



The University of Southern Queensland

## Course specification

The current and official versions of the course specifications are available on the web at  
<<http://www.usq.edu.au/coursespecification/current>>.  
Please consult the web for updates that may occur during the year.

### Description: Web Based Geographic Information System

Subject	Cat-nbr	Term	Mode	Units	Campus
GIS	4407	2, 2010	EXT	1	Toowoomba

<b>Academic group:</b>	FOENS
<b>Academic org:</b>	FOES05
<b>Student contribution band:</b>	2
<b>ASCED code:</b>	031103

### STAFFING

Examiner: Badri Basnet  
Moderator: Armando Apan

### REQUISITES

Pre-requisite: GIS1402 or Students must be enrolled in one of the following Programs: GCGS or GDGS or MSST or GCNS or GCST or GDNS or MENS

### RATIONALE

The growing capability of the Internet, World Wide Web and Geographic Information System (GIS) has created a demand for Web based applications of GIS. This course focuses on the conceptual and practical aspects of developing Web based GIS applications.

### SYNOPSIS

The course covers the fundamental concepts of developing a Web based GIS system. It deals with the theories and principles behind Web based GIS development including Web mapping, distributed systems and client/server computing, Web interface design, networking fundamentals, geographic mark-up language, service and security in Web based GIS, Web mapping software and Web based GIS applications.

### OBJECTIVES

On completion of this course, students should be able to:

1. understand basic Web mapping concept;
2. conceptualise distributed information systems and client/server computing;
3. evaluate Web interface design processes and requirements;
4. comprehend network and networking environment;
5. understand basics of Geographic Mark-up Language;
6. appraise performance and security issues related to Web based GIS;
7. identify current Web mapping software development trend;
8. visualise different types of Web based GIS applications.

## TOPICS

	Description	Weighting (%)
1.	Web mapping: evolution, definitions and concepts	15.00
2.	Introduction to distributed systems and client/server computing	15.00
3.	Web interface design	15.00
4.	Networking fundamentals of Web GIS	15.00
5.	Geographic markup language	10.00
6.	Quality of service and security in Web based GIS	10.00
7.	Web mapping, software	10.00
8.	Web based GIS applications	10.00

## TEXT and MATERIALS required to be PURCHASED or ACCESSED

ALL textbooks and materials are available for purchase from USQ BOOKSHOP (unless otherwise stated). Orders may be placed via secure internet, free fax 1800642453, phone 07 46312742 (within Australia), or mail. Overseas students should fax +61 7 46311743, or phone +61 7 46312742. For costs, further details, and internet ordering, use the 'Textbook Search' facility at <http://bookshop.usq.edu.au> click 'Semester', then enter your 'Course Code' (no spaces).

## REFERENCE MATERIALS

Reference materials are materials that, if accessed by students, may improve their knowledge and understanding of the material in the course and enrich their learning experience.

Mitchell, T2005, *Web mapping illustrated*, O'Reilly Media Inc. Sebastopol.

(Also available electronically through library catalogue via Safari Books)

Peng, Zhong-Ren & Tsou, MH2003, *Internet GIS - distributed geographic information service for the internet and wireless networks*, John Wiley & Sons, Inc,

## STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Assignments	50.00
Directed Study	52.00
Examinations	2.00
Private Study	51.00

## ASSESSMENT DETAILS

Description	Marks out of	Wtg (%)	Due date	Objectives assessed	Graduate skill	Level assessed
ASSIGNMENT	200	20	10 Sep 2010	All		
QUIZ	100	10	22 Oct 2010	All		
2 HOUR CLOSED EXAMINATION	700	70	END S2 (see note 1)	All		

