MATH 151.02: CALCULUS I
COURSE SYLLABUS FOR SPRING 2016

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CLASS SESSIONS:	Tuesdays & Thursdays, 3:00-5:25, in LEN Room 227
OFFICE:	
OFFICE HOURS:	See http://bit.ly/1WFQTU1
ONLINE:	MyMathLab Course Code = brown50694

COURSE DESCRIPTION:

First calculus course for business, mathematics, engineering and science students explores introductory plane analytic geometry, the derivative, the integral and their applications for algebraic, trigonometric, exponential and logarithmic functions. Graphing calculator required.

PREREQUISITE:

An earned grade of $\geq$ 2.0 in JC's MAT 141, course placement, or instructor approval.

CORE COURSE OBJECTIVES:

Students should be able to:
1. Demonstrate a basic understanding of:
   a. Fundamental concepts of calculus; namely the limit, the derivative, and the integral.
   b. Techniques of differentiation and integration, including manipulating algebraic, exponential, logarithmic, and trigonometric expressions as required by these techniques.
2. Critically analyze problems requiring application of the derivative and the integral, such as related rates and the area between curves.
3. Demonstrate facility with the appropriate technological tools, e.g., graphing calculator.
4. Demonstrate an awareness of the historical background specific to the course.

MATH 151 ASSOCIATE DEGREE OUTCOMES:

ADO 3: Demonstrate computational skills and mathematical reasoning
Apply arithmetic skills and mathematical reasoning by solving problems, documenting process, interpreting results and evaluating the reasonableness of outcomes.
ADO 7: Think Critically
Demonstrate critical thinking through questioning, interpreting, analyzing, evaluating, inferring from and synthesizing information to solve problems in a variety of settings.

COURSE REQUIREMENTS

REQUIRED MATERIALS:

● **Textbook:** *Calculus: Early Transcendental Functions*, 2nd Edition (Briggs, Cochran, Gillet); ISBN: 0-321-94734-7 (Student Copy)
   ✓ *Access* to the text is required, though a hard copy is not
● **MyMathLab (MML) Student Access** (*regular internet access required*)
   ✓ Note: The textbook is available *electronically* through the MML Course we will use.
● **Calculator:** Texas Instruments TI-84 *(laptop/notebook permitted & encouraged)*
● **Other:** *Large* 3-ring binder, loose-leaf paper, multi-colored highlighters, large eraser, **pencils**

IN-CLASS WORK, QUIZZES, & ACTIVITIES:

Typically, there will be an item from every class session submitted for credit. These may be individual or group, and with or without notes. In addition, there may be activities that will reinforce our work in class and include technological applications.

HOMEWORK:

The single best way to **learn** math is to **do** math. This is where homework fits into the process, as it is the regular practice that fosters learning of skills and concepts. There will be *suggested* homework associated with each section of material covered, and these are intended as practice (neither collected nor graded, but hopefully discussed). *Graded* (with partial credit) homework sets will be assigned regularly, and will consist of similar book-sourced problems and instructor-designed exercises. Since homework is all about practice and learning, **"make explicit all work and reasoning" is the default setting** in this course. You will receive no credit for solutions that appear to be copied from a solutions manual or online solution generator (e.g., Wolfram Alpha or Symbolab). Online homework, through the MyMathLab system, will also be part of your grade, and these smaller assignments will occur frequently with announced due dates.

> **NOTE**: **Late homework *will not be accepted***, so you must make arrangements for submitting your work by class time if absence is unavoidable.

PROJECTS:

An important part of learning mathematics is learning how to communicate and collaborate on mathematical tasks. As a result, group projects will involve students working collaboratively on tasks that require time and effort outside of the class to complete, and may include in-class presentation of work and results.

EXAMS:

Examinations are performances of student understanding; as such, they allow students to demonstrate mastery of the skills and concepts from the homework and lectures. Special requirements (e.g., technology use) and allowances (e.g., student-prepared notes sheets) will depend upon the particular topics and will be announced and discussed in class. The final exam is cumulative for the entire course.

COURSE POLICIES

ACADEMIC HONESTY POLICY:

You are *encouraged* to talk to each other, but **all your submitted work must be your own.** In other words, "group-work" is a great way to learn material, but anything you submit for a grade must be done by you - reflecting your own thought processes, not those of someone else. If I suspect you of academic dishonesty, I will follow JC's Academic Honesty Policy and take appropriate action up to and including assigning a **failing grade** for the paper, project, report, exam, or the course itself (as deemed appropriate).

