

Clarendon College

Clarendon, Texas

Fall 2023

Math 1314.103

College Algebra

Instructor: Frank Vance

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Classroom Location: Rm. 101, Clarendon Admin

Office Hours: Subject to change – if changed, students will be given a printout of office hours.

Course Description:

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.

Lecture Hours: 3

Laboratory Hours: 0

Semester Hours: 3

Prerequisites: Appropriate THEA (Accuplacer) score or consent of instructor.

Statement of Purpose:

This course is intended to prepare students for further studies in mathematics and science, to meet the math requirement for an associate degree, and be a transferable credit to another institution.

Required Instructional Materials:

Textbook (optional) : Blitzer. Algebra and Trigonometry, 6th edition. Pearson, 2014. (textbook is found in your MathXL)

Supplies: Graphing scientific calculator, *computer*, internet access and Math XL access code (you will get this from your instructor)

Methods of Instruction:

1. Power points may be used in the classroom.
2. Lecture
3. Examples
4. MathXL: A study plan is located in mathxl to help students overcome problem concepts

Core Objectives:

- Critical Thinking Skills – to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
- Communication Skills – to include effective development, interpretation and expression of ideas through written, oral and visual communication
- Empirical and Quantitative Skills – to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions

Learning Outcomes: Upon successful completion of this course, students will:

1. Demonstrate and apply knowledge of properties of functions, including domain and range, operations, compositions, and inverses. (Assesses EQS with Quiz for Student Understanding of THECB Learning Outcome One)
2. Recognize and apply polynomial, rational, radical, exponential and logarithmic functions and solve related equations. (Assesses CT, EQS, and COM with Quizzes to Demonstrate Mastery of THECB Learning Outcome Two and Learning Outcome Three B)
3. Apply graphing techniques. (Assesses CT, EQS with Quiz to demonstrate Mastery of THECB Learning Outcome 2)
4. Evaluate all roots of higher degree polynomial and rational functions. (Assesses CT and EQS with Quiz to demonstrate Mastery of THECB Learning Outcome Four)
5. Recognize, solve and apply systems of linear equations using matrices. (Assesses EQS with homework assignment followed by a quiz to check for understanding and mastery)

Exemplary Objectives:

1. To apply arithmetic, algebraic, geometric, higher-order thinking, and statistical methods to modeling and solving real-world situations.
2. To represent and evaluate basic mathematical information verbally, numerically, graphically, and symbolically.
3. To expand mathematical reasoning skills and formal logic to develop convincing mathematical arguments.
4. To use appropriate technology to enhance mathematical thinking and understanding and to solve mathematical problems and determine the reasonableness of the results.
5. To interpret mathematical models such as formulas, graphs, tables and schematics, and draw inferences from them.
6. To recognize the limitations of mathematical and statistical models.
7. To develop the view that mathematics is an evolving discipline, interrelated with human culture, and understand its connections to other disciplines.

Grading Policies: NOTE: If you are required to participate in a Lab and/or tutoring-this grade will be affected greatly if you do not attend on a regular basis.

Grading:

Quizzes: 25% Quizzes may be in the classroom and are on mathxl

Tests 50% All test are on MathXL

Final Exam 25% Taken in class on paper (NO Cell Phones)

In the MathXL grade book, assume that any assignment you did not complete or is showing past due is a zero. The current course average shown in the grade book will not be correct until I have replace the past due assignments with zeros.

IMPORTANT: NO GRADE WILL BE ACCEPTED UNTIL AFTER THE CLASS CONTRACT HAS BEEN SIGNED. ANY GRADE TAKEN BEFORE THE CLASS CONTRACT IS SIGNED WILL BE RECORDED AS A ZERO.

A simple average of the above will be used to determine the letter grade for the course based on the following:

90 – 100%	A
80 – 89.9%	B
70 – 79.9%	C
60 – 69.9%	D
59.9% or below	F

A student's final grade will be made available through the Student Portal at www.clarendoncollege.edu.

