MATH 2211.011 and MATH 2011.011, Precalculus A (Half-term 1)
Department of Mathematics and Statistics
Class Policy Sheet and Syllabus—Fall 2020

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Office Phone: 936.468.1684
Office Hours: via Zoom, Remind-text to meet at the times below

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
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Covid learning modifications: I plan to meet you face-to-face and via Zoom in our classroom which has a capacity of 18. If you choose to attend class face-to-face, you must wear a mask and comply with SFASU’s physical distance policy. If you forget your mask, you can leave and Zoom in. Each day I will post a bulleted list in Brightspace (d2l) to guide your studies. I will also post the Zoom recorded portion of our class in d2l in the Content Browser daily along with any notes that I generate. You will be relying heavily on your text. The keys to your success are independence, communication, and motivation (making yourself come to the table to get your education).

Course description: This is a prep course for the calculus sequence. In Precalculus A (MATH 2211/2011), we study properties and graphs of algebraic, exponential, and logarithmic functions as well as linear systems; we continue the study in Precalculus B (MATH 2212/2012) with trigonometric functions, right triangle definitions of the trig functions and their inverses; fundamental trigonometric identities; conic sections; polar and rectangular coordinate systems.


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 Chair of DoMS.

Exam 1 Thursday, September 17, in class or via Zoom
Exam 2 Tuesday, October 13, in class or via Zoom

Grading Policy: 40% Exam 1 
40% Exam 2 
20% Quizzes

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

Course Requirements:

- **Two in-class exams**— If a student must miss an exam due to an excused absence, special arrangements should be made in advance. If you are taking your exam remotely, you will need a phone or computer with webcam that can participate in a zoom session with video on your workspace for the entire exam. Zoom links will be provided via news items in d2l.
- **Weekly in-class quizzes**— We will have weekly in-class quizzes on Thursdays of non-exam weeks. All quizzes will be submitted to a Dropbox in d2l whether you are taking your quiz in person or remotely.
- **A final exam**—The final exam is Tuesday, October 13, during our regular class time.
- **Remind app**—Students will use the Remind app for texting the instructor, in addition to communicating via email. To the number 81010, text the message @math2211f to join.
- **Homework**— We will assign exercises from the text but will not take up homework for a grade.
- **Class attendance and participation**— Students are expected to attend all class meetings, arriving on time either face-to-face or via Zoom. Bring your text daily. If you are absent, you are responsible for determining what you missed and for being prepared for class when you return. Students missing 7 classes will receive a 10 point deduction on his or her final course grade.
- **Preparing for class**— Invest several hours reading the text, practicing examples, working homework exercises, viewing video examples and participating in zoom sessions. Check your @jacks email regularly, as I may communicate via this account.
- There is no extra credit or alternative credit. Do well enough on the graded items to earn the grade you seek.

COMPLETE COURSE POLICY SHEET ACCESSIBLE ONLINE IN D2L.
Notes to the Student: Precalculus A and B are prep courses 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 Precalculus A and B prepare you for the calculus sequence is by getting you accustomed to a fast-paced, content-driven course. To do well in the Precalculus sequence 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.

<table>
<thead>
<tr>
<th>MTH 2211/2011 Pre-Calculus Topics</th>
<th>Axler 3rd edition Exercises and Problems</th>
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<tr>
<td>Week 1 1.1, functions</td>
<td>1, 5, 9, 13, 17, 21, 25, 29, 33, 37, 41, 45-50, 61, 63, 69, 73</td>
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<td>1.2, coordinates and graphs</td>
<td>11-24, 42, 44, 46, 49-52</td>
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<td>1.3, transformations, even/odd</td>
<td>1, 5, 9, 13, 17, 21, 25, 29, 33, 37, 41, 55, 57, 69, 73-77</td>
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<td>1.4, function composition</td>
<td>1, 3, 5, 7, 9, 11, 13, 17, 19, 23, 33, 37, 39, 43, 62,69</td>
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<td>Week 2 1.5, inverse functions</td>
<td>1, 2, 7, 9, 11, 19, 21, 26, 39,40,43,47</td>
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<td>1.6, graphs of inverses, increasing/decreasing</td>
<td>1, 5, 9, 13-35 odds, 39, 45</td>
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<td>2.1, lines</td>
<td>3, 5, 9, 13, 15, 23, 27, 31, 35, 37, 43, 49, 59</td>
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<td>Week 3 2.2, quadratic functions</td>
<td>1, 5, 13, 15, 19, 31, 33, 35, 39, 43, 51, 59, 63, 67, 75, 77</td>
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<td>2.3, integer exponents</td>
<td>1-31 odds, 33, 39, 45, 55, 61, 79, 81, 83, 133</td>
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<td>2.4, polynomials</td>
<td>1-29 odds, 33, 41, 66-72</td>
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<td>Week 4 2.5, rational functions</td>
<td>1-9 odds, 23, 27, 29, 31, 37, 39, 41</td>
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<td>Exam 1</td>
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<td>3.1 logarithms</td>
<td>9-61 odds, 71, 74, 77, 90-92</td>
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<td>Week 5 3.2, logarithms, change of base</td>
<td>1, 3, 5, 7, 9, 29, 33, 35</td>
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<td>3.3, log properties</td>
<td>1, 3, 5, 7, 9, 15, 17-33 odds, 39, 59, 61</td>
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<td>3.4, exponential growth</td>
<td>5, 9, 12, 15, 17-21, 31, 33</td>
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<td>Week 6 3.5, natural logarithm</td>
<td>7, 11, 15, 17, 19, 21, 23, 25, 34, 47</td>
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<td>Systems of Linear Equations</td>
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<td>Matrices</td>
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<td>Week 7 Final Exam</td>
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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.
Academic Integrity
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.

Definition of Academic Dishonesty (SFA policy 4.1)
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.

Withdrawn Grades Semester Grades (SFA Policy 5.5)
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 10.4). 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 Precalculus A and B, 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.)