RIVERLAND
Community College

MATH 1110 College Algebra
Fall 2019

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1st Period

Introduction:

This course is a Riverland Community College course taught concurrently with your Hayfield High School class. You will earn college credits and your grade help build your college transcript. You will also be earning high school credit and grade concurrently.

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).

*MnTC Discipline: Mathematical/Logical Reasoning **Core Theme: Critical Thinking

Required Texts/Materials/Supplies:

Precalculus with Limits: A Graphing Approach Fourth (4th) Edition
By Ron Larson, Bruce H. Edwards, Robert Hostetler

- **Hardcover:** 1083 pages
- **Publisher:** Houghton Mifflin Company; 5th edition (February 5, 2004)
- **Language:** English
- **ISBN-10:** 0618851526
- **ISBN-13:** 978-0618851522

Additional Supplemental Materials provided

Graphing Calculator Application - Desmos

College-Wide Learning Outcomes:

Quantitative Reasoning

- Students can reason and solve quantitative problems from a wide array of authentic contexts and everyday life situations.
- Students can understand, analyze, create, and communicate arguments supported by quantitative evidence.
- Students can understand and apply basic analytic-mathematical operations into make logical inferences from quantitative data.

Course-Specific Learning Outcomes:

Upon successful completion of MATH 1110, students will demonstrate knowledge of:

1. Demonstrate knowledge of the concepts of function, relation, and graphs
2. Demonstrate skill with manipulative algebra and the basic properties of elementary polynomial, rational, exponential, and logarithmic functions
3. Demonstrate skill in translating problems to relevant prose, graphical, diagrammatic, or algebraic form
4. Analyze the graph of a function statement using principles of reflection, symmetry, and translation
5. Demonstrate the ability to solve polynomial equations of degree greater than 2, rational equations, exponential equations, and logarithmic equations
6. Interpret mathematical models such as formulas, graphs, tables and schematics, and draw inferences from them
7. Demonstrate the ability to solve a system of equations using elimination and augmented matrices
8. Apply arithmetic, algebraic, geometric, and higher-order thinking skills to model and solve real-world problems

Course Purpose/Objectives (MN Transfer Curriculum/General Education Goal Area):

GOAL	OBJECTIVES Students will be able to	OUTCOMES The student will successfully
MnTC Goal 4a	illustrate historical and contemporary applications of mathematical/logical systems.	1. 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).	1. 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. 2. use the process to analyze a similar mathematical situation to determine if outcomes are valid or invalid.
MnTC Goal 4d	apply higher-order problem solving and/or modeling strategies.	1. use model strategies 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.	1. 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.	1. 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.	1. list the assumptions and limitations needed to accept a mathematical model
CS	solve linear, quadratic, polynomial, radical, and rational equations and problems.	1. demonstrate mastery of solving equations.
CS	graph linear, quadratic, polynomial, radical, and rational equations.	1. demonstrate mastery of graphing by performance on homework, tests, and small group exercises.
CS	interpret and analyze graphs.	1. demonstrate mastery of graph evaluation.
CS	use a graphing calculator to graph, find regression equations, and solve problems.	1. demonstrate mastery of a graphing calculator.

Grading Criteria/Course Evaluation:

100-94%	**A**	**83-80%**	**B-**	**69-67%**	**D+**
93-90%	**A-**	**79-77%**	**C+**	**66-64%**	**D**
89-87%	**B+**	**76-74%**	**C**	**63-60%**	**D-**
86-84%	**B**	**73-70%**	**C-**	**59-0%**	**F**

90% Summative Assessment

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

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

Projects: Projects will be completed periodically.

10% Formative Assessment

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

Homework: Homework will be given nightly and **due** the next class period. Homework for the chapter will approximately be the value of a quiz.

- You will receive a total of 2 points credit if:
  - You legitimately attempt **every** problem – *1 Point*
  - You show legitimate effort and show all work in pencil - *1 Point*

- You will **not** receive credit if:
  - Problems are left out, work not shown, little or no effort

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 the Moodle to find out what you missed

Extra Help:

Students are encouraged to come in for extra help during my planning period, 4th. 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.

ADA Statement:

Upon request, this information will be made available in alternative formats such as braille, large print, or audio by calling 507-433-0600 (TDD 800-627-3529).

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 RivCEP 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: jsnider@hayfield.k12.mn.us

If you have a disability and need accommodations to participate in this course, please contact your instructor as soon as possible. Course requirements and schedule are subject to change at the instructor's discretion.