

MATH 180F, Calculus and Analytic Geometry I

Fall 2013

Bryan Smith

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Logistics

Classes meet for 50 minutes except on examination days when we meet for 80 minutes.

Professor Bryan Smith	Thompson 390D	879-3562	bryans@pugetsound.edu
Math 180F	Thompson 374	M,F	1:00 - 1:50 P.M.
	Thompson 381	T,Th	2:00 - 2:50 P.M.
Office Hours		Tue, Thu	9:30 - 10:00 A.M. 1:30 - 2:00 P.M. 3:00 - 3:30 P.M.
		Mon, Fri	2:30 - 3:30 P.M.
		Other times	by appointment

Homepage Start at <http://math.pugetsound.edu/~bryans/> to find the webpage for this course.

Course Overview

The prerequisites for this course are high school algebra, trigonometry, and analytic geometry. we will cover the material in Chapters 1-4 and the first five sections of Chapter 5 of our textbook.

Please note that most high school calculus classes move through this material at a slow pace and often restrict attention mainly to computational skills. On the other hand, university calculus classes move much faster and place more emphasis on underlying principles.

Course Goals This course has been designed with the following goals in mind:

- to understand relevant calculus concepts — specifically, limits, rate of change, and accumulation of infinitesimals,
- to gain skill with the associated computational techniques,
- to work with historical and current applications,
- to improve the ability to read and write mathematics, and
- to refine logical and critical thinking skills.

The department also maintains a topic syllabus for this course at <http://www.math.ups.edu/~matthews/Syllabi/MA180Syllabus.pdf>

Daily Process During most class days we will discuss the material covered the previous class day, address questions that arise from the homework assignment on that material, and then look at the next section. We will use simple examples when introducing new material to highlight how the concepts fit into the “big picture” and will address the details and refinements necessary for a deeper understanding the following day (after you have worked on the associated homework problems).

I expect you to do the assigned reading, work on the assigned problems, and actively participate in classroom discussions. You should expect me to ask you individually for ideas on how to proceed in a given problem or develop a new concept and should cultivate the habit of contributing to the discussion even if you are not confident your idea will work out. Many studies have shown that the best way to learn something is to actively engage it, make mistakes, think carefully about what led to the mistakes, correct them, and repeat.

A very useful resource illustrating how to implement the above process is the website <http://www.cse.buffalo.edu/~rapaport/howtostudy.html>

Course Information

Textbook Our textbook is Rogawski’s *Calculus*, 2nd Ed, ©2012, W.H. Freeman and Company.

Reading Outside of class, you are to carefully read the relevant sections of the text. In particular, you should

- work through the reasoning of the arguments and fill in any omitted steps,
- keep a list of specific questions that arise during your reading,
- make sure you find answers to those questions in class, with me outside of class, working with study partners or, with a tutor.

Homework As mentioned above, spending considerable time engaging the material is essential to developing mathematical understanding and skill. To this end, I will assign homework problems from the textbook and/or handouts and we will begin most class sessions by addressing your questions from the previous day’s assigned homework or your reading.

Each day there will be two types of homework assignments.

Type 1 I will usually assign one or two problems to be submitted to me for grading. To receive full credit, your work should be complete, clear, correct, readable, and organized. Poorly written or messy problems will be marked down.

Type 2 I will also assign a number of problems to be submitted (written on separate pages from the Type 1 problems) to a grader. The grader will check to see if you have made a significant effort on these problems and will provide some feedback on those efforts.

The reason for homework is to help you master concepts. It is not just for developing computational skills. When you finish a homework problem you should ask yourself if you fully understand the ideas and skills necessary to get a correct answer. If not, you should think carefully about what you need to acquire that understanding and develop questions to ask in class whose answers will lead to that understanding.

Due Date Policy Each problem set will have a due date posted on my website which will usually be the second class day after we discuss the material in class. If you wish to turn an assignment in late, you must talk with me before the due date. For reasonable circumstances, I will grant individual extensions for deadlines. If you submit an assignment after a deadline (or an extension we have agreed upon), I will assess a penalty equal to 15% of the assignment's maximum point value for each working day the assignment is late.

Assessment

For assessment purposes we will have six examinations: five during the semester and a final. The date for each exam will be given at least one week in advance and the sixth exam will occur during the Final Examination period for this course. **Do not make travel arrangements that conflict with this scheduled examination.** You should not be surprised if the first five exams occur in weeks 3, 6, 9, 12, and 15 of the semester.

