



# MATH 1314.046DC – College Algebra F2F

Course Syllabus: Fall 2023

*“Northeast Texas Community College exists to provide personal, dynamic learning experiences empowering students to succeed.”*

**Instructor: Olivia Juarez**

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Office Hours	Monday	Tuesday	Wednesday	Thursday	Online
	7:20-7:45 AM	7:20-7:45 AM	7:20-7:45 AM	7:20-7:45 AM	By appointment

***This syllabus serves as the documentation for all course policies and requirements, assignments, and instructor/student responsibilities.***

*Information relative to the delivery of the content contained in this syllabus is subject to change. Should that happen, the student will be notified.*

**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. Three hours credit.

**Prerequisite(s):** 1) TSI Not Complete – Multiple Measures Placement with Corequisite Model  
*or* 2) TSI Complete Status

### **Student Learning Outcomes:**

1314.1 Demonstrate and apply knowledge of properties of functions, including domain and range, operations, compositions, and inverses.

1314.2 Recognize and apply polynomial, rational, radical, exponential, and logarithmic functions and solve related equations.

1314.3 Apply graphing techniques.

1314.4 Evaluate all roots of higher degree polynomial functions.

1314.5 Recognize, solve and apply systems of linear equations using matrices.

### **Core Curriculum Purpose and Objectives:**

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.

Courses in the foundation area of mathematics focus on quantitative literacy in logic, patterns, and relationships. In addition, these courses involve the understanding of key mathematical concepts and the

application of appropriate quantitative tools to everyday experience.

### **Program Student Learning Outcomes:**

#### Critical Thinking Skills

CT.1 Students will demonstrate the ability to 1) analyze complex issues, 2) synthesize information, and 3) evaluate the logic, validity, and relevance of data.

#### Communication Skills

CS.1 Students will effectively develop, interpret and express ideas through written communication.

#### Empirical and Quantitative Skills

EQS.1 Students will manipulate numerical data or observable facts by organizing and converting relevant information into mathematical or empirical form

EQS.2 Students will analyze numerical data or observable facts by processing information with correct calculations, explicit notations, and appropriate technology.

EQS.3 Students will draw informed conclusions from numerical data or observable facts that are accurate, complete, and relevant to the investigation.

### **Evaluation/Grading Policy:**

Exams & Projects : 60%

Daily Work : 20%

Final Exam: 20%

“A” 90-100

“B” 80-89

“C” 70-79

“D” 60-69

“F” below 60

Daily work will be done in MyLab Math and grades will be available immediately upon completion. There will be no exemptions from the college final.

**Required Instructional Materials:** Blitzer, College Algebra, 7<sup>th</sup> Edition (You are not required to have a hardcopy of the text, but you must have the MyMathLab Access Code and the ebook)

**Publisher:** Pearson, Boston, MA

**ISBN Number:** 13:9780134469164

**Optional Instructional Materials:** none

**Minimum Technology Requirements:** computer or laptop and calculator

**Required Computer Literacy Skills:** google and chrome extensions

**Course Structure and Overview:** This is a 16-week embedded dual credit course designed for students who are concurrently enrolled in both a high school algebra class and the college-level class. The course is managed with information and activities that are posted on the Blackboard Learning Management System. A typical class involves general participation by all students in discussions regarding mathematical principles and procedures being studied. Students are required to complete online homework in addition to in-class quizzes, projects, and exams. It is very important students keep up with course materials and assignments since this is a college-level course. Students are expected to complete all assignments by due dates.

**Communications:** The college's official means of communication is via your campus email address. I will use your campus email address, Mt Vernon email address, Blackboard, Google Classroom and MyMathLab to communicate with you outside of class. Make sure you keep your campus email cleaned out and below the limit so you can receive important messages.

**Institutional/Course Policy:** This is a dual credit class held on the Mt Vernon campus. Students are required to follow the attendance and dress code as well as all other rules and acceptable use policies stated in the MVHS student code of conduct. Students are expected to behave as responsible college students; therefore, no academic information about a student can be given to another individual or parents without the expressed written consent of the student.

