monthly Reflective Journals to record skills development, major achievements, key areas of work, learning points and challenges overcome. Assessed by a Placement Portfolio, comprising of a Reflective Summary, Professional Development Plan, and Updated CV (excluded from

		word count) to formally assess on a pass or fail basis. Formative feedback during a Placement Visit (in person or via Skype) from Placement Provider and Placement Tutor regarding reflection on skills development, areas of strength and weakness and contribution to the workplace.
2. Compose a Professional Development Plan considering your strengths, development areas and motivations for your next step	Students undertake a minimum of 9 months experience in the workplace. Project supervision, independent research	Completion of Monthly Reflective Journals to record skills development, major achievements, key areas of work, learning points and challenges overcome. Assessed by a Placement Portfolio, comprising of a Reflective Summary, Professional Development Plan, and Updated CV (excluded from word count) to formally assess on a pass or fail basis. Formative feedback during a Placement Visit (in person or via Skype) from Placement Provider and Placement Tutor regarding reflection on skills development, areas of strength and weakness and contribution to the workplace.
3. Modify your CV to include the skills and experience you have gained through your significant experience gained in the past 12 months.	Students undertake a minimum of 9 months experience in the workplace. Project supervision, independent research	Completion of Monthly Reflective Journals to record skills development, major achievements, key areas of work, learning points and challenges overcome. Assessed by a Placement Portfolio, comprising of a Reflective Summary, Professional Development Plan, and Updated CV (excluded from word count) to formally assess on a pass or fail basis. Formative feedback during a Placement Visit (in person or via Skype) from Placement Provider and Placement Tutor regarding

		reflection on skills development, areas of strength and weakness and contribution to the workplace.

10. Progression points

This programme follows the standard Scheme of Progression set out in Senate Regulations – see the version of Senate Regulation 5 governing undergraduate programmes relevant to the year of entry.

The following additional progression requirements for this programme have been approved:

- In order for a student to continue on an M.Geol course, they will normally be expected to achieve an average mark of at least 60% at the end of the second year. Students whose overall average is less than 60% but more than 55% will be considered individually; they normally are required to achieve a mark of at least 60% in at least 60 credits of second year modules. Students who do not achieve the standard required for M.Geol, including those who have an average 2nd year mark of less than 55%, will be transferred to the B.Sc. degree course.

Progression onto a year in industry

The progression criteria for a 'year in industry' programme is to meet the requirements needed to progress to the next level of study as outlined in the University's Senate 5 Regulations.

Where a degree programme has a requirement from a Professional or Statutory Body (PSRB) for academic attainment for students undertake a year in industry are exempt from the proposed new progression criteria and will continue to uphold existing progression criteria.

A Placement Student will revert back to the degree without Year in Industry if:

1. They fail to secure a year in industry role.
2. They fail to pass the assessment related to the year in industry.
3. The year in industry ends early due to the behaviour of the Placement Student not being in accordance with the University's Regulations for Students, Student Responsibilities. The Placement Student will need to suspend for the remainder of the academic year. To prevent such an incident from happening, processes are in place to identify any possible issues or concerns early in the year in industry role. This includes a start check, regular communications, visits to the workplace (physical and/or virtual) and evaluation. Communication and contact between the Placement Student, Placement Provider and University provides support should issues arise.
4. They discontinue their Year in Industry. A student can return to their campus-based studies no later than the end of teaching week 2 at the start of the academic year should they decide to discontinue their Year in Industry they should complete a Course Transfer From. If a Placement Student decides to discontinue their Year in Industry after this point they will need to suspend their studies for the remainder of the academic year.

Nine months is the minimum time required for a year in industry to be formally recognised. If the year in industry is terminated earlier than 9 months as a result of event outside of the Placement Students control (for example redundancy, or company liquidation), the following process will be adopted:

1. If the Placement Student has completed 1 – 6 months, they will be supported to search for another placement to take them up to the 9 months required for the year in industry to be formally recognised. If the Placement Student does not find a placement to meet this criteria they will be required to suspend and transferred onto the degree without Year in Industry.

