GEOS 2721

AUSTRALIAN SURFACE ENVIRONMENTS AND LANDFORMS

SESSION TWO

2018

FACULTY OF SCIENCE

SCHOOL OF BIOLOGICAL EARTH AND ENVIRONMENTAL SCIENCES

1. Information about the Course

NB: Some of this information is available on the UNSW Handbook (http://www.handbook.unsw.edu.au/2018/index.html)

Year of Delivery	***2018***
Course Code	***GEOS 2721***
Course Name	***Australian Surface Environments and Landforms***
Academic Unit	***School of Biological, Earth and Environmental Sciences***
Level of Course	***Level 2***
Units of Credit	***6 UOC***
Session(s) Offered	***S2***
Assumed Knowledge, Prerequisites or Co-requisites	***Either GEOS1701 or GEOS1211 or GEOS1111***
Hours per Week	***5 hpw plus two field trips (3.5 days total)***
Number of Weeks	***12 weeks***
Commencement Date	***Monday 23rd July (Week 1)***

Summary of Course Structure (also see Section 5 Lecture and Lab Schedule)

Component	Day and Time	Location	HPW
Lectures *Lecture 1* *Lecture 2*	*Monday 9 – 10 am* *Wednesday 9 – 10 am*	*Matthews 101* *Matthews 103*	*1* *1*
Laboratory	*Thursday 2 – 5 pm*	*Bio Sci E26 Teaching Lab 5* *Bio Sci D26 G 29 Computer Lab*	*3*
		TOTAL WEEKLY CONTACT	5
Field trips	*September 7/8/9*	*South Coast and Southern Highlands NSW*	*3 days*
	During Labs in Week 9	*Maroubra Beach NSW*	*0.5 days*
	• *The course includes two separate and compulsory field trips: one to the South Coast at the end of Week 7 and one to Maroubra Beach in Week 9.* • *Students will incur costs of approximately $220 for the field trips. It is a BEES School Policy that field trip payment is received in advance. Payment is due by Friday August 31.* • *Disabled access may be limited on both field trips.* • *Further details about the field trip will be announced during lab classes in Week Two of session.*		

2. Staff Involved in the Course

Name	Contact Details	Consultation Times
David Edwards (Course convenor)	*BioScience Link Wing Room 554A D.Edwards@unsw.edu.au 9385 8064*	*2 - 3 pm Monday Or by appointment*
Assoc. Prof Rob Brander	*BioScience Link Wing Room 450F 9385 2899 rbrander@unsw.edu.au*	*By Appointment*
Assoc. Prof. John Triantafilis	*BioScience Link Wing Room 554B J.Triantafilis@unsw.edu.au 9385 8087*	*By Appointment*
Technical Officer	*To be advised – person not yet appointed*	*Typically during lab class times only*

3. Course Details

Course Description (Handbook Entry)	*The study of surface processes and landforms; especially those formed by river systems and coastal environments. The nature of surface deposits, sediments and soils and the interrelationships with landforms in different environmental settings. An emphasis on contemporary processes and factors of landform creation, as well as changes to landforms and surface deposits over time and in response to human modification of the landscape. Field and laboratory based work will provide practical experience in physical landscape evaluation and land management techniques.*
Course Overview and Aims	*In this course we will study the geomorphology, sedimentology and pedology of Australia's physical landscapes. Geomorphology deals with the arrangement of landforms and the processes that shape them, while sedimentology is the scientific study of sediments, sedimentary rocks, and the processes by which they are formed. Pedology studies the formation and distribution of soils.* *The main emphasis in this course will be on the factors and processes acting in modern-day physical environments. This can be used as a basis for understanding both the dynamics of the Earth's surface today and also the history of the Earth's environments preserved in ancient sedimentary strata. The course will also cover the creation and evolution of a variety of erosional and depositional landforms and investigate the nature of the sediments and soils that have formed within and upon these landforms in different environmental settings.* *Theoretical concepts of Earth surface processes will be reinforced by field and laboratory based work, enabling students to develop skills in describing and interpreting sedimentary environments, landforms, surface deposits and soils. Ultimately this knowledge can be used to inform effective management strategies for a variety of Australian landscapes.*

