UNIVERSITY OF GUAM
UNIBETSEDÅT GUAHAN

College of Natural & Applied Sciences
Division of Mathematics & Computer Science

Course: MA161a College Algebra & Trigonometry (3 credits)
Semester: Fanuchånan (Fall) 2024
Meetings: TTh 11:00 – 12:20
Room: WB Rm. 3

Instructor: Dr. Raymond M. Paulino
Office: Warehouse Annex B Rm. 9
Telephone: Not Available, just use email
Email: paulinor4388@triton.uog.edu <- best way to contact me is by email.
Office hours: MW: 10:00 to 12:00, TTh: 1:50-2:50
All other times by appointment upon request
(subject to change with advance notice)

Catalog Description:

MA161a includes algebraic, exponential and logarithmic functions, systems of equations and inequalities. MA161b includes trigonometry, additional algebraic functions, sequences, series, and probability. A student may receive credit for either the MA161a-b sequence or the MA165 course, but not a combination of the two.

Text: *Algebra and Trigonometry with Analytic Geometry, 13th edition, by Swokowski and Cole*
ISBN-13: 978-0-8400-6852-1; ISBN-10: 0-8400-6852-2

Rationale for Course:

Satisfies general education requirements. Required for STEM (science, technology, engineering, mathematics) majors. Prepares students for calculus and other upper level mathematics courses, as well as courses in other STEM disciplines such as physics, pre-engineering, chemistry, and biology.

Prerequisites:

Grade of C or better in MA115, or placement into MA161a.

Calculator:

You are required to have a **standalone** scientific calculator, and a graphing calculator is highly recommended. Students are expected to have a working scientific calculator for quizzes and exams. No electronic calculators on tablets, smartphones, or laptops are permitted during testing periods. No calculator swapping is permitted during testing periods, and you are still expected to show all required work to receive full credit.

Attendance:

Your attendance in class is encouraged and is directly related to your grade (see Evaluation below). Please inform the instructor if you will be absent. We will run into occasions when we absolutely cannot make it to class. I am subject to those environmental and familial setbacks too. However, we must make it a point to attend all class sessions on time.

Moodle:

I will use Moodle to post the syllabus and any additional course documents and handouts.
Moodle Key: ma161a01stu2024

Please come to Office Hours after you get your quizzes and exams back so I can help you improve and fix your mistakes. Various extra credit opportunities are given throughout the course and announced in class.

Evaluation:

30%	Quizzes (12-13 quizzes)
15%	Participation, Worksheets, and other assignments
45%	Midterm Exams (3 exams)
10%	Final Exam
100%	Total percentage

Letter grades will be assigned as follows:

98 – 100%	A+	4.0
93 – 97%	A	4.0
90 – 92%	A-	3.67
87 – 89%	B+	3.33
83 – 86%	B	3.00
80 – 82%	B-	2.67
77 – 79%	C+	2.33
70 – 76%	C	2.00
60 – 69%	D	1.00
0 – 59% F	F	0

Homework:
Homework will be assigned each class. To be successful, a student must complete all assigned homework even though they may not be collected and graded. Keep in mind that tests are based on homework problems, so practice, practice, and practice.

Quizzes and Exams: Each week there will be either a quiz or an exam. The exam problems will be from the quizzes, and the quiz problems will come from or similar to the homework.
Quizzes and Exams wills be either one of the following **types**:

Type 0. In Class, no notes, book, or calculator allowed.
Type 1. In Class with open notes, book, and calculator allowed, but no use of internet and communicating with others.
Type 2. In Class with option to take home. If you finish before class time ends, then you will get 10% extra credit.
Type 3. Take home

I will let you know ahead of time, which type of Quiz/Exam it will be.

Make-up policy:

For Extenuating circumstances that you need to miss a quiz or exam, then I will allow you to do makeup if I decide that you have a valid excuse. If your excuse is valid then I will let you know how to do a makeup. **You must notify me at least one week before you do the makeup.** ←VERY IMPORTANT, do not wait till the last day of class

If for any reason you miss or fail, 5 quizzes and 1 Exam, then you will automatically be given an F as a final course grade.

