



Syllabus MAT 187 Precalculus

Course Information

Course Prefix/Number: MAT 187 1
Semester: Spring 2020
Course Title: Precalculus
Credit Hours: 5.00

Class Days/Times: M 9:15AM - 11:15AM
Place: Main Campus,
I-We:mta Ki: Room 23

Instructor Information

Name: Isaac M. Furlonge
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Office location: Ha-Maşcamdam Ha-Ki:
Room 103
Office hours: T 12:15PM - 3:00PM
R 12:00PM - 12:45PM
(or by appointment)
Zoom Office Hours: W 9:15AM - 10:00AM
4:15PM - 5:00PM

Course Description

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

Student Learning Outcomes

After completion of the course students 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.
- Use a graphing calculator to do matrix computations and to evaluate, graph, and analyze functions.

Course Structure

This is a hybrid class, meaning that a portion of the class will be conducted in face-to-face meetings in the classroom; the remainder of the class will be conducted in an online format, utilizing TOCC Canvas. The specifics for this class are as follows:

Online component: The presentation of the course material will be delivered primarily through TOCC Canvas (<https://tocc.instructure.com/login/canvas>), rather than from class lectures. You are required to read and view this online material. It is crucial that you keep up with these activities in order to be successful in this class.

In class: I will not be lecturing on the course material except on a very limited basis. Instead, I will spend the class time answering questions and helping to clarify any difficult or confusing material. Attendance at class sessions is REQUIRED and constitutes part of your course grade. (See below for attendance policy.)

Text and Materials

- **This class does not require a hardcopy textbook.** Please note that your online class materials (Canvas) contains the eBook for the class. You might choose to purchase a hardcopy of the textbook from an online site (**Pre-Calculus 141 & 142** by Salah Abed et al. Fourth Edition, 2017. Published by Creative Commons Attribution 2.5).
- **Calculator**: While I will not require you to purchase a calculator with graphing capabilities I strongly recommend having access to the functions of a graphing utility. Some of the questions from homework will require the use of a graphing calculator. The instructor will use a TI-86 graphing calculator when needed. You may use a graphing calculator of any brand during class meetings and while doing homework but questions from quizzes, tests and final exam will be designed to be answered only by using a scientific calculator. Graphing calculators will be allowed during quizzes, tests and final exam. Calculators from iPads, laptops, cellular

phones or any other communication device will not be allowed. The makers of Mathematica created a website called <http://www.wolframalpha.com/> where you can enter your equation and have it solved, enter your graph and have it drawn, and essentially do, with a click of a button, just about anything. This is a great free tool. Your goal should be to make technology work for you, not the other way round – don't become a slave to technology.

Evaluations and Grading

Grades will be determined using the following scale:

<u>Category</u>	<u>Weight</u>
Attendance	5%
Homework	15%
Quizzes	30%
Exams	30%
Comprehensive Final Exam	20%
Total	100%

Letter grades will be awarded using the following scale:

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

Grades will not be curved, skewed, or otherwise inflated.

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), the use of 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 communicate with any non-TOCC e-mail address a student uses.

Attendance

- Students are required to attend class regularly and on time. 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.
- Four unexcused absences may result in withdrawal and a grade of "W" or "Y" will be recorded.
- 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. You may request to be excused from class for religious observances and practices, for illness, work-related travel or for personal or family emergency.
- If you will be absent, please notify the instructor as soon as possible.

Homework

- As you might expect, homework is the essential ingredient in a math grade and will be assigned each Monday.
- It must be submitted in Canvas until 11:59PM on the following Monday.
- Homework will not be graded on the bottom line answers, but on the work which led to the answer. So, you must show your work!
- Absolutely **no late homework** will be accepted.

Policies and Expectations (*continued*)

Quizzes

- Each Wednesday, you will complete a timed quiz (in your online Canvas materials) consisting of questions over the previous week's material. The quizzes are not proctored, but students are expected to work independently on the quizzes. A quiz will consist of problems which are a modified version of the homework problems.
- **No make-up quizzes** will be given. Your two lowest quiz scores will be dropped.

Exam

- There will be three exams during the semester given on **Monday February 10th, 2020**, **Monday March 23rd, 2020**, and **Monday April 20th, 2020**.
- 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 will be a comprehensive final test over all the material covered during the semester and will be held in class on **Monday May 4th, 2020** during our standard class period from 9:15AM–11:45AM.
- Missing the final exam should not be considered an option and **no make-up exam** will be offered.

Instructor Withdrawals

Students who have missed four consecutive classes (or the equivalent) not submitted any assignments nor taken any quizzes by the 45th day census report, due on **Thursday February 27th, 2020** are assumed NOT to be participating in the class and may be withdrawn at the faculty member's discretion.

Student Withdrawals

Students may withdraw from class at any time during the first 2/3 of the semester without instructor permission and without incurring any grade penalty. Please be sure to withdraw yourself by:

Drop/Full Refund Deadline: **Tuesday January 28th, 2020**.

Withdrawal Deadline: **Monday March 30th, 2020**.

if you do not expect to complete the class, otherwise you may receive an "F" grade.

Policies and Expectations (*continued*)

Special Withdrawal (Y) Grade

- The “Y” grade is an administrative withdrawal given at the instructor’s option when no other grade is deemed appropriate.
- As your instructor, I will file a form stating the specific rationale for awarding this grade.
- “Y” grades are discouraged since they often affect students negatively and I will not award a “Y” grade without a strong reason.

Incompletes

- Incompletes (I): The nature of this course (where you are learning something new every single class) makes it very improbable for an incomplete to be given. However, per TOCC policy, I 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 avoidable 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.
- In handing out an incomplete:
 - 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 Himdag, I will not give grades over the phone and am strongly discouraged from emailing same. (Again, see *t-pik elida* above.)

Reasonable Disability Accommodations (Americans with Disabilities Act)

- Tohono O’odham Community College seeks to provide reasonable accommodations for all qualified individuals with disabilities. The College will comply with all applicable regulations, and guidelines with respect to providing reasonable accommodations as required to ensure an equal educational opportunity. This process includes self-identifying as a student with a disability, providing supporting documentation of their disability, and being approved for services through the Disability Resources Office (DRO). It is the student’s responsibility to make known to their instructor(s) the student’s specific needs within the context of each class in order to receive appropriate accommodations. We will work together in order to develop an accommodation plan specifically designed to meet the individual student’s requirements.

- For more information or to request academic accommodations, please contact: Anthony Osborn, TOCC Disabilities Resource Coordinator, aosborn@toocc.edu, or 520-360-5044 for additional information and assistance.

Title IX

- Tohono O'odham Community College faculty and all staff are dedicated to creating a safe and supportive campus. Title IX and our school policy prohibit discrimination on the basis of sex- this includes sexual misconduct; harassment, stalking, domestic and dating violence and sexual assault.
- Sexual discrimination and sexual violence can undermine students' academic success and quality of life on campus and beyond. We encourage students who have experienced any form of sexual misconduct to talk about their experience and seek the support they need.
- Confidential support and academic advocacy can be found with: Student Services.

Conduct: Bias, Bullying, Discrimination and Harassment

Tohono O'odham Community College faculty and staff are dedicated to creating a safe and supportive campus environment as a core value. Harassment based on age, class, color, culture, disability and ability, ethnicity, gender, gender identity and expression, immigration status, marital status, political ideology, race, religion/spirituality, sex, sexual orientation, and tribal sovereign status will not be tolerated.

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.