Major Topics (Syllabus Outline)	*The course covers the major syllabus topics of geomorphic, sedimentary and pedological processes in a variety of physical environmental settings.* *The main syllabus units include:* • *Surface environments, factors and processes in glacial, fluvial, coastal and aeolian environments* • *Geomorphology and sedimentology of rivers and coastal environments* • *Sediments and sedimentary rocks* • *Landscape evolution and environmental change* • *Soil formation factors and processes* *The lecture and lab topics are outlined in Sections 5 and 6.*
Course Learning Outcomes	*By the end of this course students should be able to explain how a variety of factors and processes control the formation of different features of surface environments and physical landscapes.* *Specific abilities and outcomes that students should be able to demonstrate include:* *CLO1 describe the mix of processes that shape the physical environment and interpret the relationships between factors that control these processes* *CLO2 distinguish between the key land forming factors and processes operating within coastal and river settings* *CLO3 identify the relationships between geomorphic processes, sediment transport and the preservation of sedimentary units* *CLO4 compare modern sedimentary environments and features to those preserved in the rock record* *CLO5 evaluate the impacts of past environmental changes on a variety of physical landscapes and predict future changes* *CLO6 explain the relationships between soil forming factors and soil morphological properties* *CLO7 select and apply a variety of methods and approaches to collecting and analysing data on physical environments and landforms.* *Section 6 outlines the relationships between CLOS, course elements and assessment tasks.*
Relationship to Other Courses within the Program	*The course is an option within the Earth Science programs and plans, with particular relevance to students undertaking environmental science or resource geology. The course is supported by level 1, 2 and 3 courses in GEOS.* *The course is complementary with the following first year courses:* *GEOS1211 Environmental Earth Science* *GEOS1701 Environmental Systems, Processes and Issues* *The course is complementary with the following second year courses:* *GEOS2291 Earth's Interconnections* *GEOS2181 Earth Materials* *GEOS2711 Australian Climate and Vegetation* *The course is complementary with the following third year courses:* *GEOS3281 Environment and Contaminant Geochemistry* *GEOS3721 Australian Soil Use and Management* *GEOS3731 Coastal Geomorphology* *GEOS3761 Environmental Change* *GEOS3911 Environmental Impact Assessment*

4. Course Learning and Teaching Design

<table>
<tr><td>Teaching Rationale and Strategies</td><td colspan="2">The course design follows the RASE (Resources, Activity, Support and Evaluation) model. The Resources include: content in lectures and from textbooks, journal articles and digital media; as well as statistical analysis and modelling software; and a variety of analytical instruments. Activities include a variety of lab and field-based tasks that require students to actively engage with the recourses to complete tasks that demonstrate their achievement of the course learning outcomes. Support will be provided by peers (working in groups and online forums), online resources and the use of early formative and summative feedback on students' work and progress. Key aspects of student's work will be Evaluated to enable them to improve their learning and become more independent and effective learners. Students will also be involved in the planning processes for many of the activities and their reflection and evaluation of tasks will be used to improve them in future.

The course involves a mix of theoretical and conceptual material delivered in lectures and online materials that are reinforced and complemented through laboratory tasks and skills. The field trips provide a critical synthesis of these two components and are a major focal point of the course whereby students can interpret the landscape using their knowledge base and also through the collection and interpretation of data. The labs and field trips promote an environment of enquiry where students can develop perspectives on the subject matter based upon their own personal experiences and also through interaction with peers.

The timing of these field trips allows students to acquire the necessary theoretical background and data collection and interpretation skills beforehand. The theme of the field trips will be to investigate the changes in the surface processes, landforms and sedimentary environments in a variety of settings including volcanic and glacial landforms, fluvial systems and coastal environments. During the field tutorials, students will partake in a variety of data collection tasks (e.g. measuring and describing landform elements), and describing sediments and soils in situ.

The various assignments will test the knowledge and understanding of geomorphology, sedimentology and pedology in the surficial environment, with a focus on landforms and the processes that shape them. Practical skills in conducting field surveys, laboratory tests and data analysis will also be developed and tested in the course, as well as writing skills that explain and communicate the results. Students will work with a variety of software packages to analyse, manipulate and model data. The course will emulate the type of professional activities that students might be expected to undertake on graduation.</td></tr>
<tr><td>Science Program Learning Outcomes (SPOs) addressed by this course
(for Science degrees)</td><td>Science Program Objectives and Graduate Attributes
(from Science handbook)

