

# Math 115- Precalculus

## Fall 2017

**Instructor:** Michael Levet

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**Course Website:** Bookmark the course website [people.math.sc.edu/mlevet/F17/](http://people.math.sc.edu/mlevet/F17/). Announcements and written homework will be posted here. You are responsible for checking the course website daily.

**Office Hours:** My regular office hours are Monday and Wednesday from 9:30-11:00 AM in LeConte 107. If my office hours are not convenient, I am happy to schedule an appointment. I encourage you to discuss the course material with me.

**Course:** Monday and Wednesday from 8:30-9:20 (LC 115); Tuesday and Thursday from 8:30-9:45 (LC 112).

**Last Day to Drop Before Grade of 'W' Is Recorded:** August 30, 2017

**Last Day to Drop Before Grade of 'WF' Is Recorded:** October 16, 2017

**Prerequisites:** Either placement code MA2 or MC0-9 on the placement test; or grade of C or better in Math 111/111I.

**Participation:** All students are expected to show respect to every participant of the class, including other students, the instructor, and any guests visiting.

**Course Description:** The primary responsibility of this course is to prepare students for Math 141. Students who struggle in Math 141 usually do so as a result of weak algebra skills, rather than due to the actual calculus. Therefore, the purpose of this course is for students to develop strong algebra skills and gain comfort with trigonometry, so that each of you will be prepared to succeed next semester in Math 141. This course will be divided up into three major units: algebra and functions; trigonometry; and systems of equations, series, and sequences. If time permits, we will discuss additional topics such as vectors, limits, and derivatives.

**Course Objectives:** Formally, we have the following learning objectives:

- Students will gain proficiency working with various algebraic functions, including polynomials, exponentials, logarithms, rational functions, conics, and trigonometric functions. In particular, students will practice evaluating these functions at specific points, solving these equations to find the desired input value(s), and graph these functions.
- Students will work with functions in a more general sense, including correctly identifying whether a mathematical relation is a function; determining if a function is one-to-one, onto, even, or odd; inverting functions; and transforming functions.
- Students will determine closed-form solutions for sequences and series based on initial terms.
- Students will apply the techniques from class to solve problems related to intercepts, rates of change, inequalities, system of equations, rational functions, and interest growth. Beyond correctly modeling a problem, students will also correctly ascribe meaning to the various components of the model and the solution. Note that some of these problems will require multiple steps.
- Students will connect quantities that are equal using equal signs. Quantities that are not equal will not be connected by equal signs. Students will not use arrows in lieu of equal signs. **There is a difference between an arrow and an equal sign; do not misuse.**

**Text:** Precalculus 2nd Custom Edition for USC, Mark Dugopoloski ISBN: 1-269-74815-7. You will also need an access code for <http://www.mymathlab.com>, the online homework software. To register for our class the Course ID is **levet21827**. Access to MyMathLab is required for this course. However, since the online system comes with an eBook, the textbook itself is optional. If you choose not to purchase the bookstore package, then you can purchase access to MyMathLab online for \$99.95 when you enroll. **I expect everyone to have access to MyMathLab and the textbook by August 30.**

**Homework:** Your learning in this class will ultimately come from making a good faith attempt to answer the homework questions. There will be three types of homework assignments for this course. Your homework average counts for 15% of your final grade.

- **MyMathLab:** Almost all of your assignments will be completed online via MyMathLab. You will be provided with multiple attempts and problem solving resources. Your MyMathLab submissions will be graded for correctness. Given that MyMathLab is online, you will **only** be granted extensions in extenuating circumstances (e.g., hospitalization, death of a family member).
- **Written Homework:** I will occasionally assign written homework, which will be collected at the end of class on the assigned date unless indicated otherwise. While arriving at a correct answer is important, is is equally (if not more) important to learn how to document your thought process for yourself and others, as well as ascribe meaning to your answers. Therefore, you should write up your problems formally and correctly, clearly documenting your work. This includes explaining your work in **complete sentences**, where appropriate. **All written homework must be turned in via hard copy, stapled in the top-left corner. You must use proper mathematical notation.** Any deviation from this may result in your homework receiving a grade of 0 and returned to you, ungraded. Late homework will not be accepted (unless it is the result of an officially excused absence, with documentation).
- **Suggested Problems:** I will occasionally suggest problems, usually from the textbook. These problems will **not** be collected, nor will they be graded. However, they serve as a good source of practice for you. I **strongly recommend** working through the suggested problems, if for no other reason than that **I LIKE TO USE SUGGESTED PROBLEMS AS QUIZ AND EXAM PROBLEMS, VERBATIM! HINT, HINT, HINT!**

**Quizzes:** I will also give regular quizzes, some of which may be unannounced. The quizzes will be closely connected to the homework problems, emphasizing frequently missed problems on the homework. Therefore, it is advisable to review the homework problems, reworking the ones you missed, and seek help as necessary prior to the quizzes. Students who master the homework problems should succeed on the quizzes. Note that the quizzes are closed book, closed note, and electronic devices of any sort are strictly prohibited. All quizzes are to be done individually. No makeup quizzes will be given. In accordance with USC's attendance policy, the lowest 10% of your quiz scores will be dropped. Your quiz average counts for 15% of your final grade.

