



Texas Southmost College

MATH 1314 – College Algebra Syllabus

MATH 1314 College Algebra Dual course

Professor: Mrs. E. Vera

Phone: 956-831-8700

Email: ebvera@bisd.us

Office Hours: 2:35 – 3:20 pm (8th period)

I check emails every working day. You can expect a response from me within 24 hours except on the weekends.

Department: Mathematics

Location: D220

Website: <http://tsc.edu/index.php/academics/division-of-science-technology-engineering-and-mathematics.html>

Semester: Spring 2024

Course Description

This course is an 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. A grade of "C" or better is required to pass this course.

Course Prerequisites

TSI met in Math, a grade of "C" or better in MATH 0322 or "Passing" in MATH 0022 or concurrently enrolled in MATH 0322 STAR. Lec 3, Lab 1, Cr 3

Course lab

This course includes an additional lab one hour which is a mandatory component of the course. Attendance in both the lecture and lab is required. Written in-class assignments will be assigned during this time.

Course Outcome

Upon completion of this course, students will be able to:

Apply definitions of functions, graphing methods, and systems of equations with matrices to solve algebraic problems.

Student Learning Outcomes

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

Texas Core Curriculum

Through the core curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world; develop principles of personal and social responsibility for living in a diverse world; and advance intellectual and practical skills that are essential for all learning.

Core Objectives assessed in this course:

1. **Critical Thinking Skills** - to include creative thinking, innovation, inquiry, and the analysis, evaluation, and synthesis of information.
2. **Communication Skills** - to include effective written, oral, and visual communication.
3. **Empirical and Quantitative Skills** - to include applications of scientific and mathematical concepts.

Course Materials

- Blitzer, R. F. (2018). *Algebra and Trigonometry, Books ala Carte* (6th ed.). Miami Dade College, FL: Pearson Education. ISBN: 0134463218 / 9780134463216
- Required: Any Texas Instruments Graphing Calculator provided by school, Desmos Online Calculator.

Course Components

- **Online Assignments: 10% of total grade**
The students will complete online assignments assigned in Canvas. Students will have one week (7 days) to complete the online homework for full credit. A tentative date is included in the calendar attached to the syllabus along with a detailed list of the course content.
- **LAB Assignments 5% of the total grade**
Students will complete written assignments selected by the instructor to be complete during class/lab.
- **Online and in-class quizzes 15% of the total grade**
Students will complete assigned quizzes online in Canvas. The students will be given two attempts to complete each question within a time limit of 90 minutes. A tentative date is included in the calendar attached to the syllabus.
- **Exams 30% of total grade**
Students will complete five exams in the classroom on the dates specified by the instructor. The exams will not be online, but in paper and pencil format. Work must be shown on each problem for full credit. A student who misses an exam will be given a grade of zero. Make-up exams will be given for students

with medical excuses. A tentative date is included in the calendar attached to the syllabus along with a list of course content.

- **Core Assessment Project 10% of total grade**

Students will complete a PowerPoint with audio recording that will assess the core objectives. The rubric and detailed grading criteria will be posted in Canvas and distributed to each student.

- **Midterm Exam 15% of total grade**

Students will complete an in-class midterm exam over units 1, 2, 3. A tentative date is included in the calendar attached to the syllabus along with a list of course content.

- **Final Exam 15% of total grade**

Students will complete an in-class final exam at the end of the semester over units 4 and 6. A tentative date is included in the calendar attached to the syllabus along with a list of course content.

Course Content

<ul style="list-style-type: none"> • Review of fractions • P.2 Exponents • P.3 Radicals and Rational Exponents • P.5 Review of factoring • 1.2 Review of Linear equations • 1.4 Review of complex numbers • 1.5 Review of solving quadratic equations • 1.7 Review of linear inequalities • 2.1 Basics of Functions and Their Graphs • 2.2 More on Functions and Their Graphs • 2.5 Transformations of Functions • 2.6 Combinations of Functions ; Composite Functions • 2.7 Inverse Functions • 3.1 Quadratic Equations • 3.2 Polynomial Functions and Their Graphs • 3.3 Dividing Polynomials; Remainder and Factor Theorems • 3.4 Zeros of Polynomial Functions • 3.5 Rational Functions and Their Graphs • 3.6 Polynomial and Rational Inequalities 	<ul style="list-style-type: none"> • 4.1 Exponential Functions • 4.2 Logarithmic Functions • 4.3 Properties of Logarithms • 4.4 Exponential and Logarithmic Equations • 4.5 Exponential Growth and Decay; Modeling Data • 8.1 Systems of Linear Equations in Two Variables • 8.2 Systems of Linear Equations in Three Variables • 8.4 Systems of Nonlinear Equations in Two Variables • 8.5 Systems of Inequalities • 9.1 Matrix Solutions to Linear Systems • 9.2 Inconsistent and Dependent Systems and Their Applications • 9.3 Matrix Operations and Their Applications • 9.4 Multiplicative Inverse of Matrices and CODING
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Course Grading