1. Develop and sustain an interest in and knowledge of Science.

2. Develop a working knowledge of scientific methods of investigation.</td><td>Examples of application to course

1. Emphasis of the complexity of geophysical systems – what is known and what is not known

2. Laboratory and field exercises explore real world problems and are based on typical projects that young professionals would undertake.</td></tr>
</table>

	3. Encourage curiosity and creative imagination and an appreciation of the role of speculation in the selection and solution of problems, the construction of hypotheses, and the design of experiments.	*3. Field and laboratory work involves students in planning and hands on experiences. Students required to manage collection of field data.*
	4. Develop an appreciation of scientific criteria and a concern for objectivity and precision.	*4. Students are required to think critically about errors and bias in the methods they are using to solve problems.*
	5. Develop confidence and skill in formulating problems and in treating both qualitative and quantitative data.	*5. Assessment tasks adopt problem solving approaches and students must incorporate a variety of data sources in the work they produce.*
	6. Develop the ability and disposition to think logically, to communicate clearly by written and oral means, and to read critically and with understanding.	*6. The main field report requires students to undertake a comprehensive literature review and organise findings into a coherent argument.*
	7. Develop the habit of seeking and recognising relationships between phenomena, principles, theories, conceptual frameworks and problems.	*7. The key learning outcome for the course is for students to explain how a variety of factors and processes control the formation of different features of surface environments and physical landscapes. Both theoretical and practical approaches are used to achieve this outcome.*
	8. Promote understanding of the significance of science, technology, economics and social factors in modern society, and of the contributions they can make in improving material conditions.	*8. Key course elements directly relate to issues of land management and resource exploitation. The relevance of each topic and the purpose and outcomes of the laboratory are integrated within student activities.*
	9. Provide opportunities for the development of students' motivations and social maturity, and an awareness of their capabilities in relation to a choice of career which will be fruitful to themselves and to society.	*9. Key graduate attributes developed throughout the course include: writing and communication skills, approaches to problem solving, working as part of a team, project planning. Feedback on lab tasks as well as major written reports will be used to assess student learning and build learning outcomes.*
	10. Provide opportunity to study science in combination with other disciplines.	*10. Topics covered include perspectives from engineering, commerce and the humanities.*
Section 7 outlines the relationships between CLOS, PLOs, course elements and assessment tasks.		

5. Lecture and Lab Schedule

(Note this may be subject to change)

Week	Day and Date	Lecture Number and Topic	Lecturer	Lab Topic	Lab Location
1	Mon July 23	1. Introduction to course Overview of Surface Environments	Edwards	Introduction to Labs Health and safety Review of Mapping skills	G006
	Wed July 25	2. Australian Environments and Landform Evolution			
2	Mon July 30	3. Environmental Classification and Processes	Edwards	Introduction to topographic and field surveying	G29 Computer Lab
	Wed Aug. 1	4. Glacial Environments and Landforms			
3	Mon Aug. 6	5. Fluvial Systems	Edwards		G006
	Wed Aug. 8	6. Catchment Hydrology and Stream Discharge			
4	Mon Aug. 13	7. Fluvial Processes: Floods	Edwards	Flow hydraulics	G29 Computer Lab
	Wed Aug. 15	8. Fluvial Processes: Flow Hydraulics			
5	Mon Aug. 20	9. Sediment: Transport and Transfers	Edwards	Introduction to sediment properties and description Sediment particle size analysis	G006
	Wed Aug. 22	10. Sediments: Texture and Shape			
6	Mon Aug. 27	11.Sedimentary Structures	Edwards	Sediment particle size analysis	G29 Computer Lab
	Wed Aug.29	12. Stream Channel Morphology			
7	Mon Sept. 3	13. Floodplains	Edwards	Stream channel morphology	G29 Computer Lab
	Wed Sept. 5	14. Estuaries			
7	South Coast Field Trip Sept 7 – 9 inclusive *				
8	Mon Sept.10	15. Deltas	Edwards	Sediment Transport and Field Debrief	G29 Computer Lab
	Wed Sept. 12	16. Aeolian Processes and Landforms			

* Further information on the field trip timing and itinerary will provided on a separate document distributed in Week Two lab classes.

