



THE UNIVERSITY OF BRITISH COLUMBIA

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MATH 101: Integral Calculus with Applications to Physical Sciences and Engineering 2014W (January–April 2015)

Detailed information can be found at the [MATH 101 web page](#):

<http://www.math.ubc.ca/~gerg/index.shtml?101>

This is the common web site for all sections of MATH 101 in Term 2 of the 2014W session (January to April 2015). Most of the information you're looking for will be found on one of the following web pages:

- [Individual section web pages](#): information specific to your section, such as time and location of classes and office hours.
- [Grading scheme](#): the components of how you will be evaluated, and how those components will be combined into your overall grade. Short version: 10% homework, 40% midterms, 50% final.
- [Homework](#): Web-based weekly homework assignments (WeBWorK) and suggested problems, all to get you ready for the midterms.
- [Midterm exams](#): two midterms, to keep you caught up during the semester and as practice for the final.
- [Final exam](#): covers the entire syllabus, and is worth half your overall grade.
- [Academic misconduct](#): we know you don't want to cheat; here's some information to support you.
- [Syllabus, learning goals](#): what topics you're going to learn, what specific items you'll be learning, and when you'll be learning them.
- [Helpful resources](#): the course textbook and other online resources, office hours and tutorial centre hours, and other helpful information.
- [Piazza](#): an online discussion forum, specifically for our class.

These links can always be found in the sidebar on the left side of the page, no matter where you are in our site.

Important registration note: Individual 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.

General advice for success:

- *Effort pays off!* It is simply untrue that people have a fixed amount of math ability that determines how well they do. Just like any other skill, doing mathematics becomes easier with hard work, practice, and willingness to challenge yourself.
- *Stay caught up!* Mathematics is a very cumulative subject: what we learn one week depends crucially on understanding what we learned the week before. Students who fall behind early struggle to catch up for the rest of the course.
- *Put in the hours!* Remember the 2-to-1 rule for university courses: expect to spend an average of 2 hours outside of class for every 1 hour spent in class. In our course, that means 6 hours per week, in addition to coming to lectures, is quite reasonable (and some students will spend more than that). Jump right in and start spending that time; don't wait until later in the course.

- *Work on the [homework problems](#)!* The WeBWork problems and the Suggested Problems are the most direct way to practice for the exams; in particular, the Suggested Problems are very much like the midterm and final exam problems. It's tempting to try to find some short cut to obtaining the answers, such as taking dictation from a fellow student or searching the internet. Besides the fact that cheating in this way violates [UBC's academic misconduct policies](#), it's important to realize that working on the homework is the primary way for you to learn the course material. Learning to do mathematics is like learning to do anything else: you can't learn how just by watching someone else do it. Take it from someone with years of experience teaching university courses: **people who work through the homework problems (including the Suggested Problems) do better on the exams.** It's that simple.
- *Don't give up!* In earlier math courses, everything we needed to be able to do might have been conveniently written in boxed formulas that we can instantly apply. In more advanced mathematics courses, however, we don't always immediately know the correct way to proceed; sometimes trial and error is necessary, and there's nothing at all wrong with this. Trying, struggling, going back to another idea, making mistakes, fixing them—these are all part of the learning process.
- *Use our [helpful resources](#)!* If you are stuck in the middle of a homework problem or a concept from the course, you are on the cusp of a great learning moment. The instructors, the TAs who staff the Math Learning Centre, and your fellow students on Piazza are very happy to help you see the way past that obstacle. That list of resources also includes ways to address larger issues such as study difficulties, health issues, disabilities, and extreme stress.
- *Consciously address what you find hard!* Why do some people get better quickly when they work hard, while others don't seem to progress as fast? One answer is that **deliberate practice** is much more effective than going through the work just for the sake of finishing it. From a [Freakonomics blog post](#) (boldface is my emphasis): “For example, in school and college, to develop mathematics and science expertise, we must somehow think deeply about the problems and reflect on what did and did not work. One method comes from the physicist John Wheeler (the PhD advisor of Richard Feynman). Wheeler recommended that, **after we solve any problem, we think of one sentence that we could tell our earlier self that would have 'cracked' the problem.** This kind of thinking turns each problem and its solution into an opportunity for reflection and for developing transferable reasoning tools.”

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