MATH 151 - Calculus and Analytic Geometry I
Summer 2015

Instructor: Bryce Carey
Office Hours: Monday and Thursday from 5:00–6:00pm, or by appointment, in MP 201.
Email: bryce.m.carey@umbc.edu
Website: `http://www.umbc.edu/~bcarey2`

Teaching Assistant: Juyoung Jeong
Office Hours: Monday from 12:30–2:30pm in SOND 109.
Email: juyoung1@umbc.edu

Lecture: Monday, Tuesday, and Thursday from 6:00–8:05pm in MP 103.
Discussion: Monday and Thursday from 8:15–9:15pm in MP 103.

Course Description: Topics of this course include limits, continuity, the rate of change, derivatives, differentiation formulas for algebraic, trigonometric, logarithmic, and exponential functions, maxima and minima, integration and computation of areas, the Fundamental Theorem of Calculus, and applications.

Prerequisite: You must have completed MATH 150 – *Precalculus Mathematics* with a grade of "C" or better or scored a 5 on the LRC MATH placement exam to enroll in this course.

Textbook: *Calculus: Early Transcendentals*, 7th edition, by James Stewart. Publisher: Cengage Learning, 2012. A personal WebAssign code is also required for your online homework. This code comes bundled with a new textbook or can be purchased separately online at the publishers at WebAssign.com or in the university book store. If the enhanced code is purchased, an e-book is already included. You do not need a class key; you will be linked to WebAssign through BlackBoard. This means that you must go through BlackBoard to reach the homework assignments.

Homework: Homework will be given online via WebAssign. A personal WebAssign code is required to access the assignments. See the *Textbook* section for information on obtaining this code.

There will be 11 homework assignments in total, of which your lowest 3 grades will be dropped. Excluding the first day of class, assignments will be due on Mondays and Thursdays by 6:00pm.

Quizzes: No make-up quizzes will be given. There will be a unique preliminary QUIZ 0, which is a mandatory quiz to be taken during the first discussion session. This quiz covers the prerequisite material, namely MATH 150 – *Precalculus Mathematics* concepts. Doing poorly on QUIZ 0 should be an indication of a need to further prepare for this class. QUIZ 0 is an online quiz, so please bring your laptop, scratch paper, and pencils to the first discussion session. Take this quiz seriously since it is counted towards your final grade. This is a non-droppable quiz.

There will be 9 additional quizzes given during the class discussion sessions. See the *Schedule* section for information on the quiz dates and textbook sections involved. Of these 9 quizzes, your lowest 2 quiz grades will be dropped. This policy is intended to account for absences due to emergencies, illnesses, or other circumstances. No calculators, notes, books, or other electronic devices are permitted for use during these quizzes, and the unauthorized use of any of these items is considered cheating. See the *Academic Conduct* section for further information.

Exams: No make-up exams will be given, except possibly in the case of a documented emergency. You must notify the instructor in advance in such a case. There will be 2 midterm exams given in lecture. See the *Schedule* section for information on the exam dates and textbook sections involved. No calculators, notes, books, or other electronic devices are permitted for use during these exams, and the unauthorized use of any of these items is considered cheating. See the *Academic Conduct* section for further information.

Grading:

Homework (Best 8)	25%
Quizzes (Best 7 & QUIZ 0)	25%
Exam 1	25%
Exam 2	25%
Total	100%

Letter Grade	Percentage P
A	$90\% \leq P$
B	$80\% \leq P < 90\%$
C	$70\% \leq P < 80\%$
D	$60\% \leq P < 70\%$
F	$P < 60\%$

Attendance: All students are expected to attend lectures and discussions and arrive on time. Material, assignments missed, or schedule changes in your absence are your responsibility. Students who arrive late disrupt the entire class. Students who consistently arrive late or miss lecture will be less likely to receive assistance outside of class.

Academic Conduct: By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal. To read the full Student Academic Conduct Policy, consult UMBC policies, or the Faculty Handbook (Section 14.3). For graduate courses, see the Graduate School website.

Tips for Succeeding in this Class:
This is a fast-paced course. In this 6 week class, we will be covering the same amount of material as in the regular 14 week class during Fall and Spring semesters. The following tips are applicable to most courses and are especially valuable for this one.

1. The textbook is intended to supplement class lectures and vice versa. Reading the textbook sections prior to lecture will make it easier for you to understand the lecture material. With this prior knowledge, you'll be better equipped to identify confusing concepts and ask more effective questions during lecture. However, the textbook is by no means a replacement to

lecture. You may discover that the textbook sections introduce the material well but fail to venture much into the gritty details.

2. Begin the new homework assignment on the same day that the previous one is due. This will give you the most time to think and ask any questions about the homework problems. With 11 homework assignments in 6 weeks, there isn't enough time to be idle.

3. Study with your fellow students. You are welcome to talk to each other about the homework. Each of you has a different perspective, meaning that there will be some concepts you find difficult while others easily understand them and vice versa. Knowing others going through the same experience can help with morale, and you can push each other to work hard on this class. Although communication is valuable, ensure that your work is your own. Your understanding of the material will not benefit when blindly copying others.

4. Visit your instructor or teaching assistant during their office hours. We want to help you. Ask us for help with anything in this class. You may also contact us by email.

Schedule: This schedule is intended to provide an overview of the material to be covered and is tentative in nature.

Date	Textbook Sections & Topics Covered		Quiz/Exam
7/06	§2.1, 2.2, 2.3	– Tangents & Velocities, Limits, Limit Laws	QUIZ 0
7/07	§2.4	– Precise Definition of Limit	
7/09	§2.5, 2.6	– Continuity, Limits at Infinity	QUIZ 1 on §2.1–2.3
7/13	§2.7, 2.8	– Derivatives & Rates of Change, Derivative as Function	QUIZ 2 on §2.4–2.6
7/14	§3.1, 3.2, 3.3	– Derivative Formulas, Product Rule, Quotient Rule	
7/16	§3.4, 3.5	– Chain Rule, Implicit Differentiation	QUIZ 3 on §2.7–3.1
7/20	§3.6, 3.9	– Logarithmic Differentiation, Related Rates	QUIZ 4 on §3.2–3.4
7/21	§3.10, 3.11	– Linear Approximations, Hyperbolic Functions	
7/23	EXAM 1		EXAM 1 on §2.1–3.6
7/27	§4.1, 4.2	– Maximum & Minimum Values, Mean Value Theorem	QUIZ 5 on §3.9–3.11
7/28	§4.3, 4.4	– Derivatives & Graphs, L'Hospital's Rule	
7/30	§4.5, 4.7	– Curve Sketching, Optimization	QUIZ 6 on §4.1–4.3
8/03	§4.8, 4.9	– Newton's Method, Antiderivatives	QUIZ 7 on §4.4–4.7
8/04	§5.1, 5.2	– Areas & Distances, Definite Integration	
8/06	§5.3	– Fundamental Theorem of Calculus	QUIZ 8 on §4.8–5.1
8/10	§5.4, 5.5	– Indefinite Integration, Substitution Rule	QUIZ 9 on §5.2–5.3
8/11	Review		
8/13	EXAM 2		EXAM 2 on §3.9–5.5