LB 118 Calculus I, Fall 2014 Course Syllabus

Instructor: Robert Bell (rbell@math.msu.edu)
Lectures: MWF 11:30 a.m. - 12:20 p.m. in C-104 HLM
Instructor’s Office: W-32 HLM (basement of West Holmes)
Instructor’s Office Hours: MWF 10:00 - 10:30 a.m. and by appointment
Recitation for section 005: T 11:30 a.m. - 12:20 p.m. in C-104 HLM
Recitation for section 006: T 3:00 p.m. - 3:50 p.m. in 128 HUB
Learning Assistant for section 005: Matt Lipphardt (lipphar2@msu.edu)
Learning Assistant for section 006: Sarah Garcia (garci220@msu.edu)
Math Help Room: 2nd floor lounge of East Holmes Hall
LAs’ Office Hours: TBD
Online Discussion Forum: https://piazza.com/

Required Course Materials


WebAssign: You will need to purchase an Enhanced WebAssign access code for the online homework. This code is bundled with the textbook if purchased through the publisher. Otherwise, you can purchase a code when you first login to WebAssign.

Piazza: You will receive an e-mail invitation to join our online class discussion forum hosted by Piazza. Please accept the invitation and use the discussion forum to both post questions and to post answers to your classmates questions.

Other Web Resources: I will not use Desire To Learn (D2L). Instead, all course materials are posted on our course web page. The URL of our course web page is listed above and you can also find a hyperlink on the course description page on Piazza. Solutions to handwritten homework assignments will be uploaded to our course web page. Please bookmark the page and check it periodically.

Topics

LB 118 is an introduction to the differential and integral calculus. The overarching theme is to apply the concept of a limiting value to the study of functions of a single real variable. Major topics include tangent lines and derivatives, limits and continuity, differentiation rules, related rates problems, optimization, linear approximation, initial value problems, the definite integral, area, and techniques of integration. We will cover most of the topics in chapters 2 through 5 and parts of chapter 6 in the textbook.

Exams & Important Dates

There will be three midterm exams during the semester and a comprehensive final exam on the date scheduled by the university.

Labor Day - University closed Monday, September 1
End of 100% Tuition Refund Monday, September 22
Midterm Exam I Wednesday, October 1
Last day to drop with no grade reported Wednesday, October 15
Midterm Exam II Wednesday, October 29
Midterm III Monday, November 24
Thanksgiving Break Thursday, November 27 to Friday, November 28
Last day of classes Friday, December 5
Final Exam Wednesday, December 10, 10:00 a.m. - 12:00 noon

Exams are written and completed in class without the aid of the textbook, notes, calculators, or similar materials. Midterm Exams last for the entire class period (50 minutes). The final exam lasts two hours and is comprehensive.
If you are absent from a midterm exam for any reason, you will temporarily receive a zero. After you complete the final exam, I will use those final exam questions which relate most closely to the topics of the missed exam to replace the zero with a percentile score calculated from those problems.

**Grading Criteria**

In general, all of your work in the course will be graded according to three criteria: Does your work **effectively communicate** your reasoning and methods? Does your work **completely answer** the question posed? Does your work **correctly answer** the question posed? Solutions which ineffectively communicate your ideas, which omit or incompletely address the questions posed, or which include inaccuracies or errors will be penalized.

<table>
<thead>
<tr>
<th>Graded Components</th>
<th>Grading Scale</th>
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<tbody>
<tr>
<td>Midterm Exams</td>
<td>45%</td>
</tr>
<tr>
<td>Homework</td>
<td>15%</td>
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<tr>
<td>Quizzes</td>
<td>10%</td>
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<tr>
<td>Final Exam</td>
<td>30%</td>
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<table>
<thead>
<tr>
<th>Grading Scale</th>
<th>Range</th>
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<tbody>
<tr>
<td>4.0</td>
<td>90 ≤ x</td>
</tr>
<tr>
<td>3.5</td>
<td>84 ≤ x &lt; 90</td>
</tr>
<tr>
<td>3.0</td>
<td>78 ≤ x &lt; 84</td>
</tr>
<tr>
<td>2.5</td>
<td>72 ≤ x &lt; 78</td>
</tr>
<tr>
<td>2.0</td>
<td>66 ≤ x &lt; 72</td>
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<tr>
<td>1.5</td>
<td>60 ≤ x &lt; 66</td>
</tr>
<tr>
<td>1.0</td>
<td>55 ≤ x &lt; 60</td>
</tr>
<tr>
<td>0.0</td>
<td>x &lt; 55</td>
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**Homework**

Homework will be assigned on a regular basis. Most of this homework will take the form of online exercises using WebAssign.

