RIVERLAND Community College

Hayfield High School

COLLEGE ALGEBRA COURSE SYLLABUS

COURSE TITLE: College Algebra **CREDITS:** 3

DEPT: Math **NO:** 1110

INSTRUCTOR: Inga Dudley **OFFICE:** Room 11

PHONE: (507)–671-1568 **E-MAIL:** idudley@hayfield.k12.mn.us

TEXTBOOK:

Precalculus with Limits: A Graphing Approach Fourth (5th) Edition

By Ron Larson, Bruce H. Edwards, Robert Hostetler

- **Hardcover:** 1083 pages
- **Publisher:** Houghton Mifflin Company; 5th edition (February 5, 2004)
- **Language:** English
- **ISBN-13:** 978-0618851522

COURSE DESCRIPTION:

This course covers the basics of college level algebra emphasizing understanding of the basic principles through investigation. The topics covered range from a basic algebra review to exploration of linear, quadratic, exponential, and logarithmic functions along with a study of rational expressions, inverse relations, function operations, complex numbers, and systems of equations. (3 Credits - 3 lecture, 0 lab).

SUPPLIES NEEDED:

- Notebook (Only used for Math)
- Pencils
- A scientific or graphing calculator
  - Cell phone calculators will NOT be allowed!
- Computer
  - We will be using DESMOS in class on the laptop.

COURSE TOPICS:

- Review of basic algebra
  - Integer and rational exponents
  - Radical notation
  - Factoring polynomial and fractional expressions
  - Mathematical models
- Review of equations and inequalities
  - Linear equations
  - Quadratic formula
  - Quadratic equations
  - Linear and non-linear inequalities
- Introduction to functions
  - Graphs of equations and functions
  - Graphing using transformations
  - Function operations
  - Inverse functions
  - Mathematical modeling using regression
- Introduction to higher-order polynomial and rational functions
  - Quadratic functions

    - Polynomial division
    - Complex numbers
    - The fundamental theorem of algebra
    - Graphing rational functions
- Introduction to exponential and logarithmic functions
    - Exponential functions
    - Logarithmic functions
    - Mathematical models and regression
- Systems of equations and inequalities
    - Solving systems of equations of 3 variables
    - Graphing systems of inequalities

GOAL TYPES, OBJECTIVES, AND OUTCOMES:

GOAL	OBJECTIVES Students will be able to	OUTCOMES The student will successfully
MnTC Goal 4a	illustrate historical and contemporary applications of mathematical/logical systems.	apply the properties of real numbers along with the systematic properties of algebra in such fields as science, business, statistics, and personal decision making.
MnTC Goal 4c	explain what constitutes a valid mathematical/logical argument (proof).	use properties such as definitions, axioms, postulates, and theorems to generate equivalent equations until either the resulting equation provides a solution or until a contradiction is established.
MnTC Goal 4d	apply higher-order problem solving and/or modeling strategies.	use regression analysis, synthetic division, quadratic methods and/or graphing calculators to solve applied problems.
MnTC Goal 2a	gather factual information and apply it to a given problem in a manner that is relevant, clear, comprehensive, and conscious of possible bias in the information selected.	use graphs to make generalizations to assist in predicting the shape of other functions.
MnTC Goal 2b	imagine and seek out a variety of possible goals, assumptions, interpretations, or perspectives which can give alternative meanings or solutions to given situations or problems.	use more than one method to solve similar problems or share methods used to interpret and solve application problems with other students.
MnTC Goal 2c	analyze the logical connections among the facts, goals, and implicit assumptions relevant to a problem or claim; generate and evaluate implications that follow from them.	list the assumptions and limitations needed to accept a mathematical model.
CS	operate and reason within mathematical situations and contexts that are represented through algebraic equations and inequalities.	solve linear, quadratic, polynomial, radical, and rational equations and problems.
CS	demonstrate an understanding of the concepts of relations and functions through graphical representation.	- graph linear, quadratic, polynomial, radical, and rational equations. - interpret and analyze graphs.
CS	demonstrate mastery of a graphing calculator.	use a graphing calculator to graph, find regression equations, and solve problems.

COLLEGE WIDE LEARNING OUTCOMES:

MnTC Goal 4c

Mathematics/Logical Reasoning (MA)

MnTC Goal 2a

Critical Thinking (CT)

ASSESSMENTS:

80% Summative Assessment

Unit Assessments: On assessments, partial credit will be awarded for any work done correctly.

Semester Final: Partial credit will be awarded for any work done correctly.

20% Formative Assessment

*Quizzes: Q*uizzes will be given periodically each chapter to formally assess your progress and provide feedback to enhance learning.