Grading Breakdown

Activity Types	SLOs	Percentage
Online assignments	1-5	10%
Lab written assignments	1-5	5%
Online and in-class quizzes	1-5	15%
Core Assessment Project	1	10%
Exams	1-5	30%
Midterm Exam	1,3	15%
Final Exam	2, 4, 5	15%
		Total: 100%

Grading Conversion Table

Letter Grade	Grade Point	Percentage	Numerical value	Operational value
A	4.0	90-100	4	Exemplary
B	3.0	80-89	3	Proficient
C	2.0	70-79	2	Developing
D	1.0	60-69	1	Beginning
F	0	0-59	0	Not Evident

A grade of C or better is required to pass this class.

Tentative Course Calendar

Week 1	R.1 Polynomials and factoring, R.2, Review of linear equations and inequalities, R.3 Review of radicals and complex numbers, Quiz 1 (R.1 – R.3)
Week 2	1.1 Introduction to functions 1.2 Graphs of Functions, Quiz 2 (1.1 – 1.2),
Week 3	Test one, 1.3 Transformations of functions
Week 4	1.4 Composite functions, Quiz 3 (1.3 – 1.4), 1.5 Inverse functions SLO assessment Inverse and composite functions.
Week 5	Test 2 (1.3 – 1.5), 2.1 Quadratic functions,
Week 6	2.2 Graphs of polynomials

Week 7	2.3 Synthetic division to factor polynomials, Quiz 4 (2.1 – 2.3), 2.4 Real and complex zeros of polynomials, 2.5 Polynomial inequalities SLO assessment on polynomials
Week 8	Test 3 (2.1 – 2.5), 3.1 Introduction to rational functions
Week 9	3.2 Graphing rational functions, Quiz 6 (3.1 – 3.2), 3.3 Rational inequalities and applications.
Week 10	Midterm Exam (units 1 – 3), R.4 Review of exponents, 4.1 Exponential and logarithmic functions
Week 11	4.2 Properties of Logarithms, Quiz 7 (4.1 – 4.2), 4.3 Exponential functions and equations, 4.4 Logarithmic functions and equations
Week 12	4.5 Applications of exponential and logarithmic functions, Test 4 (4.1 – 4.5) Career Exploration project
Week 13	6.1, 6.2 Systems of linear equations and variables, Quiz 9 (6.1 – 6.2), 6.3 Systems of linear equations augmented matrices
Week 14	Test 5 (6.1 – 6.3), 6.4 Matrix inverses and applications, 6.5 systems of linear equations, Quiz 10 (6.4 – 6.5)
Week 15	Review for final exam (Units 4 and 6) Decoding SLO assessment

The Division of Science, Technology, Engineering, and Mathematics Attendance Policy for all Mathematics College Level Courses

Attendance is vital to student success in any course.

A student will be automatically dropped from a course if he/she fails to attend in the first week of class. Students are expected to be actively engaged in learning during enrollment at Texas Southmost College, attending class on the first day and throughout the semester.

Prompt attendance is expected of all students. The college attendance policy states that “regular and punctual class attendance is required” (TSC Current Course Catalog).

*What constitutes as an excused absence is at the discretion of the instructor.

**It is the student’s responsibility to note the consequences of automatic withdrawal in regard to financial aid and SAP policies.

