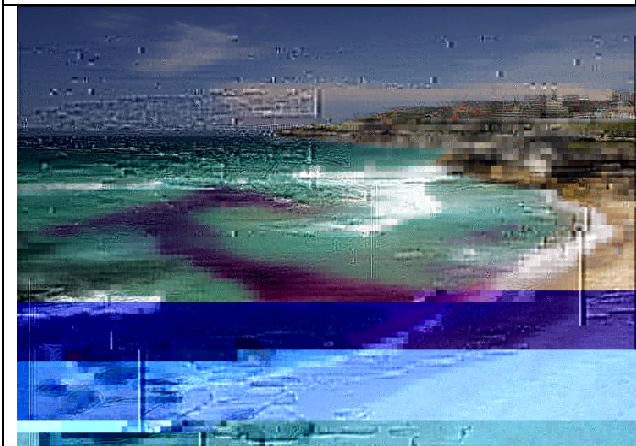




Faculty of Science  
School Of  
Biological Earth  
and Environmental Sciences  
(BEES)



GEOS 3731  
COASTAL PROCESSES AND  
HAZARDS

T1  
2021





## 1.1 Course Description

This course provides a lecture, laboratory and field-based study of the processes responsible for shaping and modifying Australian and global coastal environments. The foundation of the course is an application of the morphodynamic approach to understanding coastal processes and hazards. Topics covered include coastal evolution, nearshore waves, currents and sediment transport, beaches and coastal hazards and management. A strong emphasis is placed on practical applications related to coastal monitoring techniques. Fieldwork is an important component of the course and a multi-day fieldtrip will involve expense to individual students. Online students will be given an alternate Field Trip assessment. More information on the course is provided in the Course UNSW Handbook entry:

<https://www.handbook.unsw.edu.au/undergraduate/courses/2021/GEOS3731/>

## 1.2 Aims and Learning Outcomes

Coastal geomorphology is a field of coastal and marine science that involves an understanding of process and form relationships operating over a range of spatial and temporal scales. Originally, coastal geomorphologists were motivated by curiosity and the desire to describe and interpret the coastal landscapes with which humans interact. More recently, application of coastal geomorphologic principles has become an integral component of contemporary coastal hazard management in terms of how humans and coastal systems are impacted by coastal processes.

The aims of this course are to:

Provide students with a solid understanding of fundamental coastal geomorphologic principles associated with process-form relationships in a range of Australian and global coastal environments;

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An ability to critically evaluate the role of human interactions in coastal systems and hazards and indicate key management strategies for sustainable maintenance of coastal environments;

The ability to design and implement independent research and field studies involving team work and presentation skills.

### 1.3 Learning Strategies

The learning goals for this course will be achieved through a variety of instructional techniques including online lectures, face-to-face and online laboratory classes, a field trip (or alternate assignment) and a major group project assignment. The goal is to stimulate your interest in the subject matter by providing a variety of teaching methods that promote student interaction and ability to think critically. The course uses many real-world (<(5.379 (k)-hsdhT Tc -0.9 (t)-6)-2 (es)-512 >>BDC -0.002 T

Other Staff: Some technical support for the labs and field trip will be provided by Mira Van Der Ley ([m.vanderley@unsw.edu.au](mailto:m.vanderley@unsw.edu.au)). David Edwards ([d.edwards@unsw.edu.au](mailto:d.edwards@unsw.edu.au)) will provide support during the course field trip and for the Field Trip Report.

Notices: Any notices relevant to the course will be announced and posted on the Course Moodle site on a regular basis. Each Friday I will send out a 'What's in Store in Week X' Moodle announcement. It is the responsibility of students to ensure that they are aware of due dates, timetables (and any changes therein).

Assistance: General enquiries should be directed to the Science Student Centre Nucleus Student Hub on Level 2 of the Library Building (Ph: 9385-6125) or lodge an online enquiry via [unsw.to/webforms](http://unsw.to/webforms) with your zID. Specific BEES course and program related enquiries will be re-directed to Faye Mo who is based in the School of BEES School Office on Level 5 D26. Students can email Faye directly if they wish to contact her ([faye.mo@unsw.edu.au](mailto:faye.mo@unsw.edu.au)). Queries relating specifically to the course should be directed to the Course Convenor, Professor Rob Brander.

### 3. Course Schedule

#### 3.1 Lectures

There are three (3) hours of lectures scheduled online per week:

Tuesday 11-12

Wednesday 11-12

Thursday 11-12

These will be mix of pre-recorded and live lectures. In general, the Tuesday and Wednesday lectures will be pre-recorded and the Thursday lectures will be live, but you will be notified in advance each week of the schedule. Please be aware that all of the lectures will be new (i.e. not recordings from previous years!).

ALL lectures will be given and recorded using Blackboard Collaborate and will be made available online on the Course Moodle page. All lecture powerpoints will also be made available to students on Moodle. Table 1 lists the lecture sequence by date and topic. However, this is a guide as changes to the timing and content of each topic may occur. Students will be advised of any changes to the timetable as soon as possible.

Please note that the learning requirements for the course (based on content taught prior to adoption of the Trimester system) does not require a full 10 weeks of 3 x lectures and 2 x labs per week. This means that lectures/labs are not scheduled for certain days – please refer to the Course Program in Table 1. Students may do independent study and revision during these times.

