Math 71/90, Fall 2004 Syllabus

Instructor: Dr. Katherine Byler
Office: PB 343
E-mail: Click here
Phone: 278-4996

Course: Math 71/90 (calculus with review)
Class meets: MWF in S 139
- MW 1:00-2:15pm, F 1:00-1:50pm (class numbers 76618 and 76107) or
- MW 2:30-3:45pm, F 2:00-2:50pm (class numbers 76619 and 76107)

Texts:

Welcome to Math 71/90! Math 71/90 is a 4-unit course, intended to be taken with the continuation course which will be offered in the spring semester. This semester we will cover inequalities, functions, graphs, limits, continuity, differential calculus, and applications, along with review of selected necessary high school algebra, geometry, and trigonometry. Students must meet the ELM requirement for Math 6 in order to enroll in this course. The course covers chapters 1 through 3 of Stewart's text, plus Chapters 2-12 of the Companion (chapter 1 of the latter text is considered review. If it does not seem like review, you should review it very soon!).

Calculus is a very interesting and very useful subject. This course, however, will be demanding. This is not "dumbed-down calculus." You will be expected to put in a lot of time and effort to learn the material. I will do my very best to teach it to you, but you must ultimately take the responsibility to stay caught up, seek extra help when you need it, and monitor your progress in the class. I am always here to help you do this.

I am very much looking forward to this course. I hope my enthusiasm rubs off on you!

Please see the following links for complete information:
- Frequently Asked Questions about Math 71/90
- Office Hours
- Learning Objectives and Learning Outcomes
- Course Outline
- Homework
  - Homework Policy
  - Homework List (partial)
- Quizzes
- Midterms
- Final Exam
- Attendance
- Other Stuff
  - Calculator Policy
  - Classroom Behavior
  - Academic Honesty
  - Students with Disabilities
  - Extra Help
  - Bonus Points

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Learning Objectives

Upon completion of this course, students should understand:

http://zimmer.csufresno.edu/~kbyler/2004-2/m/1-80/syl.html
- The benefits and limitations of mathematical models.
- The concept of a limit.
- Continuous functions.
- The definition of a derivative as a limit of difference quotients.
- How to interpret the derivative in the context of real-world examples.

Learning Outcomes

Upon completion of this course, students should be able to:

- Use functions to represent changing quantities.
- Compute limits of algebraic expressions.
- Compute the derivative of any polynomial, rational function, trigonometric function, root function, or any combination of such functions.
- Identify the ways in which a function can fail to have a derivative.

Course Outline

<table>
<thead>
<tr>
<th>Chapter (Stewart)</th>
<th>Description</th>
<th>Corresponding Chapters (Ebersole)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Functions and Models</td>
<td>2 (Chapter I is considered review)</td>
</tr>
<tr>
<td>2</td>
<td>Limits and Rates of Change</td>
<td>3-5</td>
</tr>
<tr>
<td>3</td>
<td>Derivatives</td>
<td>6-12</td>
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Homework Policy

Homework is due Wednesdays and Fridays at 4pm. You may give it to me directly or place it in the box outside my office labeled "MATH 71/90." Please write your full name, the due date, and "1:00" or "2:30" to indicate what section you are in, at the top of the first page. Wednesday homework will be accepted through Friday at 4pm for half credit. Friday homework will not be accepted late for any reason. I will drop your lowest two homework scores. Be sure to read and understand the Homework Format Requirements and Guidelines. It will be enforced! Homework of more than one page must be stapled. This is not optional. Do not write teeny-tiny to get out of this, please!

Warning: You are expected to budget at least 8-12 hours per week for homework and study outside of class. Do not attempt to concentrate all this work on Tuesday and Thursday nights! You will never finish assignments, let alone learn anything, if you do not start a few days early, while you have the chance to get help. You may check your answers in the Solutions Manual in my office any time I am there, as long as you have completed the problem yourself first.

There may be bonus problems (for extra credit) assigned in class which do not appear on the syllabus. These will often be given during the first five minutes of class, to encourage you to be on time.

Quizzes

Quizzes will be held in class on Fridays, except during midterm weeks, starting September 3 (week 2) and ending November 19 (week 13). They will be given during the first 10 minutes of class. Please be on time because the quizzes start exactly at the top of the hour! If you miss a quiz, you get a 0. I will drop your lowest two quiz scores. The quizzes will usually be based on the material covered in the previous week's homework. For example, the first quiz on Friday, September 3 will cover the material from the first homework due on Wednesday, September 1. The second quiz on Friday, September 10 will cover the material from the homework due on Friday, September 3 and Wednesday, September 8. Make sure to review the homework and come to office hours with any questions well before the quiz!

IMPORTANT: Reading comprehension is as important in mathematics as in any other subject. On any quiz or exam you should expect to see problems which are not exactly like the homework.

Midterms

The midterm exams will be Fridays, September 24, October 29, and December 3 (weeks 5, 10, and 15). I will announce in class which sections will be covered on each midterm. There are no makeups for any reason. If you have missed an exam, or feel that you are likely to miss an exam, contact me immediately to discuss your plans for passing the course.

Final Exam

The final exam is comprehensive. Please check the Fall 2004 Schedule of Classes to determine the day and time of the final as soon as possible. If you feel you have a conflict with the time given, contact me immediately. Please note that it is strictly against University policy for me to give final exams early for any reason.
Attendance

Missing class is bad. It is the single most preventable cause of bad grades! This is a sequence course with a tight syllabus. I will not be able to slow down for you, because that material is going to be needed in the spring term (and throughout your life). So you simply must show up every day to avoid missing something critical.

