MTH 2211.002, Precalculus A  
Department of Mathematics and Statistics  
Fall 2020

Professor: Dr. Lynn Greenleaf  
Class Times & Place: 9-9:50 MWF, via Zoom
Office: 340 Mathematics building  
Room 205, Math Building
Office Phone: 936.468.1882  
Email: greenleal@sfasu.edu
Office Hours: (or by appointment) Office hours will be held over Zoom

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<th>Monday</th>
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**Course description:** This is a prep course for the calculus sequence. We study properties and graphs of algebraic, exponential, and logarithmic functions as well as their inverses, and will introduce trigonometric functions and radian measure.

**Text and Materials:** Precalculus, A Prelude to Calculus, 3rd edition, by Axler (ISBN 9781119321514). Each student will need a calculator to use during exams. No cell phone calculators will be allowed during exams.

**Course Calendar:** Please note that the dates for our in-class exams below are subject to change. The final is university scheduled and cannot be taken at a different time without permission of the Dean of the College of Sciences and Mathematics.

- Exam 1  Wednesday, September 23
- Exam 2  Wednesday, October 21
- Exam 3  Wednesday, November 18
- Final  Monday, December 7, 8-10:30am via Zoom

**Grading Policy:** 60%  Three Exams  
15%  Homework  
5%  Quizzes  
20%  Comprehensive Final Exam  

**Grading Scale:** 90% - 100%: A  
80% - 90%: B  
70% - 80%: C  
60% - 70%: D  
Below 60%: F

**Course Requirements:**

- **Three in-class exams**—If a student must miss an exam due to an excused absence, a make-up exam will be given on Friday, November 20 via Zoom at our regular class time. **Cell phones are not allowed out during exams, even if that is all you brought.** Students are responsible for bringing their own calculator to exams. No music (even through headphones) is allowed during exams.

- **A comprehensive final exam**—The final exam is Monday, December 7, 8-10:30am via Zoom.

- **Homework**—You will have weekly take-home homework each non-exam week.

- **Class attendance and participation**—Students are expected to attend all class meetings, arriving on time. If you are absent, you are responsible for determining what you missed and for being prepared for class when you return.

- **Preparing for class**—Students should be prepared to invest several hours per day outside of class reading the text, practicing examples, and working homework exercises. **Material to be discussed in class should be read before coming to class.** Check your @jacks email regularly, as I may send reminders, assignments, or announcements.

- **There is no extra credit or alternative credit. Do well enough on the graded items to earn the grade you seek.**
Notes to the Student: MTH 2211 is a prep course for the calculus sequence at SFA which prepares you for calculus in the obvious way by reviewing prerequisite concepts and skills that you will need to retain for success in understanding the calculus. The other, less obvious way that MTH 2211 prepares you for the calculus sequence is by getting you accustomed to a fast-paced, content-driven course. To do well in MTH 140 and later in the calculus sequence, you need to keep up. That does NOT mean that you need to have mastered the material before the class even starts. It DOES mean that you need to try the homework each night to see if you can do it. If you can, great; keep rolling. If you can’t do the homework, seek help immediately the next day in class when I ask if there are homework questions or in my office hours. Please don’t wait until the end of the semester if you need help. By that time, it’s too late.

COMPLETE COURSE POLICY SHEET ACCESSIBLE ONLINE IN D2L.

Course Outline:

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<th>Approximate time spent</th>
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<tr>
<td>Functions</td>
<td>80%</td>
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<tr>
<td>Trigonometry</td>
<td>10%</td>
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<tr>
<td>Analytic Geometry</td>
<td>10%</td>
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Academic Integrity (Policy A-9.1)

Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

The penalty for a student found cheating on any part of an assignment, quiz, or exam in this class will range from a grade of zero on the work to a grade of F in the course, and may result in additional, more severe disciplinary measures. A student who allows another to copy his work and the student copying the work are both guilty of cheating. Do your own work. Do not show your completed work to others. Do not allow others to copy your work.

SFASU Policy 5.4: The federal definition of a credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates:

1. Not less than one hour of classroom or direct faculty instruction and a minimum of two hours out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or 10 to 12 weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time, or;
2. At least an equivalent amount of work as outlined in item 1 above for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

To this end, all students in courses offered by the Department of Mathematics and Statistics that wish to be successful should plan to spend at least two hours outside of class for every credit hour associated with this course. Expected activities to be completed in the time outside of class include reviewing notes from previous class meetings, reading assigned course resources, completing all assigned exercises and projects, and performing periodic assessment preparation.

