



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: Mathematics Tertiary Preparation Program Level C

| Subject | Cat-nbr | Class | Term    | Mode | Units | Campus    |
|---------|---------|-------|---------|------|-------|-----------|
| TPP     | 7183    | 87496 | 1, 2009 | ONC  | 1.00  | Toowoomba |

|                                   |        |
|-----------------------------------|--------|
| <b>Academic group:</b>            | ELEPC  |
| <b>Academic org:</b>              | ELEPC  |
| <b>Student contribution band:</b> | 2      |
| <b>ASCED code:</b>                | 010199 |

### STAFFING

Examiner: Clare Robinson  
Moderator: Peter Van Vuuren

### REQUISITES

Pre-requisite: TPP7182

### RATIONALE

Students who intend to enrol in Science (other than Psychology and Mathematics), Bachelor of Technology, Engineering, Surveying, Bachelor of Information Technology (Applied Computer Science, Networking, Software Engineering and Associate Degrees of Engineering, Surveying, Mathematics and Computing, will be required to complete this course. This preparatory mathematics course is designed to provide students with the basic mathematical competencies for these tertiary studies.

### SYNOPSIS

Using the concepts of self-paced instruction and mastery learning, the course guides students through a carefully sequenced series of topics which will provide the foundation for understanding the mathematics that will be encountered in their tertiary study. The self-paced structure of the course allows students to work through the material at a pace suitable to their needs, permitting them to work quickly through familiar material, as well as allowing the opportunity to seek additional assistance in areas of uncertainty. The mastery approach will ensure that they successfully achieve the objectives of each topic before progressing to the next topic, which will build further on the earlier material.

### OBJECTIVES

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

1. demonstrate the application of higher order thinking skills necessary for the successful learning of mathematics at a higher level;

2. demonstrate ability to interpret and solve complex mathematical problems within the topics of this course;
3. demonstrate improved problem solving skills in mathematics using technology;
4. demonstrate ability to think independently in relating mathematical perspectives to the real world;
5. effectively communicate solutions to a range of problems.

## TOPICS

|    | Description  | Weighting (%) |
|----|--|---------------|
| 1. | Managing Mathematics   | 5.00          |
| 2. | Revision   | 5.00          |
| 3. | Functions and Relations                                      | 15.00         |
| 4. | Trigonometric Functions                                      | 20.00         |
| 5. | Analytical geometry - representing points and curves         | 20.00         |
| 6. | Describing change - An Introduction to Differential Calculus | 20.00         |
| 7. | Total change - An Introduction to Integral Calculus          | 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).

Students will need to acquire a non-programmable scientific calculator. Student will need access to a computer. All study materials are supplied as part of the course.

## 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.

## ASSESSMENT DETAILS

| Description                    | Marks out of | Wtg (%) | Due date               |
|--------------------------------|--------------|---------|------------------------|
| ASSIGNMENT 1                   | 1.00         | 0.00    | 06 Mar 2009            |
| ASSIGNMENT 2                   | 47.00        | 5.00    | 20 Mar 2009            |
| ASSIGNMENT 3                   | 40.00        | 7.00    | 10 Apr 2009            |
| ASSIGNMENT 4                   | 38.00        | 7.00    | 01 May 2009            |
| ASSIGNMENT 5                   | 42.00        | 9.00    | 22 May 2009            |
| ASSIGNMENT 6                   | 34.00        | 7.00    | 05 Jun 2009            |
| END OF SEMESTER EXAM - 2 HOURS | 100.00       | 65.00   | END S1<br>(see note 1) |

### NOTES

1. Examination date will be available during the semester. Please refer to the examination timetable when published.

## 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:  
N/A
- 3 Penalties for late submission of required work:  
If students submit assignments after the due date without prior approval then a penalty of 5% of the total marks gained by the student for the assignment may apply for each working day late.
- 4 Requirements for student to be awarded a passing grade in the course:  
To be assured of receiving a passing grade a student must achieve at least 50% of the total weighted marks for the course. Students who do not qualify for a Passing grade may, at the discretion of the Examiner, be awarded a Supplementary Examination and/or assigned additional work to demonstrate to the Examiner that they have achieved the required standard.
- 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 obtained for each of the summative assessment items in the course.
- 6 Examination information:

Examinations in this course are restricted examinations. In a Restricted Examination, candidates are allowed access to specific materials during the examination. The only materials that candidates may use in the restricted examination for this course are: writing materials (non-electronic and free from material which could give the student an unfair advantage in the examination); calculators which cannot hold textual information (students must indicate on their examination paper the make and model of any calculator(s) they use during the examination; 1 A4 page of hand written or typed notes (written on both sides); English translation dictionaries (but not technical dictionaries).

- 7 Examination period when Deferred/Supplementary examinations will be held:  
Any Deferred or Supplementary examinations for this course will be held during the next examination period.
- 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 Students must retain a copy of each item submitted for assessment. This must be produced within five days if required by the Examiner.

### **OTHER REQUIREMENTS**

- 1 The time it will take to complete this mathematics course will vary and will depend on the student's background and experiences; times indicated above are a guideline only.
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