### NOTES

1. Students will be advised of the date of final examination.

## IMPORTANT ASSESSMENT INFORMATION

- 1 Attendance requirements:  
There are no attendance requirements for this course. However, it is the students' responsibility to study all material provided to them or required to be accessed by them to maximise their chance of meeting the objectives of the course and to be informed of course-related activities and administration.
- 2 Requirements for students to complete each assessment item satisfactorily:  
To complete each of the assessment items satisfactorily, students must obtain at least 50% of the marks available (or at least a grade of C-).
- 3 Penalties for late submission of required work:  
If students submit assignments after the due date without extenuating circumstances then a penalty of 5% of the assigned mark may apply for each working day late up to a maximum of ten working days at which time a mark of zero can be recorded for that assignment.
- 4 Requirements for student to be awarded a passing grade in the course:  
To be assured of receiving a passing grade in a course a student must obtain at least 50% of the total weighted marks for the course.
- 5 Method used to combine assessment results to attain final grade:  
The final grades for students will be assigned on the basis of the weighted aggregate of the marks (or grades) obtained for each of the summative assessment items in the course.
- 6 Examination information:  
In a Closed Examination, candidates are allowed to bring only writing and drawing instruments into the examination.
- 7 Examination period when Deferred/Supplementary examinations will be held:  
Any Deferred or Supplementary examinations for this course will be held during the examination period at the end of the semester of the next offering of this course.
- 8 University Student Policies:  
Students should read the USQ policies Definitions, Assessment and Student Academic Misconduct to avoid actions which might contravene University policies and practices. These policies can be found at the URL  
[http://policy.usq.edu.au/portal/custom/search/category/usq\\_document\\_policy\\_type/Student.1.html](http://policy.usq.edu.au/portal/custom/search/category/usq_document_policy_type/Student.1.html).

## ASSESSMENT NOTES

- 1 The due date for an assignment is the date by which a student must despatch the assignment to USQ. The onus is on the student to provide proof of the dispatch date, if requested by the Examiner.

- 2 Students must retain a copy of each item submitted for assessment. This must be despatched to USQ within 24 hours if required by the Examiner.
- 3 In accordance with University's Assignment Extension Policy (Regulation 5.6.1), the Examiner of a course may grant an extension of the due date of an assignment in extenuating circumstances.
- 4 The usual method of assessment submission for the Faculty is by written, typed or printed paper-based media (i) submitted to the Faculty Office for students enrolled in the course in the on-campus mode, or (ii) mailed to the USQ for students enrolled in the course in the external mode. The due date for the assessment is the date by which a student must (i) submit the assessment for students enrolled in the on-campus mode, or (ii) mail the assessment for students enrolled in the external mode.
- 5 The Faculty will NOT normally accept submission of assessments by facsimile or email.
- 6 If electronic submission of assessments is specified for the course, students will be notified of this in the course Introductory Book and on the USQ Study Desk. All required electronic submission must be made through the Assignment Drop Box located on the USQ Study Desk for the course, unless directed otherwise by the examiner of the course. The due date for an electronically submitted assessment is the date by which a student must electronically submit the assignment.
- 7 Students who do not have regular access to postal services for the submission of paper-based assessments, or regular access to Internet services for electronic submission, or are otherwise disadvantaged by these regulations may be given special consideration. They should contact the examiner of the course to negotiate such special arrangements prior to the submission date.
- 8 Students who have undertaken all of the required assessments in a course but who have failed to meet some of the specified objectives of a course within the normally prescribed time may be awarded one of the temporary grades: IM (Incomplete - Supplementary Examination and Make-up). A temporary grade will only be awarded when, in the opinion of the Examiner, a student will be able to achieve the remaining objectives of the course after a period of non directed personal study.
- 9 Students who, for medical, family/personal, or employment-related reasons, are unable to complete an assignment or to sit for an examination at the scheduled time may apply to defer an assessment in a course. Such a request must be accompanied by appropriate supporting documentation. The following temporary grade may be awarded: IDM (Incomplete Deferred Make-up).
- 10 Harvard (AGPS) is the referencing system required in this course. Students should use Harvard (AGPS) style in their assignments to format details of the information sources they have cited in their work. The Harvard (AGPS) style to be used is defined by the USQ Library's referencing guide. <http://www.usq.edu.au/library/help/referencing/default.htm>

## **EVALUATION AND BENCHMARKING**

In meeting the University's aims to establish quality learning and teaching for all programs, this course monitors and ensures quality assurance and improvements in at least two ways. This course:

1. conforms to the USQ Policy on Evaluation of Teaching, Courses and Programs to ensure ongoing monitoring and systematic improvement.
2. forms part of the Bachelor of Spatial Science and is benchmarked against the internal USQ accreditation/reaccreditation processes which include (i) stringent standards in the independent accreditation of its academic programs, (ii) close integration between business and academic planning, and (iii) regular and rigorous review; and professional accreditation standards of the Surveyors Board of Queensland.

## **OTHER REQUIREMENTS**

- 1 Students must have internet access with minimum connection speed of 56kbps (preferably ADSL) to access web materials related to the course as well as e-mail and UConnect.
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