Student Responsibility:

You are expected to spend 1-1½ hours of outside study for each hour inside the classroom. Do not commit the two cardinal sins in a mathematics course: **falling behind and leaving unanswered questions unanswered**. Both will complicate your life and cause a lot of unnecessary stress.

Remember, in order to succeed in any math class, you will need to put in the appropriate amount of time outside of class. So, read the textbook before class, work as many practice problems as you can, write down questions you have as you read or work problems, and ask your questions in class. You will feel a sense of confidence and accomplishment for all problems you complete and attempt. And, since this is a gateway to upper-level math and science courses, practice is the best way to build your math intuition and ensure you have a solid foundation. **Your grade is a direct reflection of the amount of time you put into this class.**

The following are some important notes concerning student responsibilities:

- Please do not ask for a copy of my notes for a day on which you were absent. Employ the buddy system to get copies of any notes you might need. It's probably a good idea to start exchanging phone numbers (or e-mail addresses) with classmates *now* in the event of such a need *later*.
- If you are absent, it is your responsibility to pick up anything handed out or passed back during your absence, and in a timely manner. Please see me before or after class--or during office hours--to obtain these items, though--not during the day's lesson.
- It is your responsibility to keep hold of any supplemental material distributed in class. It is also your responsibility to retain all quizzes, workshops, and tests passed back to you.
- Check Moodle regularly (at least once a week) to see if there are any announcements you may have missed in class, or to keep track of the topics we are covering each week.
- It is your responsibility to keep an accurate record of your graded work. Again, do not assume I always have my to-the-moment grade sheets ready.
- If you are ill, **STAY HOME** and take care of the more important business of getting yourself well. If you are exhausted, PLEASE go home and get in the needed rest, for coming to class feeling sleepy isn't going to help you much with the day's lesson.
- Lastly, it is your responsibility to keep, read and know the contents of this syllabus.

Additional Guidelines.

-Come to class prepared, **read** the sections before coming to class.
-Class participation is encouraged.
-Take Good Notes to help you on the Quizzes and Exams. Organization is key to success in this class.

Your Math Resources: Office Hours, Math Tutor Lab

There are several campus resources available to you if you need extra help with any of the course material.

- **Your instructor!** Come to my office hours or email me to set up an appointment to meet at another time if you can't make my office hours.
- **The Math Tutor Lab!** The CNAS Math Tutor Lab is located at the Agriculture and Life Sciences Building in Room 230 (**ALS230**). MA085/089 students will have priority at the tutor lab and can book an appointment at the tutor lab website uogmathlab.org. NON-MA085/089 students will be helped as a walk-in only on a first come-first serve basis. Fall 2018 tutor lab hours of operation are TBD. For more information, please call 735-2064, email mathtutorlab@triton.uog.edu or visit the tutor lab website.

Special Accommodations:

If you are a student with a disability who will require an accommodation(s) to participate in this course, please contact the Disability Support Services office to discuss your specific accommodation needs confidentially. You will need to provide me with a Faculty Notification letter from the DSS counselor. If you are not registered, you should do so immediately at the Student Center, Rotunda office #6, ph/TTY: 671-735-2460, or uogdss@triton.uog.edu to coordinate your accommodation request.

To schedule an appointment on BOOK IT; https://sssablan.youcanbook.me

Office: Student Center Rotunda Office #6
Office Hours: Monday/Wednesday 9:00–noon and 1:00–3:30; Friday by appointment only
Office Phone Number/TTY: 671-735-2460
Email address: sssablan@triton.uog.edu

Academic Integrity Policy:

Academic Integrity is about performing in your role as student in ways that are honest, trustworthy, respectful, responsible, and fair (see www.academicintegrity.org for more information). As a student, you will complete your academic assignments in the manner expected by the instructor. Academic dishonesty, including but not limited to cheating and plagiarism may result in suspension or expulsion from the University. Refer to the UOG Student Handbook and Code of Conduct for more information.

Notification of Rights Under FERPA:

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. These rights for students, parents and school officials can be viewed at http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html.

Tobacco Policy:

The University of Guam is a tobacco-free campus and has a total ban on sales, smoking and distribution and use of tobacco and tobacco-based products on campus. UOG is committed to promoting the health, wellness and social well-being of the University Community, the people of Guam and the Western Pacific.