ABSENCE POLICY:

Students are expected to attend all class meetings, arriving on time, and staying until the end. **In-class assignments may not be made up**, **therefore attendance is vital**. The student is responsible for obtaining any missed materials from other students; that is to say, *office hours are not a replacement for class time*. Moreover, **assignments and exams may *not* be made up**.

INCOMPLETE GRADE POLICY:

A student may request an incomplete from the instructor, who will follow the JC Incomplete Policy. An incomplete may be granted only if the student can provide documentation that his or her work up to that point is sufficient in quality, but lacking in quantity, due to circumstances beyond the student's control. Furthermore, a written plan for making up the missing work within one semester must be completed by the student. Final determination of whether an incomplete will be given is the instructor's decision. **Note**: An "Incomplete" grade is not a way to avoid a *failing* one.

EXTRA CREDIT:

There will be no opportunities for extra credit. Your grade calculation is based solely on your performance on course assignments listed above.

GRADING POLICY AND SCALE:

A 2.0 or "C" is a passing grade. Only courses with passing grades count toward graduation. Other colleges transfer in only courses with passing grades. Many financial aid sources, including most employers, require passing grades. Additionally, earning less than a 2.0 in a class results in being unable to participate in the next level of courses in a discipline that requires Math 151 as a prerequisite.

Grading Scale:		*Grade Calculation:*
90 -100%	4.0	In-Class Work, Activities, Quizzes, Homework: *25%*
85 - 89%	3.5	Mid-Term Examinations: *45%*
80 - 84%	3.0	Group Projects: *10%*
75 - 79%	2.5	Cumulative Final Examination: *20%*
70 - 74%	2.0	
65 - 69%	1.5	
60 - 64%	1.0	
55 - 59%	0.5	
0 - 54%	0.0	

ADDITIONAL INFORMATION

CLASSROOM EXPECTATIONS:

The following are expectations that we can all share.

We are each responsible for our work, our learning, and our behavior in class.

This course will require consistent attendance and effort on your part. Mathematics is a subject that requires regular effort to understand and master.

We are each respectful of everyone in the class (including ourselves).

Please silence mobile devices, refrain from using any tobacco products, and come prepared (and on time) to ask/answer questions and work together.

We are patient and persistent, even in the face of frustration (with others or ourselves).

It is completely understandable *and expected* for students to be 'stumped' by problems at first. What separates successful students from unsuccessful students is *almost entirely* their willingness to be *patient* and *persistent* with the mathematics.

We will communicate with each other promptly regarding problems or concerns.

Regular, direct communication solves more problems than it causes. Please do not hesitate to contact me for any reason, and I will do the same.

WHERE TO GET HELP:

At this level of mathematical sophistication, your fellow students and I are your best, most immediate resources for learning. Even so, there are *many* other sources to consider and investigate. Be creative, be resourceful, and *share what you find* -- we're all in this together!

I strongly suggest you start up a regular study group as soon as you are able with some of your classmates. At the very least, write down names and contact information for your peers and call on each other when needed. For more information on starting and maintaining a study group, check out the following link: **http://bit.ly/math-study-group**

Other sources of help:

● *Office Hours:* Meet with Erik during office hours.
● *Jackson College's Center for Student Success (CSS):* Free tutoring in *Federer Room C* of the Potter Center is available most weekdays (http://www.jccmi.edu/Success/Tutor/). Remember, finding tutoring for upper-level mathematics often takes time and patience.
● *Online Help & Computation Sites:* There are several online sources for help, *some* of which are high-quality and easy to use, including: www.Calculus-Help.com, www.wolframalpha.com, www.mathway.com, & www.symbolab.com. I recommend these for *checking* your homework.

TENTATIVE TOPIC LIST: A brief (and *tentative*) list of the content covered in the course.

➢ **Appendix A** (Algebra Review)
➢ **Chapter 1** (Functions): §1.1 - 1.4
➢ **Chapter 2** (Limits): §2.1 - 2.7
➢ **Chapter 3** (Derivatives): §3.1 - 3.11
➢ **Chapter 4** (Applications of the Derivative): §4.1 - 4.9
➢ **Chapter 5** (Integration): §5.1 - 5.5