

Information Sheet for  
**Mathematics 1E Part 2 - MATH162**

Summer Session 2007/2008  
Wollongong Campus

**Subject Coordinator and Lecturer**

Kristina Bendzovska (Room 15.111)  
Email: [kbendzo@uow.edu.au](mailto:kbendzo@uow.edu.au)  
Consultation: 10.30 – 11.30 Thursday  
10.30 – 11.30 Friday

**Tutors**

Lorene Murray  
Anna Carolyn  
Jake McIntosh  
Aaron Thornton

**Subject Prerequisites:**

MATH161 or MATH141 or MATH187

**Notes:**

50% in MATH162 is sufficient for MATH283. All other 200 level MATH/STAT require at least 65%.

**Not to be counted with:** MATH101, MATH110, MATH188, MATH143, MATH144 or MATH142.

This information sheet must be read in conjunction with the general information on educational issues and student matters provided in the document "Policies and Services of the University, Faculty and School" published by the School of Mathematics and Applied Statistics. A copy may be obtained from the subject coordinator or at <http://www.math.uow.edu.au/current/generic.html>.

**Topics & Brief Outline**

- Complex Numbers*      Week 1  
Introduction to complex number; arithmetic of complex numbers; DeMoivre's Theorem
- Differential Equations*      Week 4  
Introduction to differential equations; techniques for solving first and second order differential equations
- Taylor Series*      Week 7  
Introduction to Taylor polynomials, Taylor series, Maclaurin polynomials and Maclaurin series
- Methods of Integration*      Weeks 2-3  
Revision of integration; evaluating integrals using more advanced techniques.
- Applications of Integration*      Week 5  
Finding areas under the curve; finding volumes of solids of revolution; finding arc lengths of functions
- Numerical Integration*      Week 2  
General numerical integration schemes; midpoint, Trapezoidal and Simpson's rules; error estimation
- Limits*      Week 1  
Revision of limits; L'Hopital's rule; finding limits of various indeterminate forms
- Sequences & Series*      Week 6  
Introduction to sequences and their convergence; introduction to series and various tests for proving their convergence or divergence

**Textbook & Reference Books**

- Text:*  
**Study Notes for Mathematics 1E Part 1, MATH162, 2007/2008**  
This book is available at the UniCentre Bookshop for a cost of approximately \$25.00 and contains comprehensive study notes for the whole of the subject, as well as problems which are likely to be set for tests. These notes are also available to be downloaded from the subject web site (see below).
- References:*  
Anton, H., *Calculus with Analytic Geometry* – John Wiley & Sons.  
Thomas, G. and Finney, R., *Calculus and Analytic Geometry* – Addison Wesley.  
Barry, S. and Davis, S., *Essential Mathematical Skills for engineering, science and applied mathematics* – UNSW Press  
Stroud, K. A., *Engineering Mathematics* – Macmillan  
You are not required to purchase reference books. Several copies of all these books are available in the Library. These readings are recommended only and are not intended to be an exhaustive list. You are encouraged to use the Library catalogue and databases to locate additional readings with similar titles and contents.

## Notices

MATH162 has a web site:

<http://www.math.uow.edu.au/handouts/m162.html>

This site contains all the study notes for the subject, weekly tasks you should complete, tutorial solutions, messages regarding assessment changes (in case of strikes or floods, for example) and other handouts. Most files will be in pdf format for downloading. *You should visit this site at least once every week.*

## Subject Learning Outcomes

After successful completion of this subject (among other objectives listed in the University Handbook) students should

- have a basic knowledge of the principles and techniques required in courses given in later years in Mathematics and other disciplines,
- possess problem-solving skills and the ability to analyse the final results,
- understand general mathematical principles which should lead to an ability to think logically and analytically.

## Personal Study & Summary Lecture

The regular classes for MATH162 are mostly for revision of personal study. **You are required to read and learn the material presented in the Study**

**Notes** as indicated on the MATH162 web site. The material you should study each week will be listed on the MATH162 web site, under the title “Weekly Study”. You should study the sections indicated in time for each lecture or you will be seriously disadvantaged.

A two-hour **summary** lecture has been scheduled each week as follows.

Thursdays 8.30 – 10.30 Room 35.G45

Fridays 8.30 – 10.30 Room 35.G45 (repeat)

*Note:* You must attend the lecture that is scheduled on the same day as your tutorial class.

These summary lecture will include demonstrations of selected examples from the Study Notes and clarification of any difficult parts in the material. Experience has shown that poor attendance at lectures leads to poor performance in this subject.

## Tutorials

If you haven't already, you must enrol in a two-hour compulsory tutorial via SOLS. Enrolments open at 6.00am on Friday, 30 November 2007 and will close at 11.00pm on **Friday, 7 December 2007**. After this cut-off date, if you haven't chosen your class you will automatically be allocated to a tutorial group. If you have compelling reasons to change your tutorial after the cut-off date, you must put in a written request via **email** to Kristina Bendzovska ([kbendzo@uow.edu.au](mailto:kbendzo@uow.edu.au)) stating your reasons and including a copy of your *timetable*. Note that changes will be made only where class sizes allow.

You **must** attend the tutorial at the time listed for you on SOLS.