Week	Day and Date	Lecture Number and Topic	Lecturer	Lab Topic	Lab Location
9	Mon Sept.17	17. Coastal Systems	Brander	Maroubra Beach field tutorial	
	Wed Sept.19	18. Coastal Dynamics			
Mid-Session Break Sat 22nd Sept. – Mon 2nd Oct.					
10	Mon Oct. 1	Public Holiday - No Lecture		No Labs	
	Wed Oct. 3	No Lecture			
11	Mon Oct. 8	19. Australian Soil Classification	JT	Morphological Description of Podosol	E 26 Teaching Lab 5
	Wed Oct.10	20. Soil formation: Using morphological descriptors			
12	Mon Oct. 15	21. Soil formation: Understanding processes		Understanding the Australian Soil Classification	
	Wed Oct. 17	22. Soil formation: Understanding factors			
13	Mon Oct. 22	23. Soil formation: Podosols		Course Review and Exam Preview	
	Wed Oct. 24	24. Soil formation: Climate v Geology of ASC			

6. Assessment Tasks (also see Section 7)

Students are expected to satisfactorily complete all assessment tasks to pass the course overall.

Task	Knowledge & Abilities Assessed	% of total mark
Lab Exercises (four labs @ 10 % each)	A range of skills such including: air photo & map interpretation; topographic surveying; description of sediments and soils; sediment particle size analysis; analysis of hydrologic data; data collection and analysis; interpretive questions and writing skills.	40 %
Field Trip Exercises and Report	Literature Review of relevant theories and approaches to explaining a range of geophysical landscape features and processes that created them. Collection, analysis and interpretation of a range of data on formation of sedimentary units, soils and landforms.	20 %
Final Exam	Understanding and synthesis of course content	40 %

7. Details of assessment tasks and alignment with CLOs and SPOs

All assessments due at Thursday 12 noon in week shown

Week	Lab Topic	Assessment and Feedback Details	Due Date	% Weight	CLO	SPO
1	Introduction to Labs, Health and safety; Revision of mapping skills	Formative feedback on lab tasks; summative feedback and assessment as part of survey lab			1, 2, 3	1, 2, 7
2 & 3	Introduction to topographic and field surveying	Students work as team to complete tasks, but individually complete calculations and write up report; summative assessment and feedback on lab report	Wk 4	10	1, 2, 7	2, 4, 6,
4	Channel flow and hydraulics	Formative feedback on lab tasks; summative assessment and feedback as part of field report			1, 2, 3, 7	1, 2, 4, 7
5 & 6	Introduction to sediment properties and description; Sediment particle size analysis	Students work as team to complete tasks, but individually complete calculations and write up report; summative assessment and feedback on lab report	Wk 7	10	1, 2, 3, 7	1, 2, 4, 6, 7
7	Stream channel morphology using Google Earth and NearMap	Students complete tasks and write up report individually; summative assessment and feedback on lab report	Wk 8	10	1, 2, 3, 5, 7	1, 2, 4, 6, 7, 8
7	South Coast field trip and report	Students work as team to complete field tasks; but individually conduct literature review, complete calculations and write up report. Formative assessment on group field tasks; summative assessment and feedback on field report	Wk 10	20	All	All
8	Sediment transport processes and modelling	Students complete tasks individually and include as part of field report; summative assessment and feedback as part of field report.			1, 2, 3, 5, 7	1, 2, 4, 6, 7
9	Maroubra Beach coastal field tutorial	Formative feedback on lab tasks			1, 2, 3, 4, 5	1, 3, 5, 7, 8
11	Morphological description of podosol	Students work as team to complete tasks; summative assessment and feedback on lab quiz			1, 2, 3, 5, 6, 7	1, 5, 7
12	Understanding the Australian soil classification	Students work as team to complete tasks; summative assessment and feedback on lab quiz	Wk 13	10	1, 6, 7	1, 2, 5, 8
13	Course review and exam preview	All lecture and lab topics covered as part of final exam			All	All

8. Assignment Submissions and Feedback

Some assignments will be submitted online via Moodle and others will be submitted as hard copy. This will be explained when the assignment is discussed in class. Hard copy assignments (with cover sheet) must be submitted at the BSB office (Bioscience Room G27). Assignments submitted via Moodle must comply with formatting and size requirements.

All assignments will typically be due at Thursday 12 noon in the week shown in Section 7. Assignments and reports must be submitted on time. No extensions will be permitted (apart from the normal provisions in the University calendar) and penalties for late submission apply. Normal UNSW rules apply to illness, misadventure or other situations which affect attendance at class or submission of assessment tasks.

