



Department of Mathematical, Physical, and Engineering Sciences

MATH 1314_010 College Algebra Fall 2024

Instructor: Dr. Nadeem A. Malik, PhD
Credit hours: 3 credits MATH
Office hours: MW 10 – 11 am; at other times by appointment through email or zoom.
Office: STEC room 311 or online by appointment
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Lecture & Recitation Schedule

Classroom: STEC 173 [STEC=Science, Technology & Engineering Center.]
Recitation: R 2:30 – 3:20 pm
Lecture: TR 3:30 – 4:45 pm

Final Exam: To be announced.

Evaluation of Student Performance and Grading (approximately; subject to change at any time)

Unit-exams	55% (all)	Roughly 60mins each.
Final Exam	20%	120 mins.
HomeWorks	12% (all)	
Quizzes	13% (all)	Roughly 15 – 20 mins each (online or during recitation classes).

Grade Scale for MATH1314: 90 – 100% = A; 80 – 89.9% = B; 70 – 79.9% = C; 60 – 69.9% = D; Below 60% = F

! Two missed unit-exams = Fail.

! Missed Final Exam = Fail.

Course Overview: In-depth study and applications of polynomial, rational, radical, exponential, and logarithmic functions, and systems of equations using matrices. (Additional topics such as sequences, series, probability, and conics may be included.) This course meets the standards for the Mathematics category of courses under the core curriculum.

Prerequisites: Evidence of math equivalent to High School Algebra II (“C” or higher) or placement; Requires passing TSIA Math score.

Online Course Platform: Students will complete online homework assignments and track related grades by using Pearson’s MyMathLab course platform (access codes are available in the Brytewave link via Blackboard).

All announcements, materials, and grades will be provided via Blackboard (BB) so it is important that you monitor activity on Blackboard frequently. **Students are responsible for checking blackboard regularly for announcements, assignments, and other support materials posted on Blackboard.**

Course Materials

REQUIRED: Online access code for *College Algebra* by Robert F. Blitzer (8th edition) with MyMathLab, Pearson Publishing, ISBNXXXXXX. The E-book is included with the access code - via Pearson's MyMathLab, so you are advised NOT to purchase your own copy. (But if you want to, you will be able to purchase it through the bookstore website <https://www.bkstr.com/texasamsanantoniostore/home>.)

Calculators: A scientific non-graphing, non-programmable calculator is required -- TI-30XIIS is recommended. (A limited number of calculators are available via the library.)

No cell phone or graphing calculators will be allowed in exams, and online math utilities (e.g., Desmos) are also not allowed.

*No late homework or quizzes will be allowed, and individual make-up exams will be given in rare cases and only with instructor approval.

*The final examination is a comprehensive exam and is required of all students. The final exam may also replace a low or missing test grade.

*The grading policy may be amended during the semester at the instructor's discretion.

COURSE CONTENT: A weekly schedule has been uploaded as a separate file.

*An occasional video lecture may complement or replace a class lecture, depending on circumstances.

*The instructor reserves the right to modify/update the topics as appropriate.

*The academic calendar is available online: <https://www.tamusa.edu/provost/academic-calendar.html>

VIDEOS: Pearson's MyLab & Mastering platform (via blackboard) contains short videos and other multimedia material on all topics and students are strongly encouraged to take advantage of these resources. (There are many other open-source video lectures online (for example, The Khan Academy <https://www.khanacademy.org>) which students may find useful; however, quizzes and exams/tests will be based on the lecture contents.)

Student Learner Objectives

Upon completion of this course, students will:

1. Demonstrate understanding and knowledge of properties of functions, including domain and range, operations, compositions, and inverses.
2. Recognize and apply polynomial, rational, radical, exponential, and logarithmic functions, and solve and explain related equations.
3. Interpret and apply graphing techniques.
4. Evaluate all roots of higher degree polynomial and rational functions.
5. Recognize, solve, apply and explain systems of linear equations using matrices

MATH 1314 helps students develop critical thinking, communication, and empirical and quantitative skills by focusing on student understanding of key algebraic concepts and appropriate applications related to everyday experience.

