



# BOSTON COLLEGE

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## MATH 1103 – Calculus II (4 credits) – Spring 2018

**MWF 1:00PM Campion Hall 302**

You are required to also register for one of the following **discussion groups**. Once registered, you are not permitted to switch groups except under exceptional circumstances.

**MATH 114901 Thu 11:00AM Gasson Hall 301**  
**MATH 114902 Thu 2:00PM Gasson Hall 301**

### Instructor

**Patrick Orson**

Office: Maloney 540

Office hours: M 3-4, W 11-12, Th 3-4

patrick.orson@bc.edu

### Teaching Assistant

**Yusheng Lei**

Office: Maloney 537

Office hours: Tu 1-2, Th 1-2

yusheng.lei@bc.edu

Please use your BC email address when contacting me. Messages from other email providers may be accidentally deleted without being opened.

**Course description and prerequisites:** This is a second semester calculus course, following MATH1102. Students are expected to have a thorough understanding of differential calculus, as found in MATH1102, as well as high school algebra, trigonometry and geometry. If you did not take MATH1102 last fall, you should review the course notes and homework problems for that course to check that it is all familiar: <https://www2.bc.edu/mark-reeder/1102.html>. In particular, make sure you are familiar with the sections on **Taylor polynomials** and **integration**.

MATH1103 is the most advanced calculus course offered at Boston College and is designed to be substantially more challenging than MATH1101. It is intended for Maths, Physics, Chemistry, and other physical science majors who seek a thorough foundation in Calculus. You should expect mathematical PROOFS of many facts throughout the semester. If you've had calculus in high school, but do not have high motivation for mathematics and think this will be an easy class since you "already learned calculus", you will not be happy here. But if you've had a semester of calculus and want to learn more and be challenged, this is the course for you!

If you would like a less challenging calculus course, please consider MATH1101. For example, Biology majors (premed) can fulfil their maths requirement with MATH1100 and MATH1101. More information to help you choose the right calculus course for you is available at <https://www.bc.edu/bc-web/schools/mcas/departments/math/undergraduate/about-calculus.html>.

**Course website:** The course website is supported by Canvas (access through Agora). Use your BC username and password.

**Course notes:** There is **no textbook** to purchase. The text for the course consists of the notes written by Prof. Reeder and available at <https://www2.bc.edu/mark-reeder/1103S18.html>. These will be updated as the semester goes on.

For those eager for additional examples and exercises, I will recommend parts of the textbook *Calculus of a single variable* QA303.2.L367 2018 by Ron Larson and Bruce Edwards. There is no need to purchase this – it is on reserve for our class in the O'Neill library.

**Homework:** Each week you will be assigned one piece of written homework, posted on the Canvas course website. Usually the submission day is Friday. Solutions must be submitted on 8.5x11 paper, clearly laid out, with multiple sheets stapled together. Always show all your work and write clearly. If the grader cannot read or understand your work, they can't give you credit! **No late homework will be accepted.** If you know you will have to miss class on a day a homework is due, ask a fellow student to put it in the right folder for you on the due day. Contact me **in advance** if you have to be excused for a homework for a valid reason – this includes you being unwell.

**The lowest two homework scores will be dropped from the overall average.**

## Midterms and final exam

- There will be three in-class exams (midterms), held at your usual class time, and one final exam.

<b>Midterm 1</b>	Friday February 09
<b>Midterm 2</b>	Friday March 23
<b>Midterm 3</b>	Friday April 20
<b>Final exam</b>	Monday 14 May, 9:00AM

*Cheating on a midterm or final will result in a failing grade for the course!*

- **Grade weighting**

Homework	25%
Midterm 1	15%
Midterm 2	15%
Midterm 3	15%
Final exam	30%

- **Makeup Exams:** Unexcused absence from an exam will result in a zero score for the exam. If you have a planned, legitimate reason for missing an exam, you must make arrangements with the instructor to take the exam *before* the scheduled time of the exam. **If you are sick the day of the exam, or have a family emergency, etc., go to Health Services or your Dean's office; they will provide me with documentation of your illness or emergency.**

**Approach to learning:** All aspects of a university course are important: preparation, lecture, office hours, discussion section, review, homework, exam preparation. You will get the most out of this course by doing a little every day and engaging all the way through the semester.