TSC Course Catalog:

<http://www.tsc.edu/index.php/about/catalog.html>

LAB SESSIONS ARE MANDATORY! IF ANY STUDENT IS ABSENT TO THE LAB SESSION, THEN A CLASS ABSENCE WILL BE RECORDED EVEN THOUGH THE STUDENT WAS PRESENT IN CLASS, UNLESS PROVIDED WITH PROOF OF A MEDICAL EXCUSE.

Drops and Withdrawals

Student Initiated Drops

Students may drop from a class only after meeting with a faculty member or advisor. An Add/Drop form must be submitted to the Admissions and Records Office for processing. Students are responsible for following up and confirming that requests to withdraw from classes have been processed.

Library Information

Texas Southmost College Library Services are now available in SET-B 1.536. Our librarian, Mrs. Nancy Bond, will help you navigate through our vast digital library, which includes over

- 450,000 e-books
- 200 databases, including full-text of more than 90,000 e-journals
- 1,000 online periodical titles

Our library services include access to computers so you can search through the digital library, research your study topics, and complete your homework in a quiet space. For more information, please call Mrs. Bond at (956) 295-3452 or go to tsc.edu/library to visit our digital library.

At the UTRGV Library, TSC students will continue to have access to the following:

- More than 538,371 circulating books
- 9,824 audio/visual items, including CDs, DVDs, and LPs
- Over an estimated one million items in the archives and special collections
- Over 1,000 individually purchased periodical titles in print, microfilm, and online
- Study space on every floor and rooms that can be reserved for group projects

Make sure to bring your TSC ID if you want to check out library materials or use other resources. For more information on UTRGV library services, call (956) 882-8221.

The UTRGV library is located at the University of Texas Rio Grande Valley (UTRGV) Brownsville campus, but it is shared between Texas Southmost College and UTRGV Brownsville. Please click on the following link to access the library's website: <http://www.tsc.edu/index.php/library.html>

Our website provides 24/7 access to thousands of scholarly journals and e-books, all accessible to our students, faculty and staff from any location worldwide. Our physical libraries hold a wide array of print books, DVDs, archives, and more, as well as study rooms – available to be checked out for both group and individual study. Librarians are available to help you with your research in person, via phone, chat, text, or email.

Student Help

Assistance with Course Content

Student help is available directly from your professor via email or telephone. Appointments for office hours are also available at any mutually convenient time.

Send	To...	jane.doe@tsc.edu
	Cc...	
	Subject:	ENGL1301-02: Question about Term Paper
<p>Dr. Doe, Should we use a hanging indent for the reference area of our paper?</p> <p>Thank you,</p> <p>Mary Jo Garza StudentID: XXXXXXXXX</p>		

Please begin all emails to your professor with the course and section number "MATH-0000" in the subject line and include your name and ID number at the end of all messages.

Assistance with Canvas

If you experience any technical problems with your online classroom environment, please do not hesitate to contact the HELP DESK at 956-295-3800 or email helpdesk@tsc.edu. They are available Monday-Thursday from 8:00 a.m. to 6:00 p.m. and on Friday from 8:00 a.m. to 5:00 p.m.

If, however, you are experiencing issues related to course content (e.g., assignment troubles, quiz difficulties) please contact the professor in the "Virtual Office" or during office hours by phone or by email.

Professor Expectations

Students will be expected to:

- Come to class everyday prepared to take notes
- Be on time to class, tardiness will not be tolerated
- Work on online homework on a daily basis
- Work on online Quizzes as scheduled by the instructor
- Work on the LAB Assignments provided by the instructor, when assigned during class
- Be courteous to others in the classroom
- Silence your mobile devices to avoid class interruptions

Professor Communication Expectations

The best way to get a message to me is through email. See page one for email information.

General Course Requirements

1. **Be punctual.** The professor must provide a learning environment conducive to learning for all students. Tardiness is distracting and disruptive to fellow students and professor. The student may visit with fellow classmates to acquire notes of information missed or may make an appointment with the professor for further direction. Refer to Tardy Policy for more information about tardies.
2. **Avoid absences.** Be absent ONLY when absolutely necessary. Your best chance to do well in this class is to attend every class meeting. Students are expected to be diligent in their studies. It is expected that students will access the course site in Canvas every day and will complete the weekly assignments by the due date. Students are also expected to actively participate with the learning content using the Canvas platform. Therefore, it is vital that students complete the assigned readings and assignments on schedule so that they are prepared. To access the course site:

<https://texassouthmostcollege.instructure.com>. Please use Mozilla Firefox as your Internet browser. The college attendance policy states that regular and punctual class attendance is essential and that no assigned work is excused because of absence, no matter what the cause. Records of class attendance are kept by faculty. Refer to the Attendance Policy for more information about attendance.

