



UNSW Course Outline

GEOS2131 Field Methods and Mapping - 2024

Published on the 30 Aug 2024

General Course Information

Course Code : GEOS2131

Year : 2024

Term : Term 3

Teaching Period : T3

Is a multi-term course? : No

Faculty : Faculty of Science

Academic Unit : School of Biological, Earth and Environmental Sciences

Delivery Mode : In Person

Delivery Format : Standard

Delivery Location : Kensington

Campus : Sydney

Study Level : Undergraduate

Units of Credit : 6

Useful Links

[Handbook Class Timetable](#)

Course Details & Outcomes

Course Description

This course provides opportunity to undertake an extended field mapping exercise in a selected area of the state. The course will cover practical geological mapping techniques, general field skills, and the integration of stratigraphic, lithological, structural and palaeontological concepts.

Use of remote sensed and geophysical imagery of the area to be mapped will be included. This course may be run in conjunction with other universities. Note/s: A field mapping camp, up to 6 days in duration, forms the principal component of the course and students will incur some personal costs.

Assumed knowledge: first year geology

Course Aims

This course aims to integrate all the knowledge gained in previous geological courses via a six-day, field work-based mapping exercise in the Rouchel area of the Hunter Valley, NSW. This course will also introduce students to the challenges of geological mapping over a 16-20km² area in groups of three to six students. This exercise aims to improve students' knowledge of geology, appreciate the importance and difficulties of geological fieldwork, and their ability to work harmoniously in a group of fellow students of.

Relationship to Other Courses

GEOS2131 is a core course of the Earth Science Major (in Science, Advanced Science, Environmental Management and associated Programs at UNSW).

Course Learning Outcomes

Course Learning Outcomes
CL01 : Undertake geological field mapping to collect data in an efficient and safe manner.
CL02 : Identify and describe basic sedimentary and volcanic rocks, fossils, and geological structures in the field.
CL03 : Accurately measure the orientation of geological features using specialised tools.
CL04 : Construct a geological map based upon air photo interpretation combined with field observations of rock types and geological structures.
CL05 : Communicate results of geological field mapping in both oral format and as a formal geological report, touching on lithology, stratigraphy, and structure of the mapping area.

Course Learning Outcomes	Assessment Item
CL01 : Undertake geological field mapping to collect data in an efficient and safe manner.	<ul style="list-style-type: none"> • Rouchel report • Field Performance and Group Presentation
CL02 : Identify and describe basic sedimentary and volcanic rocks, fossils, and geological structures in the field.	<ul style="list-style-type: none"> • Field Work Preparation • Rouchel report • Field Performance and Group Presentation
CL03 : Accurately measure the orientation of geological features using specialised tools.	<ul style="list-style-type: none"> • Rouchel report • Field Performance and Group Presentation
CL04 : Construct a geological map based upon air photo interpretation combined with field observations of rock types and geological structures.	<ul style="list-style-type: none"> • Field Work Preparation • Rouchel report • Field Performance and Group Presentation
CL05 : Communicate results of geological field mapping in both oral format and as a formal geological report, touching on lithology, stratigraphy, and structure of the mapping area.	<ul style="list-style-type: none"> • Field Work Preparation • Rouchel report • Field Performance and Group Presentation

Learning and Teaching Technologies

Moodle - Learning Management System

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Rouchel report Assessment Format: Individual Short Extension: Yes (3 days)	55%	Start Date: Not Applicable Due Date: 15/11/2024 05:00 PM
Field Work Preparation Assessment Format: Individual Short Extension: Yes (3 days)	30%	Start Date: Not Applicable Due Date: 11/10/2024 05:00 PM
Field Performance and Group Presentation Assessment Format: Individual	15%	Start Date: Not Applicable Due Date: Not Applicable

Assessment Details

Rouchel report

Assessment Overview

Following the Rouchel field camp, you will submit an individual report (~5000 words + geological map and cross-section) on the area mapped. Assessment of the report will be based on geological content, the extent and depth of interpretation of data, and the quality and correctness of the geological map and cross-section. This report will be handed in at end of week 10, with lab time devoted to this work after the week 6 fieldtrip to provide feedback on your progress. Details on submission will be provided by the convenor.

Feedback on the final report is provided within 2 weeks of submission.

Course Learning Outcomes

- CL01 : Undertake geological field mapping to collect data in an efficient and safe manner.
- CL02 : Identify and describe basic sedimentary and volcanic rocks, fossils, and geological structures in the field.
- CL03 : Accurately measure the orientation of geological features using specialised tools.
- CL04 : Construct a geological map based upon air photo interpretation combined with field observations of rock types and geological structures.
- CL05 : Communicate results of geological field mapping in both oral format and as a formal geological report, touching on lithology, stratigraphy, and structure of the mapping area.

