

Math 124.03 Calculus Preparation - Spring 2008
MWF 9:00 - 10:00 AM, Room: M LNG 314
T 9:30 - 10:45 AM, Room: EDUC 318

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Office Hours: Wednesday 3:00-4:00 and Thursday 11:00-12:00

Tutoring Hour: TBA

Textbook: "Functions Modeling Change" Second Edition, Connally, Hughes-Hallett, Gleason.

Homework Policy:

Homework is an essential part of this course and should be taken seriously. Among other things, homework provides me with feedback and also helps prepare you for the exams. Typically, homework assignments will consist of problems from the textbook. Many of the assigned problems will not only ask you to solve a problem computationally, but will also ask you to explain your methods using clearly written sentences.

Writing in Mathematics

In academics, being able to express your thoughts in a way that can be understood by others is essential. This is especially true in the scientific fields since mathematicians and scientists must explain abstract concepts to people outside of their fields. By writing in Math 120R, you will be able to present your work in a clear and organized fashion. In addition, writing solutions to problems will provide you with a deeper understanding of the concepts discussed in class. Moreover, writing will enable me to understand the concepts that have remained unclear. Below are some guidelines that will be used when grading your work.

1. **Write as if the reader does not already know what you are want to say:** Assume that whoever is reading your work does not know how to solve the problem. Keep in mind that the reader can only see what you have written, not what you meant to write.

2. **Focus on the process and not the final solution:** Clearly describe your thinking. Focus on the logic behind the steps of a problem and not the computations.
3. **Use an easy-to-read format:** Use complete sentences, write legibly, be concise, and organize your work in a logical manner. Also, please leave plenty of room on your paper for my comments.
4. **Avoid vague words like “it”:** Most problems contain many quantities. “It” does not tell me which quantity you are referring to. Consequently, I cannot give you credit. Something that is clear to you, has to be made clear to the reader in order to receive credit.
5. **Define any symbol you used that was not introduced in the problem:** For example, if you want to use the variables l and w to represent the length and width of a rectangle your writeup should include a sentence similar to: “Let l and w equal the length and width of a rectangle”. Also, the variables you use should make sense in the problem. Do not use the letters x and y in an equation unless the variables they represent are something like xylophones and yams.
6. **Use complete and proper mathematical notation:** Always use units on your answers and label graphs completely.

Homework Procedures and Format

1. **Deadlines:** Homework will be assigned regularly and will typically be due the next lecture period. For example, if I assign homework on Monday it will be due on Wednesday. Homework will be collected at the beginning of the class period it is due. **No late homework will be accepted.** Homework that was completed during class time will also not be accepted. If you come in late, hand in your homework immediately. To account for absences, at the end of the semester I will drop several of the lowest homework assignments.
2. **Grading:** Each homework assignment will be graded on a 10 point scale. Because of time limitations, I will not grade every problem assigned. Instead, I will select certain problems that will be graded (generally five problems).

3. **Format:** To ensure that I return your homework in a reasonable amount of time please make sure your homework obeys the following format:

- (a) Do your homework on 8.5×11 paper and use both sides of the paper.
- (b) Write your name, textbook section number, and date at the top of each page.
- (c) Each problem should be clearly numbered and written legibly. If I cannot read or I do not understand what you have written, I will not grade the problem.
- (d) Do not use a pen.
- (e) For each problem, clearly illustrate the steps you followed to solve the problem. For some problems, a “correct” answer with no work will receive no credit.
- (f) If your homework contains multiple pages, staple all of the pages together.

Failure to follow any of these guidelines could result in a loss of points on the assignment.

Calculation of Homework Grade

To calculate the student's homework final score I simply rescale the student's total number of homework points to be out of 100 points.

Quizzes:

Throughout the semester there will be several quizzes. Each quiz will generally be worth 20 points and is included in your quiz grade. Most of the quizzes will be administered at the beginning of each lab period. Typically, each quiz will consist of a problem similar to one from the homework and also an algebra review problem. To calculate the student's quiz grade at the end of the semester I rescale the student's total number of quiz points to be out of 50 points.