Students will receive written comments and grades on all pieces of work submitted. Reports will typically be marked and returned to students within 14 days of submission. Model answers and general feedback for each assignment will be available on the course Moodle site. Students will be able to gauge their own marks and abilities relative to the class average.

9. Expectations of Students

Attendance at lectures, laboratories, field trip and the field tutorial are compulsory. The University expects that all students (domestic and international) be present and available for the entire duration of the UNSW scheduled semester period and associated exam period (23 July – 20 November). Please bear this in mind when making work or travel plans.

Students that miss classes or assessment tasks due to ill health or other issues are advised to contact David Edwards (Course Convenor) as soon as possible and provide certified documentation. You can apply for Special Consideration when illness or circumstances that are beyond your control or unexpected interfere severely with your academic performance. More information on Special Consideration can be found at: https://student.unsw.edu.au/special-consideration

Most of the course material is delivered or available online and it is expected that students will have regular access to the internet either via home computer, computers available at the University, or through personal electronic devices (e.g. mobile phone, iPad, laptop). If you have problems accessing this material please talk to David Edwards about alternative methods of access. The BEES computing laboratory (G29) is available for student use whenever not being used for teaching.

General information on BEES School Polices and links to UNSW policies can be found on the BEES School web site: www.BEES.unsw.edu.au

10. Health and Safety, Required Equipment, Training and Enabling Skills

It is essential that students attend and complete Health and Safety Inductions for lab classes and field trip. Appropriate clothing must be worn in lab and on the field trips – see Section 12 for more information. Materials required for the field trips will be outlined in the field trip guides to be distributed in Week 2 lab class.

Students should have completed the UNSW Library Elise tutorial and be familiar with using Moodle.

11. Equity and Diversity

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 https://student.unsw.edu.au/disability).

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.

As the course involves two compulsory field trips with limited access it is essential that students that may have difficulties with this discuss their options with the course convenor by the end of Week Two of session.

12. Course Improvements and Student Feedback

Student feedback is gathered periodically by various means as outlined in the table below. Such feedback is considered carefully with a view to acting on it constructively wherever possible and has helped to shape and develop this course.

Review Type	Last Review Date	Comments or Changes Resulting from Reviews
Major Course Review	*2011*	*Following on from student feedback in 2011 the course was restructured in 2012 and 2013. Key changes include: changing session offered from S1 to S2, fewer lecturing staff to provide continuity to students, fewer assessment tasks and changes to location and timing of field trips. Longer (3 hour) labs have provided more time to complete tasks in labs with staff present to assist.*
CATEI	*2015*	*Timing and work required for field and lab tasks have been modified to allow students to complete assessments. More material has been placed on line (eg Moodle) to facilitate students working at home or outside class contact hours.*
myExperience	*2016, 2017*	*Timing and work required for field and lab tasks have been modified to allow students to complete assessments. The lab tasks have been more fully integrated with the major field report.*

Any complaints or problems with the course should be first raised with the course convener. School and faculty contacts include:

School Student Ethics Officer:
A/Prof Stephen Bonser, (s.bonser@unsw.edu.au)

School Grievance Officer and Designated Officer under the UNSW Plagiarism Procedure:
A/Prof Scott Mooney (s.mooney@unsw.edu.au)

Deputy Dean (Education):
Assoc Prof Janelle Wheat (j.wheat@unsw.edu.au) Tel: 9385 0752

Associate Dean (Academic Programs):
Dr Gavin Edwards g.edwards@unsw.edu.au Tel 9385 4652

Student Conduct and Appeals Officer (SCAO) within Student Conduct and Integrity Unit:
studentcomplaints@unsw.edu.au Tel. 9385 8515

University Counselling and Psychological Services
Tel: 9385 5418

13. Work, Health and Safety

UNSW takes matters of Work Health and Safety (WHS) policies very seriously and the School of BEES recognises its obligations to provide a safe working environment for all persons involved in School-related activities. You should be aware of your responsibilities as a member of the university community by visiting the UNSW safety website: http://www.safety.unsw.edu.au/ .

The Course Authority is responsible for ensuring all activities associated with this course are safe. The Course Authority has undertaken detailed risk assessments of all course activities and identified all associated potential hazards. These hazards have been minimised and appropriate steps taken to ensure your health and safety. For each activity, clear written instructions are given and appropriate hazard warnings or risk minimisation procedures included for your protection.

