



Department of Computational, Engineering, and Mathematical Sciences

MATH 1014: College Algebra Recitation, Section 001 Fall 2024

Instructor: Dr. Qi Han

Class Meeting: F 9-9:50am

Classroom: Classroom Hall 305

E-mail: ghan@tamusa.edu

<https://apps.tamusa.edu/course-information/my-profile/faculty-Profile.php?ID=358>

Office Hours: MWF 8:00-9:00am, MW 1:00pm-2:00pm, and/or via email

Or by appointment via email, read regularly between 8:30am~8:30pm

Credit Hours: 3

Office Phone: (210) 784-2262

Office: Classroom Hall 314P

Regular Class

Class Meeting: MWF 10-10:50am

Classroom: Classroom Hall 305

Course Description and Materials

Catalog Description: In-depth study and applications of polynomial, rational, radical, exponential, and logarithmic functions, and systems of equations by 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.

Prerequisite: Evidence of math equivalent to High School Algebra II with "C" or above, or placement.

This course is specifically intended for students who are TSIA Mathematics ready.

Required Textbook: College Algebra by Robert F. Blitzer (8th edition) with MyMathLab. Pearson Publishing with ISBN 9780136970613 (E-book included with access code).

NOTE. Students can purchase a loose-leaf version of the textbook at a low cost if desired (check bookstore).

Calculators: A scientific non-graphing, non-programmable calculator is required and allowed on all exams. No cell phone calculator/graphing calculator can be allowed, and online math utilities (e.g., Desmos) are also not allowed. A TI-30XIIS scientific calculator is highly recommended.

Student Learner Objectives: Upon the completion of this course, students will be able to:

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:

1. Solving linear equations and applying models (Sections 1.2~1.3).
2. Radicals and complex numbers (Sections P.3, 1.4).
3. Factoring techniques (Section P.5).
4. Solving quadratic, rational, and radical equations (Sections 1.5~1.6).
5. Solving linear and compound inequalities (Section 1.7).
6. Solving absolute value equations and inequalities (Sections 1.6~1.7).
7. Distance formula and circles (Section 2.8).
8. 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. Modeling with log and exponential functions (Section 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.

NOTE. The class meets four times a week. Aside from the four hours that you spend in class each week, you should devote at least another 4~6 hours to studying on your own: reading the book and my lecture notes, working out your homework assignments, and solving some extra related problems for practice etc. You are responsible for any and all materials/topics discussed in this class.

Course Expectations and Requirements

Class Attendance: Students are expected to attend classes regularly as scheduled and be prepared to participate in discussions, in-class exercises, and problem presentation. Class attendance is taken at the beginning or at the end of each class. You are strongly encouraged to attend all classes. If an unavoidable situation prevents you from being on time or if you must leave early, please minimize class interruption. Be aware of what has been covered in every class as well as any announcements and course policy changes made in class. Announcements and course policy changes are also be communicated through Blackboard. You are welcome to ask questions during my office hours; however, it is solely your responsibility to learn the materials.

Inquiry-Based Active Learning: This course implements inquiry-based active learning approaches throughout, and thus the students are strongly encouraged to preview the teaching materials and be aware of many class-participation and self/peer-study activities.

Examinations: There will be three midterm tests on some Fridays during the semester, and one comprehensive final exam in the end to be scheduled during the Finals Week.

Students will take all examinations at regularly scheduled times. Exceptions for a legitimate reason may be granted by and must be approved by the instructor beforehand. Students should notify (or under certain unusual circumstances have other(s) to notify) the instructor formally that you will miss, or have missed an exam, and provide a reason, with accompanying documents supporting that, for your absence within 24hrs of the scheduled exam date. Your instructor can be notified via e-mail with a written notice. Contact beforehand your instructor to make necessary arrangement, if you know in advance that you will be unable to take an exam at the regular class time. Students who fail to follow the prescribed procedure will receive a **GRADE OF ZERO** on the missed exam.

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 illness, or attending sports events and like kind (without a Dean's excuse) are not examples of emergency situations.

Test 1 covers Chapters 1~2 (only selected important topics).

Test 2 covers Chapter 3 (only selected important topics).

Test 3 covers Chapters 4~6 (only selected important topics).

Final exam covers Chapters 1~6 (only selected important topics).

