

# Math1105 Course Outline

S. Rodney, Cape Breton University Mathematics

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## 1 Course Information

- **Instructor:** Prof. S. Rodney, A129-D Cape Breton University Dept. Mathematics, Physics, & Geology
- **Contact:** [scott\\_rodney@cbu.ca](mailto:scott_rodney@cbu.ca)
- **Text:** We are using a free textbook from UBC, the CLT-1: see your math1105 website to download.
- **WEBSITE:** [srodney.ca/1105.html](http://srodney.ca/1105.html)
- **Where and When:** Lectures: M 10:15 AM - 11:30 AM and F 8:45 AM - 10:00 AM in CE313.  
Lab: See your schedule

## 2 Course Content:

In this course you will explore how scientists measure, estimate, and calculate mathematical quantities of scientific significance. You will explore fundamental results in mathematics and their applications in the real world. These include: limits, continuity, differentiation and instantaneous rates of change, the mean value theorem, with applications in biology, engineering, physics, chemistry, etc... Below is a table describing the specific text sections we will cover.

Chapter and Section and Page number	Content Descriptor
<b>Chapter 1.1-1.6</b>	Limits
<b>Chapter 2.1-2.14</b>	Derivatives
<b>Chapter 3.1-3.3, 3.5-3.7</b>	Applications of Derivatives
<b>Chapter 4.1</b>	Integration (time permitting)

This might feel daunting for you - this is certainly how I felt when I read my intro calculus outline for the first time in 1995. It's important to remember that this course will be challenging, it is Calculus after all. But, we are in it together and there is a lot of support available to you. Here are a few things you can do to help [ensure your success](#).

1. Check the course web page [[srodney.ca/1105.html](http://srodney.ca/1105.html)] often for updates, new readings, homework, etc...
2. Check your Moodle page for lab content updates and discussions.
3. Be sure to attend all lecture and lab sessions
4. Do a reasonable number of suggested homework problems.
5. **Use course office hours!** Come on in to the office to chat in person or meet using Microsoft Teams or Zoom. It's really easy to set up an appointment, just come by during office hours or send an email!

### 3 Evaluation

In this course, your knowledge of course material will be evaluated in lots of ways. First, there will be lab work that makes up 15% of your grade along with online homework assignments (5% of your grade). There will be two class midterms tests worth 35% of your final grade. The midterm test you performed best on will be worth 20% while the other 15%. Finally, there will be a cumulative final exam written during the CBU final exam period worth 45%. Here is a table.

- Lab (15%)
- Homework (5%)
- Midterm Test I & II (35%\*\*)
- Final Exam (45%)

Some modifications to this scheme may be made at the discretion of Dr. Rodney. Any modification made will be to the benefit of all students. Although class tests are not scheduled here, you can expect your midterms to occur near the 5th and 9th weeks of class. You will receive advanced notice (1 week) before any class test.

It is your responsibility to make certain homework is attempted, lab sessions attended, and quizzes and tests written at the scheduled times. It is strongly recommended that you do your best to meet these expectations. Suggested problems for extra practice will be posted on the website from week to week. The date of the final exam will be set by the Registrar and is not negotiable. If you are absent without adequate cause, you will not be permitted to write the exam. If you do have adequate cause (documented medical issue or similar) you qualify for a deferment. Advanced notice is required when possible; 2 week is customary.

#### 3.1 The Role of AI:

What an amazing time we live in. AI is everywhere it seems and it seems to have many of the answers. The use of this tool is heavily restricted in universities. I have the following advice. When doing practice problems and you need to check the answer, AI can be a good tool for you to help find a solution to your confusion. What you shouldn't do is use it for all problems. You will be expected to write tests, quizzes, and exams in this course where the use of AI in any form will be strictly prohibited. So, it is you who needs to understand the course material and be able to do the calculations. This understanding and finesse comes with practice and time. Mathematics is a language and we learn languages by speaking and writing.

- The use of AI or any related tool or device is strictly prohibited during any assessment including submitted homework, lab quizzes, midterm tests, or final exam.

## 4 Descriptions:

1. **Online Homework or “WebWork”:** We will use the free online platform WebWork for weekly online practice. These problems will be more straightforward than the ones given over Crowdmark and are meant as an opportunity for you to practice the techniques you are learning in class.
2. **Labs:** Labs are an important part of the course. They will focus both on practice and reinforcement of topics covered in class, as well as guided explorations of extensions of topics learned in class. These are worth 15% of your final grade. More information will be discussed in the lab class.
3. **Midterms:** The midterms will be held in your lab periods. You can expect the first near the 5th week of class and the second near the ninth. It will be approximately 90 minutes in length and will cover all material covered up to roughly one week prior to the midterm date. More information will be discussed in class.
  - Proper documentation (eg. Doctors certificate) must be provided to justify missed tests.
  - Make-up tests will not be given; the percentage missed will be prorated to the final exam.
4. **Final Exam:** The final exam will be a cumulative test at the end of the semester during the scheduled exam period. Please check the official exam schedule for confirmation. Please note the following.
  - There is \*no supplemental exam\* available for this course.
  - Exams will only be deferred for the most extreme circumstances (e.g. serious illness with doctors note, death in the family), and will not be deferred for any reasons related to travel.
  - Electronic Devices: No cell phones or other electronic devices are not to be on your person during any test or exam. If you are found to have one in your possession, it will be confiscated for the duration of the evaluation and you will be subject to the university's policy on academic honesty.
5. **Email:** Students are reminded that they have a responsibility to check their university email addresses regularly to ensure timely receipt of correspondence from the University and/or their course instructors.

If you would like to ask a mathematical question by email, use

*scott\_rodney@cbu.ca*

Please include a complete statement of the problem, along with a picture of the work that you have done in attempting to solve the problem. Note that it is \*much\* easier to discuss mathematics in person, so if at all possible make use of office hours if you need help.

6. **Website:** I will communicate with the entire class via announcements on the course webpage: “[srodney.ca/1105.html](http://srodney.ca/1105.html)”. Make sure to check this page often for your current course information.

### 4.1 Need a Tutor?

many students find it necessary to find a tutor to help them grasp some of the more difficult concepts in Calculus. Feel free to contact Dr. Rodney at any time for a tutor recommendation or you may visit the Math and Science Center for other tutor information.

### 4.2 Weather:

It is possible that classes will be canceled due to poor weather conditions. See the *CBU Inclement Weather Policy* in the current academic calendar for more information.

### **4.3 Other Course Problems:**

If you are experiencing problems with the structure/delivery of course content, make an appointment with Dr. Rodney to attempt a resolution. If no resolution can be found, you may contact the chair of the department of mathematics, physics, and geology at "scott\_rodney@cbu.ca".