An instructor's job is to provide the framework for your learning, with some of the particulars as guidance; however, not every facet of a topic or variation on a problem will be spelled out in lecture – working out such details yourself is part of the learning process. Moreover, mastery of a concept typically involves doing practice beyond what your instructor assigns for grading. Ultimately, you are responsible for your own learning – but you'll find your instructor and TA are very eager to help! We are always happy and willing to discuss the course or any aspect of your learning.

**Classroom etiquette:** Please respect the other students by arriving on time. Cell phones are to be turned off during class. Laptops are not to be used during class. If you have any questions at any time, please feel free to ask! If you have a question in the lecture, you can be certain several other people will be wondering the same thing. It is also very helpful for me to know which questions are on students' minds during class so I can give the most effective explanations.

**Special accommodations:** If you are a student with a documented disability seeking reasonable accommodations in this course, please contact Kathy Duggan, (617) 552-8093, [kathleen.duggan@bc.edu](mailto:kathleen.duggan@bc.edu), at the Connors Family Learning Center (CFLC) regarding learning disabilities

and ADHD, or the Disability Services Office (DSO) regarding all other types of disabilities, including temporary disabilities. Advance notice and appropriate documentation are required for accommodations.

### **Common questions:**

- **I'm going to miss a lecture. What should I do?**

You don't need to let me know. It is your responsibility to get notes from a fellow student and have assignments completed before the due date.

- **What's up with office hours?**

Office hours are when the instructor and TAs are available to answer questions or to talk about course-related issues. You don't need to make an appointment. It's not a lecture, so you should come prepared with questions. It can be quite busy at times, so if you've fallen behind it's not the best place to catch up (although it is a good place to talk about a plan to catch up).

- **What's my grade right now?**

I can say very roughly, but I won't be able to tell you exactly what score you need on the final to make X grade (what would you do with that knowledge anyway?). For each midterm, I will announce approximately what scores correspond to an A, B, etc. in that midterm. Individual homeworks/exams are not curved; *there is just one big curve at the end*. Letter grades are assigned only at the end of the course, and according to departmental guidelines to make sure different semesters are comparable. There is also some flexibility since sometimes a class is particularly strong, or the grade distribution is unusual, or I'm aware of exceptional circumstances.

- **Got any tips for how to get an A?**

First, you need to produce consistently good homework all semester. This continuous effort will also really pay off for you come exam time, as you will already have thought hard about all the topics and will have experience writing about them. Next, study hard and perform well on the exams. Study smart as well! Don't try and cram at the last minute for exams – give it time and plan ahead. Also, make sure you're doing a lot of active practice for exams rather than just passively reading things (after all, in the test you will be asked to actively solve problems).

- **How do I get a bad grade?**

Fall behind and not make an extraordinary effort to catch up. The material is cumulative, requiring regular study/practice; the ability to execute/calculate (rather than nod in agreement when your instructor/TA talks) is key. Not putting in regular effort from day one is the path toward a bad grade, even if you've taken calculus before. Some signs that you're falling behind: you have no idea what's going on in the lecture; the homework questions don't make sense or are taking a very long time; you think you might be falling behind. Getting mad or ignoring it won't fix this – instead, come talk to me and we can work out what to do.

- **Can I do something for extra credit?**

There are no opportunities for extra credit.

- **I think I lost too many points on my homework/midterm/final. Can you give me some back?**

I'm always happy to explain mistakes, but unless there was an actual error in grading, I will probably defend the grader's awarding of points. One important thing to remember is that all the other papers were graded exactly the same way.

- **Outside of the course is there somewhere I can go to get extra help?**

Yes. The math department can recommend a private tutor, or these are free tutoring options:

*Walk-in tutoring:* in the Maths Department, usually in Maloney 536 – check the schedule pinned at the front desk of the Maths Department.

*Tutoring in CFLC:* in the Connor Family Learning Center, 2nd floor, O'Neill Library by appointment, call (617) 552-0611.