**Exams:** There will be three midterm exams and a final. The midterms will be fairly traditional in that they will be closed book, closed note, and in class. All exams are to be done individually. Electronic devices of any sort are prohibited during any assessment (quiz or exam). **Exams will not be rescheduled except in extreme circumstances (death of a family member, hospitalization at the time of the exam, etc.). The instructor reserves the right to require documentation. If at all possible, you must notify me as soon as you become aware of an extenuating circumstance.** Note that non-emergency events (weddings, non-scholarship sports, vacations, oversleeping, etc.) will not be excused. Each midterm exam counts for 15% of your final grade.

**Final Exam:** The final exam period is scheduled for **Monday, December 11 at 9:00 AM in LC 115**. Note that the final exam period is mandatory and cannot be made up for discretionary reasons, including (but not limited to) a conflicting final exam at another institution or being out of town. The final exam counts for 25% of your final grade.

#### **Grading:**

Homework- 15%

Quizzes- 15%

Three Midterm Exams- 15% Each

Final Exam- 25%

Cutoffs of 90, 85, 80, 75, 70, 65, and 60 will correspond to an A, B+, B, C+, C, D+, and D respectively. Students earning lower than a 60 will receive an F. There will not be a curve. Final grades should be interpreted in the following manner. An A indicates strong preparedness for Math 141. A grade of B indicates reasonable preparedness for Math 141. A grade of C indicates **minimal preparedness** for Math 141, which is a dangerous problem.

**Grade Disputes:** Any grade dispute must be brought to my attention within one week of an assignment being returned. The only grade disputes that will be honored are those where the instructor made a mistake in grading. In particular, all points earned (or lost) are final, unless due to a mistake made by the instructor. In order for a grade dispute to be considered, you must submit your graded assignment, along with a written request indicating the problem(s) in question, a clear explanation defending the correctness of your answer(s), and an indication of where the instructor made a mistake in grading. The instructor will then consider the grade dispute and make a decision regarding how many (if any) points to award. The instructor's decision regarding any grade dispute is final.

Note that I always welcome questions regarding the material, and I encourage you to discuss problems you missed with me.

**Honor Code:** You are expected to know the Academic Code of Responsibility as it appears in the *Carolina Community: Student Policy Manual*. Much of what you will learn about mathematics will come from your discussions with your peers. You are welcome and encouraged to discuss the homework problems with each other and with me. It is expected that you work the problems by yourself first, so that you can contribute to the discussion. This policy will be changed, reluctantly, if I find it is being abused. **Your submissions must be written in your own words and reflect your understanding of the material.** If there are any questions regarding this policy, please ask me.

Any honor code violation will result in the following minimum penalties:

- (1) You will receive a -200% on the assignment.
- (2) You will be reported to the Office of Academic Integrity, which may choose to impose additional penalties.

**The usual penalty for honor code violations is receiving an F for the course.** Multiple instances of cheating will certainly result in an F for the course. **Please do not cheat.** It is not worth it.

**Students with Disabilities:** If you have a disability, please make an appointment with me in the first week of class to discuss accommodations. You must be registered with Student Disability Services (LeConte 112A) to receive accommodations.

**Absences:** Students are expected to attend class every day. If a student misses class, he or she is responsible for the material that was covered. I will take attendance every day that I return an assignment or give a quiz. Students who are not present to take the quiz or pick up their graded assignment will be marked absent. In accordance with USC's attendance policy, absence from more than 10% of class meetings (**whether excused or unexcused**) is considered excessive, and the instructor may choose to impose a grade penalty. Note that 10% of the class meetings corresponds to **6 Days**, and students missing more than **6 Days** of class **whether excused or unexcused** will have their final grade lowered by half a letter grade.

Students will not be allowed to make up a test or quiz, except in extenuating circumstances (as described under Exams). **Please note:** In order for an absence to be considered excused, it is necessary that the student notifies the instructor as soon as he or she is able. The instructor reserves the right to require documentation. Note that non-emergency events (weddings, non-scholarship sports, vacations, etc.) will not be excused.

**Electronics and Cell Phone Policy:** Electronic devices and cell phones should be silent, and not make any noise during class. Social media, YouTube, and games are distracting to students in class. If you wish to use your laptop for purposes other than note-taking, I ask that you sit in the back of the classroom so as not to distract others. If you are expecting an emergency phone call, please sit towards the front of the classroom and discreetly step out when you need to take the call.

**Support:** The following are good resources for seeking help:

- My office hours.
- SI Sessions.
- Free Tutoring in LC 105- MTWR from 10:00 AM-4:00 PM.

### Hints for Success:

- Attend SI. Our SI program has had tremendous impact on improving student mastery of the material, as well as student grades.
- This is a 4 credit hour course. Therefore, well-prepared should be spending 12-16 hours **outside of class** working on the material. Three of these hours should be spent in SI. Underprepared students may need to put in additional time to succeed.
- After completing a homework problem, ask yourself three questions: (1) What tools from class did I need to complete this problem, and how did I use them? (2) How could this problem show up on an exam? (3) What common mistakes might I make with this problem on an exam? Do this with **every** homework problem.
- Ask for help. The instructor is here to help you succeed, and there are many additional resources for you to seek help (see under Support).
- **Do math.** Note that I said **do math**, NOT look at solutions or watch YouTube videos. The only way you will learn math is to work problems. This is not a spectator sport.
- Please see Bud Brown's hints for success.

**Note:** The instructor reserves the right to modify the syllabus as needed; particularly, as dictated by the interests of learning and fairness.