

# MATHS 100 - Differential Calculus with Applications to Physical Sciences and Engineering

## MATHS 180 - Differential Calculus with Physical Applications

Session 2014W Term 1, September - December 2014

- This is the common outline for all sections of MATHS100 and MATHS180 **except** the Vantage College section.
- The instructor in charge is Andrew Rechnitzer.
- This document gives the common course policies and information on available resources.
- For section-specific information, please contact your instructor.

### Very useful links

- **Course Outline** - list of topics covered each week.
- **Learning Objectives** (8 page PDF)
- **WebWorK** - online homework system you will get to know well.
- **Course sections and websites**
- **Suggested homework problems** - the name "suggested" is misleading - you should do a large fraction of them each week.
- **Old exams** - hosted on the Mathematics Department website.
- **A wiki of old exams** - developed by mathematics graduate students.

### Textbook

- *Calculus, Early Transcendentals*, 7th edition by James Stewart
- You may use an older edition of the text, however it is then your responsibility to translate any page, section or question numbers that your instructor refers to.
- The text has a companion website that helpful supplements to the text, including reviews of high-school material.

### Other resources for getting help

- Ask your instructor after class.
- Go to your instructor's office hours.
- Go to the **Maths Learning Centre** which is located in the Leonard S. Klinck Building (LSK) Room 300.
  - Tutors are available, at no charge, to answer questions on a drop-in basis.
  - The services starts in the second week of classes and continues until the final exam.
  - Times scheduled for Maths100 and 180 are available by clicking the link.
- **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.

## Maths 100 vs Maths 180

- Maths100 and 180 are very similar courses.
- They follow the same syllabus at the same level.
- Homework and midterms will be of the same standard across 100 and 180.
- All sections of Maths100 and Maths180 have the same final exam.
- The main difference is that Maths180 has a workshop component.
- More information here.
- See notes at the bottom of this page about AP and IB Calculus and also about Maths110.

### Prerequisites and assessment - Maths100

- The prerequisites for Maths100 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.
- Maths100 is a three-credit course, with three hours of lectures per week, for one term.
- Your Maths100 grade will be computed based on the following formula:
  - Final Exam 50%
  - 2 midterms  $18\% + 18\% = 36\%$
  - Course-common WebWorK assignments 8%
  - Other section-specific coursework (to be decided by your instructor) 6%.

### Prerequisites and assessment - Maths180

- The prerequisites for Maths180 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.
- Maths180 is for students who meet prerequisite (a) or (b) or (c), and have **not** taken or passed a high-school calculus course.
- Maths180 is a four-credit course, with three hours of lectures and one 1.5-hour workshop per week, for one term.
- Your Maths180 grade will be computed based on the following formula:
  - Final Exam 50%
  - 2 midterms  $15\% + 15\% = 30\%$
  - Course-common WebWorK assignments 8%
  - Workshops 7%
  - Other section-specific coursework (to be decided by your instructor) 5%.

### Scaling of marks across sections of Maths100 and Maths180

- After the final exam has been marked, term marks (everything except the final exam) for each section **may be scaled**.
- The purpose of such scaling is to ensure fairness across sections.

## WebWork link and homework problems

- Maths100 and 180 use the WebWorK online homework system.
- You access WeBWorK by following the links in the section listings.
- Each week you will be assigned about 10 to 20 WeBWorK problems which will be due the following week.
- We also **strongly recommend** that you do some or all of the “suggested” homework problems that you can find here.

## Midterm tests

- Midterm test 1 will be held on **Monday 29th and Tuesday 30th September** (in your normal lecture time)
- Midterm test 2 will be held on **Monday 3rd and Tuesday 4th November** (in your normal lecture time)
- What you can bring to your tests and final exam
  - You should bring your UBC ID, pens and pencils, and an eraser perhaps. You will need nothing else (nor are you allowed it).
  - No calculators or other electronic devices — no phones!
  - No formula sheets or summaries
- See “Course policies” below about what to do if you are unable to attend a midterm.

## Final Exam

- The final exam will be held during the exam period - December 2 until December 17. We do not have the precise date yet.
- It will cover the entire syllabus for the course.
- You should not plan any travel until the date of your exams are known.
- See “Course policies” below about what to do if you are unable to attend the final exam.

## Registration changes

- Individual Mathematics instructors do not have the authority to sign forms to change your registration (please don't ask them).
- 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 maths course registration.

## Course Policies

- **Missing midterms:**
  - If a student misses a midterm, that student shall provide a documented excuse otherwise 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).
  - A physician's note must specifically state that the student was medically unfit to write the missed exam on the date of the exam. Absence of this exact information will result in a mark of 0.
  - Your instructor should be notified **within 48 hours** of such an absence and appropriate documentation should be produced **within 7 days**. Failure to comply with these time limits will result in a mark of zero.
  - It is possible that if you are ill or absent your instructor may, at their discretion, arrange for you to take a midterm in another section - if your midterm is on a Monday it may be possible to sit on a Tuesday in a different section (and vice versa).

- Otherwise **there will be no make-up midterms, and the weight of the missed midterm will be transferred to the final examination.**
- Finally - 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.

## **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 Maths100 and continue with Maths101, Maths103, or Maths105 in Term 2.
- If you have an AP/AB score of 5, you are eligible for admission to a Maths121, 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 Maths 101.
- More information.

## **Maths110**

- Maths110 is a 6-credit course that runs from September to April.
- Maths110 covers essentially the same calculus topics as Maths100 or Maths180, and also includes a review of relevant precalculus topics.
- The Maths110 final exam is at a comparable level to the Maths100/180 final exam.
- More information.
- If you are currently registered in 100 or 180 and are already having serious difficulty in early September, you may wish to consider taking 110 instead.
- In that case you should change your registration by September 16 (contact the Mathematics Department if the online system does not let you into Maths110).