For this reason I will be taking attendance every day. Your attendance will directly affect your effort/participation/attendance grade. There are no excuses accepted for non-attendance. If you feel you will be missing a significant number of classes, please come see me to discuss your plans for passing the course.

If you must miss class, get the notes from someone as soon as possible, go over them (preferably with the student who took the notes -- it will be valuable for him or her as well to talk through the material), and then come to office hours with any questions. I cannot repeat my lecture for students who skip class.

Enrollment in this class is by permission number only. You will need to obtain two permission numbers from me at the first class meeting, Friday, August 27. If you have an acute illness or other serious or compelling reason why you cannot come to the first class meeting, you must email me no later than Friday, August 27 at noon to make arrangements. I will reply to your email after 4pm if there is still space in the class after the first meeting. Please see the Frequently Asked Questions page for more information on the administration of this course.

If you are enrolled and decide not to take the class, you have until Friday, September 3 to drop the class without a Serious and Compelling Reason (please see p. 63 of the current course catalogue for details). Please drop as soon as you have made your decision in order to allow others to join the class.

Basis for course grade (What does this mean?)

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework</td>
<td>15%</td>
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<tr>
<td>Quizzes (3)</td>
<td>15%</td>
</tr>
<tr>
<td>Midterm 1</td>
<td>15%</td>
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<tr>
<td>Midterm 2</td>
<td>15%</td>
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<tr>
<td>Midterm 3</td>
<td>15%</td>
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<tr>
<td>Final exam</td>
<td>20%</td>
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<tr>
<td>Effort/Attendance/Participation</td>
<td>5%</td>
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Grade breakdown**

<table>
<thead>
<tr>
<th>Grade Range</th>
<th>Grade</th>
</tr>
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<tbody>
<tr>
<td>90-100%</td>
<td>A</td>
</tr>
<tr>
<td>80-89.9%</td>
<td>B</td>
</tr>
<tr>
<td>70-79.9%</td>
<td>C</td>
</tr>
<tr>
<td>60-69.9%</td>
<td>D</td>
</tr>
<tr>
<td>0-59.9%</td>
<td>F</td>
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** Due to possible curving, your grade may end up higher, but not lower, than this chart indicates.

Other Stuff

1. Calculator Policy

Calculators are generally not allowed on quizzes or exams. I do not anticipate making any exceptions. The reasons for this policy are as follows:

Calculators these days are very powerful machines which can actually facilitate learning in many instances. Many complicated computational procedures which had to be taught in previous generations are now obsolete, and classes can now concentrate on more refined and theoretical concepts. However,

1. Calculators can easily tempt a student not to learn necessary mental math skills. In other words, calculators can rot your brain! Though I encourage you to experiment with a calculator outside of class and see what you can learn from it, I wish to test what is in your brain, not in your calculator. For this reason, you should do as much of the homework as possible without one, to train yourself for exams.
2. Good calculators can be expensive. I believe that it is unfair to allow students to use whatever calculator they can afford on exams. A student who has--or whose family has--more money should not have an advantage (or disadvantage, depending on how you look at it) over a student with less money.

Therefore, to keep the exams equitable, and to avoid brain rot, I choose to disallow calculators of any kind.

2. Classroom Behavior

I wish to maintain a positive, comfortable learning environment in our class. Please show respect for others by:

- Making sure that all cell phones and pagers are turned off for the duration of the class.
- Not using tobacco products of any kind in class (this is California law and includes smokeless tobacco).
- Not speaking, whispering, or engaging in any other distracting behavior while someone is addressing the class.

Failure to adhere to these ground rules may result in your dismissal from the class.

3. Academic Honesty

Cheating is quite prevalent at Fresno State, and thus the penalties for getting caught are severe. Don't do it. Notes of any kind are not permitted during quizzes or exams. I may ask for hats to be removed or for you to switch seats for extra security. Collaboration on homework assignments is allowed and encouraged; however, everyone must turn in his or her own homework, in his or her own words. The University policy on academic dishonesty will be followed in cases of cheating and plagiarism. This means, at minimum, a score of 0 on any assignment or exam in which cheating or plagiarism is suspected. Please don't do anything that looks even remotely like cheating. It's not worth it.

4. Students with Disabilities

The University policy on students with disabilities will be followed. If you have a disability documented with Services for Students with Disabilities which requires accommodation, please see me as soon as possible to make arrangements.

5. Extra Help

Do not allow yourself to remain lost in the class. The night before the midterm is not the time to discover that you are in over your head! Whenever you need help, you must get it right away. Sources of help include the following:

1. First and foremost, I am always here to help. If you cannot come to my office hours, make an appointment, or call or send email. I want you to succeed! Bringing your concerns to me can only raise your grade.

2. Other students. Please try to get a phone number and/or email address from at least two other students in the class. Studying with your peers is one of the most effective learning tools and can be a great stress-buster, too. Even if you believe you work best alone, make sure you have someone to contact in case I am not available.

3. Supplemental reading materials. These include the CD's that come with Stewart's text, the Student Solutions Manual (worked-out solutions to odd-numbered problems in the Stewart text) and various online sources. Please see me for more ideas, or consult a search engine such as Google.

4. Tutoring. The Calculus Walk-In Lab is a free, drop-in lab run by the Mathematics Department in EE 167 with one person available to tutor anyone from any calculus class. Schedule should be available soon. This is a great place to sit and do homework with other students and get help. Please make it a part of your week!

6. Bonus Points

In an effort to get to know each of you personally, and to encourage you to find my office, I will give 5 points bonus homework credit to everyone who comes to one or more of my office hours the second week of classes (August 30-September 3). You do not need to have questions or stay the full hour. Just come and introduce yourself!

*Disclaimer: Although I have no plans to do so, all dates and policies are subject to change or exception according to announcements made in class.*