



# GEOG19021 Geographic Information Systems

## Term 1 - 2022

Profile information current as at 19/04/2024 02:47 am

All details in this unit profile for GEOG19021 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

## General Information

### Overview

Geographic Information Systems (GIS) power decision making for a massive raft of Earth and human-system interactions in research, government and industry – far beyond the cartographic public face that is Google Maps. You will gain introductory practical skill in making electronic maps and analysing geographical data. You will explore key mapping concepts that underpin GIS, as well as practice some of the key map communication standards that are as important today as they were for Gerardus Mercator in the 16th century.

### Details

Career Level: *Undergraduate*

Unit Level: *Level 2*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

There are no requisites for this unit.

Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the [Assessment Policy and Procedure \(Higher Education Coursework\)](#).

### Offerings For Term 1 - 2022

- Online

### Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

### Website

[This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.](#)

## Class and Assessment Overview

### Recommended Student Time Commitment

Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

### Class Timetable

#### [Regional Campuses](#)

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

#### [Metropolitan Campuses](#)

Adelaide, Brisbane, Melbourne, Perth, Sydney

### Assessment Overview

#### 1. **Practical Assessment**

Weighting: 20%

#### 2. **Practical Assessment**

Weighting: 40%

#### 3. **Practical Assessment**

Weighting: 40%

### Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the [University's Grades and Results Policy](#) for more details of interim results and final grades.

## CQUniversity Policies

**All University policies are available on the [CQUniversity Policy site](#).**

You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the [CQUniversity Policy site](#).

## Previous Student Feedback

### Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

#### Feedback from Student satisfaction feedback 2021.

**Feedback**

Some more 'how to' explanatory videos.

**Recommendation**

The unit lead will craft some 'how to' ArcGIS Pro videos.

#### Feedback from Student satisfaction feedback 2021.

**Feedback**

The textbook taught version 2.6 of ArcGIS Pro but the CQU GIS is at version 2.7.

**Recommendation**

The unit lead will review the capacity to deprecate the CQU ArcGIS Pro license offering to students to match the version subject of the textbook.

#### Feedback from Student satisfaction feedback 2021.

**Feedback**

The unit is engaging and provides employment skills.

**Recommendation**

The unit lead will maintain the focus on employment skills quantified by the industry reference group.

## Unit Learning Outcomes

**On successful completion of this unit, you will be able to:**

1. Explain how earth measurement theory underpins the production of electronic maps
2. Replicate a range of GIS mapping operations using point, line, polygon and raster data samples
3. Reproduce GIS-based maps that meet cartographic theory, standards and practice
4. Solve introductory spatial analysis problems using GIS data management and manipulation functions.

Nil

## Alignment of Learning Outcomes, Assessment and Graduate Attributes



### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Practical Assessment - 20%	•			
2 - Practical Assessment - 40%		•		
3 - Practical Assessment - 40%			•	•

## Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
1 - Communication			•	
2 - Problem Solving		•	•	•
3 - Critical Thinking				•
4 - Information Literacy	•			
5 - Team Work				
6 - Information Technology Competence	•	•	•	
7 - Cross Cultural Competence				
8 - Ethical practice				
9 - Social Innovation				
10 - Aboriginal and Torres Strait Islander Cultures				

## Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Practical Assessment - 20%				•		•				
2 - Practical Assessment - 40%		•				•				
3 - Practical Assessment - 40%	•	•	•			•				

## Textbooks and Resources

### Textbooks

GEOG19021

#### Prescribed

##### Getting to Know ArcGIS Pro 2.6

Edition: (ebook available - and suitable) (2020)

Authors: Michael Law, Amy Collin

ESRIpress

ISBN: 9781589486355

Binding: Paperback

#### Additional Textbook Information

Paper copies can be purchased at the CQUni Bookshop. Search on the unit code here: <http://bookshop.cqu.edu.au>

[View textbooks at the CQUniversity Bookshop](#)

### IT Resources

#### You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- A personal computer with Microsoft Windows - ArcGIS does not run on Apple computers. Contact the unit lead if this constitutes a difficulty.
- ArcGIS-Pro - the unit lead will advise students how to access the CQU licensed ArcGIS-Pro.

## Referencing Style

All submissions for this unit must use the referencing style: [Harvard \(author-date\)](#)

For further information, see the Assessment Tasks.

## Teaching Contacts

**Michael Hewson** Unit Coordinator

[m.hewson@cqu.edu.au](mailto:m.hewson@cqu.edu.au)

## Schedule

### Week 1 - 07 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Introducing GIS	Selected maps, videos and readings will be made available supplementing the prescribed textbook learning activities for each of the following weeks.	