List of Topics: Topics to be covered include but are not limited to the following (Section numbers could be different in the latest edition of the textbook):

1. Solving linear equations and applying models (Sections 1.2~1.3)
2. Complex numbers (Section 1.4)
3. Solving quadratic, rational, and radical equations (Sections 1.2~ 1.5~1.6)
4. Solving linear and compound inequalities (Section 1.7)
5. Solving absolute value equations and inequalities (Sections 1.6~1.7)
6. Distance formula and circles (Section 2.8)
7. Functions and their graphs (Sections 2.1 ~ 2.2)
9. Linear functions and slope (Sections 2.3 ~ 2.4)
10. Transformations of functions and graphing (Section 2.5)
11. Combinations and compositions of functions (Section 2.6)
12. Inverse functions (Section 2.7)
13. Quadratic functions and graphing (Section 3.1)
14. Polynomial functions and graphing (Section 3.2)
15. Zeros of polynomial functions (Sections 3.3 ~ 3.4)
16. Rational functions and graphing (Section 3.5)
17. Introduction to polynomial and rational inequalities (Section 3.6)
18. Direct, inverse, and combined variation (Section 3.7)
19. Exponential and logarithmic functions (Sections 4.1 ~ 4.2)
20. Properties of logarithms: solving exponential and logarithmic equations (Sections 4.3 ~ 4.4)
21. Applications with log and exponential functions (Sections 4.4~ 4.5)
22. Systems of linear and non-linear equations and matrices (Sections 5.1 ~ 5.2, 5.4 and 6.1)
23. More on solutions of systems of linear equations (Sections 6.2 and 6.5)
24. Properties of matrices (Section 6.3)
25. Introduction to sequences and series (Sections 8.1~8.3)

The instructor reserves the right to modify/update the topics as appropriate.

Course Requirements and Expectations

Class Attendance: Students are expected to attend classes (lectures and recitation) as scheduled and be prepared to participate in discussions, in-class exercises, quizzes and problem presentation, and be aware of what has been covered in every class and any announcements and course policy changes made in class. Announcements and changes will also be communicated through Blackboard. You are welcome to ask questions during my office hours; however, it is your responsibility to learn the material. In addition, if you cannot avoid situations that prevent you from being on time or if you must leave early, please minimize class interruption.

Electronic Devices: Cell phones, laptops, I-Pads, Kindles, and other electronic devices must be turned off and put away during class. **Anyone who is observed text messaging or using an electronic device during class will be marked absent as a further action will be asked to drop the course.**

Participation tasks: An overall participation grade, between, 0-2%, will be added to your grade at the instructor's discretion. This is an easy grade if you just follow directions and stay checked in from week to week. Participation tasks may include but are not limited to the following: MML HW, quizzes, tests; other assigned tasks.

Supplemental Instruction: Supplemental Instruction (SI) is a program that provides you with additional resources to help learn course content and study skills. Your SI Leader will have weekly study sessions that cover difficult content and help you learn the study skills necessary for your course. SI Leaders also have office hours for 1-on-1 assistance. You will receive reminders from your leader on Blackboard and via email. All handouts and any recorded materials will be available on Blackboard underneath the Supplemental Instruction section. If you have any questions, contact your SI Leader (their information is on Blackboard) or call (210) 784-1382 or email SI_Lab@tamusa.edu.

Homework: All homework and quizzes will be completed online in MyMathLab (MML). You will need an access code that can be purchased in the bookstore or online after you log into MyMathLab. Read the announcements in Blackboard for all instructions. All due dates are listed in MML. You can complete the assignments until 11:59 pm of the due date listed. The homework may be attempted multiple times in order to increase your homework grade. No late assignments will be accepted nor make-ups allowed.

Quizzes: Weekly quizzes will be due in MyLathLab. All due dates are listed in MML. Quizzes may be attempted three times, and each quiz attempt has a time limit. Only the highest score will be counted. Students should attempt the quiz multiple times in order to be prepared for the unit test. No late assignments will be accepted nor make-ups allowed. At the end of the semester, the lowest quiz grade will be dropped.