Welcome!

AND FINALLY…Welcome to MA161a! This class will move at a good pace through the textbook, but should be fun and interesting for those who come to class ready to listen, learn, and ask questions when they don't understand a particular concept or can't read my writing on the board.

MA161a – Learning Objectives and Outcomes

Ever wondered why we require certain courses for general education, or for a given major, or as a prerequisite for another course? Read on below to see what the MA161a student learning objectives are (what you should expect to learn in this course), how they tie into the Math Program Learning Outcomes, and how they tie into the bigger picture – the University's Institutional Learning Outcomes.

Institutional Expected Student Learning Outcomes:
UOG Expected Student Learning Outcomes December 2008

Some of the expected fundamental knowledge, skills, and values that the University of Guam student will have demonstrated upon completion of any degree are:

ILO1: Mastery of critical thinking & problem solving
ILO2: Mastery of quantitative analysis
ILO3: Effective oral and written communication
ILO4: Understanding & appreciation of culturally diverse people, ideas & values in a democratic context
ILO5: Responsible use of knowledge, natural resources, and technology
ILO6: An appreciation of the arts & sciences
ILO7: An interest in personal development & lifelong learning

Math Program Learning Outcomes:

MA PR-1: *demonstrate critical thinking*, *problem solving skills* and ability to use mathematical methods by *identifying, evaluating, classifying, analyzing, synthesizing* data and abstract ideas in various contexts and situations.
MA PR-2: *exhibit a sound conceptual understanding* of the nature of mathematics, and *demonstrate advanced mathematical skills* in mathematical analysis, modern algebra and other mathematical discipline(s).
MA PR-3: *argue and reason* using mathematics, *read, create* and *write down* logically correct mathematical proofs, *use exact mathematical language* and *communicate mathematics efficiently* orally, in writing and using information technology tools.
MA PR-4: *apply abstract thinking, mathematical methods, models* and *current practices* in the sciences, including state-of-the-art mathematical software, to solve problems in theoretical mathematics or in a diverse area of mathematical applications.
MA PR-5: *show maturity in mathematical knowledge and thinking* that prepares and encourages students to pursue graduate studies in mathematics or in related fields.
MA PR-6: *demonstrate an appreciation of* and *enthusiasm for* inquiry, learning and creativity in mathematical sciences, a sense of exploration that enables them to *pursue lifelong learning* and *up-to-date professional expertise* in their careers through various areas of jobs, including governmental, business or industrial jobs in mathematics, related sciences, education or technology.
(Note: Math Program Learning Outcomes are undergoing revisions.)

MA161a Course Student Learning Objectives (SLOs)

Course SLOs:	Program Learning Outcomes (PLOs)	University Learning Outcomes (ILOs)	Method of Assessment
Demonstrate an understanding of polynomial, rational, exponential, and logarithmic functions and their corresponding graphical representations.	MA PR-1 MA PR-3 MA PR-4	ILO-1 ILO-2	Questions on homework, workshops, quizzes and tests.
Generate graphs of polynomial, rational, exponential, and logarithmic functions without a graphing calculator.	MA PR-1 MA PR-3 MA PR-4	ILO-1 ILO-2	Questions on homework, workshops, quizzes and tests.
Use polynomial, rational, exponential, and logarithmic functions to solve real-life applications and problems.	MA PR-1 MA PR-3 MA PR-4	ILO-1 ILO-2 ILO-6	Questions on homework, workshops, quizzes and tests.
Sketch the graphs of different kinds of functions, identify their domain and range, and construct new functions from a given set of functions.	MA PR-1 MA PR-3 MA PR-4	ILO-1 ILO-2	Questions on homework, workshops, quizzes and tests.
Solve different kinds of equations: linear, quadratic, radical, polynomial, exponential, and logarithmic.	MA PR-1 MA PR-3 MA PR-4	ILO-1 ILO-2	Questions on homework, workshops, quizzes and tests.
Formulate appropriate mathematical equations and use these equations to solve word problems.	MA PR-1 MA PR-3 MA PR-4	ILO-1 ILO-2 ILO-6	Questions on homework, workshops, quizzes and tests.
Demonstrate skill in performing the fundamental operations on radicals, polynomials, and complex numbers.	MA PR-1 MA PR-3	ILO-1 ILO-2	Questions on homework, workshops, quizzes and tests.

