



The University of Southern Queensland

Course Specification

Description: Geographic Information Systems

Subject	Cat-Nbr	Class	Term	Mode	Units	Campus
GIS	1402	11126	1, 2002	EXT	1.00	TWMBBA

Academic Group:	FOENS
Academic Org:	FOES05
HECS Band:	2
ASCED Code:	031199

STAFFING

Examiner: Armando Apan

Moderator: Frank Young

RATIONALE

This course is designed to provide students with a broad understanding of the capabilities and potential applications of geographic information systems. The theory of the course will be supported by the practical application of geographic information systems software.

SYNOPSIS

The course will cover the basic concepts and principles of geographic information systems including land information systems, facilities management systems and natural resource information systems. Topics to be covered include components of GIS, data structures and formats, hardware, software, spatial reference frameworks, analysis techniques, data capture and management, and applications to resource and environmental management.

OBJECTIVES

On successful completion of this course students will be able to:

- Understand the concepts of spatial and geographic information systems.
- Be aware of the applications of GIS to a wide range of circumstances and understand the potential of GIS for information management and analysis.
- Have a basic familiarity with GIS software systems.
- Be capable of preparing an initial design and identifying the information requirements for a geographic information system.

TOPICS

Description	Weighting (%)
1. Concepts of information systems and information management.	5.00
2. Management of spatial information and sources of GIS data.	10.00
3. Hardware and software components of GIS.	10.00
4. Capture and conversion of spatial data for a GIS.	10.00
5. Analysis and modelling techniques using geographic information systems.	10.00
6. Preparation of products from GIS output, cartographic elements of map.	10.00
7. Availability of spatial data, data quality, assessment of data accuracy.	10.00
8. Interpolation of spatial data, classification of geographical data sets.	10.00
9. Designing and managing a geographic information system, choosing a GIS.	10.00
10. Advances in information system technology, decision support system and expert systems.	5.00
11. Applications of GIS to land administration, natural resource and environmental management.	10.00

TEXT and MATERIALS required to be PURCHASED or ACCESSED:

Books can be ordered by fax or telephone. For costs and further details use the 'Book Search' facility at <http://bookshop.usq.edu.au> by entering the author or title of the text.

TNTLite software (in CD-ROM), needs to be purchased from the USQ Bookshop. (Purchasing TNTLite is not necessary if you have access to this software or have already purchased one for other courses).

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.

Bernhardsen T *Geographic Information Systems*, Viak IT/Norwegian Mapping Authority, 1999.

Burrough P A *Principles of Geographical Information Systems for Land Resources Assessment*, Claredon Press, 1986.

Burrough P A and McDonnell R A *Principles of Geographical Information Systems*, Oxford University Press, 1998.

Clarke K C *Getting Started with Geographic Information Systems*, Prentice Hall, 1999.

DeMers M N *Fundamentals of Geographic Information Systems*, John Wiley and Sons, 2000.

Huxhold W E A *Introduction to Urban Geographic Information Systems*, Oxford Press, 1990.

Juppenlatz M and Tian X *Geographic Information Systems and Remote Sensing*, McGraw Hill, 1996.

Korte G B *The GIS Book*, Onword Press, 1997.

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Assessment	50
Directed Study	52
Examinations	3
Private Study	50

ASSESSMENT DETAILS

Description	Marks Out of	Wtg(%)	Required	Due Date
GIS ASSIGNMENT 1	200.00	20.00	Y	04 Mar 2002 (see note 1)
GIS ASSIGNMENT 2	200.00	20.00	Y	04 Mar 2002 (see note 2)
3 HOUR CLOSED EXAMINATION	600.00	60.00	Y	END S1 (see note 3)

NOTES:

1. Further details about the due dates are detailed in the assessment section of the Course Specifications.
2. Further details about the due dates are detailed in the assessment section of the Course Specifications.
3. Further details about the due dates are detailed in the assessment section of the Course Specifications.

OTHER REQUIREMENTS

- 1 To receive a passing grade in this course a student must normally achieve at least 45% in each of the assessments and at least 50% of the available marks for the course.
- 2 A minimum standard of communication skills must be demonstrated in order for a passing grade to be achieved.
- 3 The due date for an assignment is the date by which a student must submit the assignment to the USQ. The onus is on the student to provide proof of the submit date, if requested by the Examiner.
- 4 Students must retain a copy of each item submitted for assessment. This must be produced within five days if required by the Examiner.

- 5 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.
- 6 If students submit assignments after the due date without prior approval then a
penalty of up to 20% of the total marks for the assignment will apply for each
working day late.
- 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 The Faculty of Engineering and Surveying will NOT accept submission of hand
written or typed assignments by facsimile, e- mail or computer diskette. Students
in remote locations who do not have regular access to postal services may be given
special consideration.
- 9 The final grades for students will be assigned on the basis of the aggregate of the
marks obtained for each of the assessments in the course.
- 10 A closed examination is an examination where the candidates are allowed to bring
only writing and drawing instruments into the examination.
- 11 The Faculty of Engineering and Surveying does not offer supplementary
examinations.
- 12 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 the temporary grade: IM (Incomplete - Make up).
An IM 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.
- 13 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. One of the following temporary grades
may be awarded IDS (Incomplete - Deferred Examination; IDM (Incomplete
Deferred Make-up; IDSM (Incomplete Deferred Examination and Make-up).
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