**WebAssign (Online Homework):** You can access WebAssign at the following URL: [http://www.webassign.net](http://www.webassign.net). Online homework is scored electronically and you will know your raw score when you complete the assignment. To understand how this raw score will affect your homework score for the course, convert the raw score to a percentile. For each online exercise, you will (typically) have 5 attempts to determine the correct answer.

**Handwritten Homework:** Additionally, I will assign weekly handwritten homework exercises which will be collected and graded. A typical handwritten homework assignment will require you to write out a detailed solution to three WebAssign problems and to solve one additional challenging problem (not from WebAssign) which relates to a new topic or application.

**Calculating Your Homework Score for the Course:** Each online and handwritten homework will be weighted equally. This means that a WebAssign assignment with 42 points, a WebAssign assignment with 59 points, and a written-homework worth 10 points are each scored as a percentile and each counts equally to your homework score. To obtain your homework score for the course, convert each assignment (both online and handwritten) to percentile scores, drop the three lowest percentile scores, and average the non-dropped percentile scores. The result is your homework score for the course.

**Why there are handwritten homework assignments:** Grading your written work gives me an excellent opportunity to assess your overall understanding of the course material as well as your progress towards developing strong analytical problem solving skills. These are opportunities for you to receive direct feedback on how you are progressing in the course. If you score well on WebAssign problems, but do not score well on handwritten solutions, then this indicates that you are not demonstrating the level of understanding which will be required to get top score on a midterm or final exam. Please take the handwritten assignments very seriously. Put in effort, take pride in your work, and check your solutions very carefully before deciding that you are done with the assignment.

**How handwritten homework assignments are graded:** I will grade some (but usual not all) of the exercises on each handwritten assignment. Complete solutions will be posted, and you should read these solutions even if you received full-credit. Additionally, we can discuss solutions during lecture or online (on our class discussion forum hosted by Piazza) as needed.

A score will be assigned to each handwritten homework assignment using the criteria below.
completeness (measures whether all parts were attempted) 40%
correctness (measures accuracy of the solutions) 40%
communication (measures the quality of writing and presentation) 20%

Your submitted work must include a clear and complete re-statement of each problem that you address. Often the most difficult step in solving a mathematical problem is correctly recognizing the nature of the problem and choosing methods which are likely to be applicable. If you do not know how to solve a particular problem, try to write down the ideas or questions you have about this problem— I will try to respond to your questions and offer suggestions and you will receive some partial credit.

Quizzes
Quizzes will be administered on a weekly basis by your LA during recitation. The lowest two quiz scores will not count towards your final grade. To obtain your quiz score for the course, convert each quiz score to a percentile, drop the two lowest, and determine the average of the non-dropped percentile scores. The result is your quiz score for the course.

Quizzes are an opportunity to test your preparedness for a timed, written exam. Quizzes are written and will last 10 minutes. You are not permitted to use the textbook, notes, calculators, or similar materials during the quizzes. Solutions to quiz problems will be discussed during class time, either during lecture or during recitation.

Ungraded Work
You will not be successful in this course if you only complete the graded assignments. You must, in addition, regularly read the textbook, test your understanding by solving textbook exercises (and checking your answer with those in the back of the textbook), and review previously covered topics when they are not familiar. Additionally, you should attend all lectures and recitations and take notes ideas and examples which seem helpful to your understanding. I will regularly recommend textbook problems in each section of the textbook which relates to the course topics.

If you have not mastered the topics of the course, then you should not expect to achieve a high score on exams. Ultimately, your performance on exams has the greatest impact on your overall grade for the course. When studying, if you find you are are unable to solve at least half of the recommended textbook exercises without making multiple or serious errors, then this is a strong indication that you are not sufficiently prepared to pass an exam.

Calculator Policy
The use of calculators is not be permitted on any of the exams or quizzes. Moreover, approximate answers will be penalized when an exact answer can be obtained. However, you are welcome to use your calculator or a computer to test your understanding while studying outside of class or working on homework assignments. But, your submitted solutions must not rely upon calculations done by a calculator or a computer unless this is specifically part of the assigned homework problem.

Students with Disabilities:
Please contact the MSU Resource Center For Persons with Disabilities (RCPD), [http://www.rcpd.msu.edu/](http://www.rcpd.msu.edu/) if you require special accommodations, and then schedule an appointment to meet with me.