Unit-tests (Exams): Three unit-exams are scheduled during the semester. Make sure to follow the deadline dates and watch for the test announcements on Blackboard. Each test will have a time limit (typically 60 – 75 minutes). Students will be allowed to use a scientific, non-graphing, non-programable calculator. Formulae sheets are not allowed. In case you miss an unit-test or find out that you will miss one, you should contact me either in person or by e-mail, at least one week in advance of the exam for non-emergency cases or within 24-hrs of the scheduled exam date for emergency cases. Any missed exam counts as a 0 unless the student has a valid documented excuse and contacts me as soon as possible after the excuse for missing the test arises. Examples of valid documented excuses are sickness documented with a doctor's note, death in the family documented with a copy of the death notice, attending university-sponsored events with a Dean's excuse, etc. Minor headaches or attending sports events (without Dean's excuse) are not examples of emergency situations. Other than described above, no make-up exams will be given. Test dates will be announced in good time in class and on Blackboard. Please contact me ASAP if you have concerns about the testing dates.

Clear step by step working out in unit-tests is highly recommended because partial credits are given for the correct method (because it demonstrates understanding), even if the final answer is wrong.

Two missed unit-tests means an automatic fail in the course – be warned!

Final Exam: To pass this class students must take a comprehensive final exam scheduled during Finals Week. Final exams cannot be rescheduled or missed (for dire and unforeseen medical or family emergencies, students must consult with me). The final exam will also be taken in person. The final exam may be used to replace your lowest regular exam grade. **The final exam must be completed by the announced due date. No exceptions.**

Gradebook: The gradebooks in MML via Blackboard keep a running average of your score.

- * **Formulae sheets are not allowed – it is part of your learning.**
- * **Missed homework, quizzes, exams = 0.**
- * **Two missed unit-exams = Fail.**
- * **Missed Final Exam = Fail.**

Accommodation: Some students many have issues which puts them at a disadvantage especially during examinations (e.g. panic attack, anxiety, etc.). Such students can contact the DSS (Disability Support Service) who will assess your needs and forward their recommendation to the instructor confidentially. The instructor will act upon their recommendation – this could include, for example, longer time for the student to complete an exam, or taking the exam in a quiet room, etc. (See Policies and Resources, below)

CLASS RULES

1. **Regular participation and attendance is VERY IMPORTANT in this class!** You are enrolling in a SIX HOUR math course, so expect to work on your Math work very frequently. Waiting to work on one day at the end of the week would be disastrous for this six-hour course!! Assignments will be due throughout the week – watch deadlines in MML closely. Failure to complete work in each unit will result in a lower participation grade – see below.
2. An absence in this online course is defined as the following: Not attending an online lecture at the scheduled time OR not watching the recorded session. You will receive a weekly attendance grade based on our online meetings.
3. Our typical ‘week’ will start with Monday’s class and end the following Sunday. All assignments for the week will typically open on the weekend, and the first unit homework section(s) will close on Thursday. The second unit homework section(s) will close on Saturday, and the last homework and weekly quiz closes on the following Tuesday.
4. You must log in and complete required assignments to receive the maximum participation grade each week. Optional activities such as study plan or videos do not satisfy the participation requirement. To be counted as “participating”, you must log in and complete graded assignments (e.g., homework, quiz, practice test, or test) with a score greater than 50%. If needed, seek help so that you can re-take quizzes or re-try homework in order to get your grade up.
5. Please do not ask me to extend the due dates. Work ahead on the assignments instead (remember... if something can go wrong, it will).
6. If you need additional help, please ask! Your instructor is available to help, and students also have access to free online tutoring through Jaguar Tutoring in the ALC. I will be available online every day, Mon - Fri. We can talk by phone if necessary. The best way to contact me is via email, eleyva@tamusa.edu.

