



UNIVERSITY OF NORTHERN COLORADO

Extended Campus

College of Natural & Health Sciences
School of Mathematical Sciences

UNC Dual Enrollment at Eaton High School

MATH 124-669/670/671: College Algebra (4 credits; LAC & gtP*)
Fall 2020 & Spring 2021

Instructor: Mrs. Duncan

Email: arduncan@eaton.k12.co.us

Office Phone: (970) 454-3374 ext. 558

Office Hours: 7:30-7:55am, 3:05-3:30pm, T: 3:10-4:00pm

Prerequisite for UNC Dual Enrollment:

- Junior or Senior status
- 3.0 cumulative GPA
- Grade of “C” or better in Algebra 2. A grade of C- is not acceptable
- Counselor/Instructor approval prior to taking the course
- Parent consent
- Special Exemptions to these qualifications may be made on an individual basis through written request to UNC Extended Campus

Course Description: Topics covered in this course include but are not limited to: linear, quadratic, exponential and logarithmic functions; matrices; theory of equations. Graphing techniques and transformations of equations as well as set notations.

Required Materials:

- Text Book: College Algebra: by Mark Dugopolski; sixth edition
- Graphing Calculator: acceptable models include TI-83, TI-83+, TI-84, TI-84+, all other models please ask. (Instructor will be using a TI-83+). **This is a requirement.**
 - **Sharing of calculators during quizzes or exams will not be permitted.**
 - Bring calculators to class. We will be using them regularly throughout the term.
 - TI-83 Calculators may be rented for the year from Mr. Kinney, for \$10 per year or \$5 per semester.
- Students will need to keep a notebook for the course (preferably with graph paper).
- Bring calculator and note taking materials to class every day.

Methods of Evaluation: Grading Scale:

Please note that if you earn a C- or lower, you will not be eligible to move on to the next course. The grade you earn will contribute to your college GPA, so if you earn a C or lower, you are potentially entering college with below a 2.0 GPA.

A	90.0-100%
B	80.0-89.9%
C	70.0-79.9%
D	60.0-69.9%
F	59.9% and below

Grading Allotment:

25% Homework Sets/Reflections

10% Quizzes

35% Non-Midterm/Final Exams

10% Midterm Exam (End of fall semester)

20% Comprehensive Final Exam (End of spring semester)

Attendance Policy:

- If you miss class, it is **your** responsibility to come to me to ask for make-up work
- Make up work for **excused** absence: You will have one additional day to turn in work per excused absence. For example if you are sick with an excused absence for 3 days, you will have 3 additional days after original due date to turn in work for full credit. Work will be considered late after that point.
- Make up work for **unexcused** absence: Work will still be due on original day and will be considered late if turned in after original due date.
- You will be considered tardy if you enter the classroom after I have taken roll. Roll is taken at the very beginning of class.
- If you are counted absent but were actually just tardy (by less than 15 minutes), it is your responsibility to let me know by the end of the next school day.
- If tardiness becomes habitual, expect that you may be assigned a 30-minute detention after school.
- If you are more than 15 minutes late to class, you will be marked absent (rather than tardy) in infinite campus.

*For long term assignments, extensions for absences may not be given.

Class Assignments:

Warm-ups:

It is expected that as soon as the bell rings, you will be in your seat beginning to work on the warm-up problem posted on the board. Expect that you may be asked to share your work to the class, so ask questions if you have them!

Homework/Reflections:

Homework will be assigned regularly. The homework assignments may come in the form of online homework (WeBWork) which is typically due Sunday nights and Wednesday nights, textbook problems, packets, or worksheets. The number of points possible for each homework assignment will be determined based on the length and difficulty of the assignment. Please use pencil on any written homework assignments.

In-class and/or at-home reflections will be given throughout the semester. The purpose of reflections is for students to be able to voice their opinions and concerns and to reflect a depth of understanding without having to do so in front of the class.

