

MATH 1510C - College Algebra with Co-requisite Support

Fall 2026 Syllabus, Section 03, CRN 42055,

Credit hours: 6

Instructor

Emily Dolsak

Email: edolsak@ysu.edu

Public Instructor Information

Instructor Title: Senior Lecturer

Instructor Professional Qualifications:

- BS Mathematics and Economics - Westminster College (PA) 2012
- MS Mathematics - Youngstown State University 2014

Instructor Office Location: Cafaro Hall 525

Instructor Office Phone: 330-941-3302

Course Description

1510C. College Algebra with Co-requisite Support. This course is primarily intended to prepare STEM students (along with MATH 1511C) for MATH 1552, 1570 or 1571. Topics include real numbers, equations and inequalities, linear, quadratic, polynomial, exponential, and logarithmic functions, graphing techniques, systems of equations, and applications. It includes corequisite support for students requiring remediation in mathematics while studying college algebra. Emphasis will be placed on prerequisite skills needed for college algebra as well as just in time review through the use of appropriate technology. The course fulfills the general education requirements for mathematics. Prereq.: YSU Math Placement Level 20. 6 s.h.

Course Readings

Group	Title	Author	ISBN
Required	College Algebra and Trigonometry	Julie Miller & Donna Gerken with ALEKS 360	9781265173159

- **Inclusive Access**

This course is part of the Inclusive Access program; you should NOT purchase any course materials as they are part of your course registration. In the event you drop this course from your schedule on or prior to the last day of DROP/ADD period, your account will be fully refunded automatically.

- **Opt-out**

By default, students are opted into the content. If the student decides at that time, they do not want their required course materials to be delivered in this program at the low cost offered, they have the option to OPT-OUT. We highly encourage students not to opt-out. If you choose to opt-out, you will be responsible for obtaining the appropriate course materials/textbook/connect at the full price.

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Week of	Reading(s)	Proposed Topic	Due/To Prepare for Class
8/24	1.1, 1.3 – 1.7	Linear equations & applications, rational equations, complex numbers, quadratic equations & applications, absolute value and radical equations, linear and absolute value inequalities.	

8/31	1.1, 1.3 – 1.7	Linear equations & applications, rational equations, complex numbers, quadratic equations & applications, absolute value and radical equations, linear and absolute value inequalities.
9/7	1.1, 1.3 – 1.7	Linear equations & applications, rational equations, complex numbers, quadratic equations & applications, absolute value and radical equations, linear and absolute value inequalities.
9/14	2.1 – 2.8	Rectangular coordinate system, distance and midpoint, intercepts, parallel and perpendicular lines, formulas, circles, functions and relations, parent functions (linear, quadratic, cubic, square root, cube root and absolute value) and their transformations, domain and range, piecewise-defined functions and the algebra of functions, symmetry, difference quotient, operation of functions, composition functions.
9/21	2.1 – 2.8	Rectangular coordinate system, distance and midpoint, intercepts, parallel and perpendicular lines, formulas, circles, functions and relations, parent functions (linear, quadratic, cubic, square root, cube root and absolute value) and their transformations, domain and range, piecewise-defined functions and the algebra of functions, symmetry, difference quotient, operation of functions, composition functions.
9/28	2.1 – 2.8	Rectangular coordinate system, distance and midpoint, intercepts, parallel and perpendicular lines, formulas, circles, functions and relations, parent functions (linear, quadratic, cubic, square root, cube root and absolute value) and their transformations, domain and range, piecewise-defined functions and the algebra of functions, symmetry, difference quotient, operation of functions, composition functions.
10/5	2.1 – 2.8	Rectangular coordinate system, distance and midpoint, intercepts, parallel and perpendicular lines, formulas, circles, functions and relations, parent functions (linear, quadratic, cubic, square root, cube root and absolute value) and their transformations, domain and range, piecewise-defined functions and the algebra of functions, symmetry, difference quotient, operation of functions, composition functions.

10/12	3.1-3.6	Quadratic functions and applications polynomial functions, division of polynomials, synthetic division, zeros of polynomials, asymptotes, rational functions, polynomial, and rational inequalities.
10/19	3.1-3.6	Quadratic functions and applications polynomial functions, division of polynomials, synthetic division, zeros of polynomials, asymptotes, rational functions, polynomial, and rational inequalities.
10/26	4.1 – 4.6	Inverse functions, exponential and logarithmic functions and their graphs, properties of logarithms, solving exponential and logarithmic equations, growth, and decay models.
11/2	4.1 – 4.6	Inverse functions, exponential and logarithmic functions and their graphs, properties of logarithms, solving exponential and logarithmic equations, growth, and decay models.
11/9	4.1 – 4.6	Inverse functions, exponential and logarithmic functions and their graphs, properties of logarithms, solving exponential and logarithmic equations, growth, and decay models.
11/16	4.1 – 4.6	Inverse functions, exponential and logarithmic functions and their graphs, properties of logarithms, solving exponential and logarithmic equations, growth, and decay models.
11/23	9.1 and 9.4	Solve linear and non-linear systems of equations graphically, and solving systems of equations using substitution and elimination.
11/30	9.1 and 9.4	Solve linear and non-linear systems of equations graphically, and solving systems of equations using substitution and elimination.
12/7	Final Exam	Final Exam: Wednesday, December 9 3:15pm-5:15pm

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.