COURSE OUTLINE

GEO201 Hydrology and Geomorphology

School: School of Science, Technology and Engineering

2026 | Trimester 1

UniSC Sunshine Coast UniSC Moreton Bay	BLENDED LEARNING	Most of your course is on campus but you may be able to do some components of this course online.
Online	ONLINE	You can do this course without coming onto campus, unless your program has specified a mandatory onsite requirement.

Please go to unisc.edu.au for up to date information on the teaching sessions and campuses where this course is usually offered.

1. What is this course about?

1.1. Description

This course will introduce you to the study of landscapes and the variability of, interactions between and impacts of hydrological and geomorphological processes and the methods and tools for measuring, monitoring, and modelling processes such as precipitation, runoff and discharge. You will collect, interpret and analyse data from field work and case studies of interactions between these processes and human society to evaluate implications for geohazards and potential impacts of climate change.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – Asynchronous online delivery of learning	1hr	Week 1	12 times
Tutorial/Workshop 1 – Synchronous and scheduled computer workshops	2hrs	Week 2	8 times
Tutorial/Workshop 2 – Synchronous and scheduled face to face tutorials	2hrs	Week 1	3 times
Fieldwork – Face to face fieldwork	4hrs	Week 6	Once Only
ONLINE			
Learning materials – Asynchronous online delivery of learning	1hr	Week 1	12 times
Tutorial/Workshop 1 – Synchronous and scheduled computer workshops	2hrs	Week 2	8 times
Tutorial/Workshop 2 – Synchronous and scheduled seminars	2hrs	Week 1	3 times
Fieldwork – Virtual Fieldwork (attendance at the physical fieldwork is encouraged if possible)	4hrs	Week 6	Once Only

1.3. Course Topics

- The hydrological cycle
- Surface and groundwater flow
- Fluvial geomorphology
- Water management
- Mass wasting and landslides
- Geomorphic hazards
- Climate change and evolution of landforms

2. What level is this course?

200 Level (Developing)

Building on and expanding the scope of introductory knowledge and skills, developing breadth or depth and applying knowledge and skills in a new context. May require pre-requisites where discipline specific introductory knowledge or skills is necessary. Normally, undertaken in the second or third full-time year of an undergraduate programs.

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

COURSE LEARNING OUTCOMES	GRADUATE QUALITIES MAPPING	PROFESSIONAL STANDARD MAPPING *
On successful completion of this course, you should be able to...	Completing these tasks successfully will contribute to you becoming...	Australian Learning & Teaching Council
1 Explain fundamental concepts of hydrology and geomorphology and apply them to different local and global contexts	Knowledgeable	1, 2
2 Use measuring methods and tools to collect data about hydrological and geomorphic processes	Engaged	3, 5
3 Interpret and analyse data to determine the impact and interactions between hydrological and geomorphic processes and natural hazards	Creative and critical thinker	3, 5
4 Search, select and critically review relevant academic information and communicate findings orally and/or in writing	Empowered	5, 6, 7

* Competencies by Professional Body

CODE	COMPETENCY
AUSTRALIAN LEARNING & TEACHING COUNCIL	
1	Knowing: Demonstrate a coherent geographical understanding of trends, processes and impacts that shape Australian and other environments and/or societies at different spatial and temporal scales.
2	Knowing: Demonstrate an understanding of Geography as an academic discipline, including awareness of its concepts, history and principal subfields, whilst acknowledging the contested, provisional and situated nature of geographical understanding.
3	Thinking: Apply geographical thought creatively, critically and appropriately to specific spaces, places and/or environments.
5	Investigating and problem solving: Resolve geographical questions by ethical means, applying evidence-based knowledge and appropriate research techniques, including those associated with field work.
6	Communicating: Communicate geographical perspectives and knowledge effectively to specialist and non-specialist audiences using appropriately selected written, oral and visual means.

CODE	COMPETENCY
7	Self-directing and collaborating: Contribute effectively as a member or leader of diverse teams working in geographical or multidisciplinary contexts

5. Am I eligible to enrol in this course?

Refer to the UniSC Glossary of terms for definitions of "pre-requisites, co-requisites and anti-requisites".

5.1. Pre-requisites

Not applicable

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

Not applicable

5.4. Specific assumed prior knowledge and skills (where applicable)

It is assumed you have basic geographical skills (such a map reading, interpreting, measurement, scales) and basic computer skills (e.g. simple analysis and graphing data with Excel)

5.5. Microcredential Information

Not applicable

6. How am I going to be assessed?

6.1. Grading Scale

Standard Grading (GRD)

High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL).

