# Course Information

## Mathematics 126
## Fall-Winter 2006/07

MATH 126 will build upon your experience in high school Calculus/MATH 006. We will emphasize applications of the calculus, putting it work by analyzing simple models in Economics, Biology, and Physics.

### General Information

**Required text:** *Calculus: The Analysis of Functions* by P.D. Taylor
**Recommended:** *Students' Solutions Manual* by S. Oberai *et al.*, *Math 126 Work Book*

**Class Times:** Mon. 11:30-12:20, Tue. 13:30-14:20, Thu. 12:30-13:20 (Slot 11)
**Location:** Stirling B (Section A), Jeffery 127 (Section B)

**Tutor:** Kyle lepage
**Tutorial Times and Locations:** Mon. 9:30 - 10:20 (Jeffery 127) and Tue. 8:30 - 9:20 (Miller 201)
**URL:** `http://www.mast.queensu.ca/~math126`

**Instructors for Fall Term:**

Section A: Antonio Laface, JEFF 504
`alaface@mast.queensu.ca`

Section B: Patrick Reynolds, JEFF OLS-06
`preynolds@mast.queensu.ca`

**Office hours:**

Section A: Mon 14:00-15:20 (JEFF 504) and Tue 12:00-13:20 (JEFF 504)

Section B: Mon 12:30-13:40 (JEFF 201) and Thu 13:30-14:50 (JEFF 201)

### Evaluation

Your grade will be determined by your performance in three basic areas:

**1. Mastery of Technical Skills (15%)** There are three Module tests, each worth 5% of your final grade. Each Module test consists of a set of problems whose solutions involve the use of certain technical skills. We will devote some class time to practicing these skills, usually during Tuesday classes. Since much of the material is review from high school mathematics, lectures will not always include the detail required to excel on the Module test. It will be up to you to master the requisite skills on your own (of course help will be available). Each Module test will consist

of 9 problems that you have not seen before. If you correctly solve at least 7 out of 9 problems, you will receive the full 5%. If you fail to solve at least 7 problems, you will get an opportunity to write a second Module test. The grade you receive on the second writing will be recorded "as is" (e.g. 7 out of 9 is recorded as 7 out of 9). We will count the higher grade (first or second writing) toward your final mark.

**2. Quizzes and Assignments (20%)** There are three quizzes and three assignments per term — six of each in total. Each term we drop your lowest assignment/quiz grade. This makes each quiz/assignment worth 2% of your final grade.

**3. Examinations (65%)** There will be two exams. The Mid-year Exam will be held during the December Exam Period and will be worth 20% of your final grade. The Final Exam will be held during the April Exam Period and will be worth 45% of your final grade. The Final Exam will cover material from both Fall and Winter Terms, with emphasis placed on material from the Winter Term. Exams will test all course material — lectures, assignments, quizzes, and modules. Exam schedules are posted at
`http://www.queensu.ca/registrar/exams`
along with other general exam information.

## Policies

In addition to University Academic Regulations, please note the following:

**1.** The prerequisite for this course is high school Calculus/MATH 006. If you lack the prerequisite, you should expect to do extra work in order to catch up to the rest of the class.
**2.** Assignments can be done in groups of *at most three students*. If a group assignment is handed in, each member will receive the same grade without exception. It is your responsibility to understand all material on a given assignment.
**3.** Assignments must submitted in a legible form. Assignments that are illegible may be given a grade of zero. Please see the instructor if you foresee difficulty meeting this requirement.
**4.** You are expected to attend all lectures. If you miss a lecture, it is your responsibility to understand all material from that lecture, and to get any handouts/information given.
**5.** Extensions or make-up quizzes/examinations will be offered only in cases of illness (a medical certificate may be required), or on compassionate grounds. It is your responsibility to contact the instructor prior to an absence. Make-up quizzes may be offered to those participating directly in intercollegiate events.
**6.** Late assignments will *not* be accepted.

## Fall Lecture Schedule

| **Week of:** | |
|---|---|
| **Sept 11** | Introduction, §1.1 |
| **Sept 18** | §1.2, 1.3 |
| **Sept 25** | §2.1-2.6 |
| **Oct 2** | §2.7-2.8 |
| **Oct 9** | Thanksgiving, §1.4 |
| **Oct 16** | §1.5, 1.7 |
| **Oct 23** | §1.8, 1.9 |
| **Oct 30** | §1.10, 1.11-1.12 |
| **Nov 6** | §4.1 - 4.3 |
| **Nov 13** | §4.4, 4.6 |
| **Nov 20** | §4.7, 4.8 |
| **Nov 27** | §4.9, Review |

## Fall Tuesday Classes

| | |
|---|---|
| **Sept 12** | Review, |
| **Sept 19** | Review, Assign. 1 posted |
| **Sept 26** | Quiz 1 |
| **Oct 3** | Module I first writing, Assign. 1 due |
| **Oct 10** | Module I second writing, Assign. 2 posted |
| **Oct 17** | Review |
| **Oct 24** | Review, Assign. 2 due |
| **Oct 31** | Quiz 2, Assign. 3 posted |
| **Nov 7** | Review |
| **Nov 14** | Module II first writing, Assign. 3 due |
| **Nov 21** | Review |
| **Nov 28** | Quiz 3 |

## Winter Lecture Schedule

| **Week of:** | |
|---|---|
| **Jan 8** | §5.1, 5.2 |
| **Jan 15** | §5.2, Partial Derivatives, §5.3 |
| **Jan 22** | §5.3, Lagrange Multipliers |
| **Jan 29** | §5.4, 5.6 |
| **Feb 5** | §5.6, 5.8 |
| **Feb 12** | §6.1, 6.2 |
| **Feb 19** | Reading Break |
| **Feb 26** | §6.3, 6.4 |
| **Mar 5** | Modelling problems with integration |
| **Mar 12** | §6.6, 6.7 |
| **Mar 19** | §7.1, 7.2 |
| **Mar 26** | §7.2, 7.3 |
| **Apr 2** | §7.3, 7.4 |

## Winter Tuesday Classes

| | |
|---|---|
| **Jan 9** | Review |
| **Jan 16** | Module II second writing, Assign. 4 posted |
| **Jan 23** | Quiz 4 |
| **Jan 30** | Review, Assign. 4 due |
| **Feb 6** | Review |
| **Feb 13** | Quiz 5, Assign. 5 posted |
| **Feb 20** | Reading Break |
| **Feb 27** | Review, Assign. 5 due |
| **Mar 6** | Module III first writing |
| **Mar 13** | Review |
| **Mar 20** | Module III second writing, Assign. 6 posted |
| **Mar 27** | Quiz 6 |
| **Apr 3** | Assign. 6 due |