Late WeBWork: If you fail to complete a WeBWork assignment in the designated time period that it is open, you will have an opportunity to get some points back. This applies whether you got a 0% or a 90% on the assignment. You must come to CAT and ask me to reopen the specific WeBWork assignment for you, I will reopen for a brief period that you can work on it, and you may receive up to 50% of the points back that you missed from the first due date.

Quizzes/Reflections:

In-class quizzes will be given regularly and may or may not be announced in advance.

Exams:

There will be multiple in-class exams given throughout the semester. All non-midterm/final exams will be included in 35% of the course grade. At the end of fall semester, there will be a comprehensive (for semester 1) exam worth 10% of the final course grade. At the end of the year, there will be a comprehensive (for both semesters) final exam worth 20% of the course grade.

In order to be eligible for a test retake, you must fill out a Test Retake Form and submit it to me at least one day before your test retake. For each question you are allowed to retake, you may receive up to 50% of the points you missed on the original exam. Retakes are not offered for quizzes or finals.

Portable Electronic Devices:

Cell phone use is not allowed **unless given permission by me first**. Cell phones will be taken for the remainder of class period if used OR seen without permission. If cell phone use becomes problematic, phone will be taken and given to Mr. Kaufman.

Core Academic Tutoring (CAT):

-Math CAT is on **Tuesdays** after school from 3:10-4:00.

-You will be assigned to CAT if you have a low grade and/or have missing assignments and/or Mrs. Duncan feels that you could greatly benefit from it.

-At the beginning of each week, names of students who are assigned to math CAT for the week will be posted in the classroom. If you have been assigned to CAT, you are expected to attend.

-If you are assigned to CAT and do not attend, administration will be notified. If you continually do not attend, you will most likely be assigned to Saturday school.

-You may attend CAT without being assigned if you want extra help on assignments or concepts taught in class.

Eligibility:

Eligibility will be posted by Monday morning at the latest. Any work turned in after Friday afternoon will not be counted toward the next week's eligibility requirements. This is non-negotiable.

Homework Help Resources:

1. Me! I will be available to help you for about 30 minutes before/after school most days, during math CAT, and other times if you need (come see me to schedule other times).
2. Piazza-this is a class forum where you can ask me or your classmates questions that you have on the homework.
3. The internet- there are many sites that you may find helpful if you are struggling with a concept. Some of these sites include khanacademy.org, purplemath.com, and Paul's online notes.

Honor Code

All members of the University of Northern Colorado community are entrusted with the responsibility to uphold and promote five fundamental values: Honesty, Trust, Respect, Fairness, and Responsibility. These core elements foster an atmosphere, inside and outside of the classroom, which serves as a foundation and guides the UNC community's academic, professional, and personal growth. Endorsement of these core elements by students, faculty, staff, administration, and trustees strengthens the integrity and value of our academic climate.

Academic Conduct: UNC's Policies

UNC's policies and recommendations for academic misconduct will be followed. For additional information, please see the Dean of Student's website, <http://www.unco.edu/dean-of-students/>.

Students with disabilities

Any student requesting disability accommodation for this class must inform the instructor giving appropriate notice. Students are encouraged to contact the Eaton High School counseling office to certify documentation of disability and to ensure appropriate accommodations are implemented in a timely manner.

*Liberal Arts Core & Colorado gtPathways

This course satisfies 4 credits of Area 2. (Mathematics) of the UNC Liberal Arts Core. This course has been approved by the Colorado Commission on Higher Education for inclusion in the Colorado Guaranteed Transfer Program, gtP. gtP courses automatically transfer to any public institution in Colorado and will continue to count toward general education or other graduation requirements for any liberal arts or science associate or bachelor's degree program IF a grade of C- or higher is recorded. Statewide articulation agreements prescribe specific general education and degree requirements in the following professional degree programs: business, early childhood, elementary education, engineering and nursing. Most other courses not approved for the gtP designation will also be accepted in transfer by other institutions but may not fulfill general education or degree requirements. For more information on the GT Pathways program, go to <http://highereducation.colorado.gov/academics/transfers/gtpathways/curriculum.html>".

