Math 2211.010 and Math 2011.627, Precalculus A (Half-term 1)
Department of Mathematics and Statistics
Class Policy Sheet and Syllabus—Fall 2021

Professor: Dr. Sarah T. Stovall
Office: 338 Mathematics building
Email: ssstovall@sfasu.edu
Office Phone: 936.468.1684
Student Hours: Text me on Groupme to meet at the times below via Zoom or in my office.

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
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<td>2:3:15</td>
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Covid statement: I plan to meet you face-to-face daily in our classroom, 214. Please refer to Dr. Scott Gordon’s email that all faculty and staff received on 8/18 regarding Covid recommendations.

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 at an ALTERNATE time than the university scheduled time for the first half-term so that we can have a 75 minute period for the exam.

Exam 1 Tuesday, September 14
Exam 2 Thursday, October 7 (for 75 minute period)

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.

- **Weekly in-class quizzes**— We will have weekly in-class quizzes on Thursdays of most weeks.

- **A final exam**—The final exam is Thursday, October 7, during our regular class time.

- **Groupme app**---Students can use the Groupme app for texting the instructor. Instructions to join will be given on the first day of class.

- **Homework**— We will assign exercises from the text but will not take up homework for a grade. However, doing the suggested homework will help you prepare for quiz questions and exam questions.

- **Class attendance and participation**— Students are expected to attend all class meetings, arriving on time to our classroom. 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. 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 prepare 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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<tbody>
<tr>
<td>Week 1</td>
<td>1.1, functions</td>
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<td>1, 5, 9, 13, 17, 21, 25, 29, 33, 37, 41, 45-50, 61, 63, 69, 73</td>
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<tr>
<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</td>
<td>1.5, inverse functions</td>
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<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</td>
<td>2.2, quadratic functions</td>
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<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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<tr>
<td>2.4, polynomials</td>
<td>1-29 odds, 33, 41, 66-72</td>
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<td>Week 4</td>
<td>2.5, rational functions</td>
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<td></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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<tr>
<td>3.1 logarithms</td>
<td>9-61 odds, 71, 74, 77, 90-92</td>
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<td>Week 5</td>
<td>3.2, logarithms, change of base</td>
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<td>1, 3, 5, 7, 9, 29, 33, 35</td>
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<tr>
<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</td>
<td>3.5, natural logarithm</td>
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<td>7, 11, 15, 17, 19, 21, 23, 25, 34, 47</td>
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<tr>
<td>Systems of Linear Equations</td>
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<td>Matrices</td>
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<td>Week 7</td>
<td>Final Exam</td>
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Course description: Preparatory for the calculus sequence: properties and graphs of algebraic, exponential, and logarithmic functions and their inverses; an introduction to trigonometric functions and radian measure.

Credit hours: 2

The following is an excerpt from SFA 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 a minimum of 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.

Course Prerequisites and Corequisites: TSI mathematics complete/exempt or successful completions of mathematics developmental education plan.

Course outline:

<table>
<thead>
<tr>
<th>Functions</th>
<th>Approximate time spent</th>
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<tbody>
<tr>
<td>Definition/notation</td>
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<tr>
<td>Domains/ranges of basic functions, their graphs, and topics appropriate to each type of function:</td>
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<tr>
<td>Linear functions: constant functions; slope; point-slope/slope-intercept form; solving linear equations/inequalities</td>
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<td>Power functions: end behavior</td>
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<tr>
<td>Polynomials: intercepts, maximum/minimum number of turning points, and end behavior; solving polynomial equations/inequalities (factoring, Zero Product Principle, quadratic formula)</td>
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<tr>
<td>Systems of equations</td>
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<td>Rational functions: horizontal, vertical, and oblique asymptotes; polynomial long division and proper rational functions, end behavior</td>
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<td>Exponential functions: properties of exponents (including, especially, rational exponents); asymptotes and end behavior; exponential growth/decay; natural exponential</td>
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<tr>
<td>Logarithmic functions: properties of logarithms; asymptotes and end behavior; natural logarithms; solving exponential/logarithmic equations</td>
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• Piecewise-defined: common piece-wise defined functions (absolute value, stamp-price, etc.); graphing/interpreting piecewise-defined functions; ‘skip’ and ‘jump’ discontinuities
  o Transformations of the basic graphs: translations, reflections, and compressions/expansions
  o Combining functions: algebraically and by composition
  o Inverses of functions (including those that require branches, like the principal square root)

• Introduction to Trigonometry and Radian Measure
  o Introduction to trigonometric functions via the unit circle
    ▪ Definitions
    ▪ Graphs, domains/ranges, asymptotes, and transformations of the circular functions
  o Radian measure
    ▪ Definition
    ▪ Conversions from degrees to radians and radians to degrees
    ▪ Angles greater than 2π

Student Learning Outcomes (SLO): At the end of MTH 141, 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. Solve basic systems of equations.
8. Define circular trigonometric functions.
9. Determine the domains/ranges/graphs of circular trigonometric functions.

There are no specific program learning outcomes for this major addressed in this course. It is a specifically intended as preparation for the calculus sequence.

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:
• using or attempting to use unauthorized materials on any class assignment or exam;
• falsifying or inventing of any information, including citations, on an assignment;
• helping or attempting to help other student(s) in an act of cheating or plagiarism.
Plagiarism is presenting the words or ideas of another person as if they were one’s own. Examples of plagiarism include, but are not limited to:
• submitting an assignment as one’s own work when it is at least partly the work of another person;
• submitting a work that has been purchased or otherwise obtained from the Internet or another source;
• incorporating the words or ideas of an author into one’s paper or presentation without giving the author credit.
Withheld 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.

SFASU Mental Health Statement: SFASU values students’ mental health and the role it plays in academic and overall student success. SFA provides a variety of resources to support students mental health and wellness. Many of these resources are free, and all of them are confidential.

On-campus Resources:
SFASU Counseling Services
www.sfasu.edu/counselingservices
3rd Floor Rusk Building
936-468-2401

SFASU Human Services Counseling Clinic
www.sfasu.edu/human-services/139.asp
Human Services Room 202
936-468-1041

Crisis Resources:
Burke 24-hour crisis line 1(800) 392-8343
Suicide Prevention Lifeline 1(800) 273-TALK (8255)
Crisis Text Line: Text HELLO to 741-741

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.

Date of document: 08/16/2021