MAT 295 - Calculus I
Summer II 2013

Lecture:	MTWR 12:00–2:25pm, Newhouse 2 Room 340
Office Hours:	MTWR 11am–12pm, and by appointment
Text:	*Essential Calculus: Early Transcendentals*, 2e, by James Stewart

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Course Supervisor:	Professor Andrew Vogel
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Please inform me of any problems that arise throughout the course. Problems not satisfactorily resolved with me should be brought to the attention of the course supervisor immediately.

Course Description and Objectives: MAT 295 is the first course in a three-semester sequence in calculus. The main objective of this course is for students to learn the basics of the calculus of functions of one variable. They will study transcendental functions, limits, differentiation, and an introduction to the Riemann integral, culminating with the Fundamental Theorem of Calculus. They will also apply these ideas to a wide range of problems that include the equations of motion, related rates, curve sketching, optimization, and computation of areas. The students should be able to interpret the concepts of calculus algebraically, graphically, and verbally. More generally, the students will improve their ability to think critically, to analyze a problem and solve it using a wide array of tools. These skills will be invaluable to them in whatever path they choose to follow, be it as a mathematics major or in pursuit of a career in one of the other sciences.

Prerequisites: A grade of C- or better in MAT 194, or its equivalent, is required.

Credit: You cannot receive credit for MAT 284 and MAT 285 after completing MAT 295. In addition, you cannot receive credit for MAT 295 after completing MAT 286. Students who receive a grade of C or better in MAT 295 are exempt from the Quantitative Skills requirement in the Liberal Arts Core. MAT 295 may also be used to partially satisfy the Divisional Perspectives requirement. It is included on the Basic List for the Natural Sciences and Mathematics Division.

Finishing an Incomplete: If you are completing an Incomplete grade from the previous semester, you should not register for the course again! Let me know that you are finishing an Incomplete, and I'll forward your grade to the instructor that gave you the Incomplete.

Important Dates:

Add Deadline	July 3
Pass/Fail or Audit Deadline	July 5
Financial Drop Deadline	July 9
Academic Drop Deadline	July 24
Withdrawal Deadline	August 2

Cell phones: During class, please keep your cell phone stored away. Don't let the social demands of technology distract you from learning more about the beauty of mathematics!

Clickers: You should purchase a Turning Point Response Card RF Keypad (Product ID: RFC-02) or Response Card RF LCD (Product ID: RFC-03) at the SU bookstore. If you purchase a new textbook, it will come with a rebate coupon for a new clicker. You may also purchase a used clicker at the SU bookstore. You may also order a clicker directly from Turning Point at https://store.turningtechnologies.com/index.cfm. Enter the school code: **zxF8**.

Please bring your clicker to every class. Under no circumstances should you bring a clicker to class that is not yours; under no circumstances should your clicker be in class without you! To do so is a violation of the Academic Integrity Policy.

Grading: I will use the following scheme to compute your grade, and your course grade will be determined as follows:

Quizzes:	5%
Homework:	15%
Hour exams:	3 @ 20% each
Final exam:	20%

93-100	A	76-79	C+
90-92	A-	73-76	C
87-89	B+	70-72	C-
83-86	B	65-69	D
80-82	B-	0-64	F

- **Quizzes:** Quizzes will be given at the beginning of every class (with the exception of exam days). This serves mostly as an attendance grade, but you should view it as an opportunity to keep yourself on top of the course material as we go. Mathematics inherently builds upon itself, so it's important to understand one concept before proceeding to the next.
- **Homework:** You are expected to complete the weekly homework assignment, due each Monday at the beginning of class (with the exception of homework #5, which will be due on the last day of class). I urge you to not leave it until Sunday evening! Work on it each night throughout the week, as we go through the material. Doing so will make it a lot easier for you, as some of the assignments can be quite long.

  Also, I will occasionally ask you to read certain sections of the textbook to be discussed the next class.
- **Hour exams:** There will be three hour-long exams, given during half of each class.

Exam 1:	Tuesday, July 9
Exam 2:	Thursday, July 18
Exam 3:	Thursday, August 1

  An essential part of success in a mathematics course is to learn from one's mistakes. Part of your grade may be to submit correct solutions to problems that you missed on each exam.
- **Final exam:** Thursday, August 8, 12:00–2:25pm. The final will be cumulative, with a slight emphasis on the part of the course covered between the third exam and the final.

* **There will be no make-up quizzes or exams**, even in the case of an emergency. A missed quiz or examination counts as a zero unless you present a valid excuse from a physician or the Dean's Office. With an acceptable written excuse, your missed exam score will be replaced by your score on that portion of the material on the final.