Detailed Assessment Description

This is provided via Moodle and in field/class discussion

Assignment submission Turnitin type

This is not a Turnitin assignment

Generative AI Permission Level

Planning/Design Assistance

You are permitted to use generative AI tools, software or services to generate initial ideas, structures, or outlines. However, you must develop or edit those ideas to such a significant extent that what is submitted is your own work, i.e., what is generated by the tool, software or service should not be a part of your final submission. You should keep copies of your iterations to show your Course Authority if there is any uncertainty about the originality of your work.

If your Convenor has concerns that your answer contains passages of AI-generated text or media that have not been sufficiently modified you may be asked to explain your work, but we recognise that you are permitted to use AI generated text and media as a starting point and some traces may remain. If you are unable to satisfactorily demonstrate your understanding of your submission you may be referred to UNSW Conduct & Integrity Office for investigation for academic misconduct and possible penalties.

For more information on Generative AI and permitted use please see [here](#).

Field Work Preparation

Assessment Overview

You will undertake a preliminary assessment of your mapping area at Rouchel, comprised of two parts:

Part 1: Airphoto interpretation, due Friday week 3. 10%.

Prepare an airphoto interpretation of your area using the collection of airphotos for your Rouchel mapping area.

Part 2: Stratigraphic correlation, due Friday week 4. 20%.

You will use stratigraphic columns and reference papers to interpret the stratigraphic sequence in the Rouchel area.

The marked assessment will be returned within two weeks of submission, with further details outlined by the convenor on Moodle.

Course Learning Outcomes

- CL02 : Identify and describe basic sedimentary and volcanic rocks, fossils, and geological structures in the field.
- CL04 : Construct a geological map based upon air photo interpretation combined with field

observations of rock types and geological structures.

- CL05 : Communicate results of geological field mapping in both oral format and as a formal geological report, touching on lithology, stratigraphy, and structure of the mapping area.

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students can see Turnitin similarity reports.

Generative AI Permission Level

Assistance with Attribution

This assessment requires you to write/create a first iteration of your submission yourself. You are then permitted to use generative AI tools, software or services to improve your submission in the ways set out below.

Any output of generative AI tools, software or services that is used within your assessment must be attributed with full referencing.

If outputs of generative AI tools, software or services form part of your submission and are not appropriately attributed, your Convenor will determine whether the omission is significant. If so, you may be asked to explain your submission. If you are unable to satisfactorily demonstrate your understanding of your submission you may be referred to UNSW Conduct & Integrity Office for investigation for academic misconduct and possible penalties.

For more information on Generative AI and permitted use please see [here](#).

Field Performance and Group Presentation

Assessment Overview

You will deliver a group presentation of field work, whereby each students individually reports on one or more aspect(s) of the geological field mapping campaign, including lithology, fossils, structure, and geological history. The presentation will be collectively around 5-10 minutes. This will be presented on the last lab session of week 10.

Feedback on the presentation is provided within a week of delivery.

Course Learning Outcomes

- CL01 : Undertake geological field mapping to collect data in an efficient and safe manner.
- CL02 : Identify and describe basic sedimentary and volcanic rocks, fossils, and geological structures in the field.
- CL03 : Accurately measure the orientation of geological features using specialised tools.
- CL04 : Construct a geological map based upon air photo interpretation combined with field observations of rock types and geological structures.
- CL05 : Communicate results of geological field mapping in both oral format and as a formal geological report, touching on lithology, stratigraphy, and structure of the mapping area.

Assignment submission Turnitin type

Not Applicable

Generative AI Permission Level

Not Applicable

Generative AI is not considered to be of assistance to you in completing this assessment. If you do use generative AI in completing this assessment, you should attribute its use.

For more information on Generative AI and permitted use please see [here](#).

General Assessment Information

Grading Basis

Standard

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 9 September - 15 September	Lecture	• Intro to course: Why Mapping? • What is on a map? (online)
	Laboratory	Stratigraphy and fence diagrams Pre-Rouchel assignment Rock types at Rouchel
Week 2 : 16 September - 22 September	Lecture	Principles of Stratigraphy Depositional environments I: Stratigraphic facies (online)
	Laboratory	Airphotos, mapping groups and use of stereoscopes
Week 3 : 23 September - 29 September	Lecture	How to collect data in the field Depositional environments II: Volcanic facies (online)
	Laboratory	Airphotos, mapping groups and use of stereoscopes
Week 4 : 30 September - 6 October	Lecture	Structures on maps
	Laboratory	Geological maps, field notes, strike/dip and base-map preparation in groups
Week 5 : 7 October - 13 October	Lecture	Fossils at Rouchel
	Laboratory	Mapping skills: air photo interp, strike/dip, site documentation, use of stereonets
Week 6 : 14 October - 20 October	Fieldwork	ROUCHEL FIELD TRIP MON 14th - SUN 20th
Week 7 : 21 October - 27 October	Lecture	Multiple deformation events in complex geological terrains
	Laboratory	How to make a geological cross-section and write a geological report Group work on maps and report
Week 8 : 28 October - 3 November	Lecture	Rocks and Petrography Stratigraphic nomenclature of igneous rocks (online)
	Laboratory	Thin section petrography Information on presenting a good talk
Week 9 : 4 November - 10 November	Lecture	Geological maps of complex terrains
	Laboratory	Time for work on reports and presentations
Week 10 : 11 November - 17 November	Presentation	Group presentations

