UNSW SYDNEY | Australia's Global University

Built Environment

PLAN2002

Geographical Information System and Urban Informatics

Course Outline – Term 1, 2020

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

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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

This course deals with Geographical Information Systems (GIS) and their applications in urban studies, public management, and environment planning contexts. It recognises that major developments have occurred across these areas that are important for careers in government, planning, business, public works and other types of organisations. The course focuses on the principles and concepts of GIS and spatial data analysis to provide students with the conceptual and practical skills and knowledge to utilise relevant technical tools for data analysis, spatial mapping and data visualisation. The course will teach students how to access meta-databases (AURIN) and use open source GIS software. Through the learning of this software students will begin to see the connection between concepts-data-tools-visualisation. 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 and data layers, components and functions of GIS, and of types of spatial data models and databases, their entry, analysis, manipulation and display into a GIS.

Aims

The aims of GIS and Urban Informatics is to provide students with the disciplinary skills and knowledge to identify suitable applications of GIS to critically analyse urban planning problems, develop solutions and visually present findings of spatial issues. GIS and Urban Informatics aims to strengthen the conceptual and practical skills of planning students and provide them with the knowledge of and capacity to utilise relevant technical tools for data analysis, spatial mapping and data visualisation.

The key aims of this course are:

1. To provide an appreciation of the value of GIS for the analysis and solution of spatial problems;
2. To help develop students in their critical thinking through further development in numeracy, the handling and management of large spatial data sets and critical problem solving;
3. Provide an appreciation of the importance of key concepts and principals that underlie a GIS and spatial data sets;
4. To introduce the open source tools and the methods available within GIS for problem solving within the urban planning context;
5. To introduce students to a range of large-scale spatial data available for GIS analysis;
6. To develop in students the ability to visualise data and to communicate with map; and
7. To utilise existing and self-created data sets including demographic databases, raster and vector files for spatial analysis.

Course Learning Outcomes (CLOs)

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

1. Understand the basic principles and value of GIS and spatial data sets and their application in addressing spatial problems;
2. Demonstrate the application of tools and methods available within GIS for problem solving within the urban planning context to facilitate the decision-making process;
3. Identify and understand the range of open source data available for spatial analysis and determine spatial meaning of data through various tools, techniques and open source applications;
4. Develop necessary critical and analytical skills for the presentation and visualisation of spatial data; and
5. Manipulate, analyse and manage spatial data with precision.

3. ASSESSMENT

Assessment task	Weight	CLOs Assessed
1. Report – Project inception report	20%	1, 2, 3
2. Project – Final project report	40%	1, 2, 3, 4, 5
3. Examination – Final Exam	40%	1, 2, 3, 4, 5

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.