



Syllabus MAT 187 Precalculus

Course Information

Course Prefix/Number: **MAT 187 Section 1**
Semester: **Spring 2019**
Course Title: **Precalculus**
Credit Hours: 5

Class Days/Times: **TR 11:45A - 2:00P**
Place: **Central Campus, Building 300, RM 303**

Instructor Information

Name: **Isaac M. Furlonge**
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Office location: **Ha-Maşcamdam Ha-Ki: RM 119**
Office hours: **M 10:50A - 12:50P**
TR 10:45A - 11:25A
Other times by appointment

Course Description

College-level algebra and trigonometry. Includes equations, algebraic and transcendental functions, inequalities, systems of equations, conic sections, sequences and series, trigonometric functions, polar form, calculator use, and partial fractions. Also includes intensive preparation for analytic geometry and calculus.

Course Objectives

Upon successful completion of the course, the student will be able to:

- Solve quadratic, quadratic in form, absolute value, polynomial, rational, literal, and radical equations.
- Define a function by ordered pairs, a graph, and algebraically; use function operations and inverses; use transformations and determine symmetry.
- Graph polynomial and rational functions; predict the nature of the zeros of a quadratic function, and reconstruct a polynomial from its given zeros.
- Solve polynomial, rational, and absolute value inequalities.
- Graph exponential and logarithmic functions; solve exponential and logarithmic equations; and use curve fitting for explanation of arithmetic models.
- Convert between radians and degrees measures; define, graph, and evaluate the six trigonometric functions and their inverses; solve trigonometric equations algebraically; and use trigonometric identities to simplify expressions and solve equations.
- Use the standard equations for conic sections and sketch their graphs; identify types of conic sections and determine their features.
- Graph polar equations; convert between rectangular and polar coordinates; obtain polar form of complex numbers and convert between the polar form and the standard form.
- Solve linear systems algebraically, graphically, and using matrices; solve nonlinear systems graphically and algebraically.
- Find the n^{th} term of a sequence; calculate partial sums of arithmetic and geometric sequences; and use the Binomial Theorem to expand powers of binomials.

Student Learning Outcomes

After completion of the course students will be able to:

- Perform operations with functions with/without the use of iPads/graphing calculators.
- Create a mathematical project using PowerPoint
- Employ technology to set up and solve real world situations.

Course Structure

This course will be operating on a combination of traditional lecture, group activity, and discussions that will enhance the student's knowledge of mathematical concepts.

Text and Materials

- [Required] Registration in the *EducoSoft* website (www.educosoft.com). An access code must be purchased through the college's bookstore.

Course Evaluation

Attendance	10%
Homework	18%
Quizzes	24%
Exams	24%
Comprehensive Final Exam	24%
Total	100%

Points	Grade
90 - 100%	A
80 - 89%	B
70 - 79%	C
60 - 69%	D
0 - 59%	F

Himdag Cultural Component

My interpretation of what Nahban said in the *Desert Smells Like Rain* is this: while the *himdag* discourages direct, exact answers, in the mathematical world, one is expected to be able to come up with a precise answer for the situation. That being said, there are a few common issues shared:

- *Baban* (coyotes) are not going to affect your homework or my tests - they didn't write either.
- While one must go through a maze to see *i'itoi*, there was no mention as to how many mazes there were to get to him. Likewise, you will discover in this course that there are many different ways to perform the algebra necessary to see the final answer.
- *I-we:tma*: for your success and the college's and the community's, you should not go work on mathematics alone - it can be a group activity (except on the tests, of course).
- *T-pik elida*: we respect each other and ourselves. We respect and take pride in our own work. We respect each other's abilities, quirks and privacy.

Policies and Expectations

Student Conduct

- Please be respectful of myself and other students in the class. Disruptive behavior may result in you being asked to leave the class. This includes but is not limited to talking, eating, rustling papers, clicking on electronics, texting or playing with your phone, late arrival and early departures (late arrival to class disrupts the learning activities and is unprofessional and disrespectful towards fellow classmates), any abusive or indecent language. Collegial behavior is required at all times. Turn off cell phones, PDAs, iPods, laptops, and other electronic devices not related to the course before entering the class.
- Cheating in my class is unacceptable. If you are caught cheating, you will be given a zero on that exam or quiz and may result in my filing an Academic Honesty Incident Report which could result in suspension or expulsion from the college.