Attendance Requirements

Please note that lecture recordings are not available for this course. Students are strongly encouraged to attend all classes and contact the Course Authority to make alternative arrangements for classes missed.

General Schedule Information

GEOS2131 has one timetabled class: Tuesday 10 am to 1pm in D26 Tech Lab 2. That time will be used for a face-to-face lecture, and then the lab/workshop. In addition, in some weeks there is another lecture, pre-recorded and available via Moodle. This means that the course consists of 12 hours of lectures, 18 hours of laboratories, final presentations in week 10 and the 6-day field mapping trip in week 6. Students are expected to attend all laboratory sessions. There is no final exam.

Course Resources

Additional Costs

Cost associated with Field.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Scott Mooney		108 Samuels Building			Yes	Yes

Other Useful Information

Academic Information

Upon your enrolment at UNSW, you share responsibility with us for maintaining a safe, harmonious and tolerant University environment.

You are required to:

- Comply with the University's conditions of enrolment.
- Act responsibly, ethically, safely and with integrity.
- Observe standards of equity and respect in dealing with every member of the UNSW community.
- Engage in lawful behaviour.

- Use and care for University resources in a responsible and appropriate manner.
- Maintain the University's reputation and good standing.

For more information, visit the [UNSW Student Code of Conduct Website](https://student.unsw.edu.au/conduct).

Academic Honesty and Plagiarism

Referencing is a way of acknowledging the sources of information that you use to research your assignments. You need to provide a reference whenever you draw on someone else's words, ideas or research. Not referencing other people's work can constitute plagiarism.

Further information about referencing styles can be located at <https://student.unsw.edu.au/referencing>

Academic integrity is fundamental to success at university. Academic integrity can be defined as a commitment to six fundamental values in academic pursuits: honesty, trust, fairness, respect, responsibility and courage. At UNSW, this means that your work must be your own, and others' ideas should be appropriately acknowledged. If you don't follow these rules, plagiarism may be detected in your work.

Further information about academic integrity, plagiarism and the use of AI in assessments can be located at:

- The [Current Students site](#),
- The [ELISE training site](#), and
- The [Use of AI for assessments](#) site.

The Student Conduct and Integrity Unit provides further resources to assist you to understand your conduct obligations as a student: <https://student.unsw.edu.au/conduct>

Submission of Assessment Tasks

Penalty for Late Submissions

UNSW has a standard late submission penalty of:

- 5% per day,
- for all assessments where a penalty applies,
- capped at five days (120 hours) from the assessment deadline, after which a student cannot submit an assessment, and
- no permitted variation.

Any variations to the above will be explicitly stated in the Course Outline for a given course or assessment task.

Students are expected to manage their time to meet deadlines and to request extensions as early as possible before the deadline.

Special Consideration

If circumstances prevent you from attending/completing an assessment task, you must officially apply for special consideration, usually within 3 days of the sitting date/due date. You can apply by logging onto myUNSW and following the link in the My Student Profile Tab. Medical documentation or other documentation explaining your absence must be submitted with your application. Once your application has been assessed, you will be contacted via your student email address to be advised of the official outcome and any actions that need to be taken from there. For more information about special consideration, please visit: <https://student.unsw.edu.au/special-consideration>

Important note: UNSW has a “fit to sit/submit” rule, which means that if you sit an exam or submit a piece of assessment, you are declaring yourself fit to do so and cannot later apply for Special Consideration. This is to ensure that if you feel unwell or are faced with significant circumstances beyond your control that affect your ability to study, you do not sit an examination or submit an assessment that does not reflect your best performance. Instead, you should apply for Special Consideration as soon as you realise you are not well enough or are otherwise unable to sit or submit an assessment.

Faculty-specific Information

Additional support for students

- [The Current Students Gateway](#)
- [Student Support](#)
- [Academic Skills and Support](#)
- [Student Wellbeing, Health and Safety](#)
- [Equitable Learning Services](#)
- [UNSW IT Service Centre](#)
- Science EDI Student [Initiatives](#), [Offerings](#) and [Guidelines](#)