Academic Honesty
Cheating in any form will not be tolerated and will be reported to the Dean of the College. You will receive a zero on any assignment in which there is a case of cheating. This includes, but is not limited to, plagiarism, failure to give proper citations, and copying another’s work. A copy of the Lyman Briggs College academic honesty policy can be found at this URL: [http://www.lymanbriggs.msu.edu/current/honesty.cfm](http://www.lymanbriggs.msu.edu/current/honesty.cfm)

If you are preparing an assignment and have a question about whether you are adhering to this policy, please ask your instructor. If you work on an assignment with other students, you must give credit to your collaborators.
Student Responsibilities

Attend class & arrive prepared. Regular attendance is required. Before attending the lecture, read the current textbook section. At minimum, attempt to work through the first two examples in each current section, and write down any questions you have. Work through the recommended textbook exercises for the current sections and keep a notebook to record your progress.

Read outside of class. You should always have paper and pencil (and eraser!) readily available when reading mathematical text. Work through the examples by writing the steps out yourself until it is clear to you that the solution is correct. Once a topic has been introduced in lecture, you should re-read the corresponding sections from the text. You should work on the exercises at the end of these sections until you are proficient. I encourage you to work with other students and to help one another succeed in the course.

Participate in class. Be attentive and stay alert. Work with your classmates, especially those adjacent to your seat. Take careful notes on those topics which are unfamiliar. Ask questions! Don’t be shy: we—including yours truly—are all here to learn!

Complete the homework assignments. Start homework assignments early and discuss these with your classmates. Write your attempts to solve the homework exercises on scratch paper, especially when working on online homework problems. If you are working on a handwritten homework assignment, re-write your solutions carefully and neatly according to the requested format. When your homework is returned with a grade, compare your solutions to the posted answers and solutions; you might learn a new technique or another way to understand a concept even if you solved every problem correctly.

Work through the recommended textbook exercises. Attempt these problems and test your understanding. Ask questions about these exercises. Ask your classmates, your LA, your instructor, your roommate, your lab parter, etc. One of the joys of mathematics is working with others to puzzle out a solution to a particularly challenging problem. Remember to spend time both as a listener and as a contributor to the conversation.

Attend recitation. You are required to attend the recitation. Prepare for recitation by reviewing specific textbook examples, exercises, or concepts. You are strongly encouraged to ask questions during recitation. Please keep in mind that if time runs out before your question is answered that you can post questions to our online discussion forum hosted by Piazza.

What is recitation? Recitation is a problem solving session lead by your Learning Assistant (LA). The recitation will typically consist of a working through a worksheet or having a question and answer session followed by an opportunity to practice solving additional exercises. Additionally, there will usually be a 10 minute quiz administered at the end of each recitation.

Utilize office hours. Please consider bringing your questions to office hours. Both the instructor and LA have regularly scheduled office hours. Office hours are times set aside specifically as an opportunity for you to get additional help. If your schedule conflicts with the scheduled office hours, please make an appointment.

Please do not think of this as an inconvenience to your instructors; additional help is available if you seek it out. However, it is your responsibility to come to office hours only after first making a sincere effort to answer questions on your own. Learning is difficult: work hard, try new ideas, and ask questions. If you do this, you will see definite progress.

Post questions to Piazza or send questions via e-mail. Please utilize the online class discussion forum. I have found through experience that most students greatly appreciate reading the questions and answers posted by their peers and their instructors. However, for this to work, you must participate. There is an option to post questions anonymously; you are welcome to do. If you choose to send an e-mail directly to your instructor, be sure to include a polite salutation and sign your name. You should try your best to state your question clearly. If you are asking a question about a specific exercise or example in the textbook, please include a statement of the original problem.
Final Thoughts

The best way to learn mathematics is to write down your attempts to solve specific exercises in the textbook. If you find you are not making much progress, go back and write out the steps taken in the examples given in the textbook. If, before the time arrives to take each exam, you are able to solve most of the recommended textbook exercises, I am confident that you will do very well in the course. But don’t limit yourself to the recommended problems; the textbook offers a variety of interesting problems and challenges. Try working out problems that sound interesting to you. If you need help with topics traditionally covered in pre-calculus mathematics courses or if you want to work on more challenging problems, please drop by my office during office hours or make an appointment to meet with me.

If you are falling behind in the course, please seek help ASAP. There is help available 24-7 on the online course discussion forum, during office hours, and during certain evening hours here in the Holmes Hall math help room located on the 2nd Floor of East Holmes Hall—your LA and other LAs will hold office hours there. Additionally, the Mathematics Department hosts the Math Learning Center (MLC) in Wells Hall and in most of the neighborhood communities on campus.

I want you to succeed in this course, and I’m here to facilitate this goal. But the burden is upon you to work hard, to set aside realistic amounts of time for study, and to seek out help when you need it.

Some final advice: read the textbook. Then attempt some exercises and read the textbook again. I cannot emphasize this enough. Learn to read the textbook and seek out additional sources of information when the textbook is insufficient. This applies not only to this class, but to all of your university courses.