



UNIVERSITY OF NORTHERN COLORADO

Extended Campus

College of Natural & Health Sciences
School of Mathematical Sciences



UNC Dual Enrollment with Valley High School

MATH 120-657: Mathematics & Liberal Arts (3 credits; gtP*)
Fall 2020 & Spring 2021

Instructor: Mr. Alex Krysl

Email: krysla@wcsdrel.org

GOOGLE CLASSROOM CODE:

Room 144 (12²)

Phone: 970-350-4289 ext 4235

Availability for Help:

•You can and will succeed in this course!

- PLEASE ASK FOR HELP WHEN YOU NEED IT! THIS IS CRITICAL!

•During online learning, my office hours are held from 1:00-3:00 every weekday on the following link.

•If we are in school am available to help you at the following times:

- Most days from 7:15-8:00 and 3:35-4:00 (please just let me know if you plan to come in at these times).
- If you need help outside of the times listed above, please make arrangements with me ahead of time.

Course Description:

Learn about several topics in mathematics through intuitive presentation to help those who want to know more about mathematics. Not open to mathematics majors and minors.

•NOTE: This is a Dual-Enrollment course offered with University of Northern Colorado. As such, you are expected to meet all of the requirements and expectations set forth by the mathematics department at University of Northern Colorado.

Prerequisites for UNC Dual Enrollment:

- Junior or Senior status
- 3.0 cumulative GPA
- Grade of “C” or better in Algebra. 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

Textbook:

Bennett, J. Briggs, W. (2015). *Using & Understanding Mathematics: A Quantitative Reasoning Approach*, 6th ed. Boston: Pearson.

Replacement Cost: \$125

Materials:

- Paper for completing assignments (both in-class assignments, and homework assignments)
- Pencil and highlighter
- 1” 3-ring binder or spiral notebook
- A graphing calculator is highly recommended (TI-84 or TI-Nspire preferred; TI-89s or other CAS not allowed)
 - If you cannot get a graphing calculator, then you must get a scientific calculator for class
 - Calculators on cell phones, computers, or tablets are not appropriate for the classroom.

Grading:

The grading scale for the course is as follows (to receive college credit, you must have a C or higher):

A: 90-100% B: 80-89% C: 70-79% D: 60-69% F: Below 60%

Your grade for the course consists of four parts:

15% Homework & daily work

30% Quizzes

55% Tests & projects

Course Requirements:

HOMEWORK:

Homework will be assigned on a daily basis and collected at the **beginning** of the **next class**.

- **NO LATE** homework is accepted!

Homework assignments will be worth 10 points each.

- To get the full 10 points, you must **complete** the assignment on time, follow the format specified below, **show your work**, and highlight your answers.
 - If you do not complete the assignment, you will score between 0 and 9 points, as determined by the teacher.
 - **If you do not attempt any problems on the assignment, you will receive 0 points!**

NO CREDIT will be given for assignments with answers only!

- If you do not understand a problem, then write a specific question for that problem on your homework page.

Format for homework assignments:

- Put a heading in the upper right-hand corner of the paper. This should include your **full name, the date, the period, and the assignment** (page number and problems).
- Divide your paper in two columns (to fit more on each page).
- Work the problems vertically down the paper. Put only one step of a problem on each line.
- Show all your work and highlight your answers.

If you are absent, you have **one week from the date of the assignment** to turn in the assignments that you missed.

- After this time, no credit will be given for make-up homework!
- You can get homework assignments from Google Classroom or the homework board in my room.

- If you missed any worksheets or handouts, those will be in the folders on the brown desk at the back of my room.

QUIZZES:

Quizzes will be both announced and unannounced and will cover small sections of a chapter/unit.

Students will not be allowed to use notes of any kind during tests, unless otherwise specified.

Students will turn in their cell phones before taking any quiz.

- Phones will be returned once all students in class have finished the quiz.

Students are expected to take quizzes during class time, unless you were absent the class immediately before the quiz.

- If the quiz does not cover information from the previous class, then students who were absent the previous class are also expected to take the quiz.

Quizzes must be completed within the time of class, unless otherwise specified.

- Some quizzes may have a shorter time limit.

Once you have a quiz in your hand, you must complete it—you may not return to finish it later.

- This includes quizzes taken both during class and outside of class time!

If you are absent, you will take the test during the next class you are in attendance.

- You will then be responsible for making up any work during the time that you are taking the test.

There will be **NO** retakes on quizzes, unless otherwise specified.

TESTS

Tests will be announced at least one week in advance and will cover a chapter or unit.

Students will not be allowed to use notes of any kind during tests, unless otherwise specified.

Students will turn in their cell phones before taking any test.

- Phones will be returned once all students in class have finished the test.

Students are expected to take tests during class time, unless they were absent the class immediately before the test.

Tests must be completed within the time of class, unless otherwise specified.

Once you have a test in your hand, you must complete it—you may not return to finish it later.

- This includes tests taken both during class and outside of class time!

If you are absent, you will take the test during the next class you are in attendance.

- You will then be responsible for making up any work during the time that you are taking the test.

There will be **NO** retakes or corrections on tests.

PROJECTS:

One or more major projects may be assigned each semester.

Projects must be turned in on **OR BEFORE** the specified deadline, regardless of absences.

- Projects are due at the start of class on the specified deadline; anything after this is considered “late.”
- **Late projects will be docked 10% for each day past the deadline!**

Each project will be counted equivalent to one test grade.

FINAL EXAM:

There will be a cumulative final exam at the end of each semester.

There are **NO** retakes, corrections, or exemptions for the final exam.

MAKE-UP WORK:

When you miss a class, **it is your responsibility to get notes from the class that you missed.**

- You may request notes from another student in class.
- You may request an electronic copy of the notes from me via e-mail.