(Note: Student Learning Outcomes for MA161a are undergoing revisions.)

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MA161a Tentative course calendar for FALL 2024:

Week of (Mondays)	***Topics/Section***
8/12	*First Day of Classes is 8/14 Wednesday* Gen. Info Syllabus 1.1, 1.2
8/19	1.2, 1.3 **Quiz 0 on 1.1 and 1.2** (Quizzes are usually the last 45 minutes of class)
8/26	1.3, 1.4, 2.1 **Quiz 1 on 1.2** **Quiz 2 on 1.2 and 1.3**
	Holiday: Labor Day No Class on Mon. 9/2
9/02	2.1, 2.2, 2.3 **Quiz 3 on 1.4 and 2.1**
9/09	2.3, 2.4 and 2.5 **Quiz 4 on 2.2 and 2.3**
9/16	2.5, 2.6 **EXAM 1 on 1.1 to 1.4, and 2.1** (1 hour and 20 mins. for the exams)
9/23	**Quiz 5 on 2.4 and 2.5** 2.6, 2.7
9/30	2.7, 3.1 **Quiz 6 on 2.6 and 2.7** ***Fanuchanan Break 10/7-10/12 (No Class)***
10/14	3.2, 3.3 **EXAM 2 on 2.2, 2.3, 2.4, 2.5, 2.6, 2.7**
10/21	3.3, 3.4 **Quiz 7 on 3.1 and 3.2** **Quiz 8 on 3.3**

10/28	3.4, 3.5, 3.6 **Quiz 9 on 3.4** ***Holiday: All Soul's Day 11/2***
11/04	3.7, 4.1, 4.2(only do a little of long division) **Quiz 10 on 3.5, 3.6, and 3.7** ***Holiday: Veteran's Day 11/11*** ***No class***
11/11	4.1, 4.2,
11/18	4.3, 4.5, 5.1, 5.2 **Take Home Quiz 11 on 4.1, 4.2, 4.3, and 4.5**
11/25	5.2, 5.3, 5.4 Quiz 12 on 5.1 5.2, and 5.3 ***Holiday: Thanksgiving Break 11/28-30*** *Faculty Evaluations: 11/22 – 12/13*
12/02	5.5, 5.6, 9.1, 9.2, 9.3 Quiz 13 on 5.3 and 5.4 Quiz 14 on Ch. 9 **Review for the FINAL EXAM** **Last day of instruction: Thurs. 12/05**
12/09	**Final Exam Week FINAL EXAM DAY AND TIME WILL BE ANNOUNCED LATER**

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MA161a Suggested Homework Problems

Chapter 1 Suggested Homework Problems:

1.1 - 2, 5, 8, 9, 14, 18, 22, 31, 32, 33, 40

1.2 - 3, 7, 8, 14, 18, 21, 23, 24, 35, 42, 43, 46, 49, 51, 53, 59, 61, 67, 69, 71, 79, 85-90

1.3 - 4, 5, 9, 11, 16, 17, 23, 29, 33, 50, 51, 53, 56, 57, 63, 67, 71, 81, 84, 85, 87, 89, 97

1.4 - 8, 10, 11, 13, 17, 21, 27, 29, 34, 39, 45, 49, 56, 61, 65, 71, 74, 77

Chapter 2 Suggested Homework Problems:

2.1 - 9, 11, 14, 17, 23, 26, 32, 41, 45, 46, 47, 59, 61, 62, 65, 66, 69, 74, 75

2.2 - 3, 7, 8, 9, 11, 13, 16, 17, 24, 25, 31, 35, 36, 40

2.3 - 8, 9, 11, 13, 20, 23, 25, 27, 29, 34, 37, 41, 43, 59, 61, 65

2.4 - 4, 5, 10, 11, 13, 15, 21, 23, 24, 29, 39, 45, 47, 51, 57

2.5 - 4, 5, 9, 11, 12, 17, 19, 25, 27, 37, 39, 41, 43, 51, 53, 55, 58, 59, 62

2.6 - 5, 11, 12, 15, 20, 23, 26, 33, 36, 37, 43, 49, 55, 59, 67, 69, 73, 75, 77, 79, 81

