# Departmental Syllabus for MAT 193 Pre-calculus
# Fall 2015

**Course Description:** This course is designed to prepare you for success in the study of calculus. Using graphical, numerical, and symbolic representations, you will investigate the basic properties of many elementary functions, including linear, quadratic, polynomial, exponential, logarithmic, trigonometric, and rational. These functions and their applications will be the core focus of the course. You will engage in applied problem solving in collaborative group settings using graphing technologies. A second but equally important aim of this course is for you to refresh and retain the algebra skills necessary to succeed in your next math course. There will be weekly assignments and quizzes that will address these skills. Class time will not be devoted to your preparation for these quizzes. Help is available from your instructor or from the Calculus Clinic or the Math Clinic.

**Course Supervisor:** Kim Severn, 205 Carnegie, 443-2650, krtaylor@syr.edu. Please inform your instructor of any problems you have with this course. Problems not satisfactorily resolved with your instructor should be brought to the attention of the Course Supervisor without delay.

**Materials:**

(1) Textbook: Connally, E., Hughes-Hallett, D., Gleason, A. M., et al. (2011). *Functions modeling change: A preparation for calculus* (4th ed.). Hoboken, NJ: John Wiley & Sons, Inc. Also available as a custom edition.

(2) TI-84 or TI-83+ graphing calculator. This may be purchased at a variety of local stores, including the Syracuse University Bookstore; you may also be able to borrow a calculator from the library for short periods of time. The calculator may be used on all homework, tests and the final exam. You should bring your calculator with you to class and to recitation. The use of a symbolic calculator (such as the TI-89 or the TI-Nspire with CAS) will not be allowed on quizzes or exams.

(3) WebAssign access code. This will be included with a new copy of the textbook purchased at the SU Bookstore. It may also be purchased separately at the SU Bookstore or on-line with a credit card at `http://www.webassign.net`. Your instructor will provide additional information for creating your WebAssign account.

**Prerequisites for Course:** Students should be competent in the use of high school level algebra. Students should have successfully completed a unit on trigonometry at the high school or college level. A student cannot receive credit for MAT 194 after receiving a grade of C or better in any calculus course. **Students MUST earn a grade of C- or better in MAT 194 in order to meet the prerequisites for taking MAT 295 Calculus I.**

**Homework:** Homework assignments for the entire semester are listed on the schedule at the end of this syllabus. Part of your homework assignment will be submitted on-line via WebAssign at webassign.net. Some variations from the list of homework exercises may be announced in class.

**Class Preparation, Homework and Recitations:** You are expected to read the appropriate section of the text *prior* to the class in which that material is discussed. You should try to work through the examples in the text. After the class presentation, you should re-read the material and work through all of the assigned problems.

The *only* way to learn mathematics is to *do* mathematics.

- You should work out and carefully write up all of the assigned exercises. A small portion of each lecture and most of recitation will be devoted to discussing these problems and others. Clearly, only a few problems can be worked out in detail. Usually the instructor will simply describe the basic steps in the solution of the problem. You must fully complete each problem, plus any additional problems that you need to further your own understanding of the material.

- You will be assigned to a homework group in your recitation. You should work with the members of your homework group to assure that you can do and understand all of the assigned problems. Most students find it beneficial to study for the tests with the members of their homework group.

- Ask questions. If something is not completely clear, ask about it in lecture, in recitation or at the clinic as soon as possible. Don't hesitate to bring questions to your course instructor or recitation instructor during office hours.

- Stay caught up. Math 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. Contact your course instructor or your recitation instructor immediately and discuss the problem.

**Class Attendance and Participation:** You are expected to attend and participate in class. This course is taught using small groups and class discussion; your success will be limited without full attendance and participation.

**Out-of-class Assistance:** Your instructor will be available regularly during his or her office hours. You can also seek assistance at the Calculus Clinic or the Math Clinic. The Clinic hours are posted outside the department office (215 Carnegie) and on the department webpage (`http://www.math.syr.edu`). In addition, most chapters in your textbook have a "*Skills Refresher*" section that provides help with basic algebra skills.

