Lectures for this course are held in Carslaw 159 on Monday and Thursday from 9.05am to 9.55am. Lectures will continue for 13 weeks and the last lecture will be on Thursday 27 October 2005.

Students should attend one tutorial each week, starting in the first week of the semester. Printed tutorial sheets are included at the back of the text book or may be downloaded from the School of Mathematics and Statistics website at

http://www.maths.usyd.edu.au:8000/

and associated links.

The lecturer for the course is

Associate Professor Terry Gagen, Room 815 Carslaw Building.

He may be contacted by email at MATH1605@maths.usyd.edu.au.

ASSESSMENT

Assessment for the course will be based on a one and a half hour final examination, which will be marked out of 80, two assignments due on Wednesday 31 August and Wednesday 5 October 2005, each of which will be marked out of 5, and two quizzes, each of 15 minutes, which will be held in tutorials in the 7th week of the semester (beginning 5 September) and in the 11th week of the semester (beginning 10 October), worth 5 marks each.

THE ASSIGNMENTS

The assignments will be due in room 815 by 5.00pm on Wednesday 31 August and Wednesday 5 October. Marked assignments will be returned to the pigeonholes on Carslaw Level 3.

Note that while students are encouraged to discuss assignment problems among themselves, each person’s final submitted work must be the product of individual effort, independent of the written work of others. Evidence of copying and plagiarism in assignments will be penalised according to University regulations.
THE QUIZZES

The Quizzes will be held in your tutorial during the weeks of 5 September to 9 September and 10 October to 14 October. You must take the Quiz in your scheduled tutorial. If you are unable to take the quiz at that time, please let me know by email and I will try to make alternative arrangements. You will be able to download a Sample Quiz and Answers from the School website, in the week prior to each Quiz. They will be similar to the quiz you will take in your tutorial and in the same format. You are permitted to bring your own non-programmable calculator into the quizzes.

TUTORIALS AND TUTORIAL SOLUTIONS

Tutorial solutions can be downloaded from the School website, with the solutions to the Tutorial for Week $n$ available in Week $n + 1$.

TEXTBOOK

The textbook for this course is Course Notes for MATH1605 Calculus (Pharmacy) by Koo-Guan Choo and David Easdown, and is available from Kopystop, 55 Mountain Street, Broadway, for $14.00. The course follows these notes fairly closely.

WEEKLY COURSE SUMMARIES

I will put short weekly course summaries on the website each week after the lectures for your convenience.

CONSULTATIONS

I will be available for consultations in my office (815 Carslaw) for two hours each week. I will negotiate times suitable to you and me in the first lecture. If you are unable to see me at those times, I will make an appointment to meet with you at some other mutually convenient time.
TOPICS IN THIS COURSE

- The effect of errors in measurements on accuracy of calculations;
- Elementary properties of exponential and trigonometric functions and their curves;
- Differentiation;
- Graphing of data on log-log and semi-log paper to enable the identification of functional relationships;
- Curve sketching, asymptotes, critical points, behaviour at infinity;
- Location of zeros of functions using the bisection method and Newton’s method;
- Antidifferentiation and the indefinite integral;
- Methods of integration: substitution, integration by parts, integration of rational functions, partial fractions;
- The definite integral and numerical approximations;
- Improper integrals;
- Separable differential equations and the logistic equation.
- Equilibrium solutions; graphing solutions of differential equations.
- Second order linear differential equations and their solutions.
- Systems of $n$ linear constant coefficient differential equations in $n$ unknown functions and their connection with ordinary linear differential equations of order $n$