Table 1: GEOS 3731 Lecture and Lab Program

Week	Lecture	Lecture Topic	Lab Topic	Lab and Assessment Details
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1. Tues Feb 1

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### 3.2 Laboratory Classes

Most students are required to attend two (2) x 2 hour Lab classes per week between Weeks 1-10:

Tuesday 12-2	Teaching Lab 05 (Biological Sciences South – E26)
Wednesday 12-2	Teaching Lab 05 (Biological Sciences South – E26)
Online Only	Dedicated online session time to be announced.

Table 1 lists the sequence of Lab topics by Trimester Week and topic. Please note that Lab 8 (Wed Mar 10) involves walking from Bronte Beach to Bondi Beach. Lab 10 (Wed Mar 17) will be held at Coogee Beach. Both are weather permitting. If weather is not suitable, the Labs will be devoted to a Course Project Workshop. Online students are not required to take part in these labs and will not be assessed on any associated material.

It is an OHS requirement that all students wear closed shoes in Biological Sciences South E26 Teaching Lab 05.

Students will be given instructions about logistics of labs in the lectures and on the course Moodle internet site at least one week before the lab . It is the responsibility of students to make sure they receive and follow these instructions.

There is no lab manual for the course. All relevant documents will be provided on the course Moodle site or in lectures/labs as appropriate.

Students who are doing the Labs online will be able to work on the material presented in the labs independently online and a separate online information session will be arranged each week for these students to ask questions and receive more instruction.

### 3.3 Field Trip

A 3 day field trip to the Mid-North Coast, NSW region will take place at the end of Week 6 from Saturday March 27 to Monday March 29. We will be staying at the UNSW field station at Smiths Lake (Table 2).

Table 2: Dates and Key Times for Field Trip

Location	UNSW Departure	UNSW Return
UNSW Smiths Lake Field Station	9 am Saturday March 27	6 pm Monday March 29

The cost for this field trip will be \$120 per student and includes transport, accommodation and food (2 x breakfast, 2 x lunch, 2 x dinner + goodies).



Please note that there is a COVID restriction of 27 students who are allowed to stay at the Smiths Lake Field Station. A registration and payment link for the field trip will be made available on the course Moodle site in Week 3. Registration will be done on a first come, first serve basis (i.e. first 27 students to register). Payments must be made before you attend the field trip.

If you register and subsequently cannot attend the field trip for a valid reason, please notify Professor Brander as soon as possible as there may be a waiting list.

We would normally not run the field trip over a Monday during the trimester teaching period. However, these were the only dates available due to other usage at the Smiths Lake Field Station and the following weekend being the Easter Holidays.

If you will miss any commitments for other courses as a result of your attendance on the field trip you need to notify Professor Rob Brander as soon as possible so he can ensure you are not disadvantaged by this situation.

Any student not attending the field trip and will be given an alternate assessment of equal value to the Field Trip Report.

### 3.4 Attendance

You are encouraged to attend any of the 'live' online lectures as this provides an additional opportunity to interact with your lecturer and classmates. However, all lectures will be recorded and made available to you on the Course Moodle page.

Attendance in Lab classes (either face-to-face or online) is important as the Labs are the focus of much of the course assessment and involve group work.

Please note that all material in Lectures and Labs is assessable on the Exams. This includes any material given by guest lecturers.

Students that miss classes or assessment tasks due to ill health or other problems are advised to seek Special Consideration (see Section 4.2) and notify the Course Convenor as soon as possible.

The University expects that all students are available









- Haslett, S.K. (2000). *Coastal Systems*. Routledge, London.
- Komar, P. (1998). *Beach Processes and Sedimentation*. 2<sup>nd</sup> Edition. Prentice Hall.
- Masselink, G. and Hughes, M.G. (2003). *Introduction to Coastal Processes and Geomorphology*, Oxford University Press, London.
- Nordstrom, K. (2000). *Beaches and Dunes of Developed Coasts*. Cambridge University Press, UK.
- Short, A.D. (Ed.) (1999). *Handbook of Beach and Shoreface Morphodynamics*. John Wiley & Sons, New York.
- Short, A.D. – Beaches of the NSW, QLD, SA, WA etc. Coast Series – University of Sydney Press
- Short, A.D. and Woodroffe, C.D. (2009). *The Coast of Australia*. Cambridge University Press, New York.
- Woodroffe, C.D. (2003). *Coasts; form, process and evolution*. Cambridge University Press, Cambridge.

A simpler, but very good, overview of most of the material in this course is provided in my own book:

Brander, R.W. (2010). *Dr Rip's Essential Beach Book; everything you need to know about surf, sand and rips*. UNSW Press, Sydney.

It's now out of print, but is available as an ebook at <https://books.apple.com/au/book/dr-rips-essential-beach-book/id437395779>

### **Journal Papers**

As an upper level undergraduate you should be familiarizin 0 6 (ev)8.9 (el) EMC BT / Tc 0.00Tm [(<</MCI EM

*Sedimentology*

Some examples of ***coastal related conference proceedings*** include:

*Coastal Dynamics*

*Coastal Sediments*

*Proceedings of the International Coastal Symposium*

*International Conference on Coastal Engineering*

## 6. Academic Integrity, Referencing and Plagiarism

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 (Fishman, 2013). 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.

Every year at UNSW, many students are caught copying or cheating in various ways resulting either in severe penalty for the assignment in question or in automatic failure of a course. If you think we do not recognize copying and plagiarism in your work, please contact us. We will investigate and take appropriate action.

