ASU Preparatory Academy
ARIZONA STATE UNIVERSITY

Course Syllabus
Honors Pre-Calculus
2018 – 2019

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Course Description:

The Pre-Calculus courses combine the study of Trigonometry, Elementary Functions, Analytic Geometry, and Math Analysis topics as preparation for calculus. Topics include the study of complex numbers; polynomial, logarithmic, exponential, rational, right trigonometric, and circular functions, and their relations, inverses and graphs; trigonometric identities and equations; solutions of right and oblique triangles; vectors; the polar coordinate system; conic sections; Boolean algebra and symbolic logic; mathematical induction; matrix algebra; sequences and series; and limits and continuity.

Course Objectives:

1. Classify real numbers
2. Perform mathematical operations on expressions and matrices, and solve equations and inequalities
3. Translate a written expression or sentence into an algebraic equation that models a contextual situation
4. Interpret algebraic equations and inequalities geometrically and describe relationships algebraically
5. Represent and analyze relationships using written and verbal explanations, tables, equations, graphs and matrices and describe the connections among those representations
6. Identify a graph that models a real-world situation
7. Determine the solution to a contextual maximum/minimum problem, given the graphical representation
8. Identify the sine, cosine, and tangent rations of the acute angles of a right triangle. Apply these trigonometric ideas to a variety of problems
9. Graph trigonometric functions
10. Solve right and oblique triangles using trigonometric concepts
11. Solve trigonometric equations and verify identities
12. Solve problems by applying inverse trigonometric functions
13. Apply addition, subtraction, and scalar multiplication of vectors to applied problems
14. Recognize the connections between matrices and other mathematical representations
15. Solve systems of linear equations in two, three or more variables using algebraic methods and matrices
16. Convert from rectangular to polar coordinates and vice versa
17. Graph equations using polar coordinates
18. Communicate appropriate iterative or recursive patterns using symbols or numbers
19. Find the n^{th} term of an iterative or recursive pattern
20. Evaluate problems using simple or basic recursion formulas
21. Investigate the limiting process by examining infinite sequences and series and areas under curves

Required Materials:
My mathematics course is relatively straight forward. You simply need to bring the following items to be successful in this course.

- A pencil
- Notebook (spiral, composition, etc.) OR a binder with loose leaf paper dedicated to mathematics alone
- Calculator, preferably a graphing utility
- Dry erase marker for yourself (optional)
- A positive attitude and desire to learn

Classroom Rules:
I try not to run the class as a totalitarian state, although it can become one if necessary. I like to follow the "common sense" rule. Your primary objective in this course is to learn. If your actions are preventing your learning OR THE LEARNING OF YOUR PEERS then simply stop, otherwise I will attempt to correct your behavior and redirect you towards a more positive learning outcome. The expectations in this class are the same expectations you've had in other classes:

- No electronics in class (ipods, cell phones, et cetera, are only a hindrance to your learning) unless explicitly granted permission by the teacher for learning purposes.
- Please be respectful to the classroom by not leaving trash around. We have plenty of garbage cans so use them!
- Please be respectful to your classroom peers. Everyone is here to learn
- Helpful hint: if the teacher is explaining something it is best to listen up. They probably have good things to say.

Grading:
There will be three main ways you will be graded in the course. Although on a point system, the distribution of the points *roughly approximates* to the following:

Weekly Quizzes	20%
Unit Assessments	65%
Final Exam	15%

Absences:
It is the responsibility of the student to get caught up for any days they have missed. Do note, assignments or exams that have not been submitted or taken for whatever reason will result in a **zero** in the gradebook. NOTE: The moment the assignment/exam has been made up I will replace the zero with the earned grade.

Late Work/Make Up Work:
It is expected that assignments are turned in DAILY. It is completely up to my discretion to allow late work to be turned in.

Final Thought:
Mathematics requires skill and determination. No one woke up with the ability to do mathematics. It is something that requires dedication and hard work, and most importantly it needs practice! Homework and any other practice should be taken seriously. And please do not feel discouraged if you run into obstacles during your mathematical meanderings; that is what learning is all about! Work hard, try your best, and you should do well in this course.

Please fill out the requested information below and return to Mr. Vo as soon as you can. Alternatively, you may fill out an online form at: https://goo.gl/forms/IcVJS1j5yYvkqoUt1

_____	_____	_____
Student Name (Last, First)	Course	Class Period

To: Parents and/or Guardians
From: Mr. Toan Vo
voicemail: 602.249.3095 email: tvo02@asu.edu
Re: Classroom Expectations

Please take the time to read the Course Syllabus that I have sent home with your student. An understanding of expectations for this course is vitally important to ensuring a successful academic year. I also encourage you to write down my voicemail number and email address so you may immediately contact me with any questions or concerns. Discussing your child's performance, good or bad, is always a priority and a critical element in their success.

"I have read the course syllabus and I agree to follow the rules, procedures, and policies for this class. Additionally, I understand the consequences that may ensue as a result of inappropriate classroom behavior."

_____
(Student Signature)

"I have read my students course syllabus and I understand the rules, procedures, and policies for this class. Additionally, I understand the consequences that may ensue as a result of inappropriate classroom behavior."

_____	_____
(Parent/Guardian name printed)	(Parent/Guardian Signature)

If I need to contact a parent or guardian, which do you prefer?

_____ Phone

_____ E-Mail

Parent/Guardian Email Address: _____

Parent/Guardian Phone Number: _____