Definition of Academic Dishonesty

Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.

Please read the complete policy at http://www.sfasu.edu/policies/academic_integrity.asp.

Withheld Grades Semester Grades Policy (A-54)

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing...
the grade point average. The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C.

Students with Disabilities
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices.

Acceptable Student Behavior
Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy D-34.1 http://www.sfasu.edu/policies/student_conduct_code.asp). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.

Student Learning Outcomes (SLO): At the end of MTH 140, a student who has studied and learned the material should be able to:
1. Define “function”.
2. Recognize basic functions (including transcendental functions) algebraically and graphically.
3. Identify determining factors of the graph of a function either algebraically or from the graph, including the domain and range, intercepts, asymptotes, and end behavior.
4. Generate composite functions and identify domains/ranges.
5. Define and recognize when a function is one-to-one and explain why this is necessary for a function to have an inverse.
6. Compute the inverse of a function and understand that the domain may need to be restricted in order to do so.
7. Define triangular/circular trigonometric functions.
8. Determine the domains/ranges/graphs of circular trigonometric functions and their transformations.
9. Identify special triangles and values of the trigonometric functions at the standard multiples.
10. Extend the definition of the trigonometric functions and the Pythagorean Theorem to obtain the reciprocal, quotient, and Pythagorean identities.
11. Understand the sum and difference formulas and use them to generate the double- and half-angle formulas.
12. Restrict the domain of the trigonometric functions so that the inverse trigonometric functions may be defined.
13. Solve trigonometric equations.
15. Recognize that the distance formula is an application of the Pythagorean Theorem.
16. Define and analyze the conics: circles, ellipses, parabolas, and hyperbolas.
17. Convert the polar equation of a conic to a rectangular equation and vice versa.
18. Solve basic systems of equations.

There are no specific program learning outcomes for the mathematics major addressed in this course. It is a general education core curriculum course and/or a service course.
Advice to Students Intending to take Calculus

- Do you believe that mathematics should make sense? A trait that successful students share is that they critically examine their own work, in addition to the work of others. Mathematics should not seem like remembering processes or procedures. If a mathematical step does not make sense to you, reexamine your work.

- Your degree is not earned by "sitting" for classes. Each mathematics course builds on the previous one. You will be held responsible for retention of skills AND for reviewing those skills when you need them. Keep your resources.

- Seek help as soon you need it because ignoring that you have a problem will make it worse. Signs that you need to seek help are quiz grades below 70%, failure to understand how to complete homework exercises, or exam grades below 70%. In each course that is a prerequisite for another, you need to make a C or better to qualify for subsequent courses. It is up to you to make this happen.

- Understanding does not come without practice outside of class. In mathematics, practice is working homework problems. Your quickest means of feedback comes from doing problems and then checking your answer. Working toward an answer is not helpful, because exams don’t come with answers on them. Your focus should be on how to solve problems, not how to get to an answer. Ask questions in class or during office hours when you get stuck on homework.

- When you do ask questions, be prepared to show your attempts at the problem, or be prepared to verbalize what part of the problem is confusing you. If you are asking just so that you can see one more example worked, what do you think will make this example any different from the others we have worked before? Seeing someone else work examples helps start your learning; only you doing problems will finish it. You have to have roughened the surface of your understanding for help to stick. There are no shortcuts to understanding.

- This is mathematics. How you write is important. Making yourself produce logically ordered writing encourages logically ordered thinking and understanding.

- **All exams count.** Make sure you are ready for each one. **There is no extra credit.**

- Make sure to bring any allowed tools you need for success. Cell phones as calculators and graphing calculators are NOT allowed on exams and quizzes. Make sure to get a scientific calculator and bring it to exams if you need it. If you come to an exam and say "but I only have a graphing calculator", you will not be allowed to use it. Poor planning on your part does not make an emergency on my part. With that said...

- From my position at the front of the room, it is easy to see what you are doing and how you spend your class time. I am not likely to make any special arrangement for people seeking to improve their grade because they have not used class time wisely. Examples of not using class time wisely are, texting, talking about topics other than mathematics, sleeping, arriving late consistently, and doing other homework. (I have noticed a pattern that people who engage in these behaviors skate by with a C or do even worse. This wastes your time, wastes your money, and fails to favorably impress people from whom you will ultimately be seeking letters of recommendation.)