IMPORTANT UNIVERSITY POLICIES AND RESOURCES

University Email Policy and Course Communications: All correspondence between professors and students must occur via University email accounts. You must have your Jaguar email account ready and working. If it is not working, contact the help desk at helpdesk@tamusa.edu or at 210-784-HELP (4357). If you don’t hear back within 48 hours, contact them again. They have many requests during the first part of the semester, so you may need to follow up with them.

Academic Accommodations for Persons with Disabilities: The Americans with Disabilities Act Amendments Act (ADAAA) of 2008 and the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights protection for persons with disabilities. Title II of the ADAAA and Section 504 of the Rehabilitation Act require that students with disabilities be guaranteed equal access to the learning environment through the provision of reasonable and appropriate accommodation of their disability. If you have a diagnosed disability that may require an accommodation, please contact Disability Support Services (DSS) for the coordination of services. DSS is located at the Main Campus on the 2nd floor of the Central Academic Building in suite 210. The phone number for DSS is (210) 784-1335 and email is dssupport@tamusa.edu.

Academic Learning Center: The Academic Learning Center provides free course-based tutoring to all currently enrolled students at Texas A&M University-San Antonio. Students wishing to work with a tutor can make appointments through the Brainfuse online tutoring platform. Brainfuse can be accessed in the *Tools* section of Blackboard. You can contact the Academic Learning Center by emailing tutoring@tamusa.edu, calling (210) 784-1307, or visiting the Central Academic Building, room 202.

Academic Learning Center: All currently enrolled students at Texas A&M University-San Antonio can utilize the Academic Learning Center for subject-area tutoring. Students wishing to work with a tutor can make appointments through the Brainfuse online tutoring platform. Brainfuse can be accessed in the Tools section of Blackboard. You can contact the Academic Learning Center by emailing Tutoring.Services@tamusa.edu, calling (210) 784-1307, or

visiting the Central Academic Building (CAB), room 202. Online tutoring is also available for after hours and weekend assistance.

While tutoring hours may change based on tutor schedules and availability, the current tutoring hours for MATH in the ALC are as follows:

	Appointments available	Walk in Tutoring – No appointment needed
MONDAY	8 am – 6 pm	9 am – 5 pm
TUESDAY	8 am – 6 pm	9 am – 5 pm
WEDNESDAY	8 am – 6 pm	9 am – 5 pm
THURSDAY	8 am – 6 pm	9 am – 5 pm
FRIDAY	9 am – 5 pm	9 am – 5 pm

Counseling Resources: As a college student, there may be a time when personal stressors interfere with your academic performance and/or negatively impact your daily functioning. If you or someone you know is experiencing life stressors, emotional difficulties, or mental health concerns at A&M-SA, please contact the Office of Student Counseling & Wellness Services (SC & WS) located in Modular C Room 166 (Rear entrance) or call 210-784-1331 between the hours of 8:00 AM and 5:00 PM. All mental health services provided by SC & WS are free, confidential (as the law allows), and are not part of a student’s academic or university record. SC&WS provides brief individual, couples, and group therapy, crisis intervention, consultation, case management, and prevention services. For more information, please visit www.tamusa.edu/studentcounseling. In a crisis, please walk-in to the SC & WS services between 8:00 AM and 5:00 PM to be seen by a licensed clinician. After hours, please contact UPD at 911 or Crisis support is available 24/7 by calling the SCC at 210-784-1331 (after-hours select option ‘2’). The National Suicide Prevention hotline also offers a 24/7/365 hotline at 1-800-273-8255.

Emergency Preparedness: JagE Alert is Texas A&M University-San Antonio’s mass notification. In the event of an emergency, such as inclement weather, students, staff and faculty, who are registered, will have the option to receive a text message, email and/or phone call with instructions and updates. To register or update your information visit: <https://tamusa.bbcportal.com/>. More information about Emergency Preparedness and the Emergency Response Guide can be found here: <http://www.tamusa.edu/riskmanagement/index.html>.