#### **Alternate Operations During Campus Closure and/or Alternate Course Delivery Requirements**

In the event of an emergency or announced campus closure due to a natural disaster or pandemic, it may be necessary for Northeast Texas Community College to move to altered operations. During this time, Northeast Texas Community College may opt to continue delivery of instruction through methods that include, but are not limited to, online through the Blackboard Learning Management System, online conferencing, email messaging, and/or an alternate schedule. It is the responsibility of the student to monitor NTCC's website (<http://www.ntcc.edu/>) for instructions about continuing courses remotely, Blackboard for each class for course-specific communication, and NTCC email for important general information.

Additionally, there may be instances where a course may not be able to be continued in the same delivery format as it originates (face-to-face, fully online, live remote, or hybrid). Should this be the case, every effort will be made to continue instruction in an alternative delivery format. Students will be informed of any changes of this nature through email messaging and/or the Blackboard course site.

#### **NTCC Academic Honesty/Ethics Statement:**

NTCC upholds the highest standards of academic integrity. The college expects all students to engage in their academic pursuits in an honest manner that is beyond reproach using their intellect and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. This course will follow the NTCC Academic Honesty and Academic Ethics policies stated in the Student Handbook. Refer to the student handbook for more information on these subjects.

#### **ADA Statement:**

It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to request accommodations. An appointment can be made with the Academic Advisor/Coordinator of Special Populations located in

Student Services and can be reached at 903-434-8264. For more information and to obtain a copy of the Request for Accommodations, please refer to the special populations page on the NTCC website.

**Family Educational Rights and Privacy Act (FERPA):**

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children’s educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered “eligible students.” In essence, a parent has no legal right to obtain information concerning the child’s college records without the written consent of the student. In compliance with FERPA, information classified as “directory information” may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student’s name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

**Tentative Course Timeline (\*note\* instructor reserves the right to make adjustments to this timeline at any point in the term):**

Course Schedule (Subject to Change)

Week of	Topics Outline
Aug. 7-10	P.1 Algebraic Expressions, Mathematical Models, and Real Numbers, P.2 Exponents and Scientific Notation, P.3 Radicals and Rational Exponents
Aug. 14-17	P.4 Polynomials, P.5 Factoring Polynomials, P.6 Rational Expressions, Review / Quiz
Aug. 21-24	1.1 Graphs and Graphing Utilities, 1.2 Linear and Rational Equations, 1.3 Models, 1.4 Complex Numbers
Aug. 28-31	1.5 Quadratic Equations, 1.6 Other Types of Equations, 1.7 Linear Inequalities and Absolute Value Inequalities
Sept. 4-7	Chapter 1 Exam, 2.1 Basics of Functions and Their Graphs
Sept. 11-14	2.3 Linear Functions, 2.5 Transformations of Functions, 2.6 Combinations of Functions; Composite Functions
Sept. 18-21	2.7 Inverse Functions, 2.8 Distance and Midpoint Formulas; Circles, Test
Sept. 25-28	3.1 Quadratic Functions, 3.2 Polynomials and Their Graphs, 3.3 Dividing Polynomials, Remainder and Factor Theorems
Oct. 2-5	3.4 Zeros and Polynomials, 3.5 Rational Functions and Their Graphs, 3.7 Variation
Oct. 9-12	Test, 4.1 Exponential Functions
Oct. 16-19	4.2 Logarithmic Functions, 4.3 Properties of Logarithms
Oct. 23-26	4.4 Exponential and Logarithmic Equations, 4.5 Exponential Growth and Decay; Modeling Data, Test
Oct. 30-Nov. 2	5.1 Systems of Linear Equations in Two Variables, 5.2 Systems of Linear Equations in Three Variables, 5.4 Systems of Nonlinear Equations in Two Variables

Nov. 6-9	5.4 Systems of Nonlinear Equations in Two Variables, 5.5 Systems of Inequalities, Test
Nov. 13-16	6.1 Matrix Solutions to Linear Systems, 6.2 Inconsistent and Dependent Systems and Their Applications, 6.3 Matrix Operations and Their Applications
Nov. 20-23	Thanksgiving Break
Nov. 27-30	6.4 Multiplicative Inverses of Matrices, 6.5 Determinants and Cramer's Rule
Dec. 4-7	Test, Review for Finals
Dec. 11-14	College Finals