2.7 - 13, 19, 20, 27, 33, 35, 46, 47

Chapter 3 Suggested Homework Problems:

3.1 - 3, 7, 11, 13, 15, 19, 21, 25, 26, 27, 30

3.2 - 3, 7, 9, 11, 17, 21, 23, 25, 27, 31, 41, 42, 45, 51, 53, 75, 77

3.3 - 5, 9, 15, 19, 21, 24, 27, 29, 31, 33, 37, 39, 40, 43, 44, 51, 53, 61, 64, 65, 66

3.4 - 5, 7, 13, 15, 16, 19, 23, 2, 27, 35, 37, 39, 41, 68, 71

3.5 - 5, 7, 13, 14, 16, 22, 23, 33, 35, 39, 41, 43, 49, 51, 55

3.6 - 2, 3, 6, 7, 9, 13, 17, 21, 29, 31, 33, 39, 41, 43, 45, 47, 51, 52

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3.7 - 5, 6, 7, 13, 14, 16, 19, 23, 28, 32, 33, 45, 46, 53-60

Chapter 4 Suggested Homework Problems:

4.1 - 3, 4, 5, 8, 9, 11, 13, 15, 17, 18, 19, 21, 23, 25, 29, 31

4.2 - 3, 4, 5, 8, 15, 17, 19, 22, 23 (We will only focus on long division in this section.)

4.3 - 3, 5, 6, 9, 11, 13, 15, 17 to 26 al (these are very important), 27, 29

4.4 - 5, 6, 7, 19, 20, 23 (We will skip this section.)

4.5 - 3, 4, 5, 7, 12, 15, 17, 20, 21, 28, 37, 45

4.6 - 6, 7, 9, 11, 19, 21, 25, 27, 28

Chapter 5 Suggested Homework Problems:

5.1 - 3, 4, 9, 11, 12, 14, 15, 16, 17, 19, 21, 25, 27, 29, 33, 35, 39, 43, 44

5.2 - 4, 5,7, 9, 15, 16, 20, 31, 34, 35, 38, 39, 41, 43, 46

5.3 - 3, 4, 7, 9, 11, 13, 15, 16, 17, 21, 23, 26, 27, 29

5.4 - 1, 3, 7, 8, 11, 13, 15, 17, 19, 25, 27, 29, 32, 33, 34, 39 (a,c,f,g), 43, 56, 61, 63, 69, 72

5.5 - 4, 5, 7, 11, 13, 16, 21, 24, 31, 33, 36, 55, 60

5.6 - 5, 7, 9, 10, 14, 17, 21, 23, 25, 29, 31, 34, 35, 43, 45, 57, 59, 60

IF time permits, then we might go over Chapter 9.

Chapter 9 Suggested Homework Problems:

9.1 - 7, 11, 21, 23, 25, 31, 35, 36, 41, 51

9.2 - 5, 6,8, 15, 17, 21, 23, 25, 27, 33

9.3 - 5, 6, 8, 11, 15, 17, 19, 23, 24, 25

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REDO and REVISION Policy for MA 161a:

- You can redo a total of **Five problems** from any of the Quizzes. I decide on what count as "One problem". This depends on certain quizzes. It can be number labeling, or if a quiz consists of many parts (letter labeling a,b,c,), then I will let you know which counts as "One" problem".

- Redo is different from Make-Up work. For Excused Absence, you can make up the work first and then redo a problem later if it is not passed the deadline to redo. For Unexcused Absence, you cannot make up and cannot redo a problem.

- You can redo "One problem" in Exam 1, one in Exam 2, and one in Exam 3. But no redoes on the Final Exam. I decide on what counts as "One problem".

- To submit your redo, you must first discuss with me during class or during my office hours, and then you can submit the correction.
- The deadline for redoes for a quiz or exam will be announced in class.

Learning is all about revision.