Financial Aid and Verification of Attendance: According to the following federal regulation, 34 CFR 668.21: U.S. Department of Education (DoE) Title IV regulation, a student can only receive Title IV funds based on Title IV eligibility criteria which include class attendance. If Title IV funds are disbursed to ineligible students (including students who fail to begin attendance), the institution must return these funds to the U.S. DoE within 30 days of becoming aware that the student will not or has not begun attendance. Faculty will provide the Office of Financial Aid with an electronic notification if a student has not attended the first week of class. Any student receiving federal financial aid who does not attend the first week of class will have their aid terminated and returned to the DoE. Please note that any student who stops attending at any time during the semester may also need to return a portion of their federal aid.

Jaguar Writing, Language, and Digital Composing Center (WLDCC): The Jaguar Writing Center provides writing support to graduate and undergraduate students in all three colleges. Writing tutors work with students to develop reading skills, prepare oral presentations, and plan, draft, and revise their written assignments. The Writing Center has both online and in person appointments. Students can schedule appointments with the Writing Center in JagWire under the

student services tab. Students wanting to work in realtime with a tutor can schedule an "Online Appointment." Students wishing to receive asynchronous, written feedback from a tutor can schedule an "eTutoring" appointment. More information about what services we offer, how to make an appointment, and how to access your appointment can be found on our website at <https://www.tamusa.edu/student-resources/writing-center/index.html>. The Writing Center can also be reached by emailing writingcenter@tamusa.edu.

Meeting Basic Needs: Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact the Dean of Students (DOS@tamusa.edu) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to provide any resources they may possess.

Military Affairs: Veterans and active-duty military personnel are welcomed and encouraged to communicate, in advance if possible, and special circumstances (e.g., upcoming deployment, drill requirements, disability accommodations). You are also encouraged to visit the Patriots' Casa in-person room 202, or to contact the Office of Military Affairs with any questions at military@tamusa.edu or (210)784-1397.

Religious Observances: Texas A&M University-San Antonio recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes for regular session classes.

Respect for Diversity: We understand that our students represent diverse backgrounds and perspectives. When we are equity-minded, we are aware of differences and inequalities and are willing to discuss them so we can act to resolve them. The University is committed to building cultural competencies, or the attitudes, skills, and knowledge that enable individuals and organizations to acknowledge cultural differences and incorporate these differences in working with people from diverse cultures. Respecting and accepting people different than you is vital to your success in the class, on campus, and as a future professional in the global community. While working together to build this community we ask all members to:

- Share their unique experiences, values, and beliefs.
- Be open to the views of others.
- Honor the uniqueness of their colleagues.
- Value each other's opinions and communicate respectfully.
- Keep confidential discussions that the community has of a personal (or professional) nature.
- Use this opportunity together to discuss ways in which we can create an inclusive environment in this course and across the A&M-San Antonio community.

The Six-Drop Rule: Students are subject to the requirements of Senate Bill (SB) 1231 passed by the Texas Legislature in 2007. SB 1231 limits students to a maximum of six (6) non-punitive course drops (i.e., courses a student chooses to drop) during their undergraduate careers. A non-punitive drop does not affect the student's GPA. However, course drops that exceed the maximum allowed by SB 1231 will be treated as "F" grades and will impact the student's GPA.

Statement of Harassment and Discrimination: Texas A&M University-San Antonio is committed to the fundamental principles of academic freedom, equality of opportunity and human dignity. To fulfill its multiple missions as an institution of higher learning, A&M-San Antonio encourages a climate that values and nurtures collegiality, diversity, pluralism and the uniqueness of the individual within our state, nation, and world. All decisions and actions involving students and employees should be based on applicable law and individual merit. Texas A&M University-San Antonio, in accordance with applicable federal and state law, prohibits discrimination, including harassment, on the basis of race, color, national or ethnic origin, religion, sex, disability, age, sexual orientation, or veteran status. Individuals who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the appropriate offices within their respective units.