3. **Plan ahead for online quizzes.** Online quizzes are to be taken in Canvas when scheduled. The quiz will automatically stop when the allotted time of 90 minutes has been reached; therefore, be vigilant of your testing time. **The quiz may be taken up to three times. However, the new grade will replace the previous grade, regardless of whether the grade is higher or lower.**
4. **Plan ahead for exams.** All exams will be taken in class (paper and pencil). If a major exam is missed, it is the student's responsibility to make arrangements with the professor and schedule a make-up exam only if student has proof of a medical excuse. The make-up major exam must be taken within a week from the test date (a zero will be recorded if the exam is not taken within this time).
5. **Plan ahead for online homework assignments.** You are required to work on online homework assignments on a daily basis in Canvas. Each question on your homework assignments has unlimited attempts and there is no time limit on each homework. No late assignments will be accepted.
6. **Instructor may also assign written homework for a grade.** A late penalty will also be applied for written assignments turned in after the due date. **No late assignments will be accepted.**
7. **Submit written LAB assignments in class as assigned.** During the weekly LAB sessions, instructor will provide you with a written LAB assignment (will vary depending on instructor) which must be turned in by the end of the LAB time. If LAB assignment is not turned in during class time, a "0" will be recorded in the Online and Written Assignments category and no make-up assignment will be allowed.
8. **Apply scholastic integrity in your work.** Note that the institution has a firm policy against scholastic dishonesty, which "includes but is not limited to cheating, plagiarism, collusion, the submission for credit for any work or materials that are attributable in whole or in part to another person, taking an examination of another person, any act designed to give unfair advantage to a student or the attempt to commit such acts". This policy will be strictly enforced.
9. **Mobile device policy.** This policy also applies to the use of the mobile devices to obtain answers on any assignment where the use of such devices is forbidden, such as an exam. Students who are found to be dishonest in their work may face severe consequences, such as receiving a "0" on the assignment or being dropped from the course.
10. **Adhere to copyright regulations.** "Unauthorized photocopying of copyrighted works, including musical works, may be unlawful and may infringe the copyright of the copyright owner. Students in possession of unauthorized duplications of copyrighted material are subject to appropriate disciplinary action as well as those civil remedies and criminal penalties provided by federal law."
11. **Silence your mobile devices.** Cell phones are required to be "turned off" or set on a silent/vibrate mode. Under no circumstances will any student be allowed to carry on a telephone conversation or text

during the class session. In case of emergencies, please leave the room as quietly and courteously as possible.

12. **Maintain a clean learning environment.** Students may keep food and drinks at their desks, but must ensure the area is clean before leaving for the day. In lab environments, food and drinks are not permitted around lab equipment.
13. **Demonstrate respect in the classroom.** Each student is expected to demonstrate respect to the professor, fellow classmates, and practicum personnel (if applicable).
14. **Demonstrate professionalism.** Each student is expected to act professionally, both in and out of the classroom. Any inappropriate verbal disgracing regarding this program will result in probation, suspension, and/or dismissal of the program. TSC reserves the right to exclude at any time persons whose conduct is undesirable.

College Policies

Satisfactory Academic Progress (SAP)

TSC monitors academic progress every fall and spring semester to identify those students who are experiencing difficulty with their courses. Satisfactory Academic Progress (SAP) is based upon two components: GPA of 2.0 or higher and successful course completion of at least 70% of course work attempted. Students remain in good standing with the College and Financial Aid when both criteria are met. Students who do not maintain these required minimum standards will be placed on probation or suspension as appropriate. The complete Satisfactory Academic Progress policy and the Undergraduate Satisfactory Academic Progress for Financial Aid policy can be found in the current Undergraduate Catalog.

"Incomplete" Grades

"Incomplete" grades are given only at the professor's discretion, and *must be requested by the student*. If the professor grants the "Incomplete," the student has until ninety (90) days after the beginning of the next regular semester to complete the course requirements. If the student does not complete the course requirements within the deadline, the grade of "Incomplete" will automatically convert into a grade of "F." Please note that "Incomplete's" are given only in an emergency or when there are extenuating circumstances. Refer to the catalog for additional details about receiving a grade of "Incomplete" in a course.