Since exams will be designed so you will not one, calculators will not be allowed.

The comprehensive final examination is scheduled for Dec 16 (Monday) 12:00pm-2:00 P.M. The final exam cannot be given at any other time. However, I will allow you to work longer on the final than the two-hour scheduled block of time. **Make your travel plans accordingly.**

Grades To determine your course grade, I will drop your lowest two Type 1 homework problem scores and then calculate an overall homework percentage. If this homework percentage is greater than the lowest of your exam percentages, your lowest percentage of the first five exams will be replaced by the **average** of that percentage and your Type 1 homework percentage. (If not, Type 1 homework will play no direct role in your course grade.) After making this adjustment, I will drop the lowest of the first five exam scores. Type 2 homework sets will be marked as either 1 (denoting acceptable effort) or 0 (denoting insufficient effort). The Type 2 homework percentage will be worth 5% of your final grade.

I will then calculate a total course score with the exams weighted 70%, the final 25% and the Type 2 homework 5%. I assign a preliminary course grade based on an objective standard (93.3-100% for an A, 90.0-93.2% for an A-, 86.7-89.9% for a B+, 83.3-86.6% for a B, etc.). I then look at each student's performance subjectively. Occasionally I will assign a course grade that is higher than the objective standard. For example, if a student has a grade of B according to the objective standard but has shown steady improvement, I might assign a course grade of B+.

If you wish I will post, on my university web page, a grade report with your current standing in the class. This will allow you to keep track of your grades on the various assignments and check them against these reports. If there are any discrepancies they should be dealt with immediately.

To have your information posted you need to print your name, the class (MATH 180F), and a code on a sheet of paper. Then sign the paper and physically hand it to me. **I will not** accept a code by email or phone. The code is to be a sequence of up to 23 symbols I can type on a keyboard.

Reminders

Here are five university policies contained in the *Academic Handbook*. They are fully described online and you may also request a printed copy from the Registrar's Office (basement of Jones Hall)

“Regular class attendance is expected of all students. When non-attendance is in the instructors judgement excessive, the instructor may levy a grade penalty or may direct the Registrar to drop the student from the course.”

See <http://www.pugetsound.edu/x4741.xml#registrationattendance>

Do not misunderstand withdrawal grades. A Withdrawal Grade (W) can only be given during the third through sixth weeks of the semester, after that time, except for unusual circumstances, the appropriate grade is a Withdrawal Failing (WF). This is true *even if your work has been of passing quality*. See <http://http://www.pugetsound.edu/news-and-events/events-calendar/> for the last day to drop with an automatic 'W'.

See <http://www.pugetsound.edu/x4727.xml#withdrawal>

All of your graded work is expected to be your own. Any violation of the university's Academic Honesty policy (cheating and plagiarism) will be handled strictly and in accordance with that policy. Penalties can include failing the course and can range up to being expelled from the university.

See <http://www.pugetsound.edu/x4718.xml>.

The university has a Student Bereavement Policy: Upon approval from the Dean of Students Office, students who experience a death in the family, including parent, grandparent, sibling, or persons living in the same household, are allowed three consecutive weekdays of excused absences, as negotiated with the Dean of Students.

<http://www.pugetsound.edu/student-life/student-handbook/academic-handbook/bereavement-policy/>

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Peggy Perno, Director of the Office of Accessibility and Accommodations, 105 Howarth, 253.879.3395. She will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

See <http://www.pugetsound.edu/student-life/student-handbook/academic-handbook/service-for-persons-with-disab/>

Emergency Response Information Please review university emergency preparedness and response procedures posted at www.pugetsound.edu/emergency/. There is also a link on the university home page. Familiarize yourself with hall exit doors and the designated gathering area for your class and laboratory buildings.

If building evacuation becomes necessary (e.g. earthquake), meet your instructor at the designated gathering area so she/he can account for your presence. Then wait for further instructions. Do not return to the building or classroom until advised by a university emergency response representative.

If confronted by an act of violence, be prepared to make quick decisions to protect your safety. Flee the area by running away from the source of danger if you can safely do so. If this is not possible, shelter in place by securing classroom or lab doors and windows, closing blinds, and turning off room lights. Lie on the floor out of sight and away from windows and doors. Place cell phones or pagers on vibrate so that you can receive messages quietly. Wait for further instructions.