2. If the Placement Student has completed 7-8 months, they will be supported to search for another placement to take them up to the 9 months required for the year in industry to be formally recognised. If the Placement Student cannot source an additional placement to take them to 9 months, assessments related to the year in industry will be set for the student to make it possible for the individual learning objectives for the year in industry to be met. This will allow the Year in Industry to be recognised in the degree certificate.
3. A Placement Student will not be permitted to undertake a placement which runs across two academic years.

a) Course transfers

Students who do not achieve the standard required for M.Geol, including those who have an average 2nd year mark of less than 55%, will be transferred to the B.Sc. degree course.

11. Criteria for award and classification

This programme follows the standard scheme of undergraduate award and classification set out in Senate Regulations – see the version of *Senate Regulation 5 governing undergraduate programmes* relevant to the year of entry.

12. Special features

Residential field courses
Group problem solving
Student centered learning – small-group tutorials
Field-based project
Accessible, extensive mineral, rock and fossils undergraduate teaching collections, including ore deposits
Modules incorporating industry-standard software training and application
Department-based specialist careers advisors
Independent research project
'Hot Topics' student-led debating/seminar module
Access to state-of-the-art analytical facilities for research projects

Placements

It is the student's responsibility to secure a year in industry role. Students should attend Placement Preparation modules, additional support workshops and 1-2-1 appointments with the Career Development Service. Employer led activities provide a platform for students to engage with organisations who are recruiting students for year in industry roles.

When a Placement Student starts a year in industry, they will be required to complete health and safety documents and confirm they have completed a formal induction process no later than the 2nd week of placement. A Placement Student on the Year in Industry variant will also gain from being able to:

1. Apply the theoretical and practical aspects of the material studied at the University and demonstrate the personal and professional skills necessary for your role within the organisation.
2. Compose a Professional Development Plan considering your strengths, development areas and motivations for your next step
3. Modify your CV to include the skills and experience you have gained through your significant experience gained in the past 12 months

13. Indications of programme quality

Accreditation by the Geological Society of London.

The research interests of the staff strongly inform the teaching programme. External industry involvement with the development of parts of the teaching programme, including the integration of relevant software and access to case studies.

Quotes from recent External Examiners:

'The department is excellent and deserves its reputation as one of the leading centres of geoscience teaching/research in Europe.'
'I believe that the BSc and MGeol programmes in Applied and Environmental Geology to be of high quality, delivered by a dedicated set of professional academics. I was impressed by the diverse range of assessment styles and the extremely positive reactions of the students to the course and the staff team.'

14. External Examiner(s) reports

The details of the External Examiner(s) for this programme and the most recent External Examiners' reports for this programme can be found at exampapers@Leicester [log-in required]

UNIVERSITY OF LEICESTER

Programme Specification (Undergraduate) FOR ENTRY YEAR: 2021/22

Date created: 26/02/21 **Last amended:** 09/03/2023 **Version no.** 3

Appendix 1: Programme structure (programme regulations)

The University regularly reviews its programmes and modules to ensure that they reflect the current status of the discipline and offer the best learning experience to students. On occasion, it may be necessary to alter particular aspects of a course or module.

MGEOL APPLIED AND ENVIRONMENTAL GEOLOGY

Level 4/Year 1 2021/22

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	45 credits	30 credits	45 credits
Optional	n/a	n/a	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Year long	GL1100	Tutorials	15
Year long	GL1101	The Rock Cycle: our dynamic earth	30
Semester 1	GL1102	Micro to Macro	15
Semester 1	GL1103	Palaeobiology and the Stratigraphic Record	15
Semester 2	GL1104	Natural Resources and the Environment	15
Semester 2	GL1105	Geological Maps and Structures	15
Semester 2	GL1106	Introductory Field Course	15

