MATH 100 — Differential Calculus with Applications to Physical Sciences and Engineering

MATH 180 — Differential Calculus with Physical Applications

Session 2013W Term 1 (Sep–Dec 2013)

August 2013

This is the common page for all sections of MATH 100 and MATH 180. This page gives course policies, the course outline, suggested homework problems, some old exams, other course information, and information on available resources. For section-specific information, please contact your instructor.

- **Course Outline**
- **Learning Objectives** (PDF file, 8 pages)
- **Course Sections and Websites**
- **Suggested Homework Problems**
- **Old exams, on the Mathematics Department website**

UBC Calendar Description: Derivatives of elementary functions. Applications and modeling: graphing, optimization.

TEXTBOOK

Calculus, Early Transcendentals, 7th edition by James Stewart.

- The 7th edition of the textbook is necessary for Math100 and Math 180, and the older edition will not suffice.

REGISTRATION CHANGES

- Individual Mathematics instructors do not have the authority to sign forms to change your registration. Instead, the Mathematics Department handles all requests for registration changes centrally. See http://www.math.ubc.ca/Ugrad/ugradRegistration.shtml for information on how to change your MATH course registration.

MATH 100 and MATH 180 WEBWORK SITE LINK

About 10 to 17 problems will be posted on WebWork as course-common homework problems every week and will be due the following week. You will need your CWL login and password to access your homework set.

COURSE POLICIES

- There is a **common final examination** in December for all sections of both MATH 100 and MATH 180. The exam will take place in December at a date to be announced. **Please do not**

make end-of-term travel plans before this date has been released.

- **The midterm exams** for this course will be common to all sections of MATH 100 and MATH 180. There will be two midterms. The midterm examinations are board marked (i.e. all instructors teaching this course mark the exams together) to ensure consistency and fairness across sections. The duration of each midterm will be 50 minutes. The dates are:
  - **Midterm 1: Friday, October 4, 5:30pm-6:20pm.**
  - **Midterm 2: Friday, November 1, 5:30pm-6:20pm.**

- Midterms are non-cumulative, but the final exam is based on the entire syllabus for the course.

- **Exam aids:** No calculatorsor electronic communication devices are allowed at the midterm exams and the final exam. Formula sheets are also not allowed.

- **Missing midterms:** If a student misses a midterm, that student shall provide a documented excuse or a mark of zero will be entered for that midterm. Examples of valid excuses are an illness which has been documented by a physician and Student Health Services, or an absence to play a varsity sport (your coach will provide you with a letter). **There will be no make-up midterms, and the weight of the missed midterm will be transferred to the final examination. To be eligible for this arrangement, you must notify your instructor of your failure to take the test within a week of the missed midterm, and come up with a timeline acceptable to both for producing appropriate documentation for your absence.** Please note that a student may NOT have 100% of their assessment based on the final examination. A student who has not completed a substantial portion of the term work normally shall not be admitted to the final examination.

- **Missing the Final Exam:** You will need to present your situation to your faculty's Advising Office to be considered for a deferred exam. See the Calendar for detailed regulations . Your performance in a course up to the exam is taken into consideration in granting a deferred exam status (for instance, failing badly normally means you will not be granted a deferred exam). For deferred exams in mathematics, students generally sit the next available exam for the course they are taking, which could be several months after the original exam was scheduled.

- **Please bring your student ID-s to both midterms and the final.**

- After the final exam has been marked, **term marks for each section may be scaled** so that the distribution of term marks in the section matches the distribution of the section's final-exam marks. These *adjusted* term marks will be used to compute a student's final grade. This scaling is performed in order to ensure fairness across sections.

CHEATING

- UBC takes cheating incidents very seriously. After due investigation, students found guilty of cheating on tests and exams are usually given a final grade of 0 in the course, suspended from UBC for one year, and a notation made on their Transcript of Academic Record. More information.

AP AND IB CALCULUS SCORES

- If you have a score of 4 or 5 in AP Calculus AB, you can claim credit (without a grade) for Math 100 and continue with Math 101, Math 103, or Math 105 in Term 2. If you have an AP/AB score

of 5, you are eligible for admission to a Math 121, honours integral calculus, in Term 2. A sufficiently high score on AP Calculus BC or IB Higher Level Mathematics also entitles you to claim credit for Math 101. More information.

MATH 100 vs. MATH 180

- The prerequisites for MATH 100 are (a) a grade of 80% or higher in BC Principles of Mathematics 12 (or equivalent) or (b) a score of 73% or higher in the BC provincial examination for Principles of Mathematics 12 or (c) a satisfactory score in the UBC Mathematics Basic Skills Test, and a passing grade in a high-school calculus course. MATH 100 is a three-credit course, with three hours of lectures per week, for one term.

  If you take Math 100, your grade will be computed based on the following formula:

  - Final Exam 50%
  - 2 midterms 18% + 18% = 36%
  - Course-common WebWorks assignemts 8%
  - Other section-specific coursework (to be decided by your instructor) 6%

- The prerequisite for MATH 180 is (a) a grade of 80% or higher in BC Principles of Mathematics 12 (or equivalent) or (b) a score of 73% or higher in the BC provincial examination for Principles of Mathematics 12 or (c) a satisfactory score in the UBC Mathematics Basic Skills Test. MATH 180 is for students who meet prerequisite (a) or (b) or (c), and have *not* taken or passed a high-school calculus course. MATH 180 is a four-credit course, with three hours of lectures and one 1.5-hour workshop per week, for one term.

  If you take Math 180, your grade will be computed based on the following formula:

  - Final Exam 50%
  - 2 midterms 15% + 15% = 30%
  - Workshops 7%
  - Course-common WebWorks assignemts 8%
  - Other section-specific coursework (to be decided by your instructor) 5%

- All sections of MATH 100 and MATH 180 write the same midterm examinations and final examination.

- More information.

MATH 110

- MATH 110 is a 6-credit course that runs from September to April. MATH 110 covers essentially the same calculus topics as MATH 100 or MATH 180, and also includes a review of relevant precalculus topics. The MATH 110 final exam is at a comparable level to the MATH 100/180 final exam. More information.

- If you are currently registered in MATH 100 or MATH 180 and are already having serious difficulty in early September, you may wish to consider taking MATH 110 instead. Change your registration by September 17 (contact the Mathematics Department if the online system does not let you into MATH 110).

RESOURCES

The following resources are available for getting help in the course, in addition to your instructor's office hours:

- **Mathematics Department Tutorial Centre** (location TBA): Tutors are available, at no charge, to answer questions on a drop-in basis, starting the second week of classes and continuing through the final-exam period until the final exam. Times scheduled for MATH 100 and 180 are available by clicking the link.

- **Stewart Calculus website:** This website, provided by the publisher of the textbook, contains helpful supplements to the text, including reviews of high-school material.

- **AMS tutoring:** The UBC student society provides an assortment of tutoring services.

- **Mathematics Department website:** There is much available under the Undergraduates tab, including recent final exams for most undergraduate mathematics courses.