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MATH 171 Calculus II

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MATH 171  Calculus II - Spring 2013

Instructor: David Gerberry
Schedule: MW 8:30-9:20am in Smith Hall 349
           TR 8:30-9:45am in Hailstones Hall 19
          The text for MATH 171 exists in several versions: hard cover, paperback, one volume, two volumes, and a reproduction by a different publisher (which is what the bookstore carries). They all have different ISBN numbers. Any of these versions is OK as long as you have the right title, authors, and edition.
          It is strongly recommended that you have a TI-84 (or TI-83) graphing calculator for this course. This calculator is standard in all Xavier math courses.


Course objectives:
1. Students will develop a deep understanding of integration, sequences and series that goes beyond being able to "get the right answer" on specific problems. This includes understanding: why particular calculations are made and why they produce the right answer and how topics within Calculus II are related to each other and to topics in Calculus I.
2. Students will be able to clearly communicate mathematical ideas to both peers and individuals with less mathematical background.
3. Students will be able to identify real-world problems that can be addressed using ideas from Calculus.

Course Relation to the Core Curriculum:
GOAL 1: Students will be effective communicators in writing and orally.
   2. Students will formulate clear and arguable theses, supported by evidence drawn from appropriate sources.
   Goal 2.1 will be achieved through a focus on using quantitative data and mathematical techniques as a means to address real-world problems. Mathematics is a language that is universal and unambiguous, so quantitative data and mathematical writing provides a unique vehicle for effective communication.
GOAL 2: Students will be critical thinkers.
   1. Students will analyze and interpret texts, images, objects, artifacts, and quantitative and qualitative data.
   5. Students will evaluate the use of science and mathematics in society and everyday life in an informed manner.
   Goals 2.1 and 2.5 are central themes of this course.

Grades: We will use the following scale for letter grades:

- A  90-100
- B  80-89
- C  70-79
Grades will be calculated as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>60-69</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 60</td>
</tr>
</tbody>
</table>

Homework = 50 pts
Quizzes = 50 pts
Exam 1 = 100 pts
Exam 2 = 100 pts
Exam 3 = 100 pts
Final = 200 pts
TOTAL = 600 pts

Borderline grades:
The main mechanisms for resolving borderline grades are Final Exam scores and Homework/Quiz scores.

1. Final Exam example: If you are between an B and A and you got an A on the Final Exam, you will get the A for the course.
2. HW/Quiz example: If you are between a C and and B and have a strong HW/Quiz score of 93% (indicating a strong effort in the course), you will get the B.
3. Class attendance and participation can also be used to resolve borderline grades, although in a more subjective way.

It is possible for Student 1 to have a semester grade of 89.84 (with HW/Quiz score of 0 and Final Exam score of 85) and get a B while Student 2 with a semester grade of 89.79 (with HW/Quiz score of 98 and Final Exam score of 93) gets an A.

+/- grades:
+/- grades will be used at the instructor's discretion to resolve borderline situations. +/- grades can only benefit the student (i.e. getting a 90% or above guarantees the student an A).

Homework and Quizzes:
Homework will be assigned daily and collected weekly to be graded.

Quizzes will be short (usually 7-10 minutes, 1 or 2 questions). We will aim to have approximately 7 or 8 quizzes during the semester. The main purpose of the quizzes is to bring issues to light before the next exam.

Importance of homework:
The importance of completing the homework assignments in this course can not be overstated. Being able to do mathematics (like playing a sport or a musical instrument) requires practice. Exam questions will be very similar to homework questions in both design and difficulty. Therefore, your completed HW assignments are the best study guide for the exams. My suggestion: in the corner of each HW assignment, make a small list of the problems which were the most difficult and maybe a note on why they were difficult.

Homework formatting:
I really hate to do this, but I feel that I must make formatting requirements for HW. It is simply too difficult for me and/or a grader to sort through HW assignments to find particular problems.

1. Assignments must be stapled before being turned in (this may require you to buy a small stapler).
2. In the upper right corner, put at least your first and last name and the HW assignment #.
3. Start each new section's problems on a new sheet of paper.
4. Label each new section and problems in the top margin of that new sheet of paper.
5. Do all HW problems in one column and leave enough space.
6. See this example to see what in the world I am talking about.

Late homework:
Late homework will not be accepted. All HW must also be turned in during class. You can NOT miss class in the morning and turn in the HW later in the day. You CAN turn in HW in class and then come to office hours later in the day to fix things in your HW. However, your lowest 2 HW scores will be dropped in calculating your final HW grade.
Projects:

I do reserve the right to assign a few small projects. The scores for these projects will be incorporated into your HW score. The projects will substitute for traditional HW and will not add a substantial time burden.

Make-up quizzes:

Make-up quizzes will not be given. However, your lowest 1 quiz score will be dropped in calculating your final quiz grade.

Math Tutoring Lab:

In addition to my office hours, you should take advantage of the Mathematics Tutoring Lab in CLC 419. You can get free (well, sort of free in that you've already paid for it) HW and studying help, individually or in groups, from upper level mathematics students. It is a great place to meet with classmates to work on HW assignments and have someone on hand for any questions that arise. The MTC is open M-R 10am-8pm, F 10am-2pm, Sun 2-8pm and closed on Saturdays. Its phone number is 745-3069.

Collaboration:

You are strongly encouraged to work with fellow students on homework assignments. Doing so is an important step in meeting the course objective of "being able to effectively communicate mathematical ideas and difficulties." Keep in mind though, that collaboration on exams is frowned upon. In fact, we call it cheating, so it is very important that collaboration on HW is done in a way that develops your own ability to solve the assigned exercises.

Disability Services:

For students with documented disabilities, the Learning Assistance Center provides accommodations such as extended time on exams, reduced distraction testing environment, note-taking assistance, and assistive technology. These services are provided in a positive and encouraging environment which promotes appreciation for diversity and Cura Personalis. If you feel that you may require these services, please contact me or the Learning Assistance Center directly as soon as possible to arrange for appropriate services.

Disclaimer:

Things in life happen that are much more important than this course. While the course policies are "set in stone," please inform me if serious issues come up (e.g. family emergencies, health issues, etc.). Under such circumstances, all policies are flexible and we will find a workable solution that lets you deal with what is important and still get a grade that reflects your understanding of the course material. If something does come up, please alert me via email and/or phone as soon as possible so I don't worry or simply assume you are slacking off.

Course Outline:

Our tentative plan is to cover the rest of Chapters 5 and Chapters 6-11 of the textbook. Our 3 midterms should fall approximately in Week 4, Week 8 and Week 12, but are flexible to avoid conflicts with exams in other course (to some extent).

The Final Exam will be held on Tuesday, April 30 from 8:30-10:20am in Hailstones Hall 19. It will be cumulative but give more emphasis to the material covered after Exam 3.

Homework Assignments:

Homework assignments will be posted on www.cs.xavier.edu/~david.gerberry/MATH171.