

LIVING WITH MATHEMATICS 136.150 SEPTEMBER 2004

Learning mathematics is a lot like building a house. A strong foundation is needed to produce a sturdy structure while a weak foundation will quickly expose any structural deficiencies. In much the same way you will require a good grounding in your high school mathematics if your study of Calculus 150 is to be successful. As a means of assessing your readiness for Calculus 150 you will be given a self-administered take-home **diagnostic test**. Do this test as soon as possible to determine whether remedial action will be required.

If moderate remedial action is required, it may be achieved by attending a series of T.V. Lectures (described on page 3 of this handout), by self-study using a book such as Algebra and Trigonometry Refresher for Calculus Students by Loren C. Larson (available in the Dafoe Library on reserve; call number QA 154.2 L37 1979) and/or by using the computer program "ARE YOU READY FOR CALCULUS I?" (described on page 3 of this handout). You can also work through the review sections P1 – P6 of the text on your own until you have mastered the material presented there.

If much remedial action is required you should consider enrolling in the "Mathematical Skills" course offered by Continuing Education, 188 Continuing Education Complex. For further information on the "Mathematical Skills" course phone **474-8016**. This course gives a rapid review of high school mathematics.

You can't learn calculus by cramming at the end of term. It just isn't that kind of subject; it involves ideas and computational methods which can't be learned without practice. By way of an analogy, how many athletes do you know of who do well in contests by training for only a few days in advance?

These notes attempt to provide some hints about how to get the most out of the teaching system used for this course (**lectures and tutorials**), and other useful information (**Help Centre, marks**). First, here are a couple of **regulations** about lectures and tutorials of which you should be aware.

1. You must **take and also attend** one of the tutorials **associated with the lecture section in which you are registered**. Consult the Registration Guide for the times of these tutorials.
2. There will be marks associated with your tutorial work (**this is explained later**). If you change tutorial sections, it is **your responsibility** to make sure that a correct record of any marks accumulated up to the time of the change is passed on to the instructor of your new tutorial section.

LECTURES: During lecture periods professors present the course material to you. Because of the relatively large numbers of students in a lecture section and the necessity of presenting a certain amount of new material each day, lectures may seem rather formal. Almost certainly they will be quite different from your previous classroom experience.

No teaching system can be effective without work: do not expect to learn calculus simply by listening to lectures (or even taking notes). Here are a couple of ways to increase the effectiveness of the lecture system. (The first is particularly important, but both are useful).

1. **Refer to the course outline**, and try to read through the material before it is covered in lectures. When working ahead, it is not necessary to completely understand; if you have even a vague notion about what is going on in advance, the lectures will be easier to follow.
2. **Review** the lecture material as soon as possible, preferably the same day. Use the text during this review, and understand the material as completely as you can. Do as many textbook problems as you can; mathematics is a problem solving discipline. You can't learn by watching other people solve problems - you have to solve them yourself. (See comments on tutorials as well).

TUTORIALS: Each lecture section is divided into a number of tutorial sections. A tutorial section involves a smaller number of students, and is the place where you get a chance to see more examples worked and to work problems under the supervision of an instructor who knows the subject. There will also be short tests given regularly in the tutorials. As with the lectures, you can greatly increase the effectiveness of the tutorials by preparing for them: if you are aware of specific questions and difficulties before you go into the tutorial, you are more likely to get them solved.

TUTORIALS BEGIN, SEPTEMBER 16, 2004.

MARKS: Your final grade in this course will be determined by the marks you earn on a final exam, a mid term exam and a series of tutorial tests. The relative weightings of these components towards your final grade is as follows.

FINAL EXAMINATION	= 60 PERCENT
MIDTERM EXAMINATION	= 30 PERCENT
TUTORIAL TESTS	= 10 PERCENT

Midterm examination: The midterm examination will be held on October 29 at 5:30 p.m. It will be one hour long. Its location will be announced later. Deferments of this test will be granted only on medical or compassionate grounds.

Tutorial tests: There will be five tutorial tests, given approximately every second week in your tutorial periods. Precise dates of these will be announced in your lecture sections. Your tutorial grade will be calculated by discarding your worst test mark (including absences) and averaging the remainder. "Make up tests" for missed tests *are not* available.

QUESTIONS: Don't be bothered by having questions, because everyone does. Some have fewer, some have more. In any case you can bet that if you have a question, someone else probably has the same one. Because of the relatively large number of students involved and the pace of the course material, general discussion in lecture periods must be limited. There is a little more time available for questions in tutorials, but even with this you may find that you can't get all your difficulties settled in the scheduled teaching periods. So here are some ways to get answers to questions.

1. **Study your textbook** (This may seem pretty obvious, but people don't always think of it).
2. **Talk** the problem out with **another student**. In this sort of exchange, both parties usually benefit. So, if someone asks you a question, don't brush them off because it might waste your time. If you can solve the problem, you may well learn in the process.
3. **Go to the Mathematics Help Centre**, located in Room 318 Machray Hall. Its purpose is precisely to provide a place where students can get answers to specific mathematical problems related to their course. The Help Centre will open on Mon., September 20, and the hours of operation will be posted on the door of Room 318.
4. **Go to your professor** or possibly your tutorial instructor. You'll find them quite willing to help.

ONE CAUTION: DON'T EXPECT ANYONE TO RE-TEACH LARGE CHUNKS OF THE COURSE. It is **your responsibility** to keep up with course material.

ARE YOU READY FOR CALCULUS I is a computer program that has been installed on the IBM microcomputers in Dafoe Library, Engineering, Human Ecology, St. John's College and St. Paul's College. This menu driven program will assess your readiness for 136.150. To access this program, turn the computer and monitor on. At the computer prompt "Enter Login name" type the login name which is located on the upper right hand side of the keyboard and press the "enter" key. Follow the screen instructions to get to the "Main Menu". Use the arrow keys to select "Other Applications Menu" then press the "enter" key. Next use the arrow keys to select "Math/Stats Shareware", then press the "enter" key. Finally use the arrow keys to select "Are You Ready for Calculus I" then press the "enter" key. Follow the screen instructions at this point. Selecting "Review" will provide you with review material and quizzes.

PLAGIARISM. CHEATING AND IMPERSONATION AT EXAMS are serious offences