| Course Code: | FND104 |
|---|---|
| Course Name: | Essential Mathematics |
| Semester: | Trimester 3, 2018 |
| Program: | Foundation Program |
| Credit Points: | 10 |
| Course Coordinator: | Rebecca Fox |
| Document modified: | 25th September 2018 |

Teaching Team

Your lecturer/tutor can be contacted via the email system on the portal.

| Name | Email |
|---|---|
| Rebecca Fox | Rebecca.fox@staff.griffithcollege.edu.au |
| Shahrzad Saremi | Shahrzad.saremi@staff.griffithcollege.edu.au |
| Jesse Rostagno | Jesse.rostagno@staff.griffithcollege.edu.au |

Staff Consultation

Your lecturer/tutor is available each week for consultation outside of normal class times.
Times that your lecturer/tutor will be available for consultation will be given in the first week

of lectures. A list of times and rooms will be published on the Griffith College Portal under the "myTimetable" link.

## Prerequisites

There are no prerequisites for this course

## Brief Course Description

This course is designed for students who require a general mathematics background suitable for studies in business, health sciences, IT and engineering. It includes basic arithmetic, algebra, functions and their graphs, logarithms, growth and decay, finance and trigonometry.

## Rationale

As a graduate professional, students are likely to encounter a variety of situations in their occupation that require some basic mathematical knowledge and skill. If students are continuing studies or employment in the fields of engineering, science, commerce and information technology, mathematical skill is a basic requirement.

## Aims

The aim of this course is to strengthen students understanding of, and skill in, basic mathematical procedures. The objectives include reinforcing their knowledge of fundamental algebra, trigonometry, graphical techniques and solution procedures, and enhancing their skills in solving problems in the area of logarithms, growth and decay, and finance.

## Learning Outcomes

On successful completion of this course, you should be able to:

1. Perform basic arithmetic calculations:
2. Perform basic algebraic operations and calculations including factorising and simplifying algebraic expressions and solving equations:
3. Perform calculations involving functions and draw their graphs:
4. Solve problems involving indices, logarithms, and exponential growth and decay:
5. Perform calculations and solve problems using simple trigonometry:
6. Solve financial problems involving calculations of interest, depreciation, amortisation and inflation.

Texts and Supporting Materials

**Required text:**

FND104 Essential Mathematics Workbook. Available in the campus bookshop

There is no prescribed text for this course, all notes and exercises are in the workbook.

**Recommended texts for additional reading:**

Cooper, P. (2003). Queensland Mathematics 11/12B (2nd Ed.). Sydney: McGraw Hill.

Croucher, J.S. (1998). Introductory Mathematics and Statistics for Business (3rd Ed.). Sydney: McGraw Hill.

Dobson, A. & Stokoe, J. (n.d.). Self-Paced Introductory Mathematics.

Mustoe, B. (1998). Foundation Mathematics. Brisbane: John Wiley & Sons.

Waxman, P. (1998). Business Mathematics & Statistics (4th Ed.). Sydney: Prentice Hall.

Website: The Khan Academy

**Required Resources:**

Non-programmable scientific calculator.

Organisation and Teaching Strategies

The course material may be covered through the use of lectures, texts, videos, practical exercises, self-directed or peer-assisted learning. Course delivery involves four (4) formal contact hours per week incorporating the presentation of theory with practical activities which are interwoven throughout classes, and an additional one (1) hour online component. You are also provided with a further one (1) hour of individual contact with your teacher through consultation times.

In class times you will be introduced to the essential areas of the course content. You will receive information about, and explanations of, the principal topics that are important to achieving the learning objectives of the course. This will give you the opportunity to gain knowledge of important course content. You will be encouraged to be an active listener and to interact with your teacher by asking questions and contributing your ideas.

Your understanding of course content will be enhanced through the completion of activities which assist you with your learning and provide an opportunity for you to raise any questions

or concerns you may have with understanding course material. When needed, your teacher will inform you of any forward preparation or requirements that you are expected to undertake for upcoming classes. It is important that you complete such tasks so that the following classes can maximise the use of the available time to enhance your learning.

During class time you will also have the opportunity to develop a range of skills that will support learning objectives and foster certain generic skills that are helpful to your professional development.

The course utilises a range of web-based resources that you need to access. Although the course utilises a Workbook that contains all course content, lecture notes are also available on the Griffith College portal for each week of semester. Links are provided to other resources that may help you in your learning activities. You should access the Griffith College portal regularly to stay up to date with course information.

*Class Contact Summary*

The expected contact hours per week for this course comprises of:
Formal classes: 4 Hours
Formal Homework: 4 Hours
Online Learning: 1 Hour
Supervised Consultation Time: 1 Hour
Total: 10 Hours

**Attendance:**
Your attendance in class will be marked twice during a four hour class. To receive full attendance, you must be present in the classroom on both occasions. Therefore, you are encouraged to attend all classes throughout the semester.

