Syllabus for MATH 150B
Calculus II
Fall 2018—California State University Fullerton

“It is well known that the central problem of the whole of modern mathematics is the study of transcendental functions defined by differential equations.”

—Felix Klein

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Office Hours: MW 3:00 – 4:00, T 2:00 – 4:00, and by appointment

Class Meetings: We meet twice per week—Monday and Wednesday

MW 12:00 – 1:50, McCarthy Hall 404

Prerequisites
Math 150A

Text
The text for the course is the book *Essential Calculus: Early Transcendentals* by James Stewart (Cengage-Learning; Custom Edition, 2E). This edition was made specifically for CSU Fullerton and is available in the campus bookstore.

Course Description
This course is the second semester in a three-semester sequence in calculus. Topics covered include techniques of integration, improper integrals, applications of integration, an introduction to differential equations, parametric equations, and sequences and series.

Student Learning Goals: See the Standards List for a more detailed breakdown.

The following is a list of the main specific learning goals for Math 150B.

- Understand the concept of integration and how to perform it analytically and numerically.
- Apply integration to solve problems from physics, differential equations, and the theory of infinite series.
- Understand how to compute derivatives and integrals involving parametric equations.
- Develop an understanding of the convergence of sequences and series, and perform various tests to check convergence.
Pre-Class Lesson and the Ticket in the Door

Strong Calculus students come to class prepared. Prior to each class period you will be responsible for a pre-class lesson that you will complete in Titanium. Successful completion will unlock a pre-class assignment (Ticket in the Door). You will bring the latter to class the next day; this serves as the basis for the class discussion and work. Students present their solutions to Ticket in the Door problems and then spend the rest of the class period engaged in solving more difficult problems. To earn credit on the Ticket in the Door you must be in attendance the day it is discussed.

Homework

Homework is an essential part of the course, but not one that will directly give you points for the course content standards. The main purpose is for you to learn by practicing, and to prepare you for the assessments. Homework is due the Wednesday of the week following its appearance on the calendar. So, the homework from Monday and Wednesday of a given week is due the next Wednesday. You may not reassess a standard until you have completed the homework assignment relevant to that standard.

Quizzes

To help you self-assess your understanding of the material, there will be short quizzes and any material we’ve covered is fair game for those quizzes. Attached to each quiz is a score sheet listing the standards assessed on the quiz. You will not receive a score for the entire quiz, but rather a score for each standard. These scores will go into the gradebook, but should be thought of as (in)formative grades, not summative grades. Missing a quiz does not adversely effect your grade, and there are no make-up quizzes.

Exams: Two superquizzes and one comprehensive final exam

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last day to ADD with a permit</td>
<td>Tuesday, September 4</td>
</tr>
<tr>
<td>Last day to drop w/o a grade of “W”</td>
<td>Tuesday, September 4</td>
</tr>
<tr>
<td>Superquiz #1</td>
<td>Monday, September 25</td>
</tr>
<tr>
<td>Last day to drop w/o a serious and compelling reason</td>
<td>Friday, September 28</td>
</tr>
<tr>
<td>Superquiz #2</td>
<td>Monday, November 5</td>
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<tr>
<td>Last day to drop</td>
<td>Thursday, November 8</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Wednesday, December 12, 12:00–1:50</td>
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The exams do count toward your standards grade in a significant way as they are a primary way for you to demonstrate mastery of the content. Should you miss one of these opportunities, there is no penalty, but there are no make-up superquizzes either. Please note that the date of the final exam is not negotiable; send the date to your parents now and tell them to buy your plane ticket home for the next day or later.

Extra Credit

There are likely to be a few opportunities to earn random extra credit (labeled XP in the gradebook) in this class—particularly by doing something that benefits the entire class (or, more importantly, me). For instance, if you are the first to spot a mistake in my materials and bring it to my attention, I will reward you for your attention to detail. However, earning these points is no substitute for learning the material, and this is reflected by their value in the gradebook.
Standard Based Grading: For more information, see the Grading F.A.Q.