Students who successfully complete the Area 2 Liberal Arts Core requirement in mathematics will have developed an understanding of fundamental mathematical concepts and their applications, will have developed their quantitative problem-solving skills, and will have developed a level of quantitative literacy that provides a foundation for success in their programs of study, careers, and citizenship.

Specifically, they will be able to:

- a) Demonstrate good problem-solving habits, including:
 - a. estimating solutions and recognizing unreasonable results
 - b. considering a variety of approaches to a given problem, and selecting one that is appropriate
 - c. interpreting solutions correctly
- b) Generate and interpret symbolic, graphical, numerical, and verbal (written or oral) representations of mathematical ideas
- c) Communicate mathematical ideas in written and/or oral form using appropriate mathematical language, notation, and style
- d) Apply mathematical concepts, procedures, and techniques appropriate to the course
- e) Recognize and apply patterns or mathematical structure
- f) Utilize and integrate appropriate technology
- g) Demonstrate competency in Quantitative Literacy by being able to:
 - 1) Interpret Information
 - a. Explain information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words).
 - 2) Represent Information
 - a. Convert information into and between various mathematical forms (e.g., equations, graphs, diagrams, tables, words).
 - 3) Perform Calculations
 - a. Solve problems or equations at the appropriate course level.
 - b. Use appropriate mathematical notation.
 - c. Solve a variety of different problem types that involve a multi-step solution and address the validity of the results.
 - 4) Apply and Analyze Information
 - a. Make use of graphical objects (such as graphs of equations in two or three variables, histograms, scatterplots of bivariate data, geometrical figures, etc.) to supplement a solution to a typical problem at the appropriate level.
 - b. Formulate, organize, and articulate solutions to theoretical and application problems at the appropriate course level.

- c. Make judgments based on mathematical analysis appropriate to the course level.
- 5) Communicate Using Mathematical Forms
- a. Express mathematical analysis symbolically, graphically, and in written language that clarifies/justifies/summarizes reasoning (may also include oral communication).

Students will be assessed on the content and competency criteria through a combination of tests, quizzes and homework assignments.

Dropping or Withdrawing from a UNC Dual Enrollment Course:

Note: Drop and withdrawal dates for the courses at your school can be found on your [dual enrollment page for your high school](#).

Please use the [Dual Enrollment Drop & Withdrawal Form](#).

- You can drop your course up until the designated Drop Deadline. The course will be removed from your transcript and you will receive a full tuition refund.
- After the Drop Deadline and up until the Withdrawal Deadline you can withdraw from your course. The course will remain on your transcript with a grade of “W” (this does not impact your GPA), and there is no tuition refund.
- After the withdrawal deadline you are unable to be removed from the course. The course will remain on your transcript with the grade that you have earned, and there is no tuition refund.
- If you stop attending the course but fail to officially withdraw from the course(s), you will be responsible for full tuition and fees and the course grade will remain on your transcript.

Course Outline

- 1) Functions
 - a) Input and Output
 - b) Domain and Range
 - c) Function Notation
- 2) Linear Functions
 - a) Family of Linear functions
 - b) Rate of change
- 3) Exponential Functions
 - a) Family of Exponential Functions
 - b) Comparing Exponential and Linear Functions
 - c) Applications of Compound Interest
 - d) The number e
- 4) Logarithmic Functions
 - a) Logarithms and their Properties
 - b) Logarithmic Functions and its Applications
- 5) Quadratic Functions
 - a) Family of quadratic functions
 - b) Vertex of a parabola
- 6) Polynomial and Rational Functions
 - a) Power Functions
 - b) Polynomial Functions
 - c) Short-run behavior of Polynomials
 - d) Rational Functions
 - e) Short-run behavior of Rational Functions
- 7) Transformations of functions
 - a) Shifts, Reflections and Symmetry
 - b) Vertical Stretches and Compressions
 - c) Horizontal Stretches
- 8) Composition, Inverse and Combinations of Functions