Student Academic Integrity:

Failure to comply with lawful direction of a classroom instructor is a disruption for all students enrolled in the class. Cheating violations include, but are not limited to: (1) obtaining an examination , classroom activity, or laboratory exercise by stealing or collusion; (2) discovering the content of an examination , classroom activity, laboratory exercise, or homework assignment before it is given; (3) using an unauthorized source of information during an examination , classroom activity, laboratory exercise, or homework assignment ; (4) entering an office or building to obtain unfair advantage; (5) taking an examination for another person; (6) completing a classroom activity, laboratory exercise, homework assignment, or research paper for another person; (7) altering grade records; (8) using any unauthorized form of electronic communication device during an examination, classroom activity, or laboratory exercise; (9) Plagiarism. Plagiarism is the using, stating, offering, or reporting as one's own, an idea, expression, or production of another person without proper credit.

Disciplinary actions for cheating in a course are at the discretion of the individual instructor. The instructor of that course will file a report with the Dean of Students when a student is caught cheating in the course, whether it be a workforce or academic course. The report shall include the course, instructor, student's name, and the type of cheating involved. Students who are reported as cheating to the Dean of Students more than once shall be disciplined by the Dean. The Dean will notify all involved parties within fourteen days of any action taken.

Classroom Conduct:

I will show you the respect you deserve as a student. I, in return, expect respectful behavior from you.

- Use language that has a clear meaning... In face to face communication 70% is non-verbal, so the meaning of one's words is communicated through their actions
- Do not use any profane or obscene language.
- Be on time. **If you are tardy, you must communicate with the instructor after class**, otherwise your absence will stay.
- Do not sleep in class. Sleeping in class will be counted as an absence.
- **Leaving early before class is dismissed or having made prior arrangements with instructor will count as an absence.**
- Be courteous to others by not visiting during instruction.
- **No lap tops, cell phones or head phones** are allowed in the classroom.

Absences: 1ST UNEXCUSED ABSENCE-DROPS TO A 95, 2ND UNEXCUSED ABSENCE-DROPS TO A 90, 3RD UNEXCUSED ABSENCE-DROPS TO A 0

Excused Absences: Note from Doctor

Obituary list student as next of kin

E-Mail from Coach or Dean of Instruction

Un-Excused Absences: Not coming to class

Leaving the class room before the instructor dismisses the class (exception is an emergency or prior arrangements have been made with the instructor)

Note/e-mail from Mother, Father, or Guardian

Sleeping in Class

Having a cell phone on your desk or in your hand

Having a laptop, surface computer, android, etc. on your desk.

Having ear phones or ear plugs in your ears or around your neck.

Class Policies:

1. All work is to be turned in on time. All the homework is already open. Excuses for not doing homework is unacceptable. **Be warned:** Electricity may go out and Wi-Fi may fail, your computer may go on the blink, etc. Be prepared for these inconveniences and do the homework a couple of days before the due date. If you know you will be busy around the due date of an assignment, then you must do the assignment early. I will not re-open any assignments. The final exam date cannot be changed.
2. Scholastic Honesty: I adhere to a strict policy regarding academic honesty. Anyone who is dishonest in any way will receive a zero on that assignment or exam with no opportunity to make up the zero and may be dropped from the course with a grade of F. That student, if allowed to remain in the course, will not be allowed to receive any extra credit points from the time of the infraction through the remainder of the course. Furthermore, that student will not be allowed to drop their lowest quiz grade or exam grade. A second act of dishonesty will result in an F for the course. Students who commit an act of academic dishonesty will not be allowed to withdraw from the course with a "W." Note that dishonest behavior includes both the act of copying someone else's work as well as allowing someone to copy your work. Both students are equally guilty and will be equally punished.
3. Be respectful. Participate in class activities and discussions. Do not use profane or inappropriate language.

Withdrawal: If you decide that you are unable to complete this course or that it will be impossible to complete the course with a passing grade, you may drop the course and receive a “W” on your transcript instead. Withdrawal from a course is a formal procedure that you must initiate. If you do not go through the formal withdrawal procedure, you will receive a grade of “F” on your transcript. A student is permitted to drop a course if he/she obtains an official drop slip from the office and has the instructor sign the slip before the 12th class week. **Remember, a student is only allowed to drop the same class twice before he/she will be charged triple the tuition amount for taking the class a third time or more. Furthermore, beginning with the Fall 2007 semester, students in Texas may only drop a total of 6 courses throughout their entire undergraduate career. After the 6th drop, he/she will no longer be able to withdraw from any classes.**

American with Disabilities Act Statement: Clarendon College provides reasonable accommodations for persons with temporary or permanent disabilities. Should you require special accommodations, it is your responsibility to notify the Office of Student Services (806-874-3571 or 800-687-9737). We will then work with you to make whatever accommodations we need to make.

