

GEOS2080: Earth Sciences Fieldwork

Callaghan

Semester 1 - 2024



THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA

OVERVIEW

Course Description GEOS2080 exposes students to a broad range of skills required by professional Earth Scientists. Field investigations are used to illustrate how these skills are applied. Online learning materials will introduce the concepts of risk assessment and how to answer complex science questions using field skills. The field components of the course deal with collecting and interpreting field data to quantify processes in the areas of coastal, soils, hydrology and hard-rock geology. Post field activities will develop data analysis skills and report writing skills (including the presentation of data collected in the field).

Academic Progress Requirements Nil

Assumed Knowledge GEOS1040 Earth's Dynamic Systems and GEOS1050 Earth Processes and Products.

Contact Hours
Callaghan Field Study *
Face to Face Off Campus
56 hour(s) per term starting Week 1

Laboratory *
Face to Face On Campus
3 hour(s) per week(s) for 6 week(s)
Post field trip practicals.

Online Activity
Online
2 hour(s) per week(s) for 5 week(s)

* This contact type has a compulsory requirement.

Unit Weighting Workload 10
Students are required to spend on average 120-140 hours of effort (contact and non-contact) including assessments per 10 unit course.

COURSE OUTLINE

CONTACTS

Course Coordinator	Callaghan Dr Michael Kinsela Michael.Kinsela@newcastle.edu.au Consultation: Contact online through the Canvas message client or by email
Teaching Staff	Other teaching staff will be advised on the course Canvas site.
School Office	School of Environmental and Life Sciences Room C228 Chemistry Building Callaghan Science-SELS@newcastle.edu.au +61 2 4921 5080 9am-5pm (Mon-Fri)

SYLLABUS

- Course Content**
- Introduction to Workplace Health and safety and Risk Assessment;
 - Report writing and scientific method.

A combination of:

- Coastal processes through space and time;
- Soil processes and landscape development;
- Hydrology, hydrogeology, and water security.

Course Learning Outcomes

On successful completion of this course, students will be able to:

1. Observe workplace health and safety procedures and conduct fieldwork and laboratory work safely by identifying risks and carrying out risk assessments;
2. Measure, record, present and interpret data collected in the field including producing maps and figures from field observations;
3. Design research questions and fieldwork approaches to better understand coastal, hydrological, soil, and geological processes;
4. Conduct laboratory and interpret desktop-based analyses to supplement field data collection;
5. Write a scientific report focused on presenting data collected in the field.

Course Materials

Other Resources:

- Refer to Canvas site

COMPULSORY REQUIREMENTS

In order to pass this course, each student must complete ALL of the following compulsory requirements:

Contact Hour Requirements:

- Field Study: There is a compulsory attendance requirement. Students must attend the entirety of the field trips. Field trip costs will be advertised in advance.
- Laboratory Study: There is a compulsory attendance requirement. Students must attend the entirety of the Laboratory (Practical) sessions.
- Practical Induction Requirement - Students must attend and pass the induction requirements before attending these sessions. In order to participate in this course, students must complete a compulsory fieldwork induction.