**Final Examination:** Your final examination will take place during a two-hour block on Wed. Dec. 16. The time and location will be announced in class after midterm. You are required to take the final examination during the appointed examination block. **DO NOT MAKE PLANS TO LEAVE CAMPUS BEFORE 2:30 P.M. on Dec.16.**

**Examinations:** There will be three examinations given **during recitation**. There will be **NO MAKE-UP EXAMS**, even in the case of an emergency. A missed quiz or examination counts as a zero unless the student presents a valid excuse from a physician or his or her dean's office. With the written excuse, your score on the relevant portion of the final exam may be used to replace the missed quiz or exam.
Tentative Exam dates: week of Sept.29, week of Nov.3, week of Dec.8

**Quizzes:** Weekly algebra quizzes will be given on-line via WebAssign. There will be occasional quizzes given at the discretion of your instructor **during recitation**.

**Grading:** Your final grade in this course will be based on your performance on exams, the final exam (which is cumulative), homework and quizzes. The relative weight assigned to each is designated below:

| | |
|---|---|
| Exams (3) | 60% |
| Final Exam | 15% |
| Homework | 10% |
| Algebra & Other Quizzes | 15% |

Your course grade will be assigned based on the following percentages:

| | |
|---|---|
| 93 - 100 | A |
| 90 - 92 | A- |
| 87 - 89 | B+ |
| 83 - 86 | B |
| 80 - 82 | B- |
| 77 - 79 | C+ |
| 73 - 76 | C |
| 70 - 72 | C- |
| 66 - 69 | D |
| 0 - 65 | F |

**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 303 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 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.** SU religious observances policy recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays 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 are 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.

## Homework Assignments

| Date | Section | Exercises |
|------|---------|-----------|
| 8/31 | 1.1 | On-line: text reference #9, 15, 26, 36, 37<br>Textbook: #1, 10, 11, 12, 13, 14, 18, 31 |
| 9/2 | 1.2 | On-line: text reference #4, 12, 16, 1XP1, 1XP2<br>Textbook: #S9, S10, 5, 9, 10, 11, 22-26 |
| 9/4 | 1.3 | On-line: text reference #9, 10, 11, 12, 14, 15, 20, 27, 28, 1XP3<br>Textbook: #1, 3, 5, 26 |
| 9/9 | 1.4 | On-line:text reference #16, 17, 18, 19, 20, 22, 25, 27, 38, 41, 47<br>Textbook: S9, S10, 1, 3, 5, 7, 29, 34, 43 |
| 9/11 | 1.5 | On-line:text reference #17, 18, 19, 1XP4, 1XP5<br>Textbook: #2, 3, 13, 14, 15, 20, 23, 31 |
| 9/14 | 2.1 | On-line:text reference #S9, S10, 2, 3, 16, 17, 20, 21, 2XP1<br>Textbook: #1, 18, 19, 21, 22, 27, 29, 30, 31 |
| 9/16 | 2.2 | On-line:text reference #27, 34<br>Textbook: #S2, S4, 2, 3, 21, 23, 24, 25, 29 |
| 9/18 | 2.3 | On-line:text reference #7, 10, 15, 16, 2XP2<br>Textbook: #1, 3, 4, 8, 9, 13, 24 |
| 9/21 | 2.4 | On-line:text reference #8, 10, 36<br>Textbook: 4, 5, 6, 7 |
| 9/23 | 2.5 | On-line:text reference #9, 10<br>Textbook: #3, 8, 11, 12, 18, 19, 20, 24 |
| 9/25 | Review for Exam 1 | |
| 9/28 | 3.1 | On-line:text reference #8, 9, 14, 15, 16, 24, 30, 33, 5XP2, 5XP3,5XP4<br>Textbook: #25, 28, 32, 34 |
| 9/30 | 3.2 | On-line:text reference #7-14, 20, 21, 23<br>Textbook: #16, p. 128 16, 18, 20, 22 |
| 10/2 | 4.1 | On-line:text reference #20, 24, 29, 32, 33, 35, 40, 44, 46, 49<br>Textbook: #18, 50, p. 168 1, 2, 3, 8 |