E-mail Requirement

- All students must activate and regularly check their Tohono O'odham Community College e-mail account. It is mandatory that students use the TOCC e-mail account for all communications with the instructor.
- The instructor will not reply to any non-TOCC e-mail address the student uses to contact him.

Attendance

- Students are required to attend class regularly and on time (10% of course grade). Attendance is noted if you are reasonably tardy (i.e. 10 minutes), and if you stay in the classroom for the entire class meeting. A student will be considered absent if more than 15 minutes late.
- If you are absent from class, you must complete (before the next class meeting) the online tutorial(s) for the work covered in class. This is required to count for attendance.
- The student is responsible for any work missed during an absence (and please do not ask the question "Did I miss anything *important* in class last time?")
- Accommodations will be made for college-sanctioned absences; in all such instances, I follow college policy.
- If you are the victim of an emergency or an illness, please remain in contact with me by email or phone.

Homework

- As you might expect, homework is the essential ingredient in a math grade (18% of course grade) and will be assigned daily.
- Homework can be found under the assessments tab in www.educosoft.com. It is due one week from the day assigned unless otherwise specified. Thus if homework is assigned on Tuesday during class, it is due the next Tuesday at the beginning of class.
- Each homework assignment has a maximum of two attempts.
- Note: It is the student's responsibility to ensure that homework is submitted within the given time limit and by the due date.
- Absolutely **no late homework** will be accepted.

Quizzes

- Online quizzes (24% of course grade) will be given during the semester.
- All quizzes are "timed quizzes" and will close on the due dates. The amount of time given for each quiz varies depending upon the number of questions.
- You can attempt each quiz up to two times and the highest grade will be used for your score.
- Note: It is the student's responsibility to ensure that a quiz is submitted within the given time limit and by the due date.
- There will be **no make-up quizzes**. Your lowest three quiz scores will be dropped.

Exams

- There will be **three exams (24% of course grade)** during the semester.
- Exams will be held in class on **Tuesday February 12th, 2019, Tuesday March 26th, 2019, and Tuesday April 30th, 2019.**
- A **make-up exam** will be given only in extreme circumstances and if you have valid, documentable proof justifying your absence, such as a doctor's note explaining a bad illness, police report verifying a car accident or a death certificate of an immediate family member (family trips out of town and a car that wouldn't start do not qualify for make-up exams). For official TOCC business, such as a business trip, a team activity, (e.g., a sports event where you are a participant), you must produce the relevant official documentation noting your absence.
- Should an exam be missed then the final will replace that exam, if two exams are missed then one will be posted as a "0".

Final Exam

- The final exam **(24% of course grade)** will be a comprehensive test over all the material covered during the semester and will be held in class on **Tuesday May 7th, 2019 from 11:45A - 2:00P.**
- Missing the final exam should not be considered an option.
- During exams students may only use hand-held calculators whose capabilities do not extend beyond the four basic operations.

Important Dates

- Drop/Full Refund deadline is **Tuesday January 29th, 2019.**
- Withdrawal deadline is **Friday March 29th, 2019.**

Incompletes

- Per TOCC policy, Incomplete (I) grades are not awarded automatically. The student must request an "I" from the instructor who can choose to award an Incomplete only if all three of the following conditions are met:
 - The student must be in compliance with the attendance policy.
 - There must be an unavoidable circumstance that would prohibit the student from completing the course.
 - The student must have completed over 75% of the course requirements with at least a "C" grade.
- Incompletes are not a substitute for incomplete work due to frequent absences or poor academic performance. Incomplete grades that are not made up by the end of the ninth week of the following semester will be automatically changed to an "F" if the agreed upon work, as stipulated on the written form signed by the instructor and the student when the "I" grade is awarded, is not completed.

Final Grades

They will be sent to the address on record. Per FERPA and the Himgdag, I will not give grades over the phone and am strongly discouraged from emailing same. (Again, see *t-pik elida* above.)

DISCLAIMER: This syllabus is designed to evolve and change throughout the semester based on class progress and interests. You will be notified of any changes as they occur.