I will make explicit all of the skills/concepts I expect you to learn in this course through a list called the standard list; the assessments will help to determine whether you have done so. If you show that your ability on a given standard has changed, I will change your grade for that standard accordingly. The available methods for showing a change in ability is not limited to written assessments, but may include a private meeting, or any other method upon which we decide. The possible scores for each standard are between incomplete (1) and mastery (4)

Only a score of 3 or above will count toward your overall grade!

with the following interpretation of each score:

4 You have mastered the skill, demonstrating complete comprehension of the concepts and fully describing your solution in a clear, coherent fashion, making no errors.

3.75 You have completely mastered the skill, but perhaps made a small notational, arithmetic or algebraic error.

3.5 You demonstrated that you have conceptual understanding and can apply the skill to solve complex problems, but perhaps made serious notational, arithmetic or algebraic errors, or failed to show all the steps in your reasoning.

3 You demonstrated basic competency, that is basic conceptual understanding.

2 You have not demonstrated basic competency, but have heard of the skill and know enough to write down something. Your solution is confusing or full of serious errors.

1 You made no progress on the problem.

Grade Breakdown: All that matters is that you learn the material!

The scores you receive on standards make up the majority of your final course grade. However, failure to complete the Pre-Class Lesson and Ticket in the Door assignments limit your maximum possible score to a B-.

| Pre-Class Lesson and Ticket in the Door | 20% |
| Content Standards                  | 80% |

Grading: Overall Score = Weighted Average of Standard Scores (converted to percent)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A+</td>
<td>97.00%</td>
</tr>
<tr>
<td>A</td>
<td>93.00%</td>
</tr>
<tr>
<td>A-</td>
<td>90.00%</td>
</tr>
<tr>
<td>B+</td>
<td>87.00%</td>
</tr>
<tr>
<td>B</td>
<td>83.00%</td>
</tr>
<tr>
<td>B-</td>
<td>80.00%</td>
</tr>
<tr>
<td>C+</td>
<td>77.00%</td>
</tr>
<tr>
<td>C</td>
<td>73.00%</td>
</tr>
<tr>
<td>D</td>
<td>50.00%</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 50.00%</td>
</tr>
</tbody>
</table>

Note that I only use plus/minus grading for grades above a C. I do not curve the class grades, nor will I arbitrarily inflate the class grades.
Attendance & Participation: 29 meetings—each meeting is 3.4% of the class.

If you miss any classes during the first week without notifying me or the departmental office within 24 hours of the meeting, I reserve the right to drop you from the course.

I am a lecturer; that is my style. It turns out, though, that consistent lecturing rarely produces the desired learning outcomes. Consequently, this course is designed to have you engage with the material on your own and in groups with me as your guide. Just as in a military battle, when you engage, there will be occasional tactical and strategic errors as well as collateral damage. I don’t expect you to be perfect. On an unrelated note, I tend to tell a lot of jokes. Please pretend they are funny.

Cheating: It’s not worth it, so don’t do it.

Obtaining or attempting to obtain credit for work by the use of dishonest, fraudulent, or unauthorized means is cheating. Submitting work which is not yours is plagiarism. Students caught cheating, plagiarizing, or helping another student cheat or plagiarize are subject to academic penalties and will be reported to the Judicial Officer on campus. See the university policy statement on Academic Dishonesty for details.

Calculators, Smartphones, Tablets, and Laptops

Using technology inappropriately bothers me, and is also distracting to your classmates. Wait until class ends to check your text messages and email. Whether calculators are allowed will vary by assessment. It is unnecessary to purchase a graphing calculator for this course, but one may be helpful.

Other Items: http://fdc.fullerton.edu/teaching/syllabus.php

For information for students with special needs, emergency preparedness, academic dishonesty, and more, go to the link in the topic bar.
Standards-Based Grading


— Samuel Beckett

This document should be read after reading the grading policies in the syllabus.

Frequently Asked Questions

Why do you grade so differently?

Do you curve or inflate grades?

How to the Ticket in the Door assignments work?

What if I don’t complete my Ticket in the Door assignment? Can I still come to class?

What if I complete my Ticket in the Door assignment, but don’t come to class?

What if I have technical glitches and can’t finish the Pre-Class Lesson?

How do I reassess standards during the semester?

Can I reassess more than one standard at a time?

Can I reassess the same standard more than once?

What happens if I miss an exam?

What happens if I run out of time on an exam?

Should I wait for the final exam to demonstrate competency?

Do you average the assessment scores to get my grade for each standard?

Does my most recent assessment score count as my grade for each standard?

