Math 221-15-Calculus I

Fall 2009

Nathan Reff

Basic Info:

Meeting Times:	MWF 9:40-10:40 in SW 329
	T 8:30-9:55 in SW 329
Email:	reff@math.binghamton.edu
Website:	http://www.math.binghamton.edu/grads/reff/m221/
Dept. Website:	http://www.math.binghamton.edu/calc1/
Help Room:	LN-2216
My Office:	LN-2243
Office Hours:	T 10-11:30, 2:30-3 in LN 2216
	T 3-3:30, R 1-1:30 in LN 2243
Text:	*Single Variable Calculus* 6^{th} Ed. by James Stewart (ISBN-13:978-0495011613)

Grading: After the final exam has been graded we (the calculus instructors) will compile a course score for each student, the maximum being 100. This number is built from the following components:

Final	40%
3 Exams (Best Two*)	50%
Quizzes	10%

*You must attempt all three exams! Otherwise this privilege of dropping the worst exam is withdrawn.

You also have the opportunity to earn up to 1.0% participation points added to your course score. You can earn these points by answering questions, asking relevant questions, etc. Coming to class is expected and will not get you these participation points alone. I would like everyone to be a part of the classroom discussions. The purpose for these participation points is to give you a little extra boost if you are on the boarder line of two grade letters. Of course it is up to you to earn them!

Homework: Homework problems will be assigned daily/weekly, but will not be collected or graded. However doing the homework is the most effective method to prepare yourself for the quizzes and exams and it is *very* important that you keep working on problems throughout the course. There is an old saying that "math is not a spectator sport" and there is definitely a lot of truth to this. Working on your own and also with other classmates is recommended. If you are working on a problem and get stuck, make a note of it and remember to *ask questions*. I encourage *everyone* to come to office hours.

Other than assigned problems you should be reading the text every day and keeping up with the pace of the course. Keep in mind that it your responsibility to read each chapter before an exam.

Quizzes: There will be a quiz every Tuesday. Quizzes will usually cover lecture material and homework problems. The questions may even be taken right from the homework set

or minor perturbations of homework problems. This will hopefully give you even more encouragement to do the homework. There will be no make up quizzes. The lowest two quizzes will be dropped.

Exams: Exams will be more challenging than the quizzes so you need to study accordingly. However doing the homework and reviewing the quizzes is the best way to prepare yourself.

Extra Credit & "Curving": I will not curve any quiz, exam or course grade. I will not be giving anyone extra credit. This way everyone has the same advantages in the course. In the rare event of something like an unfair question, I will make appropriate steps to give everyone the same chance to get credit where it is due.

Quiz/Exam/Final Policy: No calculators, cellphones, mp3 players, slide rules, abaci, Addiators, Napier's bones, Difference/Analytical Engines, Pascalinas, Antikythera mechanisms, etc. may be used. In other words I want you to only use your brain and the hard work you put into this course to earn your grade. You may not talk to each other in the classroom while other students are working, even if you are done. Please keep your eyes on your own paper. Do not look at notes, books, etc. while working. Work through the problem on your own and you will do fine (and save us both a lot of trouble).

Cheating and Academic Honesty: Cheating of any kind will not be tolerated. It is disrespectful to the University, your classmates and to me. If you are caught cheating you will receive a 0 on the assignment. Additionally, depending on the severity of the cheating, you may receive an F in the course. Furthermore you will be subject to the University's disciplinary action.

Attendance Policy: Binghamton University has a 75% attendance policy (details of this are located in the bulletin, available at `http://bulletin.binghamton.edu/`). I will not enforce any additional policy other than this. This course will move rather quickly so I suggest you only miss class for a good reason (meaning an excused absence). If you must miss a class it is your responsibility to learn the missed material quickly to keep up with the course.

Excused Absences: If you cannot attend one of the exams you should submit a written reason for your absence **in advance** of the exam date. I would appreciate letting me know at least 3 days in advance if you are going to miss a class. In emergency situations you can leave a message for me with the Math Department Secretaries at (607) 777-2147. The decision to allow make-up exams will be made on a case by case basis, but proper documentation is always necessary. No make-up exams will be given without advance notice. If you miss a quiz, exam or final with an unexcused absence, you will receive a 0 for that particular assignment.

H1N1 (Swine) Influenza: Please see the department calculus website for details: `http://www.math.binghamton.edu/calc1/`.

Date(s)	Week	Topic in *Single Variable Calculus* 6^{th} Edition by James Stewart
8/31-9/04	1	Appendix B Coordinate Geometry and Lines
		Appendix C Graphs of Second Degree Equations
		(Circle and Parabola ONLY)
		2.2 Limit of a function
		2.4 The precise definition of a limit (not on exam)
9/07		*No Class (Labor Day)*
9/08-9/11	2	3.1 Derivatives and Rates of Change with some reference to
		2.1 Tangent and Velocity Problems
		2.3 Calculating limits using the limit laws
9/14-9/18	3	2.5 Continuity
		3.2 The Derivative as a Function
		3.3 Differentiation Formulas
9/21-9/25	4	Appendix D Trigonometry
		3.4 Derivatives of Trigonometric Functions
		1.3 New functions from old
9/28		*No Class (Yom Kippur)*
9/29-10/02	5	**FIRST EXAM (Wednesday 9/30)**
		3.5 The Chain Rule - (for composition refer back to 1.3)
10/05-10/12	6,7	3.6 Implicit Differentiation
		3.7 Rates of change in the sciences
		3.8 Related Rates
10/13-10/16	7	4.1 Maximum and Minimum values
10/19-10/21	8	4.2 Mean Value Theorem
		4.3 Shape of a graph
10/23-10/26	8,9	4.4 Asymptotes
10/27-11/02	9,10	**SECOND EXAM (Wednesday 10/28)**
		4.5 Curve Sketching
11/03-11/09	10,11	4.7 Optimization
11/10-11/13	11	5.1 Areas and distances
		5.2 Definite Integral
		5.3 Fundamental Theorem of Calculus
11/16-11/20	12	5.4 Indefinite integrals
		4.9 Antiderivatives
		5.5 Substitution
11/23-11/25	13	6.1 Area between curves
		6.2 Volumes (disks)
11/26, 11/27		*No Class (Thanksgiving)*
11/30-12/04	14	6.3 Cylindrical shells
		6.5 Average Value of a function
12/07-12/11	15	**THIRD EXAM (Wednesday 12/09)**
		3.9 Differentials and linear approximation (as time permits)
		4.8 Newton's Method (as time permits)
		Review
		FINAL EXAM (Thursday 12/17 @ 7pm)