Students must comply with all safety instructions given by the academic staff and demonstrators and observe the safety information located outside or within teaching rooms. If you are unsure of any safe operating procedures or written instruction regarding safety, you should seek further information from academic staff, demonstrators or technical staff. If you are unsure of any safe operating procedures or written instruction regarding safety, you should seek further information from the Course Authority and/or Laboratory / Field Demonstrator before attempting the task. Failure to comply with safety instructions may, in the first instance, be considered as a form of academic misconduct. If the outcome of a student's failure to comply with safety instructions results in personal injury, or endangers the health and safety of others, then the matter may be dealt with by WorkCover as a breach of the NSW OH&S Act (2000).

Lab Classes
A laboratory is for serious work not playing around. Eating, drinking or smoking in laboratories is not allowed. Further- no food should be brought into a laboratory. Students must read the instructions to their laboratories carefully beforehand and be aware of all possible hazards. No undergraduate students will be allowed to work in the laboratories outside class hours without permission and some supervision.

Closed-in shoes are compulsory in lab classes to provide adequate protection against corrosive liquids and cuts (this includes casual and sports shoes but excludes sandals, thongs, etc). Persons wearing thongs or sandals or arriving in bare feet will not be allowed into practical classes. A laboratory coat is necessary in all laboratory classes held in the Biosciences Lab G006.

All accidents and injuries must be reported to the lecturer or demonstrator in charge of the practical class for treatment if necessary. A ‘Hazard/Incident’ report should be filled in if an accident or incident occurs without causing an injury. With injury, an additional ‘Injury/Loss of Time’ report is also required.

If there is a fire, explosion or other major calamity an alarm will sound and you may need to evacuate the building. Follow the instructions from your lecturer/demonstrator or from any building wardens and

emergency services personnel. Close all the doors and windows if possible. Quickly check to see that everyone is out of the room. Move steadily to the nearest stair well and out of the building. Do not use the lifts. The Emergency Assembly Area is the Michael Birt Gardens on the northern side of Clancy Auditorium. Supervisors should bring the class roll and check that everyone has left the building.

To report a fire or serious injury Telephone 56666 and then describe carefully:

- The location of the emergency, giving the name of the building, the floor and the room number.
- The type of emergency.
- Your name and extension number.

For minor injuries telephone the University Health Service on 55425 or 55426 or 55427. School first aid officers include:

Ms Rosa Ascencio 9385 2016	Mr Rick Wege 9385 8031
Mr Frank Hemmings 9385 3274	Ms Rochelle Johnston 9385 3257

Additional information on lab safety will be provided in the Week 2 lab classes.

Field Trips

During field trips, it is essential to wear weather appropriate clothing, and always be aware of what is going on around you. Extra care must be taken near shorelines, in bushland or off established pathways. Field work is an inherently dangerous pastime, and to ensure your safety we must insist that you follow a few basic guidelines for working in the field:

- Sturdy footwear is required on all field excursions and leather work boots are strongly recommended.
- Always work in groups, no-one should go out collecting data alone. EVER!!
- If you will work away from urban areas, take a mobile phone and tell someone where you are going and when you will return. If you will be late, let them know.
- If working away from urban areas, take a basic first aid kit and ensure a member of your working party is trained in basic first aid.
- It is strongly recommended that aall students taking field excursions have a *Tetanus* injection within the last 10 years. These injections are readily available at the Student Health Centre.
- UNSW campus is a smoke-free work environment. BEES, the sciences of the outdoors, strongly support this concept of a healthy, clean-air work environment. Alcohol and smoking are not permitted in University vehicles nor in vehicles hired by the University for field excursions
- Do not do anything illegal! This includes trespassing, so only work in areas you know that you are allowed to work in.
- Tread lightly! Don’t go blazing trails through bushland areas, be considerate of the environments you are working in. Observational work is preferred.
- Wear sensible clothing for the environment you are working in. So in bushland areas, wear sensible hard-soled shoes, a hat, long trousers and sleeves. Be conscious of ticks, leeches, spiders and snakes. Take extra care walking on uneven and slippery surfaces.
- If working near shorelines always have someone watching for waves.

Additional information on field safety will be provided in the Week 2 lab classes.

14. Additional Resources and Support

i) Text Books and Course Readings

The course materials span several traditional subject areas and so there is no set text for the course. The books listed below are recommended starting points for any student in the course. Items available as e-books in UNSW library are noted.