### Week 2 - 14 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
A first look at ArcGIS-Pro		

### Week 3 - 21 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Exploring geospatial relationships		

Week 4 - 28 Mar 2022		
Module/Topic	Chapter	Events and Submissions/Topic
Creating and editing spatial data		
Week 5 - 04 Apr 2022		
Module/Topic	Chapter	Events and Submissions/Topic
Facilitating workflows		<b>Mapping Practical #1</b> Due: Week 5 Monday (4 Apr 2022) 9:00 am AEST
Vacation Week - 11 Apr 2022		
Module/Topic	Chapter	Events and Submissions/Topic
Vacation week		
Week 6 - 18 Apr 2022		
Module/Topic	Chapter	Events and Submissions/Topic
Collaborative mapping		
Week 7 - 25 Apr 2022		
Module/Topic	Chapter	Events and Submissions/Topic
Geoenabling your project		
Week 8 - 02 May 2022		
Module/Topic	Chapter	Events and Submissions/Topic
Analysing spatial and temporal patterns		<b>Mapping Practical #2</b> Due: Week 8 Monday (2 May 2022) 9:00 am AEST
Week 9 - 09 May 2022		
Module/Topic	Chapter	Events and Submissions/Topic
Determining suitability		
Week 10 - 16 May 2022		
Module/Topic	Chapter	Events and Submissions/Topic
Presenting your project		
Week 11 - 23 May 2022		
Module/Topic	Chapter	Events and Submissions/Topic
Story telling with maps		
Week 12 - 30 May 2022		
Module/Topic	Chapter	Events and Submissions/Topic
GIS in the workplace		
Review/Exam Week - 06 Jun 2022		
Module/Topic	Chapter	Events and Submissions/Topic
		<b>Mapping Practical #3</b> Due: Review/Exam Week Monday (6 June 2022) 9:00 am AEST
Exam Week - 13 Jun 2022		
Module/Topic	Chapter	Events and Submissions/Topic

## Assessment Tasks

### 1 Mapping Practical #1

#### Assessment Type

Practical Assessment

**Task Description**

Submit Practical #1 on or before the due date, as one Microsoft Word file adding the maps and answering the questions as specified in the exercises of weeks 1, 2 and 3.

The Moodle site of each week contains the specific questions to answer and the particular map output to provide (note: instructions in week 2 advise how to 'export' a suitable map image for insertion into the Mapping Practical document). Submit Mapping Practical #1 in the Moodle Turnitin function when you have inserted the exercise answers/maps for all three weeks: 1, 2 and 3.

In the document identify the week and question number: i.e. a heading Week 1 Exercise 1 (etc.) is suitable.

**Assessment Due Date**

Week 5 Monday (4 Apr 2022) 9:00 am AEST

**Return Date to Students**

Week 7 Monday (25 Apr 2022)

Feedback returned via Moodle 'grade'.

**Weighting**

20%

**Assessment Criteria**

Mapping Practical #1 marking criteria:

- The degree of completeness and insightfulness of any written answer.
- Written answers conform generally to the word limit guidance.
- Paragraph/sentence/argument construction and readability of short answers.
- The degree a map demonstrates mastery of the unit learning material.
- The degree to which a map is readable and 'tells a story' – ensure the maps are sized so that the details can be read, particularly the details important to the story of the map. Select the appropriate 'zoom' level.
- The degree to which appropriate, balanced cartographic elements have been used in the map production (depending on, and appropriate to, the tuition of the week – later maps will require extensive marginalia and cartographic elements – details noted in the exercise specifications per week).
- 1 mark will be deducted every 24 hours the assessment is submitted later than the deadline (or approved extension via Moodle).

**Referencing Style**

- [Harvard \(author-date\)](#)

**Submission**

Online

**Submission Instructions**

Submit Practical #1 via the GEOG19021 Moodle site.

**Learning Outcomes Assessed**

- Explain how earth measurement theory underpins the production of electronic maps

**Graduate Attributes**

- Information Literacy
- Information Technology Competence

## 2 Mapping Practical #2

**Assessment Type**

Practical Assessment

**Task Description**

Submit Practical #2 on or before the due date, as one Microsoft Word file adding the maps and answering the questions as specified in the exercises of weeks 4, 5, 6, 7 and 8.

