Syllabus for LB 119 Calculus II - Fall 2012 - R. Bell

Course: LB 119 Calculus II

Instructor: Robert Bell

Lectures: MWF 10:20-11:10 a.m. in C-106 Holmes Hall

Recitation: Tu 10:20-11:10 a.m. in 134 Akers (section 001), Tu 9:10-10 a.m. in C-106 Holmes (section 002), Tu 4:10 - 5:00 p.m. in 134 Akers (section 003)

Required Textbook:

Calculus: Early Transcendental Functions, 5th Edition, by Ron Larson & Bruce H. Edwards, ISBN-10:0538735503, ISBN-13:9780538735506, Cengage, 2011. This is the text used for LB 119 and LB 220 and is the recommended option if you are a first year student who has placed into LB 119.

If you expect LB 119 to be your last calculus course, then you may select an abridged text: *Calculus of a Single Variable: Early Transcendental Functions*, 5th Edition, by Ron Larson & Bruce H. Edwards, ISBN-10:053873552X, ISBN-13:9780538735520, Cengage, 2011. But, in addition, you will need to obtain a copy of chapter 11 (vectors) of the book listed above; this chapter is available for separate purchase or shrink-wrapped with the single variable version at the Spartan Book Store.

Instructor's Office Hours:

Monday, Wednesday, and Friday 8:00 - 9:00 a.m. in W-32 Holmes Hall, and by appointment (please send an e-mail to schedule a time).

E-mail: rbell@math.msu.edu (best way to contact me)

Course Web Page:
http://www.math.msu.edu/~robertbe/LB119FA12.html

Topics: LB 119 is an introduction to the methods of integral calculus, infinite series, and vector operations. The central theme is to apply the concept of a limiting value to the study of functions of a single real variable. You will already be familiar with this method as used to define the derivative of functions of a single real variable. Major topics of the present course include a review of the Riemann integral, applications of integration, techniques of integration, infinite sequences and series, Taylor's theorem, calculus in polar coordinates, and vectors and vector operations.

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 your solution to the questions posed? does your work **completely answer** the questions posed? does your work **correctly solve** the questions posed? Solutions which ineffectively communicate your ideas, which omit or incompletely address the problems posed, or which include

inaccuracies or errors will be penalized.

Graded Components			Grading Scale	
Midterm Exams (3)	45%		4.0	$90 \leq x$
Homework	10%		3.5	$84 \leq x < 90$
Quizzes	10%		3.0	$78 \leq x < 84$
Writing Projects	10%		2.5	$72 \leq x < 78$
Final Exam	25%		2.0	$66 \leq x < 72$
			1.5	$60 \leq x < 66$
			1.0	$55 \leq x < 60$
			0.0	$x < 55$

A detailed description of the graded components follows.

Midterm Exams: There will be three midterm exams during the semester. These are tentatively scheduled as follows:

Midterm I	Monday, September 24
Midterm II	Monday, October 22
Midterm III	Monday, November 19

Exams are written and completed in class without the aid of the textbook, notes, calculators, or similar materials. Exams last for the entire class period (50 minutes). Each exam is worth 15% of your final grade.

Homework: Written homework will be assigned and collected regularly (typically, every Wednesday). Late homework will not be accepted. The lowest two homework scores will not count towards your final grade.

Some assigned problems may require significantly more time to complete than the questions and problems which will typically appear on quizzes or exams. However, reading through your homework gives the instructor an excellent opportunity to assess your overall understanding of the course material as well as your progress towards developing strong analytical problem solving skills and applying these skills to applications and modeling.

Only a select few problems will be graded (usually about 2 or 3 out of the 5 assigned problems). Most of the assigned problems will be checked by you, the student. Selected answers and partial solutions will be provided online. We will discuss solutions to the homework during lecture as needed.

A score will be assigned to each homework assignment using the criteria below.

completeness	40%
correctness	40%
communication	20%

Your submitted work should include a clear and complete statement of each problem that you address. A difficult aspect of a mathematical problems is correctly recognizing the nature of the problem and 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.

Quizzes: Quizzes will be administered on a weekly basis during recitation. The lowest two quiz scores will not count towards your final grade. There are no make-up quizzes.

Quizzes are an opportunity to test your current understanding and 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.

