



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: Automated Surveying Systems

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
SVY	2301	86538	1, 2009	ONC	1.00	Toowoomba

Academic group:	FOENS
Academic org:	FOES05
Student contribution band:	2
ASCED code:	031101

STAFFING

Examiner: Kevin McDougall
Moderator: Glenn Campbell

REQUISITES

Pre-requisite: SVY1104

SYNOPSIS

Today's surveying graduate needs skills in the use and application of electronic field equipment in particular, total stations and hand held data recorders. They also need the ability to be able to utilise computer software to process this data for design and plan production purposes. This course introduces the student to a variety of electronic total stations and data recorders and develops their skills in the use of this equipment in a practical field situation. Instruction is also given in the use of relevant computer hardware and software packages associated with data processing. The methodology of automated field surveying is also discussed.

OBJECTIVES

The course objectives define the student learning outcomes for a course. On completion of this course, students should be able to:

1. use a survey total station and electronic data recorder in a practical field situation;
2. understand and use the concepts of field codes, point numbers, strings and breaklines to code a field survey;
3. understand the meaning and use of digital terrain modelling and its associated triangulation;
4. demonstrate a knowledge of hardware interfacing to enable data transfer between devices;
5. demonstrate an in depth knowledge of at least one PC based surveying software package by completing projects;
6. understand the procedures for testing and calibrating surveying total stations;
7. use software to produce hard copy output;
8. describe the stages in planning a detail survey; and
9. understand and discuss the legality of electronically produced survey records.

TOPICS

Description	Weighting (%)
1. Introduction to automated surveying systems	5.00
2. Electronic Total Stations and Electronic Levels	15.00
3. Developments in Automated Surveying Systems	5.00
4. Field Coding Systems	10.00
5. Electronic Data Recording	10.00
6. Data Reduction and Processing	20.00
7. Computers and Communication	5.00
8. Software Systems	10.00
9. Output of Plans	5.00
10. Job Planning, Progress and Quality Assurance	10.00
11. Examples of Case Studies	5.00

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).

SVY2301 Automated surveying systems: external study package, University of Southern Queensland, Toowoomba.

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.

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Examinations	2.00
Laboratory or Practical Classes	32.00
Lectures	20.00
Private Study	64.00
Report Writing	37.00

ASSESSMENT DETAILS

Description	Marks out of	Wtg (%)	Due date
ASSIGNMENT 1	100.00	10.00	03 Apr 2009 (see note 1)
ASSIGNMENT 2	100.00	10.00	15 May 2009 (see note 2)
ASSIGNMENT 3	200.00	20.00	05 Jun 2009 (see note 3)
2 HOUR CLOSED EXAMINATION	600.00	60.00	END S1 (see note 4)

NOTES

1. Assignment 1 may address all course objectives.
2. Assignment 2 may address all course objectives.
3. Assignment 3 may address all course objectives.
4. The examination may address all course objectives. Student Administration will advise students of the dates of their examinations during the semester.

IMPORTANT ASSESSMENT INFORMATION

- 1 Attendance requirements:
It is the students' responsibility to attend and participate appropriately in all activities (such as lectures, tutorials, laboratories and practical work) scheduled for them, and 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 satisfactorily complete an assessment item a student must achieve at least 50% of the marks or a grade of at least C-. Students do not have to satisfactorily complete each assessment item to be awarded a passing grade in this course. Refer to Statement 4 below for the requirements to receive a passing grade in this course.
- 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 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/corporateservices/calendar/part5.htm> or in the current USQ Handbook.

ASSESSMENT NOTES

- 1 The due date for an assignment is the date by which a student must despatch the assignment to the USQ. The onus is on the student to provide proof of the despatch date, if requested by the Examiner.
- 2 Students must retain a copy of each item submitted for assessment. This must be produced within five days 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 - Make up), IS (Incomplete - Supplementary Examination) or ISM (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. One of the following temporary grades may be awarded IDS (Incomplete - Deferred Examination; IDM (Incomplete Deferred Make-up); IDB (Incomplete - Both Deferred Examination and Deferred Make-up).
- 10 This is a communication benchmark course and a major component of the assessment of this course will be associated with the demonstration of communication skills.

OTHER REQUIREMENTS

- 1 Students will require access to e-mail and internet access to USQConnect for this course.
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