6.2. Details of early feedback on progress

Early feedback on the structure for Assessment product Task 2 report will be given during weeks 3 and 4.

6.3. Assessment tasks

DELIVERY MODE	TASK NO.	ASSESSMENT PRODUCT	INDIVIDUAL OR GROUP	WEIGHTING %	WHAT IS THE DURATION / LENGTH?	WHEN SHOULD I SUBMIT?	WHERE SHOULD I SUBMIT IT?
All	1	Artefact - Technical and Scientific, and Written Piece	Individual	20%	During computer workshops	Throughout teaching period (refer to Format)	Online Assignment Submission with plagiarism check
All	2	Report	Individual	35%	1,000 words	Week 7	Online Assignment Submission with plagiarism check
All	3	Oral and Written Piece	Group	45%	10 minutes per group / 2,000 words	Week 12	Online Assignment Submission with plagiarism check and in class

All - Assessment Task 1: Computer workshop artefacts

GOAL:	To develop your skills in applying knowledge of geomorphological and hydrological processes, and interpret and analyse data from real situations
PRODUCT:	Artefact - Technical and Scientific, and Written Piece
AUTHORSHIP STATEMENT:	
FORMAT:	During weeks 2, 3, 8, 9 and 10 you will be provided with reading material and exercises. At the end of these computer workshop you will submit a short report/complete an online quiz and submit via Canvas/Turnitin.

CRITERIA:

No.		Learning Outcome assessed
1	Demonstrate and apply theoretical and practical knowledge of fundamental concepts and hydrological and geomorphological processes, to local and global environmental contexts	1 2 3
2	Effectively use measuring methods and tools to process data in relation to hydrological and geomorphological processes.	2
3	Accurately interpret and analyse data	3

GENERIC SKILLS:	Communication, Problem solving, Applying technologies, Information literacy

All - Assessment Task 2: Catchment assessment

GOAL:	To characterise a selected catchment using hydrological and geomorphological concepts and analyse the impact of future climate change projections.
PRODUCT:	Report
AUTHORSHIP STATEMENT:	
FORMAT:	The brief report should synthesise concepts and present data (graphs and figures) from different sources in a clearly and concise writing style. The length should be a maximum 1,000 words and the structure should follow a conventional scientific report template.

CRITERIA:

No.		Learning Outcome assessed
1	Demonstrate and apply fundamental concepts of hydrology, geomorphology and climate modelling using a selected catchment.	1 2 3
2	Identification of appropriate literature (relevant, current, credible)	4
3	Demonstrate skills in problem definition, data analysis and modelling and critical discussion of results	3 4
4	Structure, clarity and presentation of the report	4

GENERIC SKILLS:	Communication, Problem solving, Applying technologies, Information literacy

All - Assessment Task 3: Field trip report

GOAL:	To present results obtained from fieldwork, including the methods, analysis and discussion of data/evidence collected and conclusions derived from the results
PRODUCT:	Oral and Written Piece
AUTHORSHIP STATEMENT:	
FORMAT:	A concise scientific report based on data collected by each group. The report should be around 2,000 words and written in the style of a manuscript for publication in the peer-reviewed literature, including a reference list, as well as tables and illustrations, as needed. Each group will also present the main findings during lecture. The oral presentations will be 10 minutes and reviewed by other students in combination with the course coordinator.

CRITERIA:

No.		Learning Outcome assessed
1	Application of theoretical and practical knowledge.	1
2	Use of measuring methods and tools to collect field data	2
3	Accurate interpretation and analysis of data to: i) describe the main geomorphic processes ii) determine the impacts iii) propose solutions and implications of the identified problem	3
4	Justification of evidence-based and sustainable strategies to manage future distributions	3
5	Communication, both orally and in structured writing, to informed audiences in a field report, using supporting scholarly sources and data.	4
6	Demonstration of collaboration and working well in a group	4
7	Quality of presentation, grammar and spelling	4

GENERIC SKILLS:	Communication, Collaboration, Problem solving, Organisation, Applying technologies, Information literacy

7. Directed study hours

A 12-unit course will have total of 150 learning hours which will include directed study hours (including online if required), self-directed learning and completion of assessable tasks. Student workload is calculated at 12.5 learning hours per one unit.