Important dates: Last day to drop: Monday August 21, 2023

Friday November 03, 2023 Last day to drop with a W

Final Exam: Tuesday December 5, 2023 at 8:00 AM

Student Rights and Responsibilities are listed on the College website at:

<http://www.clarendoncollege.edu/Resources/Student%20Services/StudentRightsResponsibilities.pdf>

STUDENT RIGHTS & RESPONSIBILITIES

The role of Clarendon College is to encourage individuals of all ages to develop their skills and talents based on their abilities and interests, so that collectively they may contribute to the growth and development of this democracy. College policies, procedures, and regulations are formulated to promote an appropriate teaching and learning environment where each student has the freedom to learn and where the constitutional rights of others are protected.

The concept of rights and freedom, no matter how basic or widely accepted, carries with it corresponding responsibilities. Students, as well as other members of the college community, enjoy the same constitutional and civil rights guaranteed all citizens; at the same time, they are subject to the laws of the nation, the State of Texas, and the local community. All members of the college community have a strong responsibility to protect and maintain an academic climate in which the freedom to learn can be enjoyed by all. To this end, certain basic regulations and policies have been developed to govern the behavior of students as members of the college community.

Violations of student conduct regulations will be handled through the Office of the Vice President of Student Services. Violations of federal, state, and/or local laws make a student subject to civil or criminal action in addition to disciplinary action by the College. Each student is responsible for knowing the policies and regulations of the College.

Freedom of Expression

The rights of free speech and peaceable assembly are fundamental to the democratic process. The College supports the rights of students of the college community to express their views and opinions on actions or ideas, to associate freely with others, and to assemble peacefully.

Whether expressing themselves as individuals or in organized groups, members of the college community are expected to conduct themselves responsibly, according to law, and to respect the basic educational goals of the College. Accordingly, the College insists that free expression not violate the rights of others. Disruption of the educational process and functions of the College, or violation of law, would constitute such a violation.

Students wishing to assemble must complete an official request with the Vice-President of Student Services. The institution reserves the right to determine the time and location of such assemblies in order to ensure that the educational process is not disrupted. The use of amplified equipment is prohibited in student assembly and speech. The institution will not tolerate hate speech, defined as "...the lewd and obscene, the profane, the libelous, and the insulting or 'fighting' words – those which by their very utterance inflict injury or tend to incite and immediate breach of the peace." (Chaplinsky vs State of New Hampshire, 315 U.S. 568, 1942)

Freedom of Access

Within the limits of its resources, Clarendon College shall be open to all applicants who are qualified according to current admission requirements. Clarendon College does not discriminate on the basis of race, creed, color, national origin, mental or physical disabilities, age, or sex in any of its policies, practices, or procedures. This includes, but is not limited to, admissions, employment, financial aid, and educational services, programs, and activities.

Freedom of Association

Students are free to associate to promote their common interests. They have the right to seek, through official procedures, and establish organizations of their choosing so long as such are not in conflict with the educational purposes of the College. Students have the right to affiliate with officially recognized campus organizations of their choice, within the requirements of those organizations relative to membership.

Academic Rights of Students

The College has the responsibility of providing a program of quality education in keeping with its financial resources; students have protection through campus-designed procedures against prejudiced or capricious academic evaluation. Student performance shall be evaluated solely on an academic basis, not on opinions or conduct in matters unrelated to academic standards. Students are responsible for completing their academic program, being familiar with all requirements of the College Catalog, and for maintaining their grade point average for degree requirements.