Final exam schedule is available at

<https://www.tamusa.edu/academics/documents/Fall-2024-Final-Exam-Schedule.pdf>

For this class, the final exam is scheduled between **8:00am~9:50am, Friday, December 13, 2024.**

NOTE. The schedules will be announced at least a week ahead of time in class, in Blackboard, and through emails. The tests/exam will be taken completely in class. Calculators (except for scientific non-graphing, non-programmable calculators), cell phones, laptops, i-pads, kindles, and any other electronic devices are absolutely **NOT** allowed during the tests/final exam. Once found, the tests/final exam would receive a **GRADE OF ZERO**, and if this happened in a recursive manner, the instructor would report to the university as an academic dishonesty issue.

Retake/Make-up: Each student may have exactly one opportunity during the Finals Week to retake/make up either Test I, or Test II, or Test III (only 1 of the 3). The instructor reserves the right to modify/update this specific policy as appropriate. Nevertheless, the **Final Exam** cannot be rescheduled or made-up (for dire, or unforeseen medical or family emergencies, students must consult with the instructor and abide by the university policy); if you missed the **Final Exam**, you cannot pass this class.

Quizzes: There is a 20~25 minutes in-class quiz emphasizing the most recently covered topics roughly each week on the Fridays when there is no midterm test, and there will be 10 in total. **NO** make-up/retake on quizzes; your highest midterm test score can be used to replace your lowest quiz grade.

Assignments: There are totally 12 Homework Assignments for this course which should be submitted on their due dates. Problems are assigned after each section of the book covered that will be summarized assigning a HW number posted on Blackboard-Assignment, with its due date specified. Your homework assignments are collected before the end of that day's class. Late homework will **NOT** be accepted. Should you have to miss that day's class, it is solely your responsibility to have your work turned in beforehand in order for it to be graded. If you cannot finish all the questions, please finish as many problems as possible.

Your work should be legible and done neatly. If the work is not presentable or illegible, you will **NOT** receive credit for it. Please staple the sheets of your assignment together in the upper left corner and please do not use papers torn out of spiral bound notebooks. In the upper right corner of your assignment, you should write your name, the class section number, and assignment number (HW1, ..., HW12). Discipline yourself to write clear, readable solutions - they will be of great value for review. You need to show both your answer and the work leading to it. **NO** credit for merely having the right answer, but you can have group/team discussions on homework problems. However, you must write up solutions on your own and truly understand the mathematics/algorithms involved. Be mindful of your academic integrity.

Evaluation of Student Performance: Every student's grade will be based entirely on his/her performance. Students will not compete against one another for grades.

Grading Policy

HWs: 10% Exercises: 5% Circle-In: 3% Quizzes: 12% Tests 1-3: 15% each Final Exam: 25%

A = 90~100% B = 80~89.9% C = 70~79.9% D = 60~69.9% F = 0~59.9%

Support portion: 60~100% = Credit 0~59% = **NO** Credit

NOTE. The final grade utilizes a **weighted** average. Please do **NOT** simply take the average of all grades posted on the blackboard as your final grade. A helpful link is

<https://www.indeed.com/career-advice/career-development/how-to-calculate-weighted-average>

NOTE. The instructor reserves the right to modify/update the information of this syllabus as appropriate.

No Use of Generative AI Permitted

MATH 1014 assumes all students submitted work 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.

IMPORTANT POLICIES AND RESOURCES

Academic Accommodations for Individuals with Disabilities: Texas A&M University-San Antonio is committed to providing all students with reasonable access to learning opportunities and accommodations in accordance with The Americans with Disabilities Act, as amended, and Section 504 of the Rehabilitation Act. If you experience barriers to your education due to a disability or think you may have a disability, Disability Support Services is located in the Central Academic Building, Suite 210. You can also contact us via phone at (210) 784-1335, visit us <https://www.tamusa.edu/Disability-Support-Services/index.html> or email us at dss@tamusa.edu. Disabilities may include, but are not limited to, attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability-related needs with Disability Support Services and their instructors as soon as possible.

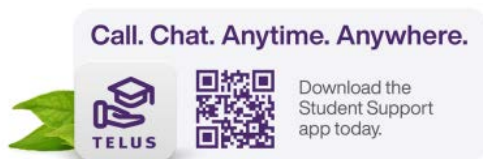
Academic Learning Center: The Academic Learning Center provides free course-based tutoring to all currently enrolled students at Texas A&M University-San Antonio. Students wishing to work with a tutor can make appointments through the Brainfuse online tutoring platform. Brainfuse can be accessed in the *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.

Counseling/Mental Health Resources: As a college student, there may be times when personal stressors interfere with your academic performance and negatively impact your daily functioning. If you are experiencing emotional difficulties or mental health concerns, support is available to you through the Student Counseling Center (SCC). To schedule an appointment, call 210-784-1331 or visit Madla 120.