** Finally, please note that **the use of a calculator will not be permitted on quizzes or exams**.

Getting Help: I will be holding office hours each day before class and will be more than happy to make an appointment with you if you cannot make those times. Additionally, the Mathematics Department provides the Math Clinic, which is held in **Physics 233**, and is open every day. The schedule will be set up by the second day of classes and will be posted outside the Math Department office (Carnegie 215), as well as on the Math Department website (http://math.syr.edu/Help.htm), and on Blackboard.

How to Succeed: Calculus is a mathematical tool, and the only way to become proficient at it is to practice! Approach learning calculus as you would learning a musical instrument.

- It is absolutely essential that you understand how to solve all the assigned problems. Once you understand how to solve a problem, write your solution down neatly and in full detail with explanations that would make your reasoning clear to a friend who sees the problem for the first time. Mathematics is a language that should be used to communicate ideas in a very precise way.
- **Ask questions**. If something is not completely clear, ask about it in lecture, at the Math Clinic, or during office hours as soon as possible.
- **Reading mathematics takes time**. Do not expect to retain new mathematics the first time you see or hear it. Read carefully and work through all the examples in complete detail. You should either read the appropriate section of your textbook before each class, or re-read your class notes after each class. Ideally you should aim to do both.
- **Stay caught up**. Calculus concepts build on each other cumulatively and you need to stay on top of the material at every stage. If you are having difficulty, don't expect that the problem will take care of itself and disappear later, because it will only get worse!
- It may help to form a study group. Explaining your reasoning to another person can help to clarify your own understanding. However, you should make sure to attempt the problems ahead of time by yourself and then work through any difficulties with your study partners.
- You can be successful in this course! You should expect to work hard. Don't get discouraged if you find some of the material difficult at first. Be persistent and patient. If you follow the above suggestions, your experience in this course will be a rewarding one.

Cheating: If you are caught cheating, you will receive an automatic F as your course grade.

Academic Integrity: The Syracuse University Academic Integrity Policy holds students accountable for the integrity of the work they submit. Students should be familiar with the Policy and know that it is their responsibility to learn about instructor and general academic expectations with regard to proper citation of sources in written work. The policy also governs the integrity of work submitted in exams and assignments as well as the veracity of signatures on attendance sheets and other verifications of participation in class activities. Serious sanctions can result from academic dishonesty of any sort. For more information and the complete policy, see http://academicintegrity.syr.edu.

Students with Disabilities: If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS), http://disabilityservices.syr.edu, located in Room 309 of 804 University Avenue, or call (315) 443-4498 for an appointment to discuss your needs and the process for requesting accommodations. ODS is responsible for coordinating disability-related accommodations and will issue students with documented disabilities Accommodation Authorization Letters, as appropriate. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible. You are also welcome to contact me privately to discuss your academic needs although I cannot arrange for disability-related accommodations.

Religious Observances Policy: Syracuse University's religious observances policy, found at http://supolicies.syr.edu/emp_ben/religious_observance.htm, recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holy days according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes. For fall and spring semesters, an online notification process is available through MySlice/Student Services/Enrollment/My Religious Observances from the first day of class until the end of the second week of class.

MAT 295 – Summer II 2013
Tentative Course Schedule

Monday	Tuesday	Wednesday	Thursday
July 1st **1** **§1.3** - The Limit of a Function **§1.4** - Calculating Limits	2nd **2** **§1.5** - Continuity **§1.6** - Limits Involving Infinity	3rd **3** **§1.6** - Limits Involving Infinity **§2.1** - Derivates & Rates of Change	4th **4** **NO CLASS** **Independence Day**
8th **5** **§2.2** - The Derivative as a Function	9th **6** **EXAM 1**	10th **7** **§2.3** - Basic Differentiation Formulas **§2.4** - The Product & Quotient Rules	11th **8** **§2.5** - The Chain Rule **§2.6** - Implicit Differentiation
15th **9** **§2.7** - Application: Related Rates **§3.1** - Exp Fcns	16th **10** **§3.2** - Inverse Fcns and Logs **§3.3** - Derivatives of Logs & Exp Fcns	17th **11** **§3.4** - Exp Growth & Decay **§3.5** - Inverse Trig Fcns	18th **12** **EXAM 2**
22nd **13** **§3.7** - Indeterminate Forms & L'Hospital's Rule	23rd **14** **§4.1** - Maximum & Minimum Values **§4.2** - The Mean Value Theorem	24th **15** **§4.3** - Derivatives and the Shapes of Graphs	25th **16** **§4.4** - Curve Sketching
29th **17** **§4.5** - Application: Optimization Problems **§4.7** - Antiderivatives	30th **18** **§5.1** - Areas & Distances	31st **19** **§5.2** - The Definite Integral	Aug 1st **20** **EXAM 3**
5th **21** **§5.3** - Evaluating Definite Integrals	6th **22** **§5.4** - The Fundamental Theorem of Calculus	7th **23** **§5.5** - The Substitution Rule	8th **24** **FINAL EXAM**