Level 5/Year 2 2022/23

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	30 credits	45 credits	45 credits
Optional	n/a	n/a	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Year long	GL2100	Geological Field Skills	30
Semester 1	GL2103	Magmatic and Metamorphic Processes	15
Semester 1	GL2106	Mineral Resources for net-zero Carbon 1	15
Semester 1	GY2420	Climate Change: Impacts, Vulnerability and Adaptation	15
Semester 2	GL2101	Introduction to Geochemistry	15
Semester 2	GL2102	Structure and Tectonics	15
Semester 2	GL2105	Depositional Processes and Environments	15

Level 6/Year 3 2023/24

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	n/a	45 credits	45 credits
Optional	n/a	15 credits	15 credits

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Semester 1	GL3100	Field Based Project	30
Semester 1	GL3102	Environmental Geoscience	15
Semester 2	GL3101	Dissertation	15
Semester 2	GL3109	Mineral Exploration, Economics and Sustainability	15
Semester 2	GL3113	The Mining Lifecycle (Field course, Cornwall)	15

Option modules

Delivery period	Code	Title	Credits
Semester 1	GL3118	Crustal Dynamics	15
Semester 1	GY3435	Water Quality Processes and Management	15
Semester 2	GL3105	Earth Science in Education	15
Semester 2	GL3106	Planetary Science	15
Semester 2	GL3108	The Forensic, Archaeological and Geological Application of Microfossils	15
Semester 2	GL3110	Mineral Resources for net-zero Carbon 2	15
Semester 2	GY3434	Stable Isotopes in the Environment	15
Semester 2	GY3438	River Dynamics	15

Notes

This is an indicative list of option modules and not definitive of what will be available. Option module choice is also subject to availability, timetabling, student number restrictions and, where appropriate, students having taken appropriate pre-requisite modules.

Level 7/Year 4 2024/25

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	75 credits	30 credits	n/a
Optional	n/a	15 credits	15 credits

120 credits in total

(Optional modules in Sem1 and Sem2 – choose 15 credits from one semester not both – so total will be 120)

Core modules

Delivery period	Code	Title	Credits
Year long	GL4100	Hot Topics	15
Year long	GL4102	Research Project (AEG)	60
Semester 1	GL4107	Ore Genesis	15
Must choose either:			
Semester 1	GL4105	Advanced Field Course	15
Semester 1	GL4106	Anthropogenic impact on the urban environment	15

Option modules

Delivery period	Code	Title	Credits
Semester 1	GL4106[a]	Anthropogenic impact on the urban environment	15
Semester 1	GL4110	Igneous Petrogenesis	15
Semester 1	GY4471	Fundamentals of GIS	15
Semester 1	GY4472	R for Data Science	15

Delivery period	Code	Title	Credits
Semester 1	GY4473	Living the Anthropocene	15
Semester 2	GL4111	Climate of the Future, the View from the Past	15

Notes

a – available if GL4105 chosen as core

This is an indicative list of option modules and not definitive of what will be available. Option module choice is also subject to availability, timetabling, student number restrictions and, where appropriate, students having taken appropriate pre-requisite modules.

(Optional modules in Sem1 and Sem2 – choose 15 credits from one semester not both – so total will be 120)

MGEOL APPLIED AND ENVIRONMENTAL GEOLOGY WITH A YEAR IN INDUSTRY

Level 4/Year 1 2021/22

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	45 credits	30 credits	45 credits
Optional	n/a	n/a	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Year long	GL1100	Tutorials	15
Year long	GL1101	The Rock Cycle: our dynamic earth	30
Semester 1	GL1102	Micro to Macro	15
Semester 1	GL1103	Palaeobiology and the Stratigraphic Record	15

Delivery period	Code	Title	Credits
Semester 2	GL1104	Natural Resources and the Environment	15
Semester 2	GL1105	Geological Maps and Structures	15
Semester 2	GL1106	Introductory Field Course	15