Writing Projects: There will be three writing projects as part of this course. Each project consists of writing a response to a letter which asks for your assistance in solving a mathematical problem. These projects are to be completed as part of a group. Each group will consist of 2 students (and one group of 3 students if there are an odd number of students in the class). A sample writing project (with a sample student solution) will be provided to you for reference.

The writing projects will be due on the following dates:

Writing Project I	Wednesday, October 17
Writing Project II	Wednesday, November 7
Writing Project III	Wednesday, December 5

Final Exam: The final exam is comprehensive. The date and time of the final exam is set by the university. You must take the final exam on the scheduled day at the scheduled time.

The final exam is on Monday, December 10 from 12:45-2:45 p.m. in C-106 Holmes Hall.

Ungraded Work: IMPORTANT! PLEASE READ! You will not be successful in this course if you only complete the homework assignments and quizzes. You must, in addition, regularly test your understanding by attempting exercises in the textbook. You will be provided with a comprehensive list of recommended textbook exercises that you should be able to solve if you have mastered the material. If you have not mastered the material, then you should not expect to succeed on exams. Moreover, if you are are unable to solve at least half of the recommended textbook exercises without making multiple or serious errors, then you should not expect to receive a passing grade on exams.

I will regularly allot time during lecture for discussing the recommended textbook problems. However, our time is limited. Send additional questions by e-mail, ask questions during recitation, and bring your questions to office hours.

Student Responsibilities

Attendance & Preparation:

- Regular attendance is required.

- Before attending the lecture, read the current sections.

- 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.

How to read mathematics. You should always have paper and pencil (and eraser!) readily available when reading mathematics. 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.

Participation:

- Be attentive and stay alert.

- Work with your classmates, especially those adjacent to your seat.

- Take careful notes.

- Ask questions! Don't be shy: we (yes, me too) are all here to learn!

Homework:

- Start homework assignments early and discuss these with your classmates.

- Write your attempts to solve the homework on scratch paper. Re-write your solutions that you will submit for a grade carefully and neatly.

- When your homework is returned with a grade, compare your solutions to the posted answers and solutions; you might learn a new technique or a more appealing way to think about a topic.

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. Part of the fun of mathematics (and the learning part) is discussing mathematical ideas and challenges.

Recitation:

- You are required to attend the recitation corresponding to the section in which you are enrolled.

- Prepare for recitation by making a list of specific problems or concepts with which you would like additional help.

- Please keep in mind that if time runs out before your question is answered that you can send questions via e-mail to either the instructor or the LA.

What is recitation? Recitation is a problem solving session lead by your Learning Assistant (LA). The recitation will typically consist of a question and answer session followed by an opportunity to solve problems suggested by the LA or your classmates. Additionally, there will usually be a 10 minute quiz administered at the end of class.

Utilizing 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.

E-mail: E-mail can be an effective way to obtain more immediate help. When e-mailing your instructors, be sure to state your question clearly. If you are asking about a specific exercise or example in the text, be sure to restate the problem in its entirety since, while it is quite possible that your instructors are awake and online at 10 p.m., it is unlikely that he or she keeps a copy of the text under his pillow!

Calculators: The use of calculators is not be permitted on any of the exams or quizzes. Approximate answers will be penalized when an exact answer can be obtained. However, you are welcome to use your calculator or to write computer programs to test your understanding while studying.

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

Academic Honesty: Cheating in any form will not be tolerated and will be reported to the Dean. You will receive a zero on any assignment in which their 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/academics/LBC-Academic-Honesty.pdf If you are preparing an assignment and have a question about whether you are adhering to this policy, please ask your instructor.

Advice: The best way to learn mathematics is to write down solutions to specific mathematical problems. If you are able to solve most of the assigned problems, then I am confident that you will do very well in the course. But don't limit yourself to the assigned problems; the textbook offers a variety of interesting problems. Challenge yourself! Try working out problems that sound interesting to you. If you want more practice or want 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 during office hours, from your classmates (just ask them!), and here in the Holmes Hall math help room (2nd Floor of East Holmes Hall– your LA and other LAs will hold office hours here). Additionally, the Mathematics Department hosts the Math Learning Center (MLC) in Wells Hall and in some 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 work some problems and read the textbook again. I cannot emphasize this enough. Learn to read the textbook.