SCHEDULE

Week	Week Begins	Learning Activity (online)	Learning Activity (field/lab)	Assessment Due
1	26 Feb	Field safety, lab safety & writing a risk assessment How to write a field report		Fieldwork WHS/Medical Questionnaire
2	4 Mar	Module 1 - Coasts through space and time: theory/skills for Field Trip 1		Quiz A - Field safety, lab safety & writing a risk assessment - by Friday Quiz B - How to write a field report - by Friday
3	11 Mar	Module 1 - Coasts through space and time: theory/skills for Field Trip 1	<u>Field Trip 1</u> - Coasts through space & time - Forster-Pacific Palms region - weekend of 15-17 March	Quiz 1 - Module 1 - Coasts through space and time - by Friday
4	18 Mar		<u>Practical</u> session (3 hours) Module 1 - data analysis from Field Trip 1	
5	25 Mar	Module 2 - Soil processes and landscape development: theory/skills for Field Trip 2	<u>Practical</u> session (3 hours) Module 1 - data analysis from Field Trip 1	
6	1 Apr	Module 2 - Soil processes and landscape development: theory/skills for Field Trip 2	<u>Field Trip 2</u> - Soil processes and landscape development - Tocal Agricultural College - weekend of 6-7 April	Written report - Module 2 - Thursday by 5pm Quiz 2 - Module 2 - Soil processes & landscape development - by Friday
7	8 Apr		<u>Practical</u> session (3 hours) Module 2 - data analysis from Field Trip 2	
Mid-Semester Recess				
Mid-Semester Recess				
8	29 Apr		<u>Practical</u> session (3 hours) Module 2 - data analysis from Field Trip 2	
9	6 May	Module 3 - Hydrology, hydrogeology and water security: theory and skills for Field Trip 3		Written report - Module 2 - Thursday by 5pm
10	13 May	Module 3 - Hydrology, hydrogeology and water security: theory and skills for Field Trip 3	<u>Field Trip 3</u> - Hydrology, hydrogeology and water security - Wellington (NSW) - weekend of 17-19 May	Quiz 3 - Module 3 - Hydrology, hydrogeology and water security - by Friday
11	20 May		<u>Practical</u> session (3 hours) Module 3 - data analysis from Field Trip 3	
12	27 May		<u>Practical</u> session (3 hours) Module 3 - data analysis from Field Trip 3	
13	3 Jun			Written report - Module 3 - Thursday by 5pm
Examination Period				
Examination Period				

ASSESSMENTS

This course has 2 assessments. Each assessment is described in more detail in the sections below.

	Assessment Name	Due Date	Involvement	Weighting	Learning Outcomes
1	3 x Excursion Reports	Written report for Field Trip 1 due Week 6 Thursday 4th April by 5pm Written report for Field Trip 2 due Week 9 Thursday 9th May by 5pm Written report for Field Trip 3 due Week 13 Thursday 6th June by 5pm	Individual	75%	1, 2, 3, 4, 5
2	5 x Online Quizzes	Quiz A due Friday of Week 2 Quiz B due Friday of Week 2 Quiz 1 due Friday of Week 3 (before Field Trip 1) Quiz 2 due Friday of Week 6 (before Field Trip 2) Quiz 3 due Friday of Week 10 (before Field Trip 3)	Individual	25%	1, 2, 3

Late Submissions The mark for an assessment item submitted after the designated time on the due date, without an approved extension of time, will be reduced by 10% of the possible maximum mark for that assessment item for each day or part day that the assessment item is late. Note: this applies equally to week and weekend days.

Assessment 1 - 3 x Excursion Reports

Assessment Type Report
Purpose Write scientific reports focused on describing the activities conducted in the field and presenting analysis of data collected in the field
Description One scientific report for each of three course modules
Weighting 75%
Length 25% for each excursion report
Due Date Written report for Field Trip 1 due Week 6 Thursday 4th April by 5pm
 Written report for Field Trip 2 due Week 9 Thursday 9th May by 5pm
 Written report for Field Trip 3 due Week 13 Thursday 6th June by 5pm
Submission Method Online
Assessment Criteria To be explained in Practical Sessions
Return Method Online
Feedback Provided Online - 2 weeks after due date for assessment. Feedback provided via Canvas

Assessment 2 - 5 x Online Quizzes

Assessment Type Quiz
Purpose To ensure students have the knowledge to safely and successfully conduct field activities, and scientific writing skills; To examine student's conceptual knowledge and understanding of each course module
Description There are 5 quizzes each worth 5% (total 25% of grade)
 Quiz A = Module A Online Learning Material on field safety, lab safety & writing a risk assessment
 Quiz B = Module B Online Learning Material on how to write a field report
 Quiz 1 = Module 1 Online Learning Material (pre-learning) background skills/theory relating to Field Trip 1
 Quiz 2 = Module 2 Online Learning Material (pre-learning) background skills/theory relating to Field Trip 2
 Quiz 3 = Module 3 Online Learning Material (pre-learning) background skills/theory relating to Field Trip 3
Weighting 25%
Length 5% for each online quiz