Level 5/Year 2 2022/23

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	30 credits	45 credits	45 credits
Optional	n/a	n/a	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Year long	GL2100	Geological Field Skills	30
Semester 1	GL2103	Magmatic and Metamorphic Processes	15
Semester 1	GL2106	Mineral Resources for net-zero Carbon 1	15
Semester 1	GY2420	Climate Change: Impacts, Vulnerability and Adaptation	15
Semester 2	GL2101	Introduction to Geochemistry	15
Semester 2	GL2102	Structure and Tectonics	15
Semester 2	GL2105	Depositional Processes and Environments	15
Semester 1	ADGL221	Placement Preparation 1	0
Semester 2	ADGL222	Placement Preparation 2	0

THIRD YEAR

Students who gain an industry placement will be assessed as per the standard model for undergraduate placements in the College of Science and Engineering. The marks from this year will not be included in the final degree assessment.

Year long	ADGL223	On Placement

Level 6/Year 3 2024/25

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	n/a	45 credits	45 credits
Optional	n/a	15 credits	15 credits

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Semester 1	GL3100	Field Based Project	30
Semester 1	GL3102	Environmental Geoscience	15
Semester 2	GL3101	Dissertation	15
Semester 2	GL3109	Mineral Exploration, Economics and Sustainability	15
Semester 2	GL3113	The Mining Lifecycle (Field course, Cornwall)	15

Option modules

Delivery period	Code	Title	Credits
Semester 1	GL3118	Crustal Dynamics	15

Delivery period	Code	Title	Credits
Semester 1	GY3435	Water Quality Processes and Management	15
Semester 2	GL3105	Earth Science in Education	15
Semester 2	GL3106	Planetary Science	15
Semester 2	GL3108	The Forensic, Archaeological and Geological Application of Microfossils	15
Semester 2	GL3110	Mineral Resources for net-zero Carbon 2	15
Semester 2	GY3434	Stable Isotopes in the Environment	15
Semester 2	GY3438	River Dynamics	15

Notes
This is an indicative list of option modules and not definitive of what will be available. Option module choice is also subject to availability, timetabling, student number restrictions and, where appropriate, students having taken appropriate pre-requisite modules.

Level 7/Year 4 2025/26

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	75 credits	30 credits	n/a
Optional	n/a	15 credits	15 credits

120 credits in total

(Optional modules in Sem1 and Sem2 – choose 15 credits from one semester not both – so total will be 120)

Core modules

Delivery period	Code	Title	Credits
Year long	GL4100	Hot Topics	15

Delivery period	Code	Title	Credits
Year long	GL4102	Research Project (AEG)	60
Semester 1	GL4107	Ore Genesis	15
Must choose either:			
Semester 1	GL4105	Advanced Field Course	15
Semester 1	GL4106	Anthropogenic impact on the urban environment	15

Option modules

Delivery period	Code	Title	Credits
Semester 1	GL4106[a]	Anthropogenic impact on the urban environment	15
Semester 1	GL4110	Igneous Petrogenesis	15
Semester 1	GY4471	Fundamentals of GIS	15
Semester 1	GY4472	R for Data Science	15
Semester 1	GY4473	Living the Anthropocene	15
Semester 2	GL4111	Climate of the Future, the View from the Past	15

Notes

a – available if GL4105 chosen as core

This is an indicative list of option modules and not definitive of what will be available. Option module choice is also subject to availability, timetabling, student number restrictions and, where appropriate, students having taken appropriate pre-requisite modules.

(Optional modules in Sem1 and Sem2 – choose 15 credits from one semester not both – so total will be 120)

Notes

a – available if GL4105 chosen as core

This is an indicative list of option modules and not definitive of what will be available. Option module choice is also subject to availability, timetabling, student number restrictions and, where appropriate, students having taken appropriate pre-requisite modules.

(Optional modules in Sem1 and Sem2 – choose 15 credits from one semester not both – so total will be 120)

Appendix 2: Module specifications

See undergraduate module specification database (Note - modules are organized by year of delivery).

Appendix 3: Skills matrix