| 10/5 | 4.2 | On-line:text reference #1, 2, 6, 36, 39<br>Textbook: #4, 8, 10, 15, 20, 26, 38, 43 |
|---|---|---|
| 10/7 | 4.3 | On-line:text reference #16, 18, 40,41, 42,3XP1<br>Textbook: #3, 5, 11, 12, 13, 14,26,28, 30, 37,42,43 |
| 10/9 | 4.5 | On-line:text reference  #9, 10, 11, 12, 3XP2, 3XP3<br>Textbook: #1, 4, 5, 6 |
| 10/12 | 5.1 | On-line:text ref.  #14, 15, 16, 17, 19, 20,40,50,52, 4XP1-8<br>Textbook: #1, 3, 5, 7, 11,34,49,51 |
| 10/14 | 5.2 | On-line:text ref.  #39, 42, 44, 56, 57, 4XP: 9-17<br>Textbook: #53 |
| 10/16 | 5.3 | On-line:text reference #25<br>Textbook: #1, 3-10, 13, 20, 26, 29, 30 |
| 10/19 | 6.1 | On-line:text reference  #3, 27, 31, 40, 52, 53, 5XP5<br>Textbook: #1, 2, 4, 6, 19, 20, 21, 22, 38, 39, 50 |
| 10/21 | 6.2 | On-line:text ref.  #S8, S10, 1, 14, 16, 18, 19, 20, 21, 26, 27, 42<br>Textbook: #9, 10, 30, 33 |
| 10/23 | 6.3 | On-line:text reference #S4, 2<br>Textbook: #8, 11, 12, 14, 20, 21, 28, 29 |
| 10/26 | 6.4 | On-line:text reference  #1, 4, 12<br>Textbook: #S7, S8, 10, 15, 16, 20, 25, 26 |
| 10/28 | 6.5 | On-line:text reference  #S10, 21, 23, 24<br>Textbook: #3, 13, 18, 22, 25 |
| 10/30 | Review for Exam 2 | |
| 11/2 | 7.1 | On-line:text reference #12, 20, 21, 22, 23<br>Textbook: #1, 10, 17, 18, 19, 24 |
| 11/4 | 7.2 | On-line:text reference  #13, 24<br>Textbook: #18, 19, 20, 21, 22 |
| 11/6 | 7.3 | On-line:text reference  #4, 5, 6XP 1-8<br>Textbook: #1, 2, 3, 6, 10, 22, 24, 26, 32, 34, 36 |

| | | |
|---|---|---|
| 11/9 | 8.1 | On-line:text ref. #1-15 odd, 21, 26, 27, 28, 29, 41, 47<br>Textbook: #31, 33, 39, 46 |
| 11/11 | 8.2 | On-line: text reference #2, 3, 26, 27, 33,40<br>Textbook: #10, 13,14,15, 16,17, 23, 28,29,31,36,39 |
| 11/13 | 10.1 | On-line:text reference #6, 20, 30, 46, 62<br>Textbook: #20, 22, 23, 34, 36, 39, 40, 47, 49, 52, 54, 57, 63 |
| 11/16 | 11.2 | On-line:text reference #10, 12, 15<br>Textbook: 6, 7, 8, 26, 27 |
| 11/18 | 11.3 | On-line:text reference #2, 3, 8, 12, 13a, 14, 18, 19, 20, 41, 43<br>Textbook: #9, 23, 24, 26, 27, 28, 32 |
| 11/20 | 11.2/11.3 | |

FALL BREAK

| | | |
|---|---|---|
| 11/30 | 11.4 | On-line:text reference #9, 11, 22, 25, 26, 29<br>Textbook: #2, 3, 8, 10, 12, 13, 15, 19, 20, 24 |
| 12/2 | 11.5 | On-line:text reference #5, 9,13, 14,42,43<br>Textbook: #1, 3, 15,16, 17, 18,22,23,24,34,35,38 |
| 12/4 | 11.4/11.5 | |
| 12/7 | Review for Exam 3 | |
| 12/9 | Review for Final Exam | |
| 12/11 | Review for Final Exam | |