8. What resources do I need to undertake this course?

Please note: Course information, including specific information of recommended readings, learning activities, resources, weekly readings, etc. are available on the course Canvas site– Please log in as soon as possible.

8.1. Prescribed text(s) or course reader

You need regular access to the resource(s) below. Many texts are available as ebooks through the Library at no additional cost.

REQUIRED?	AUTHOR	YEAR	TITLE	EDITION	PUBLISHER
Recommended	Richard John Huggett	2016	Fundamentals of Geomorphology	4th ed.	Routledge
Recommended	Shroder, John F	2013	Treatise on Geomorphology	n/a	n/a
Recommended	Tim Davie	2019	Fundamentals of Hydrology	3rd ed	Routledge

8.2. Specific requirements

You will need access to a Windows-based computer for running climate modelling and GIS software.

Field work is a significant component for this course. You will be required to undertake field work (1 day, local site Sunshine Coast), where you will need to wear covered footwear, hat, long-sleeved shirt and long trousers for field safety. Detailed time, location and potential costs will be set out at the beginning of the trimester. Discuss any financial hardship that might be associated with the field studies with the Course Coordinator

9. How are risks managed in this course?

Risk assessments have been performed for all field activities and low to moderate levels of health and safety risk exists. Moderate risks may include working in an Australian bush setting, working with people, working outside normal office hours for example. It is your responsibility to review course material, search online, discuss with lecturers and peers and understand the health and safety risks associated with your specific course of study and to familiarise yourself with the University's general health and safety principles by reviewing the online induction training for students, and following the instructions of the University staff.

10. What administrative information is relevant to this course?

10.1. Assessment: Academic Integrity

Academic integrity is the ethical standard of university participation. It ensures that students graduate as a result of proving they are competent in their discipline. This is integral in maintaining the value of academic qualifications. Each industry has expectations and standards of the skills and knowledge within that discipline and these are reflected in assessment.

Academic integrity means that you do not engage in any activity that is considered to be academic fraud; including plagiarism, collusion or outsourcing any part of any assessment item to any other person. You are expected to be honest and ethical by completing all work yourself and indicating in your work which ideas and information were developed by you and which were taken from others. You cannot provide your assessment work to others. You are also expected to provide evidence of wide and critical reading, usually by using appropriate academic references.

In order to minimise incidents of academic fraud, this course may require that some of its assessment tasks, when submitted to Canvas, are electronically checked through Turnitin. This software allows for text comparisons to be made between your submitted assessment item and all other work to which Turnitin has access.

10.2. Assessment: Additional Requirements

Eligibility for Supplementary Assessment

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:
(a) The final mark is in the percentage range 47% to 49.4%; and
(b) The course is graded using the Standard Grading scale

Eligibility for Supplementary Assessment Your eligibility for supplementary assessment in a course is dependent of the following conditions applying: The final mark is in the percentage range 47% to 49.4% The course is graded using the Standard Grading scale You have not failed an assessment task in the course due to academic misconduct

10.3. Assessment: Submission penalties

Late submissions may be penalised up to and including the following maximum percentage of the assessment task's identified value, with weekdays and weekends included in the calculation of days late:
(a) One day: deduct 5%;
(b) Two days: deduct 10%;
(c) Three days: deduct 20%;
(d) Four days: deduct 40%;
(e) Five days: deduct 60%;
(f) Six days: deduct 80%;
(g) Seven days: A result of zero is awarded for the assessment task.

The following penalties will apply for a late submission for an online examination:
Less than 15 minutes: No penalty
From 15 minutes to 30 minutes: 20% penalty
More than 30 minutes: 100% penalty

10.4. Links to relevant University policy and procedures

For more information on Academic Learning & Teaching categories including:

- Assessment: Courses and Coursework Programs
- Review of Assessment and Final Grades
- Supplementary Assessment
- Central Examinations
- Deferred Examinations
- Student Conduct
- Students with a Disability

For more information, visit https://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching

10.5. Student Charter

UniSC is committed to excellence in teaching, research and engagement in an environment that is inclusive, inspiring, safe and respectful. The Student Charter sets out what students can expect from the University, and what in turn is expected of students, to achieve these outcomes.

10.6. General Enquiries

For course-specific questions, contact your teaching staff or Course Coordinator.

For other enquiries or to access support, please contact Student Central:

- UniSC Student Central
- UniSC Adelaide Student Central