**Actively Participate in Classes & Consultation Times:**
You will greatly advance your chances of success in the course by fully using the contact time you have available with your teacher. The contact time provided in classes and consultation is for your benefit; it is your opportunity to have any questions about course content or requirements clarified.

**Independent Learning:**
Throughout this course you will be encouraged to take personal responsibility for managing your own learning and your own time. In addition to the 4 hours spent in class time for this course you are expected to undertake independent study outside of class time. This independent learning will involve reading and preparing for classes and completing assignments and other assessment tasks. There will be the opportunity to use online resources via the Griffith College portal in order to enhance your learning.
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**Program Progression:**
You are reminded that satisfactory Program Progression requires that attendance in classes is maintained at equal to or greater than 80%, and that GPA is maintained at equal to or greater

than 3.5 [please see Griffith College Policy Library - Program Progression Policy - for more information].

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Content Schedule

Classes are designed to progressively build your understanding of mathematical procedures. Early classes serve to establish the foundations: from them you will become familiar with fundamental principles and techniques. As you proceed through the semester, you should increasingly be able to apply foundation knowledge and develop your skills to solve more advanced problems.

*Weekly Teaching Schedule*

| Week | Topic | Activity | Readings |
|------|-------|----------|----------|
| 1 | Basics of arithmetic | Class | Module 1 notes and exercises |
| 2 | Algebra | Class | Module 2 notes and exercises |
| 3 | Algebra and radicals | Class | Module 2 notes and exercises |
| 4 | Linear Functions and Equations | Class | Module 3 notes and exercises |
| 5 | Linear Functions and Equations | Class | Module 3 notes and exercises |
| 6 | Quadratic Functions and Equations | Class | Module 4 notes and exercises |
| 7 | Quadratic Functions and Equations<br><br>Mid Semester Exam | Class<br><br>Examination | Module 4 notes and exercises |
| | | | |
| 8 | Trigonometry | Class | Module 5 notes and exercise exercises |
| 9 | Exponents and Logarithms | Class | Module 6 notes and exercises |
| 10 | Exponents and Logarithms | Class | Module 6 notes and exercises |
| 11 | Financial Mathematics | Class | Module 7 notes & exercises |

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| 12 | Financial Mathematics & Revision | Class | Module 7 notes and exercises |
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Assessment

This section sets out the assessment requirements for this course.

*Summary of Assessment*

| Item | Assessment Task | Weighting | Relevant Learning Outcomes | Due Date |
|------|-----------------|-----------|----------------------------|----------|
| 1 | Workbook | 10% | 1-6 | 12 |
| 2 | Assignment 1 | 10% | 2,3,4 and 6 | 6 |
| 3 | Mid Semester Exam | 30% | 1,2,3 | 7 |
| 3 | Assignment 2 | 10% | 2,3,5 and 6 | 11 |
| 4 | End of Semester Exam | 40% | 4,5,6 | 13 |

*Assessment Details*

**Workbook**
The **In-Class Activity** (the Assessable Workbook) assess your understanding of the concepts covered in class on a weekly basis. Your lecturer will examine your work each week, and marks will be awarded based on in-class and outside-of-class work.

**Mid Semester Exam**
The mid semester exam is a formal examination of 2 hours in duration and will assess your foundation knowledge and skills in algebraic and graphical techniques covered in weeks 1 to

5 inclusive. It also acts as a focal point for you to plan and monitor your learning progress.

**Assignment 1** (to be submitted at the beginning of class in week 6)
The assignment is an individual assignment and will assess your ability to apply the material taught in class to a practical application. You will be expected to apply the material taught in class to solve practical problems. You will be expected to reflect and justify your outcomes. The assignment must be word processed using equation editor.

**Assignment 2** (to be submitted at the beginning of class in week 11)
The assignment is an individual assignment and will assess your ability to apply the material taught in class to a practical application. You will be expected to use the material taught in the FND104 class, as well as material taught in other courses, to solve practical problems. The assignment must be word processed using equation editor.

**Final Exam**
The final exam will be a formal examination of 2.5 hours in duration; and will assess your knowledge and applied skills in the topics covered in weeks 6 to 12 inclusive of the course.

**Satisfactory completion of the course**
To satisfactorily complete the course, you must achieve a minimum overall mark of 50%.

**Note:** Students who are continuing studies in FND105 Advanced maths must achieve a Pass (P) grade or higher in order to satisfy the pre-requisite requirement.

**Specialist Facilities**

Facilities and Resources / Specific Resources required

Indicate any specific facilities and resources required for delivery of this subject: None

Indicate any specific learning resources required for this subject: Learning resources include; Portal materials, Workbook

Indicate any specific IT or electronic learning resources required for this subject: Computer, projector.

