



Math 142 H College Mathematics

Course Information

Course Title: **College Mathematics**

Course Prefix/Number: **MAT 142H2**

Semester: **Fall 2020**

Class Days/Times: Monday and Wednesday / Lu:nas c Mia' Iklos; 4:30 – 7:00 PM

Credit Hours: **4**

Instructor Information

Name: **Arlene Flores Ali, Ph.D**

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Office location: ONLINE

Office hours: [See Faculty Handbook]

Course Description

Basic algebraic functions, including the language of sets, lines in the plane, systems of linear equations, expressions and equations in rational, radical, quadratic, exponential and logarithmic form. This course will also include a survey of real-life topics in the social sciences and management, along with an introduction to probability and statistics.]

Course Objectives:

During this course students will:

1. Add, subtract, multiply and divide numbers in the real number system.
2. Solve (linear, rational, radical, quadratic, exponential and logarithmic) equations and inequalities. Realize that some equations and inequalities may have no solution – or infinitely many of them.
3. Graph Equations.
4. Add, subtract, multiply and divide expressions. Apply the principles of counting in problem solving situations.
5. Compute theoretical and empirical probabilities. (in percentages and in fractions)
6. Compute the mean, median, mode and standard deviation for a data set.
7. Use descriptive statistics to analyze data.
8. Solve interest problems using interest formulas for simple, compound and continuous interest.

9. Analyze and solve problems using linear and exponential growth.
10. Analyze exponential models of real world situations to find and estimate solutions, including growth and decay models beyond financial concepts.
11. Describe the patterns and behavior of exponential models using words, algebraic symbols, graphs, and tables.
12. Identify when an exponential model or trend is reasonable for given data or context.
13. Explain the impact of changing parameters.
14. Interpret visualizations for exponential models.
15. Perform basic logarithmic operations to address questions arising in exponential models.
16. Critically evaluate statistics presented in media
17. Explain hypothesis testing, including the purpose of and differences between experiments and observational studies.
 - Interpret study conclusions, including P-values.
 - Compute and interpret Z-scores.
18. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents.
19. Rewrite expressions involving radicals and rational exponents using the properties of exponents.
20. Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.
21. Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise

Student Learning Outcomes

After completion of the course, students will be able to:

- Analyze and solve problems using linear and exponential growth.
- Describe the patterns and behavior of exponential models using words, algebraic symbols, graphs, and tables.
- Use descriptive statistics to analyze data.

Course Structure

This course will be operating on a combination of group activities, discussions and rarely traditional lecture that will enhance the student's knowledge of mathematical concepts. Some of this work will need to be done outside of class. That being said, you will have ample time to do work in class. You will find the format of this class to be a bit different than most. If however you are currently taking, or have had, IRW 070 or 090, then this will be familiar. I will try to make sure that half of the class be dedicated to homework.

Course Learning Materials and Textbook Information

An ipad or laptop is required for this class. Checking out and returning an Ipad from the Library is a requirement to obtain a grade in this class.

Required Text: Quantway College, version 2.7 Publisher: XanEdu. It will be provided, free of charge, the first day of class with the Access Code. To enter to the Carnegie Pathways site, students need to have this access code : _____.

Apps: The “Free GraCalc 2” ; “My script calc” and “Desmos Graphing Calculator apps can be downloaded from the Apple Store

Courses Outline and Important Dates

#	Day	Date	Sections	HW Due	Test
1	Monday	8/24/20	Class Overview – N1		
2	Wednesday	8/26/20	N2	N1	
3	Monday	8/31/20	N3	N2	
4	Wednesday	9/2/20	N4	N3	
NC	Monday	9/7/20	NO SCHOOL – Labor Day		
5	Wednesday	9/9/20	N5	N4	
6	Monday	9/14/20	N6	N5	
7	Wednesday	9/16/20	N7	N6	
R		9/18/20	Week 4 Student’s Progress Reports Due		
8	Monday	9/21/20	N8	N7	
9	Wednesday	9/23/20	N9	N8	
NC		9/28/20	Fall Break		
NC		9/30/20	Fall Break		
10	Monday	10/5/20	Review Test 1	N9	
11	Wednesday	10/7/20	Test 1 – Module N1-N9		Module N
R		10/8/20	45 th Day Census		
NC		10/12/20	Columbus Day		
12	Wednesday	10/14/20	M1		
R		10/16/20	Week 8 Student’s Progress Report Due		
13	Monday	10/19/20	M2	M1	
14	Wednesday	10/21/20	M3	M2	
15	Monday	10/26/20	M4	M3	
16	Wednesday	10/28/20	M5	M4	
17	Monday	11/2/20	M6	M5	
18	Wednesday	11/4/20	M7	M6	
R		11/9/20	Withdrawal Deadline		
19	Monday	11/9/20	M8	M7	
NC		11/11/20	Veteran’s Day		

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.

