



# Course Outline

GEOS2131

Field Methods and Mapping

School of BEES

Faculty of Science

T1, 2020

## 1. Staff

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Position	Name	Email	Consultation times and locations
Course Convenor	Martin van Kranendonk	m.vankranendonk@unsw.edu.au	By appointment

## 2. Course information

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Units of credit: 6UOC

Pre-requisite(s): Assumed knowledge GEOS1211 OR GEOS1111

Teaching times and locations:

Component	HPW	Time	Day	Location
Lecture 1	1	4-5PM	MON	CLB 2
Lecture 2	1	3-4PM	TUES	Mathews C
Lab	4	10AM-2PM	WED	E26 G01 Lab 3
Presenter consultation	1	4-5PM	THURS	Biolink 354A
Field trip	6 days		Week 5	Rouchel

<http://www.timetable.unsw.edu.au/2019/GEOS2131>

### 2.1 Course summary

This course provides opportunity to undertake an extended geological 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. Note/s: A field mapping camp, up to 6 days in duration in the Upper Hunter Valley of NSW, forms the principal component of the course and students will incur some personal costs.

### 2.2 Course aims

This course aims to integrate all the knowledge gained in previous courses via a six day, field work based mapping exercise in the Upper Hunter Valley. The course aims to introduce students to geological mapping of a 16-20km<sup>2</sup> area in groups of five or six

students. This exercise aims to expose students to the importance and subtle difficulties of geological mapping, and improve students' ability to work harmoniously in a group of fellow students of mixed abilities.

## 2.3 Course learning outcomes (CLO)

At the successful completion of this course you (the student) should be able to:

1. Undertake geological field mapping to collect data in an efficient and safe manner
2. Identify and describe basic sedimentary and volcanic rocks, and geological structures in the field
3. Accurately measure the orientation of geological features using a Brunton compass
4. Interpret field data and observations to infer stratigraphy over a ~15km<sup>2</sup> mapping area
5. Construct a geological map based upon field data and observations
6. Communicate results and ideas in both oral format and as a formal geological report
7. Work effectively as part of a group to conduct fieldwork, interpret data and present ideas.

## 3. Strategies and approaches to learning

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### 3.1 Learning and teaching activities

*Indicate the learning and teaching activities used in the course (e.g. lectures, seminars, tutorials, studios, practicum) and describe how you expect the students to participate and learn in these various components, whether face-to-face, online or in blended learning mode. Specify any learning activities that engage students in using resources and working on tasks, creating experiences that lead them to achieve the intended learning outcomes e.g. experiments, research-integrated learning, problem solving or project work.*

Mapping is a key skill for the natural sciences. It is practiced at all levels and at all scales, and not just in geology. This course is a practical course with face-to-face learning, augmented by readings. There are two main practical elements: 1) learning to use stereographic airphotos for geological mapping – this is achieved in the lab; 2) undertake geological mapping in the field, outdoors, using available techniques and technologies, but using your feet to cover the ground and your eyes to make observations. Lectures introduce you to basic concepts required to do the mapping and to understand geology as applies to mapping skills. The main assessment tasks relate to developing an understanding of stratigraphy, regional variations, and complications brought about by changes across space and through deformation – real-life geological situations.

### 3.2 Expectations of students

Students must attend 80% classes and laboratory periods during the term.

Attendance to the field trip is compulsory. The field trip includes camping in the outdoors, and walking/hiking through pastoral landscapes.

## 4. Course schedule and structure

This course consists of 8 hours of class lecture contact hours, as well as 18 hours compulsory laboratory contact, and the 6 day field mapping trip. **Students are expected to attend an additional 18 hours laboratory contact hours and take an additional 20 hours** of non-class contact hours to complete assessments. There is no final exam.

	Week	Date	LECTURES	Date	Lab
February	1	18.2	Why Mapping and intro to course	20.2	Stratigraphy and fence diagrams, Pre-Rouchel assignment and rock types at Rouchel
		19.2	More mapping: stratigraphy		
	2	25.2	Structures	27.2	Airphotos, mapping groups, and stereoscopes
		26.2	Volcanic facies		
March	3	4.3	New England Fold Belt	6.3	Geological maps, field notes, strike/dip and base-map preparation in groups
		5.3	Airphoto work in groups		
	4	11.3	Fossils	13.3	How to write a geological report, mapping skills: air photo interp, strike/dip, site documentation
		12.3	Safety and field camp details		
	5		FIELD TRIP SAT 16th - FRI 22nd		
	6		-no classes	27.3	Thin section petrography and group work on maps
April	7		-	3.4	Thin section petrography and group work on maps
	8		-	10.4	Presenting a good talk and group time to prepare presentations
	9		-	17.4	<b>Group presentations, 5 mins per person</b>
	10		-	24.4	Final map and report preparation

## 5. Assessment

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### 5.1 Assessment tasks

Outline each assessment task, including:

- title and type of assessment (e.g. laboratory practical work, essay, investigative project report, research paper, scale model, literature review) and a full description of the task
- length (if applicable) and weight assigned to each assessment task
- mark or grading structure if appropriate
- due date(s)
- assessment criteria and standards (section 5.2)

The following is a useful table for presenting this information succinctly:

Assessment task	Weight	Due date (normally midnight on due date)
<b>Assessment 1:</b> Pre-Rouchel assignment.  Each mapping group will be required to undertake a preliminary air photo interpretation of their mapping area before arriving at Rouchel.	30%	Week 4 (March 15 <sup>th</sup> : 5PM)
<b>Assessment 2:</b> Performance in the field and group presentations	15%	Week 5 – during the field trip (March 16-22, 2019)  10% Presentations April 17 <sup>th</sup> in lab, 5 minutes each
<b>Assessment 3:</b> Final report  Following the Rouchel field camp each student will submit an individual report on the area mapped. Assessment of the report will be based on geological content, the extent and depth of interpretation of data and English expression.	55%	Week 10 (Fri 26 April: 5PM)

See field trip manual for full details of each assessment

#### Further information

UNSW grading system: <https://student.unsw.edu.au/grades>

UNSW assessment policy: <https://student.unsw.edu.au/assessment>

## 5.2 Assessment criteria and standards

See field trip guide for full details on assessment marking criteria

## 5.3 Submission of assessment tasks

Assessments will be done in class (presentations) or submitted online via Moodle.

Normal school penalties apply for late submission

The rule is 10% (of the assignment mark) for each day late – up to a maximum of 7 days after which assignment will receive 0. Consideration for relief from this rule can be given only for documented reasons (and student should submit documentation through Student Central).

## 5.4. Feedback on assessment

See field trip guide for full details on assessment feedback

*Include a strategy for giving feedback to students on their assessment preparation, activities and/or marked submissions for each task. Tell students when, where and how they will receive feedback for this assessment.*

More information is available on the Teaching Gateway:

- [Grading and Giving Feedback](http://teaching.unsw.edu.au/grading-assessment-feedback)  
<http://teaching.unsw.edu.au/grading-assessment-feedback>
- [Giving Assessment Feedback](https://teaching.unsw.edu.au/assessment-feedback)  
<https://teaching.unsw.edu.au/assessment-feedback>

## 6. Academic integrity, referencing and plagiarism

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**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.<sup>1</sup> 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 and **plagiarism** can be located at:

- The *Current Students* site <https://student.unsw.edu.au/plagiarism>, and
- The *ELISE* training site <http://subjectguides.library.unsw.edu.au/elise/presenting>

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

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<sup>1</sup> International Center for Academic Integrity, 'The Fundamental Values of Academic Integrity', T. Fishman (ed), Clemson University, 2013.

## 7. Readings and resources

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The Map that Changed the World, by Simon Winchester  
 Geological Field techniques, by Coe, A.L. (Wiley-Blackwell)  
 See field trip guide for additional resources

## 8. Administrative matters

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<b>School information</b>	<p>School website: <a href="http://www.bees.unsw.edu.au/">http://www.bees.unsw.edu.au/</a></p> <p>School office – The Biosciences Student Office is where to go for administrative matters relating to BEES courses. It is located on the ground floor of the biological sciences building, room G27.  <a href="mailto:BEESinfo@unsw.edu.au">BEESinfo@unsw.edu.au</a></p>
<b>Occupational Health and Safety</b>	<p>Information on relevant Occupational Health and Safety policies and can be found on the following website: <a href="http://www.bees.unsw.edu.au/health-and-safety">http://www.bees.unsw.edu.au/health-and-safety</a></p> <p>UNSW OHS Home page: <a href="http://safety.unsw.edu.au/">http://safety.unsw.edu.au/</a></p>
<b>Equity and Diversity</b>	<p>Those students who have a disability that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course Convenor prior to, or at the commencement of, their course, or with the Equity Officer (Disability) in the Equity and Diversity Unit (9385 4734 or <a href="http://www.studentequity.unsw.edu.au/">http://www.studentequity.unsw.edu.au/</a> ).</p> <p>Issues to be discussed may include access to materials, signers or note-takers, the provision of services and additional exam and assessment arrangements. Early notification is essential to enable any necessary adjustments to be made.</p>
<b>Student complaint procedure</b>	<p><a href="http://student.unsw.edu.au/complaints">http://student.unsw.edu.au/complaints</a></p> <p><b>School contact</b></p> <p>Dr Jes Sammut <a href="mailto:j.sammut@unsw.edu.au">j.sammut@unsw.edu.au</a></p> <p><b>Faculty contact</b></p> <p>A/Prof Chris Tisdell, Associate Dean (Education)  <a href="mailto:cct@unsw.edu.au">cct@unsw.edu.au</a>, Tel: 9385 6792</p> <p><b>University contact</b></p> <p>Student Conduct and Appeals Officer (SCAO) within the Office of the Pro-Vice-Chancellor (Students) and Registrar.          Telephone 02 9385 8515, email <a href="mailto:studentcomplaints@unsw.edu.au">studentcomplaints@unsw.edu.au</a></p>

## 9. Additional support for students

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- The Current Students Gateway: <https://student.unsw.edu.au/>
- Academic Skills and Support: <https://student.unsw.edu.au/academic-skills>
- Student Wellbeing, Health and Safety: <https://student.unsw.edu.au/wellbeing>

- Disability Support Services: <https://student.unsw.edu.au/disability-services>
- UNSW IT Service Centre: <https://www.it.unsw.edu.au/students/index.html>