MATH 1105, Sections 01 and 02  Calculus II-AP for Math and Science Majors  
Fall Semester 2019  Boston College  
Course Syllabus

Instructor: Prof. Solomon Friedberg  
Office: Maloney Hall, Room 523. Email: friedber@bc.edu. Office hours: Monday and Friday 11-12; Wednesday 12-1, and by appointment (please email for an appointment).

Class Hours: MWF 9 a.m. (Section 01) and 10 a.m. (Section 02), Campion Hall, Room 235.

Text: Calculus by Ron Larson and Bruce Edwards, 11th Edition (Calculus 11e). You will also need to enroll in my WebAssign course, which provides on-line access to the text and e-homework problems. The online access code is bc 5964 9643. For more information about WebAssign, please contact the Cengage coordinator, Casey Harkins, casey.harkins@cengage.com.

Note: For those planning to take Multivariable Calculus, MATH 2202, in the spring semester, those instructors have agreed to use the same book that we are using for this course.

Course Web Site: I will post assignments and solution sets and other course-related materials on BC’s Canvas Learning Management System (www.bc.edu/canvas).

Course Description: This course is a second course in Calculus, focusing on integration and infinite series. Differential equations will also be discussed. The course is intended for Chemistry, Computer Science/BS, Geology/Geophysics, Mathematics, and Physics majors, and is also a very good idea for students interested in a quantitative social science such as Economics. The course is open to anyone wishing a detailed treatment of second-semester Calculus, regardless of major.

We will go through the course material in the following order: Chapters 4.1–4.5, 5.1–5.4, 8.1–8.5, 8.8, 7.1–7.5, 9.1–9.10, 6.1–6.4. We will cover the essential material in each section but not every formula. Overall our course will balance conceptual understanding, procedural and problem solving skills, and selected applications.

Prerequisites: Students in Math1105 are required to have knowledge of calculus similar to what would be obtained in a year of AP Calculus AB in high school. You should know differential calculus well and have already seen the definitions and basic facts about antiderivatives and integrals. Our treatment of integration will assume such knowledge and will include only a quick review of the basics of integration, so that we can focus on the more sophisticated material.

Grading and Examinations: There will be three midterm examinations, each counting 16% of your grade. Homework will count 16%. The final examination will count 36%. Improvement on the final, if any, will also be taken into account in determining your grade. Grades will be assigned by computing your total weighted percentage and taking into account the difficulty of the homework and examinations. My grades generally do not come out to be the 90/80/70/60 scale of high school.
The midterm examinations are tentatively scheduled for Wednesday September 25, 2019, Wednesday October 23, 2019, and Wednesday November 20, 2019. No makeups on the midterms will be given. If there is a reason why you can not take the examination you must let me know in advance (by email). The final examination for Section 01 is Saturday, December 14, 2019 at 9 a.m. The final examination for Section 02 is Saturday, December 14, 2019 at 12:30 p.m. The date and time for the final examinations are fixed by the Registrar and may not be changed. Please note: you must go to all examinations for the section you are enrolled in.

**Homework:** There are two kinds of homework in this course. Written homework will usually be assigned weekly and due one week later. WebAssign homework is to be completed on-line and will be assigned more frequently (about one problem set per class). Late written homework will not be accepted. If you are having trouble with a problem look over the text to see if you can find an idea that helps you get started. If you are still having trouble with a problem, please come to see me in office hours for help. Note that you are welcome, and even encouraged, to come to office hours to discuss the homework before it is due.

**Extra Help in the Course:** Besides meeting with me, you should know about the following resources: (a) the Mathematics Department sponsors a free drop-in tutoring center in Maloney 560, schedule TBA. There are tutors on duty at these times—just drop in. (b) The Connors Family Learning Center provides peer tutoring for all Boston College students, and support services for students with documented learning disabilities and ADHD. Please call 617-552-0611 or see their website for more information.

**Accommodations:** If you are a student with a documented learning disability seeking accommodations in this course, please contact the Connors Family Learning Center. Advance notice and appropriate documentation are required for accommodations.

**Technology and Cell Phones in Class:** Looking at a computer or cell phone screen has been shown to distract nearby students and creates an impediment to learning. So I ask you not to use your cell phone or laptop during class. If there is an urgent situation requiring you to do so, please sit at the back of the room. This should not be something that happens frequently. Surfing the internet during class is never allowed.

**How to Fail This Class:**
(a) Cheat. Please be warned—no quarter given. ‘Nuff said.
(b) Don’t bother to go to class; after all, you already know this stuff. Get a D on the first midterm. Meet with the Professor (preceded by a friendly email to him with Subject “hey prof”) and promise to work harder. Come to a few classes late, decide it’s boring, and stop attending. You’d rather watch TV at night and sleep in. Fail the remaining exams and don’t bother to hand in the homework. Meet with the Professor just before the final to tell him that you “really know it” and are planning on studying non-stop for the next day to be sure. Fail the final. E-mail the Professor to set up a meeting. Explain to the Professor that you had a bad semester due to your roommate, and ask the Professor if there is any extra work you can do over vacation to make up for it so you can get a C.
How to Get a High Grade in This Course:
(a) Attend all lectures. On time. Awake (or at least nearly awake!).
(b) Master the material presented in each lecture prior to the next. To accomplish this, study it on your own (going over your notes several times to really learn it), review the text’s discussion of the material, do all assigned homework related to the topic, and make a list of questions to ask me or a drop-in tutor. Then ask.
(c) Find the way to assimilate the ideas which best works for you. (Some people prefer to study on their own, while others prefer studying in groups. Some find notes from lecture most useful, others prefer to concentrate their energies on the course text.) Be responsible for your own learning!
(d) Allow adequate time to review the material prior to each exam. (Sounds easy, but it may require good time management to balance the needs of all your classes and other activities.) It is typically better to study often in smaller doses in place of infrequent long periods. In place of last-minute cramming, get a good night’s sleep before each test.

Why Calculus? Calculus is one of humankind’s great inventions. In the seventeenth century it allowed Issac Newton to show that the elliptical orbits of the planets are mathematical consequences of a small number of fundamental physical laws. Today, Calculus is a tool used by natural and social scientists to quantify changing situations and to draw conclusions about what will happen going forward. It is key to understanding the physical world and the economy, from modeling climate change to predicting the future value of investments to modeling the growth of a population. If you want to analyze something that is changing, Calculus is highly likely to play a role.

Date: August 26, 2019