Lab Policy:

The purpose of the lab is to synthesize what has been studied in class. Each lab will use real world data to model one of the functions we have studied in class. You will be expected to find equations that model this real world data and explain what is meant by all parameters in the equations. A major component of your grade on the lab will be from how well you explain your equations and the goals of the lab.

Specific Lab Procedures:

1. The labs will take place on Tuesday (the day your class meets for 1.25 hours). You are expected to be in class. If you miss a lab then you will receive a 0 for that lab report. If you must miss a lab for a verifiable excuse, then you can do that week's lab by yourself. Your lab reports will be due a week after the lab is worked on in class.
2. All lab reports must be word processed and all graphs must be done in Excel.
3. Bring to lab the answers to any pre-lab problems that were assigned. If you fail to do this you are letting down your fellow team members. If you do not have the pre-lab problems done at the beginning of the labs, 25% will be deducted from your grade on that particular lab. No exceptions.
4. Bring a graphing calculator and the textbook to lab.
5. Each lab report should be written so that anyone familiar with precalculus could pick it up and understand the topic of the week's lab. The lab report is not a list of answers. It should be written in complete sentences and the ideas of the report should flow. Be sure to include an introduction for the reader. The introduction should include an explanation of what the lab is about and the mathematical concepts involved. Length is not important but you must convince me that you and your group understand the concepts. You also should include a conclusion which sums up the results of the lab found by you and your lab partners.
6. Each lab report will represent the joint work of a group of 3-4 people. For each lab, one person (called the lead author) will be in charge of writing up the groups' results. Each member of

the group is responsible for the results but it is the lead author's responsibility to present the final draft in written form. Each member of the group must be lead author at least once.

7. The lead author should write up a rough draft and make enough copies for the co-authors. He/she should present these copies to the group within a couple of days after the lab is worked on in class. Each of the co-authors should read the lab report and make the necessary corrections or comments and return it to the lead author in the next day or two. The lead author should then make the necessary changes and turn it in at the beginning of class the day it is due. This is a very important part of the process. If the lab is poorly written and/or incomplete, everyone in the group will receive a low grade.
8. Please be sure to state clearly the lead author's name and the co-authors names on the final version. If a group member did not attend that week's lab, that person's name should not appear on the lab. If you include the name of an individual that did not attend the lab this is considered to be a violation of the code of academic integrity and will be dealt with accordingly.
9. One grade will be assigned to all members of the group.
10. Once the lead author has received the corrected lab report back, he/she should make copies for his/her co-authors. The collection of lab reports will form an important collection of notes that one should study in preparing for exams. There will be questions on exams that specifically pertain to the labs so each member of the group is responsible for the material covered in the lab even if they are not the lead author.
11. Throughout the semester you may be asked to present your group's work to the class. No two group's lab reports will be the same so by presenting your findings the remainder of the class will be able to gain from viewing a different approach.

Grading of the labs:

There will be four labs, where each lab is worth 12.5 points toward your final grade. The grading of the lab will be based on a 50 point scale where 20 points are awarded for mathematical correctness,

20 points for the explanations provided by the group and 10 points for style.

Mathematical correctness: Points are awarded according to the correctness of the equations found by the group, using variables that make sense in the context of the problems and correctness of all computations made throughout the lab.

Explanations: Points will be awarded according to how well the group explained all variables and parameters and how well your group explained the goals and conclusions of the lab. To receive points for this part, you need to carefully and accurately explain every part of the lab.

Style: Points will be awarded according to how well your group has written and organized the lab. Remember, this is a paper. Points can be deducted for spelling error, grammatical errors and poor writing. The organization of the paper is also of great importance. Your ideas should flow, there should be an introduction and a conclusion. A lab is not just answers to questions.