**Tutorials in MATH162 will begin in Week 1.**

**Attendance at tutorials is compulsory.** A record of tutorial attendance and your performance at those tutorials will be kept and may be taken into account in determining your final grade if you are on a borderline. You will not be counted as having attended a tutorial merely because you are physically present; your tutor must also judge that your participation has been satisfactory. Experience has shown that poor attendance at tutorials leads to poor performance in this subject.

## Assessment

**Scaling** of marks is **not** a standard procedure in this subject. However, we apply a system of flexible assessment as outlined below.

*Your final mark in MATH162 will be determined as follows:*

Two marks will be calculated for each student:

	Total A	Total B
Five Short Open-Book Tests	– 20%	20%
Mid-Session Test	– 20%	10%
Final Exam	– 60%	70%

Your final result will be the higher of the two marks. *However, Total B will only be calculated if you sit the Mid-Session Test.* Further, *attendance at tutorial classes may be taken into account* as mentioned earlier.

Note that you are not required to “pass” each individual component to receive a Pass grade in MATH162. However, you will seriously jeopardize your chances of passing this subject if you do not aim to be successful in every component of the assessment.

## Calculators & Summary Sheet

Please note that single-line-display calculators are permitted in tests and examinations for this subject. They must not have graphics capabilities, alphanumeric keyboards (or capabilities) and they must not be programmable in any way. Calculators will be checked in exams and will be confiscated if they have capabilities which are not allowed. If you are not sure whether your calculator is acceptable, have it checked well before any exam.

Note that a one-page, A4-sized, double sided summary sheet is also permitted in the quizzes, mid-session test and final examination for this subject.

## Final Examination

The final examination in MATH162 will be as follows:

Duration: 3 hours and 15 minutes

Value: 60% (or 70%<sup>#</sup>) of final mark.

*#See section on “Assessment” above.*

The examination will be held during the examination period in February, at a time to be advised by the University. As a student enrolled in the University of Wollongong, you are required to be available for the entire examination period in February.

## Mid-Session Test

The Mid-Session test in MATH162 will be as follows:

Date: Friday, 4 January 2008 (Week 4)  
Time: 15.00  
Venue: 67.107  
Duration: 90 minutes  
Value: 20% (or 10%<sup>#</sup>) of final mark.  
*#See section on "Assessment" above.*

This test will be completely multiple-choice.

If you are unable to attend this test *you should contact Kristina Bendzovska as soon as possible*, preferably at least one week before the test. Be prepared to produce documentation to support your case. Any request for special consideration regarding the test *must be received by Kristina Bendzovska by Friday, 11 January, 2008*. (See the document "Policies and Services of the University, Faculty and School" for more information.)

## Short Open-Book Tests

The continuous assessment in MATH162 will consist of five short open-book tests to be held in Weeks 2, 3, 5, 6 and 7. Each test will run for the **first 30 minutes of your tutorial** in the given weeks. The tests will consist of a combination of multiple choice questions and short answer questions and you are allowed to bring a copy of the Study Notes with you and one-page, A4-sized, double sided summary sheet. The topic assessed by each test will appear on the MATH162 web site (under "Assessment" and "Weekly Study"). Make sure you study the topic required, and do not just rely on having the Notes with you.

Tests will be marked during the remainder of your tutorial time and you will be able to view your corrected test during the final 10 minutes of your tutorial. The tests will contribute a **total** of 20% (4% each) towards your final mark in MATH162. Each test will be graded from a possible maximum of 7 marks. You must show working for each short answer question on the test as marking criteria includes correctness and working.

The tests contribute towards your final assessment. *However, the primary purpose of each test is to give you feedback on your progress and understanding of the work.*

See the document "Policies and Services of the University, Faculty and School" for what to do if you inadvertently miss a test.

## Exercises & Tutorial Sheets

Exercises are included in the Study Notes. It is expected that *you will attempt, in your own time, at least all the problems relating to the subject material set each week.*

A weekly Tutorial Sheet will be given out in each tutorial for you to attempt during the class. Outline solutions to the Tutorial Sheet problems will be placed on the MATH162 web site each Friday afternoon.

## Minimum Weekly Workload

MATH162 is a 6 credit point single-session subject. In a 13 week session, this means that a student of average ability would be expected to work 12 hours per week on MATH162 to achieve an average result. In this 7-week session, an average student would be expected to work 24 hours per week on MATH162 to achieve an average result. Since 4 hours per week are taken up with formal classes, *an average student would be expected to work at least 20 hours per week on MATH162 outside scheduled compulsory class time.*

## Cheating and Plagiarism

The University does not tolerate cheating nor plagiarism and regards them very seriously. For more information, see the document "Policies and Services of the University, Faculty and School" and the section in the University Undergraduate Handbook entitled "Acknowledgement Practice/Plagiarism", or visit <http://www.uow.edu.au/handbook/courserules/plagiarism.html>

## Withdrawal

University regulations allow you to withdraw from a Summer session subject until **23 December 2007** (end of Week 3). However, the HECS payment for Summer session subjects is calculated based on your enrolment at the earlier date of 17 December 2007 (beginning of Week 3).

## Consultation

If you are having any kind of difficulty with MATH162, you are encouraged to seek advice from Kristina Bendzovska (tutors are casual staff and therefore are not available for consultation). If you cannot come at the listed consultation times, contact Kristina to arrange an appointment at a mutually convenient time.

**If you are having any difficulty with MATH162,  
you should seek advice before it is too late.**