



UNSW
SYDNEY

Australia's
Global
University

Built Environment

BENV7728
Geographical Information Systems
and Urban Informatics



Disclaimer

Information within this document is subject to change. The full and most accurate course outline will be available in Moodle closer to the start of the term in which the course is offered.

1. COURSE STAFF

Course Contact	Christopher Pettit
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2. COURSE DETAILS

Credit Points	6 units of credit (uoc)
Workload	Approx. 150 hours including class contact hours, weekly individual and group online learning activities, readings, class preparation, and assessment activities.
Teaching Times and Location	Find details in timetable http://www.timetable.unsw.edu.au

Description

An introduction to Geographical Information Systems (GIS) and their applications in urban studies, planning, public management, public health, environment planning, and business contexts. A solid understanding of fundamental concepts, principles, and functions of GIS, and of types of spatial data, their entry, analysis and display into a GIS. Overview of technical and institutional issues in GIS development. Teaching will involve lectures and computer laboratories.

Aims

This course provides students with an introduction to the principles and application of geographical information systems (GIS) and how these techniques can be critical in supporting and informing urban planners' decision-making. This unit takes a problem and application-based approach to introducing the student to the basics of Geographic Information Systems. The course aims to provide students with an understanding of the core concepts underpinning the input, management, analysis and representation of spatial data through GIS, in the context of urban planning. This unit will demonstrate the use of GIS beyond its

mapping role towards urban informatics, 'smart city' applications, and to tools which foster more participatory and collaborative planning practice with visualisation. A series of tutorials and tools are used to enable students to explore the potential use of spatial data and GIS tools. This course also explores the breadth of data available to urban policy-makers, using recently completed platforms such as the National Map, AURIN and other resources. Students will have access to innovative, nationwide spatial datasets: Australian cities and Sydney will be our laboratory, but international perspectives will be drawn upon. Students will have access to new tutorials using open source QGIS and other supplementary resources. Students will develop a suitable level of proficiency in the application of the technology to an array of spatial problems. General topics include a solid understanding of the importance of spatial data, data layers, functions of GIS, spatial models, spatial analysis, and sharing to the web environment (using map stories).

Course Learning Outcomes (CLOs)

At the successful completion of this course, you will be able to:

1. Demonstrate and understand the nature of GIS and the functional components of GIS in the context of urban planning;
2. Use GIS software (QGIS) for spatial information management and presentation;
3. Gain practical knowledge that students will be able to apply on a real case study; and
4. Publish GIS data to a web environment (e.g., ArcGIS Online, CartoDB, Story Maps).

3. ASSESSMENT

Assessment task	Weight	CLOs Assessed
1. Visualise cycling data from the Greenway (Individual)	20%	1, 2, 3
2. Site Analysis of a nominated precinct in the city of Blacktown (Individual)	40%	1, 2, 3
3. Create a design layout for a sustainable precinct in Map Story (Group)	40%	1, 2, 3, 4

4. COURSE IMPROVEMENT AND FEEDBACK

Feedback from students is an integral part of improving courses and teaching approaches. One of the primary mechanisms of feedback is myExperience, which we strongly urge all students to complete at the end of term. Course convenors use the feedback to make ongoing improvements to the course. This is communicated in Moodle in the myFeedback Matters page.