Texas A&M University-San Antonio faculty are committed to providing a safe learning environment for all students and for the university as a whole. If you have experienced any form of sex- or gender-based discrimination or harassment, including sexual assault, sexual harassment, domestic or dating violence, or stalking, know that help and support are available. A&M-San Antonio's Title IX Coordinator can support those impacted by such conduct in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, and more. The university strongly encourages all students to report any such incidents to the Title IX Coordinator. Please be aware that all A&M-San Antonio employees (other than those designated as confidential resources such as counselors and trained victims advocates) are required to report information about such discrimination and harassment to the university. This means that if you tell a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the university's Title IX Coordinator (titleix@tamusa.edu, 210-784-2061, CAB 439K). If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact the Student Counseling Center at (210) 784-1331, Modular C.

Students' Rights and Responsibilities: The following statement of students' rights and responsibilities is intended to reflect the philosophical base upon which University Student Rules are built. This philosophy acknowledges the existence of both rights and responsibilities, which is inherent to an individual not only as a student at Texas A&M University-San Antonio but also as a citizen of this country.

Students' Rights

1. A student shall have the right to participate in a free exchange of ideas, and there shall be no University rule or administrative rule that in any way abridges the rights of freedom of speech, expression, petition and peaceful assembly as set forth in the U.S. Constitution.
2. Each student shall have the right to participate in all areas and activities of the University, free from any form of discrimination, including harassment, on the basis of race, color, national or ethnic origin, religion, sex, disability, age, sexual orientation, or veteran status in accordance with applicable federal and state laws.
3. A student has the right to personal privacy except as otherwise provided by law, and this will be observed by students and University authorities alike.
4. Each student subject to disciplinary action arising from violations of University Student Rules shall be assured a fundamentally fair process.

Students' Responsibilities

1. A student has the responsibility to respect the rights and property of others, including other students, the faculty and University officials.
2. A student has the responsibility to be fully acquainted with the published University Student Rules and to comply with them, as well as federal, state, and local laws.
3. A student has the responsibility to recognize that student actions reflect upon the individuals involved and upon the entire University community.
4. A student has the responsibility to maintain a level of behavior that is consistent in supporting the learning environment of the institution and to recognize the University's obligation to provide an environment for learning.
5. A student has the responsibility to check their university email for any updates or official university notification.

We expect that students will behave in a manner that is dignified, respectful, and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

Students are expected to exhibit a high level of honesty and integrity in their pursuit of higher education. Students engaging in an act that violates the standards of academic integrity will find themselves facing academic and/or disciplinary sanctions. Academic misconduct is any act, or attempt, which gives an unfair advantage to the student. Additionally, any behavior specifically prohibited by a faculty member in the course syllabus or class discussion may be

considered as academic misconduct. For more information on academic misconduct policies and procedures please review the Student Code of Conduct.

No Use of Generative AI Permitted

MATH 1314 assumes that all work submitted by students will be generated by the students themselves, working individually or in groups. Students should not have another person/entity do the writing of any portion of an assignment for them, which includes hiring a person or a company to write assignments and/or using artificial intelligence (AI) tools like ChatGPT. Use of any AI-generated content in this course qualifies as academic dishonesty and violates Texas A&M-San Antonio's standards of academic integrity.

Electronic Devices: The use of phones or other electronic devices for non-class related activities is not allowed. Anyone who is observed text messaging or using an electronic device during class for a non-class related purpose will be given a warning, and as a further action that person will be asked to drop the class. Devices should be turned off and put away during exams and quizzes.

Important Dates:

August 26	First day of classes
November 11	Last day to drop with an automatic "W"
November 19	Last Day to drop or withdraw from the University
November 28-30	Thanksgiving Holiday
December 05	Last Day of Classes
December 06	Study Day – No classes
December 7 - 13	Final exams

The complete academic calendar is available online: <https://www.tamusa.edu/academics/academic-calendar/index.html>

COVID-19 SYLLABUS STATEMENT

The safety of our campus community is paramount to our ability to provide our students, faculty, and staff with a productive and secure learning and working environment. While masks are not required, we do encourage everyone to wear a mask when the situation warrants OR if you remain unvaccinated. The university maintains a covid-19 website with current data, safety protocols, and reporting guidelines at <https://www.tamusa.edu/community-safety-together/index.html> .