All mental health services provided by the SCC are free and confidential (as the law allows). The Student Counseling Center provides brief individual and group therapy, crisis intervention, consultation, case management, and prevention services. For more information on SCC services visit tamusa.edu/studentcounseling

Crisis support is available 24/7 by calling the SCC at 210-784-1331 (after-hours select option '2').

Additionally, the TELUS Student Support App provides a variety of mental health resources to including support for in the moment distress, an anonymous peer to peer support network, mental health screenings, podcasts, and articles to improve your mental wellbeing.



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 with instructions and updates. To register or update your information visit: <https://tamusa.bbcportal.com/>.

More information about Emergency Operations Plan and the Emergency Action Plan can be found here: <https://www.tamusa.edu/about-us/emergency-management/>.

Download the SafeZone App (<https://safezoneapp.com/>) for emergencies or call (210) 784-1911. Non-Emergency (210) 784-1900.

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.

Writing, Language, and Digital Composing Center: The Writing, Language, and Digital Composing Center supports graduate and undergraduate students in all three colleges as well as faculty and staff. Tutors work with students to develop reading skills, prepare oral presentations, and plan, draft, and revise their written assignments. Our language tutors support students enrolled in Spanish courses and students composing in Spanish for any assignment. Our digital studio tutors support students working on digital projects such as eportfolios, class presentations, or other digital multimedia projects. Students can schedule appointments through JagWire under the Student Services tab. Click on "Writing, Language, and Digital Composing Center" to make your appointment. The Center offers face-to-face, synchronous online, and asynchronous digital appointments. 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/academics/>.

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 submit a CARE referral (<https://www.tamusa.edu/university-policies/Student-Rights-and-Responsibilities/file-a-report.html>) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to direct you to available resources.

Military Affairs: Veterans and active-duty military personnel are welcomed and encouraged to visit the Office of Military Affairs for any question involving federal or state VA Education Benefits. Visit the Patriots' Casa building, room 202, or to contact the Office of Military Affairs with any questions at military.va@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 course 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.

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, equal 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 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, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation, gender identity, gender expression, or pregnancy/parenting 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 victim 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, 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 requirement, you can contact the Student Counseling Center at (210) 784-1331 or visit them in Madla 120.

Pregnant/Parenting Students: Texas A&M-San Antonio does not require a pregnant or parenting student, solely because of that status or issues related to that status, to (1) take a leave of absence or withdraw from their degree or certificate program; (2) limit the student's studies; (3) participate in an alternative program; (4) change the student's major, degree, or certificate program; or (5) refrain from joining or cease participating in any course, activity, or program at the University. The university will provide such reasonable accommodations to pregnant students as would be provided to a student with a temporary medical condition that are related to the health and safety of the student and the student's unborn child. These could include maintaining a safe distance from substances, areas, and activities known to be hazardous to pregnant individuals and their unborn child; excused absences because of illness or medical appointments; modified due dates for assignments; rescheduled tests/exams; taking a leave of absence; and being provided access to instructional materials and video recordings of lectures for excused absences, if these would be provided to any other student with an excused absence. Pregnant/parenting students are encouraged to contact the Title IX Coordinator with any questions or concerns related to their status (titleix@tamusa.edu; 210-784-2061; CAB 439K).

Texas A&M-San Antonio has also designated the Title IX Coordinator as the liaison officer for current or incoming students who are the parent or guardian of a child younger than 18 years of age. The Title IX Coordinator can provide students with information regarding support services and other resources.

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, gender identity, gender expression, and pregnancy/parenting 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 administration.
2. A student has the responsibility to be fully acquainted with the published University Student Rules found in the Student Handbook, [Student Code of Conduct](#), on our website, and University Catalog, and to comply with them, as well as with 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 recognize the University's obligation to provide a safe environment for learning.
5. A student has the responsibility to check their university email for any updates or official university notifications.

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. Conduct that infringes 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 (<https://www.tamusa.edu/university-policies/student-rights-and-responsibilities/documents/Student-Handbook-2022-23.pdf>) or visit the resources available in the OSRR website (<https://www.tamusa.edu/university-policies/student-rights-and-responsibilities/academic-integrity.html>).



Department of Computational, Engineering, and Mathematical Sciences

Important Dates:

August 26	First day of class
September 2	Labor Day Holiday
November 11	Last day to drop with an automatic "W"
November 19	Last day to drop a course or withdraw from the University
November 27	Study Day – No classes
November 28-30	Thanksgiving Holiday – No classes
December 5	Last day of classes
December 6	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>.