*Submission and Return of Assessment Items*

Assessments that are to be submitted as hard copy submissions need to be handed to the relevant teaching staff at the designated lesson, in the week that the assessment is due. Assessments should not be handed to reception. Each hardcopy assessment to be submitted must have attached an Assignment Cover Sheet.
Only late submissions can be handed in to reception.
Tests and assignments will be marked and returned to students in class for feedback purposes in class within two weeks of the assessment due date. However, all assessments must be returned to the lecturer as they are retained by Griffith College as evidence of each student's

progress throughout the semester.

## Retention of Originals

You must be able to produce a copy of all work submitted if so requested. Copies should be retained until after the release of final results for the course.

*Extensions*

To apply for an extension of time for an assignment, you must submit an Application for Extension of Assignment form to your teacher at least 24 hours before the date the assignment is due. Grounds for extensions are usually: serious illness, accident, disability, bereavement or other compassionate circumstances and must be able to be substantiated with relevant documentation [e.g. Griffith College Medical Certificate]. Please refer to the Griffith College website - Policy Library - for guidelines regarding extensions and deferred assessment.

*Assessment Feedback*

Marks awarded for assessment items will also be available on the on-line grades system on the Student Website within fourteen [14] days of the due date.

Generic Skills

Griffith College aims to develop graduates who have an open and critical approach to learning and a capacity for lifelong learning. Through engagement in their studies, students are provided with opportunities to begin the development of these and other generic skills.

Studies in this course will give you opportunities to begin to develop the following skills:

| Generic Skills | Taught | Practised | Assessed |
|---|---|---|---|
| Written Communication | | Yes | Yes |
| Oral Communication | | Yes | |
| Information Literacy | | Yes | |
| Secondary Research | | Yes | Yes |
| Critical and Innovative Thinking | | Yes | Yes |
| Academic Integrity | Yes | Yes | Yes |
| Self Directed Learning | | Yes | |

| Team Work | | Yes | |
|---|---|---|---|
| Cultural Intelligence | | | |
| English Language Proficiency | | Yes | |

*Additional Course Generic Skills*

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Additional Course Information

**Learning Support**

In addition to formal contact hours, you are provided with extra support through individual consultation with teaching staff, English language support, and self-access computer laboratories.

Griffith College is committed to providing additional academic assistance to students to maximise their opportunity to successfully complete units of study. Learning Advisors conduct regular workshops in skill areas essential to studies. These include: time management, goal setting, essay preparation, examination techniques, academic writing skills and maths. Further information on programs available can be accessed on the Griffith College 'MYSUPPORT' tab on the Portal (http://portal.griffithcollege.edu.au/) or by asking the Griffith College staff on reception.

**Teacher and Course Evaluations**

Student feedback is respected and valued by teachers and the College. Students are encouraged to provide their thoughts on the course and teaching, both positive and critical, directly to their teacher or by completing course and teacher evaluations.

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Academic Integrity

Griffith College is committed to maintaining high academic standards to protect the value of its qualifications. Academic integrity means acting with the values of honesty, trust, fairness, respect and responsibility in learning, teaching and research. It is important for students, teachers, researchers and all staff to act in an honest way, be responsible for their actions, and show fairness in every part of their work. Academic integrity is important for an individual's and the College's reputation.

All staff and students of the College are responsible for academic integrity. As a student, you are expected to conduct your studies honestly, ethically and in accordance with accepted standards of academic conduct. Any form of academic conduct that is contrary to these

standards is considered a breach of academic integrity and is unacceptable.

Some students deliberately breach academic integrity standards with intent to deceive. This conscious, pre-meditated form of cheating is considered to be one of the most serious forms of fraudulent academic behaviour, for which the College has zero tolerance and for which penalties, including exclusion from the College, will be applied.

However, Griffith College also recognises many students breach academic integrity standards without intent to deceive. In these cases, students may be required to undertake additional educational activities to remediate their behaviour and may also be provided appropriate advice by academic staff.

As you undertake your studies at Griffith College, your lecturers, tutors and academic advisors will provide you with guidance to understand and maintain academic integrity; however, it is also your responsibility to seek out guidance if and when you are unsure about appropriate academic conduct.

In the case of any allegation of academic misconduct made against a student he or she may request the guidance and support of a Griffith College Student Learning Advisor or Student Counsellor.

Please ensure that you are familiar with the [Griffith College Academic Integrity Policy](); this policy provides an overview of some of the behaviours that are considered breaches of academic integrity, as well as the penalties and processes involved when a breach is identified.

For further information please refer to the Academic Integrity Policy on the Griffith College website – Policy Library.

*Risk Assessment Statement*

There are no out of the ordinary risks associated with this course.