How do you use the scores for each standard to get my grade for each standard?

What happens to my grade if I go into the final exam with a 4 on a standard and get a 2 on the exam?

How do you combine all of the standard scores into one grade?

Why don’t scores below 3 count for my overall grade?

What happens if I knew what I was doing on a problem, but I made a small arithmetic mistake and got the wrong answer?

What happens if I knew what I was doing on a problem, but I skipped an important step?

What happens if I do the wrong work but I end up with the correct answer?

What happens if I get a 4 on a standard on the final exam?

But what if my scores were really bad all semester?
How much are bonus points worth?

What if I missed a deadline for turning in an assignment?

What do those abbreviations in our feedback mean?

What if I have a question that isn’t answered here?

Why do you grade so differently?

My first, and most important, goal for this course is that you learn. Naturally, I would like you to learn the course content, but I also want you to learn more about how you learn, and about what learning strategies are most effective for you. As such, I use a system that gives you a tremendous amount of flexibility concerning when and how you learn the material. The typical course learning flow is linear:

I would prefer for your flow to be circular for each standard:

Another one of my goals is for your grade to be as close as possible to an accurate reflection of what you know at the end of the semester. This means that I can’t use a traditional grading system as they punish students for not knowing material during the first assessment of that material and make it very difficult—sometimes, impossible—to overcome that early deficiency.

Do you curve or inflate grades?

No. Your grade is a reflection of your skills and knowledge at the end of the semester, not your skill and knowledge relative to your peers. If you have mastered about 80% of the course material, then your final grade is hopefully about 80%. The only exception to this rule is the small bonus I give for XP.
How to the Ticket in the Door assignments work?

If you log in to the course’s Titanium page, then you will find a Pre-Class Lesson for the upcoming meeting. This assignment has embedded questions that you need to answer correctly—don’t worry, if you get them wrong, then you can try again. Successful completion of the lesson will unlock the Ticket in the Door assignment. You should print this assignment, complete it, and bring it to class, where you may be asked to share your solution with the class.

What if I don’t complete my Ticket in the Door assignment? Can I still come to class?

Yes, of course you should come to class. You will not receive credit for the assignment. Similarly, if you complete the assignment and don’t come to class, then you will not receive credit for it. Note that the class will not slow down for you. You need to take responsibility for your learning.

What if I complete my Ticket in the Door assignment, but don’t come to class?

You will not receive credit for the assignment.

What if I have technical glitches and can’t finish the Pre-Class Lesson?

This is why you start your assignments early: there are lots of computers in this world to use, but far fewer when you start the assignment at midnight, and fewer still when class starts in 30 minutes. Email me as soon as you have a technical problem that you can’t solve. If it is after my bed time, then you will likely be out of luck.

How do I reassess standards during the semester?

1. Choose a standard
2. Master the standard
3. Ensure that you completed step 2
4. Email me to set up an appointment to reassess the standard
5. Show up and demonstrate mastery

In the email—which you must send at least 24 hours before the scheduled reassessment—you should write something akin to this:
Dear Professor Glesser:
I would like to show you during your office hours on [insert day] that I have mastered [the standard you mastered]. I accomplished this by [how you did it].

Can I reassess more than one standard at a time?

The answer used to be yes. Unfortunately, this gave students the rather perverse incentive to wait until the last three weeks of the semester, and to then try to reassess three standards twice a week. It did not work for them, nor for me. Therefore, I am limiting reassessments to one standard per office hours. In principle this works in your favor since if you reassess one standard at a time, starting early in the semester, then you are likely to do better on those reassessments than if you try to reassess multiple standards.

Can I reassess the same standard more than once?

Absolutely. Having said that, I would appreciate if you didn’t waste our time. Instead of reassessing twice (or more), it would be better for you to come to office hours (or email, etc.) and make sure you understand the standard before attempting the reassessment. I have had students reassess two or three times (unsuccessfully) before asking for help. After they got the help, they reassessed and demonstrated mastery.

What happens if I miss an exam?

Nothing. There are no make-up exams and your grade will be completely unaffected. You can reassess the missed standards during office hours.

What happens if I run out of time on an exam?

For any standards that you had the opportunity to assess, but chose not to, you will receive a score of 1. You will, of course, have more opportunities to demonstrate knowledge and those future reassessments will change your overall grade for that standard.