Other readings will be advised as part of lectures and lab materials.

Encyclopaedia and Reference Works

Encyclopedia of Coastal Science (2005) Editor: M. Schwartz, Springer ISBN1402019033 ebook.

Encyclopedia of Hydrological Sciences Copyright © 1999-2014 by John Wiley and Sons, Inc. Online ISBN: 9780470848944, DOI: 10.1002/0470848944 ebook.

Encyclopedia of Sediments and Sedimentary Rocks (2003) Editors: Gerard V. Middleton, Michael J. Church, Mario Coniglio, Lawrence A. Hardie, Frederick J. Longstaffe . ISBN: 978-1-4020-0872-6 (Print) 978-1-4020-3609-5 (Online) ebook.

Sedimentary Environments

Recommended

Boggs Sam, Jr. (2013) Principles of Sedimentology and Stratigraphy, 5th Ed. Pearson Higher Ed USA

Collinson, J., Mountney, N., and Thompson, D. (2006). Sedimentary Structures (3rd Edition). Dunedin Academic Press. ebook.

Dorrik, A.V. Stow. (2005). Sedimentary Rocks in the Field - A Color Guide. Elsevier. ebook.

Jones, Stuart. (2015). Introducing Sedimentology. Dunedin Academic Press. ebook.

Suggested

Julien, Pierre Y.. (2010). Erosion and Sedimentation (2nd Edition). Cambridge University Press (This is only really for the more advanced and keen student) ebook.

Leeder, M.R. (2000) Sedimentology and Sedimentary Basins: from turbulence to tectonics. Blackwell Science.

Nichols, G. (1999). Sedimentology and Stratigraphy. Blackwell Science.

Reading, H.G. (1996) Sedimentary Environments and Facies (3rd Edition). Blackwell Science.

Reineck, H.E. and Singh, I.B. (1980). Depositional Sedimentary Environments. Springer.

Selley, R.C. (1996).Ancient Sedimentary Environments : And Their Sub-surface Diagnosis, Taylor and Francis ebook.

Selley, R.C. (2000). Applied Sedimentology. Academic Press.

Walker, R.G. (1981). Facies Models. Geoscience Canada Reprint Series

Geomorphology and Landforms

Recommended

Blewett, R. (ed) (2012) Shaping a Nation: A Geology of Australia ANU Press, Co-published with Geoscience Australia ebook.

Scheffers, A.M., May, S.M.and Kelletat, D.(2015) Landforms of the world with Google Earth : understanding our environment, Springer . ISBN9401797137; ISBN9401797137 . ebook.

Summerfield, M.A. (1999). Global Geomorphology. Longman, New York. ebook.

Twidale C.R. and Campbell E.M. (2005). Australian Landforms: Understanding a low, flat, arid and old landscape. Rosenberg Publishing, Dural Sydney.

Goudie A.S. and Viles H.A. (2010) Landscapes and Geomorphology: A Very Short Introduction, OUP, ISBN13 9780199565573 . ebook

Suggested

Gallagher, H.H. and Peterson, J.A. (1987). Landforms: an Introduction to Australian Geomorphology. Oxford University Press, Melbourne.

Jeans, D.N. (Ed.) (1986). The Natural Environment; Australia – A Geography Volume One. Sydney University Press, Sydney.

Twidale, C.R. and Campbell E.M. (1993). Australian Landforms: Structure, Process and Time. Gleneagles Publishing Adelaide.

Coastal and Fluvial Environments

Recommended

Bird, E. (2008) Coastal geomorphology : an introduction. John Wiley & Sons, Ltd. ISBN9780470723968 ebook.

Knighton, D. (1998). Fluvial Forms and Processes; A New Perspective. Oxford University Press, New York. ebook.

Masselink, G. and Hughes, M.G. (2003). Introduction to Coastal Processes and Geomorphology. Oxford University Press, New York.

Masselink G., Hughes;M., and Knight, J. (2014) Introduction to Coastal Processes and Geomorphology, Second Edition. Taylor and Francis, London ISBN144412241X ebook.

Suggested

Gregory, K.J. and Walling, D.E. (1973). Drainage Basin Form and Process. Edward Arnold, London.

Komar, P.D. (1998). Beach Processes and Sedimentation. Prentice-Hall, New Jersey

Richards, R. (1982) Rivers: form and process in alluvial channels. Methuen London.