Due Date	Quiz A due Friday of Week 2 Quiz B due Friday of Week 2 Quiz 1 due Friday of Week 3 (before Field Trip 1) Quiz 2 due Friday of Week 6 (before Field Trip 2) Quiz 3 due Friday of Week 10 (before Field Trip 3)
Submission Method	Online
Assessment Criteria	To be explained in Practical Sessions
Return Method	Online
Feedback Provided	Online - 2 weeks after due date for assessment. Feedback provided via Canvas

ADDITIONAL INFORMATION

Grading Scheme

This course is graded as follows:

Range of Marks	Grade	Description
85-100	High Distinction (HD)	Outstanding standard indicating comprehensive knowledge and understanding of the relevant materials; demonstration of an outstanding level of academic achievement; mastery of skills*; and achievement of all assessment objectives.
75-84	Distinction (D)	Excellent standard indicating a very high level of knowledge and understanding of the relevant materials; demonstration of a very high level of academic ability; sound development of skills*; and achievement of all assessment objectives.
65-74	Credit (C)	Good standard indicating a high level of knowledge and understanding of the relevant materials; demonstration of a high level of academic achievement; reasonable development of skills*; and achievement of all learning outcomes.
50-64	Pass (P)	Satisfactory standard indicating an adequate knowledge and understanding of the relevant materials; demonstration of an adequate level of academic achievement; satisfactory development of skills*; and achievement of all learning outcomes.
0-49	Fail (FF)	Failure to satisfactorily achieve learning outcomes. If all compulsory course components are not completed the mark will be zero. A fail grade may also be awarded following disciplinary action.

*Skills are those identified for the purposes of assessment task(s).

Attendance

Attendance/participation will be recorded in the following components:

- Field Study (Method of recording: Field Study (Method of recording: Student attendance on field trips will be recorded by payment receipt and completion of attendance list in the field))
- Laboratory (Method of recording: Attendance recorded on class roll)

Communication Methods

Communication methods used in this course include:

- Canvas Course Site: Students will receive communications via the posting of content or announcements on the Canvas course site.
- Email: Students will receive communications via their student email account.
- Face to Face: Communication will be provided via face to face meetings or supervision.

Course Evaluation

Each year feedback is sought from students and other stakeholders about the courses offered in the University for the purposes of identifying areas of excellence and potential improvement.

Oral Interviews (Vivas)

As part of the evaluation process of any assessment item in this course an oral examination (viva) may be conducted. The purpose of the oral examination is to verify the authorship of the

material submitted in response to the assessment task. The oral examination will be conducted in accordance with the principles set out in the [Oral Examination \(viva\) Procedure](#). In cases where the oral examination reveals the assessment item may not be the student's own work the case will be dealt with under the [Student Conduct Rule](#).

Academic Misconduct

All students are required to meet the academic integrity standards of the University. These standards reinforce the importance of integrity and honesty in an academic environment. Academic Integrity policies apply to all students of the University in all modes of study and in all locations. For the Student Academic Integrity Policy, refer to <https://policies.newcastle.edu.au/document/view-current.php?id=35>.

Adverse Circumstances

The University acknowledges the right of students to seek consideration for the impact of allowable adverse circumstances that may affect their performance in assessment item(s). Applications for special consideration due to adverse circumstances will be made using the online Adverse Circumstances system where:

1. the assessment item is a major assessment item; or
2. the assessment item is a minor assessment item and the Course Co-ordinator has specified in the Course Outline that students may apply the online Adverse Circumstances system;
3. you are requesting a change of placement; or
4. the course has a compulsory attendance requirement.

Before applying you must refer to the Adverse Circumstance Affecting Assessment Items Procedure available at:

<https://policies.newcastle.edu.au/document/view-current.php?id=236>

Important Policy Information

The Help button in the Canvas Navigation menu contains helpful information for using the Learning Management System. Students should familiarise themselves with the policies and procedures at

<https://www.newcastle.edu.au/current-students/respect-at-uni/policies-and-procedures> that support a safe and respectful environment at the University.

This course outline was approved by the Head of School. No alteration of this course outline is permitted without Head of School approval. If a change is approved, students will be notified and an amended course outline will be provided in the same manner as the original.

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