



The University of Southern Queensland

Course specification

Description: Web Based Geographic Information System						
Subject	Cat-nbr	Class	Term	Mode	Units	Campus
GIS	4407	55186	2, 2006	EXT	1.00	Toowoomba

Academic group:	FOENS
Academic org:	FOES05
Student contribution band:	2
ASCED code:	031103

STAFFING

Examiner: Badri Basnet
Moderator: Armando Apan

REQUISITES

Pre-requisite: GIS1402

RATIONALE

There is a need to integrate spatio-temporal data from various organisations to provide an analytical and support system for participants across the community. The growing capability of the Internet and mobile GIS facilities has created a demand for applications that use geographic information systems (GIS). Development applications for the Internet demands a correct choice between system design, architecture and technologies. The course will focus on the conceptual and practical application aspects of developing internet and mobile based GIS applications.

SYNOPSIS

The course covers the fundamental concepts of developing a web based GIS system. It also discusses the concepts of computer networking and system architecture, design, hardware, and software, an understanding of which is vital to building a successful web based GIS. The study materials will focus on the theories and principles behind Internet mapping, including distributed component technologies, graphic designs, and network communications. Students will focus on the practical applications and learn how to design and publish web maps.

OBJECTIVES

On completion of this course students will be able to:

1. appraise the basic concepts and the technological foundations of web based GIS;
2. employ web interface design and the technology used to encode/transport geospatial data over the Internet;
3. use commonly used web based GIS software programs;
4. evaluate the quality and security issues in web based GIS;
5. evaluate the various applications and the future trends of web based GIS.

TOPICS

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

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).

Peng, Zhong-Ren & Tsou, MH 2003, *Internet GIS - distributed geographic information service for the internet and wireless networks*, John Wiley & Sons, Inc,

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.

DeMers, MN 2000, *Fundamentals of Geographic Information Systems*, John Wiley and Sons, New York.

Peng, Z and Tsou, M 2003, *Internet GIS Distributed Geographic Information Services for the Internet and Wireless Network*, John Wiley and Sons, New York.

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Directed Study	35.00
Examinations	3.00
Laboratory or Practical Classes	26.00
Lectures	26.00
Private Study	50.00

ASSESSMENT DETAILS

Description	Marks out of	Wtg(%)	Due date
ASSIGNMENT 1	250.00	25.00	01 Sep 2006
ASSIGNMENT 2	250.00	25.00	16 Oct 2006
3 HOUR CLOSED EXAMINATION	500.00	50.00	END S2 (see note 1)

NOTES

1. Students will be advised of the due date when each assessment item is issued.

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-) for each assessment item.
- 3 Penalties for late submission of required work:
If students submit assessments after the due date without prior approval, then a penalty of 20% of the total marks available for the assignment will apply for each working day late.
- 4 Requirements for student to be awarded a passing grade in the course:
To be assured for receiving a passing grade, a student must achieve at least 45% in each of the summative assessments and at least 50% of the available weighted marks for the summative assessment items.
- 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 Regulations:
Students should read USQ Regulations 5.1 Definitions, 5.6 Assessment, and 5.10 Academic Misconduct for further information and to avoid actions which might contravene University Regulations. These regulations can be found at the URL: <http://www.usq.edu.au/SECARIAT/calendar/Part5/> or in the online USQ Handbook.

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 Faculty will normally only accept assessments that have been written, typed or printed on paper-based media.
- 5 The Faculty will NOT accept submission of assignments by facsimile.
- 6 Students who do not have regular access to postal services or who are otherwise disadvantaged by these regulations may be given special consideration. They should contact the Examiner of the course to negotiate such special arrangements.
- 7 In the event that a due date for an assignment falls on a local public holiday in their area, such as a Show holiday, the due date for the assignment will be the next day. Students are to note on the assignment cover the date of the public holiday for the Examiner's convenience.
- 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).

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 USQConnect.
-