Daily Homework: Daily assignments will be worth 2 completion points. Students will not receive any credit if no work is shown.

Skill Checks: Skill checks will be worth 5 points and will be given every Friday. They will cover any new material covered in class during the week. Students can redo any incorrect problem for full credit.

Notebook Checks: A notebook check will be completed at the end of each chapter. Students will be graded on completing the notes done in class every day. It is proven that students remember more when they write notes by hand!

Final Exam: The final exam will be worth 10% of the semester grade. It will cover all information taught during the semester.

Course requirements and schedule are subject to change at the instructor's discretion.

ATTENDANCE POLICY:

Attendance will follow the rules and guidelines established by Hayfield Community Schools, the Minnesota Department of Education, and the State of Minnesota.

GRADING:

Grading Criteria/Course Evaluation:

100-94%	A
93-90%	A-
89-87%	B+
86-84%	B
83-80%	B-
79-77%	C+
76-74%	C
73-70%	C-
69-67%	D+
66-64%	D
63-60%	D-

On assessments:

- Partial credit will be given for all attempted problems. Amount of partial credit will be determined by the amount completed correctly.
- Minimum score of 50% will be awarded if minimum requirement is met.

- All problems must be completed to the best of the student's ability.

ADDITIONAL COURSE INFORMATION:

Extra Help:

Students are encouraged to come in for extra help during my planning period (1st Hour). I plan to be in my room by 7:30 daily to assist students, but I will also need a few minutes of that time to get things ready for the day's lessons. Please come and visit if you are having any problems. If these times don't work well, please feel free to ask other math teachers, consult the internet, or set up an appointment with me if you have questions.

Student Requirements:

1. Be on time to class.
2. Come to class prepared with all required materials.
3. During class discussion, respect your peers and teacher by listening while others are talking. Please raise your hand to speak when appropriate.
4. Be a responsible student and a positive participant in class.
5. Respect your classmates and give them your attention because they probably have the same questions as you.

   Making up Work
   - It is the student's responsibility to check for missed assignments/quizzes/tests.
   - Quizzes/Tests must be made up within one week.
   - Homework must be made up before the unit is completed.
   - Please consult Hawkes or Moodle to find out what you missed

ADA Statement:

If you have a disability and need accommodations to participate in this course, please contact your instructor as soon as possible. Upon request, course resources will be made available in alternative formats such as braille, large print, or audio by calling 507-433-0600 (TDD 800-627-3529).
Students who have a disability, which might affect their performance in class, are asked to notify the instructor within FIVE days of beginning of the semester if appropriate accommodations are to be made.

Academic Integrity Statement:

Academic integrity is essential to a positive teaching and learning environment. In addition to Hayfield Community Schools District Policy 506, students enrolled in a CollegeNow course are expected to complete course work responsibilities with fairness and honesty. Failure to do so by seeking unfair advantage over others or misrepresenting someone else's work as their own will result in disciplinary action. The Student Code of Conduct defines Cheating: Includes, but is not limited to: (1) use of any unauthorized assistance in taking quizzes, tests, assessments, or examinations; (2) use of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; (3) the acquisition, without permission, of tests or other academic material belonging to a member of the faculty or staff; (4) engaging in any behavior specifically prohibited by a faculty member in the course syllabus or class discussion. Plagiarism: Includes, but is not limited to, the use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgment. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of terms papers or other academic materials. For the complete Student Code of Conduct, visit
http://www.riverland.edu/policies/Student-CodeConduct.cfm

Affirmative Action Statement:

Riverland Community College is an equal opportunity employer and educator.
http://www.riverland.edu/policy/Equal-Opportunity-Nondiscrimination-Policy-1000.pdf

Emergency Procedures:

Contact the Hayfield High School office and/or email your instructor: idudley@hayfield.k12.mn.u

Veterans Policy

Riverland is dedicated to assisting veterans and eligible family members in achieving their educational goals efficiently. Active duty and reserve/guard military members should advise their instructor of all regularly scheduled military appointments and duties that conflict with schedule course requirements. Instructs will make every effort to work with the student to identify adjusted timelines. If you are a veteran, please contact the Veterans Services Office.

School Closure:

In the case of possible school closure, please refer to JMC Messenger for weather-related notices, emergencies, and other important announcements

ACADEMIC OR OTHER DIFFICULTIES:

If at any time during the semester you are having academic difficulties or are thinking about withdrawing from the course, please contact the instructor immediately. If you are having personal difficulties or problems preventing you from being successful, contact the Hayfield Schools Counselors or Riverland counselors by email at counselors@riverland.edu or call 1-507-433-0600 to schedule a counseling appointment.