College Algebra *– MATH 1203 · MW 12:00 – 1:15, Live Streaming and MW 1:30 – 2:45, SC 313*

NorthWest Arkansas Community College – Fall 2021

Instructor: *Keith Foster · Office: SC 327 · 479.619.4380 · gkfoster@nwacc.edu · http://gkfoster.com*

Course Objectives:

1. To develop proficiency in algebra by:
   a. solving with equations (quadratic, radical, rational, exponential, logarithmic and systems of linear equations with matrices) and inequalities (quadratic and systems of inequalities)
   b. solving applications problems (linear, quadratic, exponential and systems of equations)
   c. analyzing functions and their graphs
2. To develop problem solving skills

Course Descriptions: An overview of the fundamental concepts of algebra with an emphasis on functions and equation solving. Functions and equations covered will include (but are not limited to) absolute value, square root, polynomial, rational, exponential, and logarithmic. Systems of linear equations and inequalities as well as quadratic inequalities will also be covered. Technology will be used throughout the course to supplement and enhance understanding.

Required Textbook: *College Algebra with Intermediate Algebra: A Blended Course, Beecher, Penna, Johnson & Bittinger, Pearson*

Prerequisites: Intermediate Algebra (MATH 0103) or Foundations of Algebra: STEM (MATH 0214) with a C or better; or an appropriate placement score. A good understanding of the concepts from the prerequisite course is expected.

Grading for Course: The numerical grade comes from the following sources:

- *Unit Exams*: There will be four unit exams each worth 100 points (total: 400 pts)
- *Homework*: Homework Assignments will be scaled to 50 points.
- *Quizzes*: Quizzes will be scaled to 100 points.
- *Final Exam:* The *final exam* is worth 200 points and will be comprehensive.
  - Percentage score will be this numerical grade out of 750 points. -

Participation Policy: Participation is expected, and lack of participation will invariably prove detrimental to your grade and your learning experience. Regardless of the reason for not being able to access *myMathLab*, you will be responsible for any missed assignments, material and announcements. Do NOT wait until the last minute to complete assignments or quizzes. Attendance during class time is required.

Homework/Quiz Policy: You are *expected* to work all homework problems assigned by the due date listed on myMathLab. Since this is a three-credit course, you should expect to spend around six hours each week on homework and general overview of topics being covered (spread this time throughout the week). This is considered the norm for a college level course. It is very important to organize yourself so that you will received the most credit for these assignments. I highly recommend that you write out each problem in a notebook so you can refer back to them in preparation for exams, since you will be required to show work on exams for full credit on each problem. Quizzes will be posted periodically on myMathLab and some may be given during class time. You will have a few attempts on each quiz given outside class time, before the due date. No partial credit is given on quizzes.

Exam Policy: All exams will be taken during regular class time, on MML (using ProctorU for the Live Streaming class and in a computer class room for the in-person class). Review "Information on classes that are onLine or Live Streaming" on my website (http://gkfoster.com) if you are in the Live Streaming class. Notes will *not* be allowed on exams. Only approved calculators will be allowed. The use of cell phones or computer application apart from MML during testing time is prohibited. Once the exam has started, no student may leave for *any* reason unless the exam is turned in. Doing so may result in a Zero for the exam.

Makeup Policy: There will be no make ups on exams, quizzes or homework. I will replace your lowest exam score (or missed exam) with your final exam percent score. Some quizzes will be dropped at the end of the semester. Given the amount of time allowed to complete homework assignments, there is no reason to not complete any homework assignments.

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Methods of Instruction: Instruction will take place through lectures (via MS Teams for Live Streaming), readings and assigned problems. *Exams will be given during normal class time.*

Course Schedule: Below is a week-by-week breakdown of course coverage. Schedule is subject to change and email notice will be given, if that were to happen.

Week	Dates	Coverage
1	Aug 23 & 25	*Course Intro* 2.2 – Functions and Graphs 2.3 – Finding Domain and Range
2	Aug 30 & Sept 1	2.4 – The Algebra of Functions 2.5 – Linear Functions: Graphs and Slope 2.6 – More on Graphing Linear Equations
3	Sep 6 & 8	*Labor Day* 2.7 – Finding Equations of Lines; Applications
4	Sept 13 & 15	3.7 – Systems of Inequalities and Linear Programming *Exam #1 (Chapter 2 and Section 3.7)*
5	Sept 20 & 22	5.4 – Complex Rational Expressions 5.5 – Solving Rational Equations 6.1 – Radical Expressions and Functions
6	Sept 27 & 29	6.6 – Solving Radical Equations 6.8 – Increasing, Decreasing, and Piecewise Functions; Applications 7.2 – Transformations
7	Oct 4 & 6	*Exam #2 (Chapters 5 & 6 and Section 7.2)* 7.3 – The Complex Numbers
8	Oct 11 & 13	7.4 – Quadratic Equations, Functions, Zeros, and Models 7.5 – Analyzing Graphs of Quadratic Functions 8.1 – Polynomial Functions and Models
9	Oct 18 & 20	*Fall Break* 8.2 – Graphing Polynomial Functions
10	Oct 25 & 27	8.3 – Polynomial Division; The Remainder Theorem and the Factor Theorem 8.4 – Theorems about Zeros of Polynomial Functions
11	Nov 1 & 3	8.5 – Rational Functions 8.6 – Polynomial Inequalities and Rational Inequalities
12	Nov 8 & 10	*Exam #3 (Sect 7.3–7.5 & Chap 8)* 9.1 – The Composition of Functions 9.2 – Inverse Functions
13	Nov 15 & 17	9.3 – Exponential Functions and Graphs 9.4 – Logarithmic Functions and Graphs 9.5 – Properties of Logarithmic Functions
14	Nov 22 & 24	9.6 – Solving Exponential Equations and Logarithmic Equations *Thanksgiving Break*
15	Nov 29 & Dec 1	9.7 – Applications and Models: Growth and Decay; Compound Interest 10.1 – Matrices and Systems of Equations *Exam #4 (Chap 9 and Sect 10.1)*
16	Dec 6 & 8	*Catch up* *Review for Final Exam*
	Dec 13 & 15 **Finals Week**	**Final Exam will be given** **on Monday, December 13, 12:30 – 2:30, for the 12:00 class** **on Wednesday, December 15, 1:30 – 3:30, for the 1:30 class**