Should I wait for the final exam to demonstrate competency?

It is a risky option. For many people, it works better to learn the material (and to demonstrate their mastery of the material) earlier. This way, holes in your knowledge can be identified and filled before the final.

Do you average the assessment scores to get my grade for each standard?

No. See How do you use the scores for each standard to get my grade for each standard?

Does my most recent assessment score count as my grade for each standard?

Not necessarily. See How do you use the scores for each standard to get my grade for each standard?

How do you use the scores for each standard to get my grade for each standard?

I look at the trend and use my judgment to assign you a score that most accurately reflects your mastery of that standard. For example, if your scores for a particular standard that had been assessed five times looked like:
then the clear upward trend makes 3.5 a natural choice for the overall grade. Sometimes, however, a student drifts in and out of competency:

<table>
<thead>
<tr>
<th>Random Standard</th>
<th>A1</th>
<th>A2</th>
<th>A3</th>
<th>A4</th>
<th>A5</th>
<th>Overall Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3.5</td>
<td>3.5</td>
<td>3.5</td>
</tr>
</tbody>
</table>

The student has most likely achieved basic competency (as evidence by three successful demonstrations of competency), but there is little indication that their level of mastery is any higher than that, hence the overall grade of 3.

**What happens to my grade if I go into the final exam with a 4 on a standard and get a 2 on the exam?**

If your grade on a standard going into the final is a 4, the worst I will give you is a 3. This is another reason to demonstrate your knowledge before the final exam!

**How do you combine all of the standard scores into one grade?**

Essentially, I add up your score for each standard, divide by four times the number of standards, and then turn the quotient into a percentage.

**Why don’t scores below 3 count for my overall grade?**

If you haven’t achieved basic competency (a fairly low standard), then your knowledge of that standard is not contributing to your overall knowledge in any significant way. Consequently, it does not contribute to your grade.

**What happens if I knew what I was doing on a problem, but I made a small arithmetic mistake and got the wrong answer?**

3.75

**What happens if I knew what I was doing on a problem, but I skipped an important step?**

It depends. You claim you knew what you were doing. You skipped an important step, though. Why? How important? Was it the only important step? If so, you are probably not as competent as you think.

**What happens if I do the wrong work but I end up with the correct answer?**

What do you think? Does doing the wrong work and accidentally getting the correct answer demonstrate competency? I don’t think so either.
What happens if I get a 4 on a standard on the final exam?

You get a 4 for the overall grade for that standard.

But what if my scores were really bad all semester?

Do you mean something like this?

<table>
<thead>
<tr>
<th>Random Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

Remember, I am going out of my way to give you a grade that reflects your knowledge at the end of the semester. Given the above data, I would have no choice but to conclude that you had figured it out by the end. Your overall grade would be a 4.

How much are bonus points worth?

It takes roughly four bonus points to raise your grade by 1%.

What if I missed a deadline for turning in an assignment?

You should still submit it—the alternative is guaranteed failure. Your work will move to the bottom of my grading queue. With luck, it will be graded before the final grades are submitted.

What do those abbreviations in our feedback mean?

In the interest of saving myself time, I often use abbreviations to quickly indicate the problem in a proof or calculation without writing it out in full. Should you need clarification beyond the meanings provided below, feel free to ask.

- ✓ There is something wrong here.
- ✓ There is something correct here.
- M.E.N. More explanation needed.
- DS You have committed a deadly sin. Refer to the list of deadly sins.
- ← This doesn’t follow.
- I.D.U. I don’t understand.
- You’ve written an incomplete sentence.
- ○ Rephrase the underlined fragment or sentence.
- # Insert space.
- ○ Remove space.
- O.D. Overly dramatic.
- W.B. Word bloat.
- sp Spelling error.
- lc Make the crossed out letter lower case.
- cap Make the double underlined letter upper case.
math  Put circled text into math mode.

math  Don’t put circled text into math mode.

ital  Put circled text into italics.

word  Write the circled number as a word.

word  Write the circled word as a number.

What if I have a question that isn’t answered here?

Did you read through the syllabus and this document carefully? If you did, and you still don’t know the answer, then just ask me. If your question is something I determine is not already covered by the syllabus or this F.A.Q., I will give you a bonus point in the course.