Student Records

Student records are maintained in confidence and in compliance with the Texas State Library and Archives Commission retention schedule. Student records are used to promote the instruction, career development, guidance, and educational progress of the student. In accordance with the Family Educational Rights and Privacy Act of 1974, Public Law 93-380, as amended, the student has access to specific information contained in his or her official records as specified by that act. Student records may be released to other persons, agencies, or institutions with a demonstrated interest in the student only if a written release has been signed by the student. College staff shall have access to student records when there is a demonstrated educational interest in the student.

Student Participation in Institutional Decision-Making

The primary route of Clarendon College students in decision-making is through participation in the Student Government Association (SGA). Students also may be invited to serve on one of the various institutional committees. Student opinion of food services, student housing, student activities, etc., are gathered from a number of surveys. All student input, whether it be through organized clubs, committees, or questionnaires, is given serious consideration as suggestions for change in and improvement of the College.

Student Responsibilities

The Board of Regents of Clarendon College expects employees, students, visitors, and guests of the College to accept the following responsibilities:

- (1) Compliance with and support of duly constituted civil authority,

- (2) Respect for the rights of others and cooperation to ensure that such rights are maintained, whether or not one agrees with the views of those exercising such rights.
- (3) Cooperation to ensure that the will of the majority is implemented after due consideration, but not to include the suppression of the minority,
- (4) To exercise disagreement in a responsible manner and within a framework compatible with the orderly resolution of differences.
- (5) Knowledge of and active support of college regulations.
- (6) A person who is required to register under the Code of Criminal Procedures 62.152 must register not later than the seventh day after the date on which the person begins to attend school to the Director of Student Life as well as any other local law enforcement agencies as required by Chapter 62, Code of Criminal Procedure.

Recommended Readings

Flatland by Edwin A. Abbott

Number: The Language of Science by Tobias Dantzig

Mathematics: From the Birth of Numbers by Jan Gullberg

The Language of Mathematics: Making the Invisible Visible by Keith Devlin

Democracy: The God that Failed by Hans Herman Hoeppe

An Inconvenient Book by Glenn Beck

Let Freedom Ring: Winning the War of Liberty over Liberalism by Sean Hannity

Course Schedule/Outline: Exact homework and test dates are posted on your “MathXL”. **No late assignments will be accepted.** Student must sign class contract before any grades will be accepted. All students must attend class in order to be counted present. You can check the status of your attendance in your Student Portal.

P. Prerequisites: Fundamental Concepts of Algebra

Algebraic Expressions, Mathematical Models, and Real Numbers

Exponents and Scientific Notation

Radicals and Rational Exponents

Polynomials

Factoring Polynomials

Rational Expressions

1. Equations and Inequalities

1.1 Graphs and Graphing Utilities

1.2 Linear Equations and Rational Equations

1.3 Models and Applications

1.4 Complex Numbers

1.5 Quadratic Equations

1.6 Other Types of Equations

1.7 Linear Inequalities and Absolute Value Inequalities

2. Functions and Graphs

2.1 Basics of Functions and Their Graphs

2.2 More on Functions and Their Graphs

- 2.3 Linear Functions and Slope
- 2.4 More on Slope
- 2.5 Transformations of Functions
- 2.6 Combinations of Functions; Composite Functions
- 2.7 Inverse Functions
- 2.8 Distance and Midpoint Formulas; Circles

3. Polynomial and Rational Functions

- 3.1 Quadratic Functions
- 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

4. Exponential and Logarithmic Functions

- 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

8. Systems of Equations and Inequalities

- 8.1 Systems of Linear Equations in Two Variables
- 8.2 Systems of Linear Equations in Three Variables
- 8.3 Partial Fractions
- 8.4 Systems of Nonlinear Equations in Two Variables
- 8.5 Systems of Inequalities
- 8.6 Linear Programming

9. Matrices and Determinant

- 9.1 Matrix Solutions to Linear Systems

Finals - Schedule will be posted by Administration. All finals must be taken on the day and at the time posted unless you have a permission slip from the Vice President of Academic Affairs or the College President to take it early.

The final exam will be taken in the lab on MathXL. Final Exam schedules are posted in the classroom and on the internet.

Look for due dates in the mathxl.

If 75% is attained on all homework in a chapter insures 70 on chapter test.

If 95% is attained on all homework in a chapter insures 80 on chapter test.

DO NOT MISS CLASS: You will see most all problems discussed during class time.