Basics

Where
Section A: Thompson 387
Section B: Thompson 171

When
Section A: MTThF, 8-8:50
Section B: MTThF, 10-10:50

Text
*Calculus, 2nd Edition*, by Jon Rogawski

Course Webpage
http://math.pugetsound.edu/~ctoews/teaching/fall12/calc2/

Instructor
Carl Toews

Contact Info
TH 390H
(253) 879-3839
cwoes@pugetsound.edu
Office Hours: M 10-11, TTh, 9-9:30 and 10:30-11:00, and by appointment.

Course Description

Welcome to Math 181, i.e. Calculus II! This course is the sequel to Math 180 (Calculus I.) While the focus in Math 180 was on limits and differentiation, with just a touch of integration thrown in at the end, the focus in this class will be on integration, including the myriad tricks people have developed to solve integration problems and an overview of their many applications. As in Math 180, our focus will be not just on acquiring a solid technical foundation, but on learning to appreciate Calculus as a logical and aesthetic endeavor in its own right.

This course deals exclusively with functions of a single variable. In the next course in the calculus sequence (Math 280) you will have the opportunity to learn about how to do calculus in several variables. Just as the basic concepts of limit and differentiation will form the bedrock on which we build this course, so this course will form the foundation of Math 280.

Course Activities

1. **Homework:**
   Homework will be assigned daily. In general, I will assign roughly 4-10 problems. The problems will both be posted on the class webpage and announced in class. In general, the expectation is that you will do the problems before the next class period, and then come to class prepared to present the solutions. The solutions will be turned in each day, after discussion. I will pass around felt-tipped pens, and you are free to annotate your work based on the discussion that materializes in class. Depending on how the class flows, I may opt to collect your work on either a daily or weekly basis, but in either event will assign a single grade for all the work in a given week. Since the solutions will have been discussed in class, the grade for this homework will be relatively cursory, based mostly on completeness. I anticipate using a three point scale, as follows:

   **Weekly Homework Grade:**
   - 3 Work is correct, complete, and elegant
   - 2 Work is reasonable, but is either missing something or has significant mistakes
   - 1 Work has egregious and enduring problems
   - 0 Worse than any of the above
Daily homework that is turned in late will be marked as such, and the corresponding weekly score will be dropped by one point. At the end of the term, I will drop the lowest homework score.

2. Quizzes:
   Every Tuesday there will be a quiz that covers the material on which I lectured the previous week. In general, the quizzes are designed to be relatively straightforward extensions of the homework: if you complete and understand the homework, you should do adequately on the quizzes. Quizzes will be graded on a scale from 0 to 10 points, and I will drop the lowest two quiz scores at the end of the term. Do note that I do not allow make-up quizzes: the two dropped quizzes are designed to accommodate necessary absences on Tuesdays (e.g. sporting events, death or illness, etc.)

3. Exams:
   I intend to administer three exams during the course of the semester, spaced at roughly equal intervals. The exams will heavily leverage work you’ve done on the homework and quizzes, i.e. about 80% of the material should be directly analogous. The remaining 20% will consist of conceptual questions or other extensions of the theory.

4. Final Exam:
   There will be an in-class, closed book, technology-free final exam during the regularly scheduled final exam period. For Section A, the final is Wednesday, December 12, 8:00-10:00 a.m., and for Section B, the final is Wednesday, December 12, 12:00-2:00 p.m.

5. Attendance and Participation:
   You learn mathematics by doing and discussing mathematics, not by having a teacher tell you how to do it. Active participation in this course is imperative. There are several ways to be actively involved. The simplest is to attend my class sessions. I will take roll, and your presence (or absence) will be noted. Much of the time we spend in class will be devoted to student presentations of homework solutions. In general, I will call on students randomly to present problems. If you don’t know the answer to one, not a big deal, but if a whole week goes by and you haven’t presented at least once, you’re doing something wrong. You should also be prepared to comment on other students’ solutions.
   In general, I will assign a weekly participation grade based on the above factors. I will note who presents, who ask questions, etc., and at the end of the week, I will assign a grade on a scale of between 0 and 3, as follows:

   **Weekly Participation Grade:**
   3  Prepared, actively engaged, communicative.
   2  Presents a problem, but maybe occasional absences, or very little commentary.
   1  Perhaps present, but doesn’t present a problem, and doesn’t offer commentary.
   0  Not present, physically or mentally.

Grading

Your final grade will be based on your performance in the various class activities. For each activity, you will be assigned a percentage, and your final grade will be a weighted average of these percentages, with the weights allocated as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation</td>
<td>10</td>
</tr>
<tr>
<td>Homework</td>
<td>10</td>
</tr>
<tr>
<td>Quizzes</td>
<td>20</td>
</tr>
<tr>
<td>Exams</td>
<td>45</td>
</tr>
<tr>
<td>Final Exam</td>
<td>15</td>
</tr>
</tbody>
</table>
**Topic List (provisional):**

The course essentially consists of Chapters 5-8 in the text, as well as Chapter 10. Broadly, the subjects are as follows:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Chapters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Integration</td>
<td>5</td>
</tr>
<tr>
<td>3-4</td>
<td>Applications of integration</td>
<td>6</td>
</tr>
<tr>
<td>5-6</td>
<td>Techniques of integration</td>
<td>7</td>
</tr>
<tr>
<td>7-8</td>
<td>Applications to physics</td>
<td>8</td>
</tr>
<tr>
<td>9-13</td>
<td>Sequences and series</td>
<td>10</td>
</tr>
</tbody>
</table>

A detailed class calendar is kept on the class webpage.

**Policies**

1. **Late Work:** On-time is better than late, late is better than never. In general, try to get stuff in on time, i.e. to my office by 5 p.m. on the date the assignment is due. Work that comes in after that time will automatically be reduced by one letter grade. Truly egregious lateness may generate greater penalties, but I’m less interested in giving penalties than I am in having you learn the material, so do the work in any event and hope for the best.

2. **Missed Exams:** If you need to miss an exam, clear it with me in advance. There are not many valid excuses for missing exams (death is one; there may be others.)

3. **Disabilities:** If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Peggy Perno, Director of Disability Services, 105 Howarth Hall, 253-879-3395. She will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

4. **Class emergency response guidance:**
   
   Please review university emergency preparedness and response procedures posted at [www.pugetsound.edu/emergency/](http://www.pugetsound.edu/emergency/). There is 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.