Academic Integrity

Students are expected to be above reproach in all scholastic activities. Students who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and expulsion from the College. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, and submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student, or the attempt to commit such acts. Since scholastic dishonesty harms the individual, all students, and the integrity of the College, policies on scholastic dishonesty will be strictly enforced.

All scholastic dishonesty incidents will be reported to the Vice President of Student Services. Do not allow your peers to pressure you to cheat. Your grade, academic standing, and personal reputation are at stake.

Some components of this course are designed to be highly interactive with students helping each other learn; however, all written assignments are designed to represent the efforts of each student individually and not to be shared. When students submit their efforts for grading they are attesting that they have abided by this rule.

Plagiarism includes, but is not limited to, the use of, by paraphrase or direct quotation without correct citation in the text and on the reference list, the published or unpublished works of another person. Students may NOT submit papers and assignments that they have previously submitted for this or other courses. The use of materials generated by agencies engaged in "selling" term papers is also plagiarism. Students are encouraged to review the tutorials and suggested websites for more information about plagiarism. Papers and other assignments may be submitted to an external agency for verification of originality and authenticity.

By enrolling in this course, the student expressly grants TSC a "limited right" in all intellectual property created by the student for the purpose of this course. The "limited right" shall include but shall not be limited to the right to reproduce the student's work product in order to verify originality and authenticity, and for educational purposes.

Academic Responsibilities

Students are expected to be diligent in their studies and complete class requirements. Students are responsible for all class work and assignments. On recommendation of the professor's concerned and with the approval of the Dean, students may, at any time, be dropped from courses. This may result in a "W" or "F" on the student's permanent record.

Emergency Academic Continuity Plan

In compliance with the Emergency TSC Academic Continuity Program, academic courses, partially or entirely, will be made available on the TSC's Learning Management System, Canvas. This allows faculty members and students to continue their teaching and learning via Canvas, in case the College shuts down as a result of a hurricane or any other natural disaster.

The college will use Canvas to post announcements notifying faculty members and students of their responsibilities as a hurricane approaches our region. If the college is forced to shut down, faculty will notify students through their course(s). To receive credit for a course, it is the student's responsibility to complete all the requirements for that course. Failure to access course materials once reasonably possible can result in a reduction of your overall grade in the class.

To facilitate the completion of class, all of the communication between students and the institution, the professor, and fellow classmates will take place using students' TSC primary email address. Students may update their phone number, address, and secondary email address, by logging in to TSC Online (www.tsc.edu). In the event of a disaster, that disrupts normal operations, all students and faculty must make every effort to access an internet-enabled computer as often as possible to continue the learning process.

Americans with Disabilities Act (ADA)

Students with disabilities, including learning disabilities, who wish to request accommodations in this class should notify the Disability Support Services early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide documentation of his/her disability to the Disability Services counselor.

Privacy/FERPA Statement

As a student at Texas Southmost College, your education record information is protected by FERPA. The Family Educational Rights and Privacy Act (FERPA) of 1974 is a federal law that requires Texas Southmost College to treat your education records in a legally specified manner.

As a student, under FERPA you have the following rights:

1. The right to inspect and review your own education records within 45 days of the day the College receives a request for access.
2. The right to request to amend of your education records if you believe they are inaccurate or misleading.
3. The right to limit the disclosure of personally identifiable information designated by the College as "directory information."
4. The right to file a complaint with the U.S. Department of Education concerning an alleged failure by the College to comply with the requirements of FERPA. The name and address of the office that administers FERPA is:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, SW
Washington, DC 20202

The Office of Admissions and Records maintains student records and has available the categories of information made available as public information, and the manner in which students may request that information about them not be released as public information. For more information contact:

Texas Southmost College
Director of Admissions and Records
Oliveira Student Services Center
80 Fort Brown, Brownsville, Texas 78520
956-295-3614

Note: Course content and schedule may vary from that specified by this syllabus (and related documents), to accommodate contingencies that may develop during the course. The professor will explain the rationale for any variance as it occurs.