R		11/13/20	Week 12 Student Progress Report Due		
20	Monday	11/16/20	Review Test 2	M8	
21	Wednesday	11/18/20	Test 2 – Module M1 – M8		Module M
22	Monday	11/23/20	S1		
23	Wednesday	11/25/20	S2	S1	
24	Monday	11/30/20	S3	S2	
25	Wednesday	12/2/20	S4	S3	
26	Monday	12/7/20	S5	S4	
27	Wednesday	12/9/20	Test 3 – Module S1 – S6	S5	Mid- Module S
28	Monday	12/14/20	Final Exam		Final Exam
R		12/14/20	Last Day of Classes		
29	Tuesday	12/15/20	Final Grades Due		
NC		12/25-1/1/21	Winter Break		

Evaluations and Grading & Assignments:

- 90 and above is an A
- 80 - 89 is a B
- 70 - 79 is a C
- 60 - 69 is a D
- Under 60 is Failing

Your grade will be determined by the following:

Your final grade will be calculated as follows: Attendance 100 points Homework Assignments 300 points Chapter Tests 300 points <u>Final Exam 100 points</u> Total Possible 800 points	Grading Scale A = 800 – 720 points B = 719 – 640 points C = 639 – 560 points D = 549 – 480 points F = less than 480 points
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Himdag Cultural Component

Mathematics faculty’s interpretation of what Nahban said in the “Desert Smells Like Rain” is this: While the Himdag discourages direct, exact answers, in the mathematical world, my students are expected to be able to come up with a precise answer for the situation. As a community college closely associated with the Tohono O’odham Nation, TOCC encourages growth of students’ cultural knowledge and my class takes steps to transmit learning mathematics in a way that respects the Tohono O’odham Himdag.

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Policies and Expectations

Attendance Policy

You are expected to arrive to class on time and be prepared to participate in each class period. Four unexcused absences may result in withdrawal and a "W" or "Y" will be recorded. You may request to be excused from class for religious observances and practices, for illness, for school or work-related travel or for personal or family emergency. If you will be absent, please notify the instructor as soon as possible (approved by Faculty Senate April 2014).

Incomplete 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:

1. The student must be in compliance with the attendance policy.
2. The student must have unavoidable circumstance that would prohibit the student from completing the course.
3. 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.

Course Policy

- 1) Students are expected to attend each class, arriving on time, except in the case of an excused emergency.
- 2) Students are expected to contact instructor prior to absences, coming late to class or leaving early.
- 3) Unexcused late arrivals or early departures will count against attendance record.
- 4) Class participation and preparation are essential to student success. Students must read textual material, prepare for the lesson, complete required assignments as stated on the course schedule.
- 5) Students are expected to stay in class and work diligently throughout the whole time.
- 6) Cellphones should be turned off during class, unless the instructor is allowing students to use their tools (calculator, internet access).
- 7) Late work is marked down 10 points for each day of tardiness.

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 **October 8, 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 **November 9, 2020** if you do not expect to complete the class, otherwise you may receive an "F" grade.

Special Withdrawals (Y) Grade

The "Y" grade is an administrative withdrawal given at the instructor's option when no other grade is deemed appropriate. Your instructor must file a form stating the specific rationale for awarding this grade. "Y" grades are discouraged since they often affect students negatively. Your instructor will not award a "Y" grade without a strong reason.

Equal Access Statement/Disability Accommodations

Tohono O'odham Community College seeks to provide reasonable accommodations for 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@tocc.edu, or 520-383-0033 for additional information and assistance.

Title IX

Tohono O'odham Community College encourages each student to have the knowledge and skills to be an active bystander who intervenes when anyone is observed or being harassed or endangered by sexual violence. Sexual discrimination and sexual violence can undermine students' academic success and quality of life on campus and beyond. We encourage students who have experienced or witnessed 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 Title IX Coordinator/Counselor, Alberta Espinoza, M.Ed. located in I-We:mta Ki: Room 18. Phone 520-383-0033 email: aespinoza@tocc.edu

Conduct: Bias, Bullying, Discrimination and Harassment

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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.

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Reference: Jorge Guarin, TOCC Fall 2018

Reference: TOCC template Fall 2020