It is your responsibility to get make-up work from me (outside of class time) when you are absent.

- You can request your make-up work in person before/after school.
- You can request your make-up work via e-mail.

REMEMBER—it is your responsibility to check if you have missed quizzes!

EXTRA CREDIT:

None

PROGRESS REPORTS:

I will update your grades in the computer at least once a week.

There are several ways that you or your parents can check your progress—IC, blue sheet, get a print-out from me, etc.

TARDIES:

Students who do not enter class **before** the bell are considered tardy.

Consequences for tardiness:

- First tardy: Warning.
- Second tardy: Parent notification.
- Third and Fourth tardy: 15-minute detention after school.
- For students who demonstrate habitual tardiness, administrative action may be taken.

LEAVING THE ROOM:

When you leave the class, you are missing out on information that you will need for your assignment. Please make sure to use the bathroom, get a drink, grab your materials, etc. during the passing period.

If you need to leave the room, please make sure you get the okay from me first. You should go to and return directly from your destination. No wandering. If you are wandering, your privilege of leaving the classroom will be revoked.

You may not leave the class in the first or last five minutes of class. Don't ask!

IN THE CLASSROOM:

You are expected to attend class every day, unless you are sick or have extenuating circumstances.

- Remember, it is often extremely difficult to learn the material if you are not in class!

The Valley High School Dress code will be strictly enforced!

Laptops are to enhance your learning during school time, not to entertain you.

- In this class, they should only be out if I have instructed you to get them out.
- When using your laptop, stay on task. You should only have to open the programs/websites we are using in class!

You may bring **water** to class as long as it does not interfere with learning and everyone cleans up after himself or herself.

- Remember, this is a privilege that can be revoked!

NO FOOD (including candy and gum) is allowed in the classroom.

CELLPHONE POLICY

These devices are can be disruptive to the educational process. **These items shall not be used during class time unless approved and supervised by the teacher.** Devices used during class time, will be confiscated.

- 1st violation: Taken by teacher and given back at the end of the class period. Parents notified.
- 2nd violation: Taken by teacher and given to the office to be returned at the end of the day. Parents notified.
- 3rd + violation: Given to the office with the recommendation of detention.

BEHAVIOR GUIDELINES & RESPONSIBILITIES

It is my responsibility to teach you and provide you with the best atmosphere in which to learn. The following guidelines will help us all to make this happen:

- The rules and guidelines of the school are the governing rules in this classroom. No exceptions.
- It is your responsibility to come to class **prepared** and **ready to learn** every day!
 - This means you need to **bring all your materials** with you every day, have any **homework** completed, and be **ready to work and pay attention.**
- Disruptive behavior will not be tolerated!
- Respect one another. This means no name-calling, harassment, profanity etc.
- Keep the classroom clean.

School is a lot of work! Your success in this class is largely up to you! If you do your work, you will succeed. If you choose not to work, you alone are responsible for the grade that you **earn!**

STUDENTS WITH DISABILITIES:

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

CHANGES:

The instructor reserves the right to amend, adjust, or otherwise modify the outline and syllabus at any time during the course. Changes will be announced in class and posted online on Google Classroom. The new syllabus will be available under the 'Syllabus' link, and I will post an announcement on Google Classroom to make everyone aware of the changes.

Additional Information for UNC Dual-Enrollment Course

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

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.

Guaranteed Transferability:

This course has been approved by the Colorado Commission on Higher Education (CCHE) for inclusion in the Colorado Guaranteed Transfer Program, gtP. These courses will automatically transfer to any Colorado public institution and continue to count toward general education or other graduation requirements for any liberal arts or science associate or bachelor's degree program, if you receive a grade of 'C-' or better. 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 of the other courses, not approved for the gtP designation, will also be accepted in transfer by other institutions, but they may not fulfill general education or degree requirements.

Dropping or Withdrawing from a UNC Dual Credit Course

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

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.

LAC Area 2/ GtPathways content and competency criteria

“The Colorado Commission on Higher Education has approved Math 120 for inclusion in the Guaranteed Transfer (GT) Pathways program in the Area 2 category. For transferring students, successful completion with a minimum C– grade guarantees transfer and application of credit in this GT Pathways category. For more information on the GT Pathways program, go to

<http://highered.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, students will be able to:

- A. Demonstrate good problem-solving habits, including:
 - estimating solutions and recognizing unreasonable results
 - considering a variety of approaches to a given problem, and selecting one that is appropriate
 - 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.

COURSE OUTLINE

- A. Logic and Problem-Solving**
 - i. Fallacies**
 - ii. Proposition and Truth Values**
 - iii. Sets and Venn Diagrams**
 - iv. Analyzing Arguments**
 - v. Critical Thinking in Everyday Life**
- B. Approaches to Problem Solving**
 - i. Working with Units (Conversions)**
 - ii. Problem Solving with Units**
 - iii. Problem-Solving Guidelines and Hints**
- C. Numbers in the Real World**
 - i. Uses and Abuses of Percentages**
 - ii. Scientific Notation**
 - iii. Dealing with Uncertainty**
 - iv. Index Numbers**
- D. Finance**
 - i. Power of Compounding**
 - ii. Annuities**
 - iii. Loans**
 - iv. Income Taxes**
 - v. Federal Budget**
- E. Statistics and Probability**
 - i. Statistical Study Design**
 - ii. Descriptive Statistics, Tables, and Graphs**
 - iii. Correlation and Causality**
- F. Statistics**
 - i. Characterizing Data**
 - ii. Measures of Variation**
 - iii. Normal Distribution**
 - iv. Statistical Inference**