

## Mathematics 106 C&D - Calculus 2 Winter 2008

**Professor:** Caleb M. Shor, 205 Hathorn, [cshor@bates.edu](mailto:cshor@bates.edu), x6403.

**Course Meeting Times:**

- 106C: MWRF 11:00-11:55, Hathorn 100.
- 106D: MWRF 12:05-1:00, Hathorn 100.

**Office Hours:** T 1-2, R 2-3, F 10-11, and by appointment.

**Text:** Calculus from Graphical, Numerical, and Symbolic Points of View, second edition, by Ostebee and Zorn. (ISBN 0618247882)

**Course Description:** In this course, we continue to study the relationship between derivatives and integrals. We will develop methods to solve integrals both symbolically and numerically using a variety of techniques, and we will see applications of integration to calculating areas, volumes, arc length, probabilities, and solving differential equations. We will also study sequences and series, using the latter to understand Taylor series, which give approximations for a wide class of functions. Along the way, we will derive formulas like

$$\pi = 4 \left( 1 - \frac{1}{3} + \frac{1}{5} - \frac{1}{7} + \dots \right) \text{ and } e = \frac{1}{0!} + \frac{1}{1!} + \frac{1}{2!} + \frac{1}{3!} + \dots$$

One important aspect that will be stressed in this course is how to communicate mathematics effectively.

**Course Webpage:** <http://abacus.bates.edu/~cshor/winter08/ma106/>  
On the course webpage, you can find a detailed schedule of course material for the semester, homework assignments, course handouts, etc. Bookmark it!

**Grading:** Grading for this course is given by: labs 5%, quizzes 20%, midterms 20% each, final exam 25%, class attendance and participation 10%.

I am happy to award partial credit where credit is due. For this reason, it is important to explain your answers clearly. For instance, if your final answer is incorrect, but the reasoning is valid, then you will at least get some partial credit. On the other hand, an incorrect answer with no supporting work is unlikely to get any credit.

**Labs:** Labs will meet during the weeks of January 14, January 28, February 11, March 3, March 17, and March 31 in Hathorn 209. You will sign up for a specific day and time during the first week of class. Please contact assistant-instruction Eric Towne ([etowne@bates.edu](mailto:etowne@bates.edu)) with any lab-related questions.

**Quizzes:** There will be a quiz every Friday. There are no makeup quizzes after class. If you know you will miss a quiz, you can make arrangements to

take an alternate quiz *before* the scheduled quiz. The lowest quiz score will be dropped.

**Midterm Exams:** Friday, February 1, and Friday, March 7.

**Final Exam:** Wednesday, April 9, at 3:45 p.m. (Location to be announced.)

**Note:** If you have a conflict with a midterm or the final, notify me at least one week before the exam. We will arrange an alternate exam *before* the scheduled exam. Late exams are permitted only in cases of emergency, with appropriate documentation.

**Class attendance and participation:** I expect you to attend every class, although I am aware that illnesses and unavoidable conflicts may occur. Thus, I will allow two unexcused absences. After that, unexcused absences will count against you.

As for participation, I believe that the best way to learn mathematics is by doing rather than simply listening. I expect students to participate in class by asking questions, answering questions, and solving problems at the board.

**Homework:** Homework is assigned every class. Since the course material is continually building upon itself, it is very important to keep up with the homework assignments. Your homework will not be graded - however, many problems on the quizzes will come directly from the homework.

I strongly encourage you to work with other students on the homework assignments. Working with fellow students is often quite valuable. However, to prepare for the quizzes and exams, you should make sure you can write up the solutions on your own in such a way that a classmate of yours could pick up your work and completely understand it.

**Walk-in Tutoring:** Available at the Mathematics and Statistics Workshop, Canham House 1 & 2, Sunday-Thursday 7-9pm, Monday-Thursday 1-4pm, and by appointment. More information is available from [http://abacus.bates.edu/acad/acad\\_support/msw/](http://abacus.bates.edu/acad/acad_support/msw/)

**Review Materials:** Pre-exam review sheets, copies of old exams and quizzes (and solutions!), and other study tools are online at <http://abacus.bates.edu/~etowne/mathresources.html>

**Review Sessions:** There will be one coursewide review prior to each midterm and two prior to the final (each covering half the course). They will be held by Eric Towne in Pettengill G52 (Keck Room) at the following times.

- Wednesday, January 30, 7 p.m.
- Wednesday, March 5, 7 p.m.
- Monday, April 7, 10 a.m.
- Tuesday, April 8, 7 p.m.