Sear D.A., Newson;M.D, and Thorne C. R. (2010) Guidebook of applied fluvial geomorphology Thomas Telford, London, ISBN9780727741011 ebook.

Warner R.F. (1988) Fluvial geomorphology of Australia. Academic Press Australia, Sydney.

Woodroffe, C. (2003). Coasts; Form, Process and Evolution, Cambridge University Press, London.

Soils

Recommended

Isbell, R.F. (2002) The Australian soil classification 2nd Edition: National Committee on Soil and Terrain Australian soil and land survey handbook series; CSIRO Publishing Australia, ISBN1486304648; ISBN1486304656 ebook.

McKenzie, N.J., Jacquier, D., Isbell, R., Brown, K. (2004). Australian Soils and Landscapes: An Illustrated Compendium. CSIRO, Canberra. Ebook ISBN: 13:9780643100732 ebook.

National Committee on Soil and Terrain (2009) Australian Soil and Land Survey Field Handbook 3rd Edition, CSIRO Publishing Australia, eBook ISBN 9780643097117 ebook.

Suggested

Brady, N.C. and Weil R.R. (2002). Elements of the Nature and Properties of Soil. Prentice Hall.

Charman, P.E.V. and Murphy, B.M. (eds.) (2000) Soils, Their Properties and Management, 2nd Edition, Sydney University Press, Sydney.

Gerrard, J. (1992) Soil Geomorphology, Chapman and Hall, London.

White, R.E. (1997). Principles and Practice of Soil Science: The Soil as a Natural Resource. Blackwell Science.

Young, A. and Young, R. (2001) Soils in the Australian Landscape Oxford University Press.

ii) Course Manual

Course notes will be provided to students and available to download from the course Moodle site.

iii) Computer Laboratories or Study Spaces

Access to BEES computer lab G29 will be available outside class time but is generally expected that lab tasks will be mostly completed in class time

15. UNSW Academic Honesty and Plagiarism

What is Plagiarism?

Plagiarism is the presentation of the thoughts or work of another as one's own.
*Examples include:

- direct duplication of the thoughts or work of another, including by copying material, ideas or concepts from a book, article, report or other written document (whether published or unpublished), composition, artwork, design, drawing, circuitry, computer program or software, web site, Internet, other electronic resource, or another person's assignment without appropriate acknowledgement;
- paraphrasing another person's work with very minor changes keeping the meaning, form and/or progression of ideas of the original;
- piecing together sections of the work of others into a new whole;
- presenting an assessment item as independent work when it has been produced in whole or part in collusion with other people, for example, another student or a tutor; and
- claiming credit for a proportion a work contributed to a group assessment item that is greater than that actually contributed.†

For the purposes of this policy, submitting an assessment item that has already been submitted for academic credit elsewhere may be considered plagiarism.

Knowingly permitting your work to be copied by another student may also be considered to be plagiarism.

Note that an assessment item produced in oral, not written, form, or involving live presentation, may similarly contain plagiarised material.

The inclusion of the thoughts or work of another with attribution appropriate to the academic discipline does *not* amount to plagiarism.

The Learning Centre website is main repository for resources for staff and students on plagiarism and academic honesty. These resources can be located via:

https://student.unsw.edu.au/plagiarism

The Learning Centre also provides substantial educational written materials, workshops, and tutorials to aid students, for example, in:

- correct referencing practices;
- paraphrasing, summarising, essay writing, and time management;
- appropriate use of, and attribution for, a range of materials including text, images, formulae and concepts.

Individual assistance is available on request from The Learning Centre.

Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting, and the proper referencing of sources in preparing all assessment items.

* Based on that proposed to the University of Newcastle by the St James Ethics Centre. Used with kind permission from the University of Newcastle
† Adapted with kind permission from the University of Melbourne

BEES Academic Honesty and Plagiarism

In addition to the UNSW Policy on Academic Honesty and Plagiarism, the School of Biological, Earth and Environmental Sciences (BEES), also considers any work submitted that has been produced outside of a given course in a given year to be plagiarism i.e.:

- Work produced for a third party e.g. your place of employment, is considered intellectual property of the third party, and as such if such work is submitted in place of a required course work, it is deemed plagiarism.
- All work submitted for assessment must be created specifically for the given assessment task in the given year. Work produced in previous years or for other assessments is not acceptable.