The Moodle site of each week contains the specific questions to answer and the particular map output to provide (note: instructions in week 2 advise how to 'export' a suitable map image for insertion into the Mapping Practical document). Submit Mapping Practical #2 in the Moodle Turnitin function when you have inserted the exercise answers/maps for all five weeks: 4 to 8.

In the document identify the week and question number: i.e. a heading Week 4 Exercise 1 (etc.) is suitable.

**Assessment Due Date**

Week 8 Monday (2 May 2022) 9:00 am AEST

**Return Date to Students**

Week 11 Monday (23 May 2022)

Feedback via Moodle 'grade'.

### **Weighting**

40%

### **Assessment Criteria**

Mapping Practical #1 marking criteria:

- The degree of completeness and insightfulness of any written answer.
- Written answers conform generally to the word limit guidance.
- Paragraph/sentence/argument construction and readability of short answers.
- The degree a map demonstrates mastery of the unit learning material.
- The degree to which a map is readable and 'tells a story' – ensure the maps are sized so that the details can be read, particularly the details important to the story of the map. Select the appropriate 'zoom' level.
- The degree to which appropriate, balanced cartographic elements have been used in the map production (depending on, and appropriate to, the tuition of the week – later maps will require extensive marginalia and cartographic elements – details noted in the exercise specifications per week).
- 1 mark will be deducted every 24 hours the assessment is submitted later than the deadline (or approved extension via Moodle).

### **Referencing Style**

- [Harvard \(author-date\)](#)

### **Submission**

Online

### **Submission Instructions**

Submit Practical #2 via the GEOG19021 Moodle site.

### **Learning Outcomes Assessed**

- Replicate a range of GIS mapping operations using point, line, polygon and raster data samples

### **Graduate Attributes**

- Problem Solving
- Information Technology Competence

## **3 Mapping Practical #3**

### **Assessment Type**

Practical Assessment

### **Task Description**

Submit Practical #3 on or before the due date, as one Microsoft Word file adding the maps and answering the questions as specified in the exercises of weeks 9 and 10 and the major mapping project (specified in week 10).

The Moodle site of each week contains the specific questions to answer and the particular map output to provide (note: instructions in week 2 advise how to 'export' a suitable map image for insertion into the Mapping Practical document). Submit Mapping Practical #3 in the Moodle Turnitin function when you have inserted the exercise answers/maps for weeks: 9, 10 and the mapping project. Note that week 11 and week 12 are set aside for working on the mapping project. In the document identify the week and question number: i.e. a heading Week 9 Exercise 1 (etc.) is suitable.

### **Assessment Due Date**

Review/Exam Week Monday (6 June 2022) 9:00 am AEST

### **Return Date to Students**

Exam Week Monday (13 June 2022)

Feedback via Moodle 'grades'.

### **Weighting**

40%

### **Assessment Criteria**

Mapping Practical #3 marking criteria:

- The degree of completeness and insightfulness of any written answer.
- Written answers conform generally to the word limit guidance.
- Paragraph/sentence/argument construction and readability of short answers.
- The degree a map demonstrates mastery of the unit learning material.
- The degree to which a map is readable and 'tells a story' – ensure the maps are sized so that the details can be read, particularly the details important to the story of the map. Select the appropriate 'zoom' level.
- The degree to which appropriate, balanced cartographic elements have been used in the map production (depending on, and appropriate to, the tuition of the week – later maps will require extensive marginalia and cartographic elements – details noted in the exercise specifications per week).
- 1 mark will be deducted every 24 hours the assessment is submitted later than the deadline (or approved extension via Moodle).

### **Referencing Style**

- [Harvard \(author-date\)](#)

### **Submission**

Online

### **Submission Instructions**

Submit Practical #3 via the GEOG19021 Moodle site.

### **Learning Outcomes Assessed**

- Reproduce GIS-based maps that meet cartographic theory, standards and practice
- Solve introductory spatial analysis problems using GIS data management and manipulation functions.

### **Graduate Attributes**

- Communication
- Problem Solving
- Critical Thinking
- Information Technology Competence

## Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the [Student Academic Integrity Policy and Procedure](#). This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

### What is a breach of academic integrity?

A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

### Why is academic integrity important?

A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

### Where can I get assistance?

For academic advice and guidance, the [Academic Learning Centre \(ALC\)](#) can support you in becoming confident in completing assessments with integrity and of high standard.

### What can you do to act with integrity?



#### Be Honest

If your assessment task is done by someone else, it would be dishonest of you to claim it as your own



#### Seek Help

If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)



#### Produce Original Work

Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem