

EASTERN WYOMING COLLEGE
Mathematics Department
Course Outline
Fall, 2013

Mathematics 1400-40: Pre-Calculus Algebra

Credit Hours: 4 semester hours
Time & Location: Internet

Instructor Information:

Instructor: Bob Creagar
Office Location: Faculty Office Link, Room 108
Office Phone: 1-800-658-3195 ext. 8298
532-8298
E-Mail: bob.creagar@ewc.wy.edu

Catalog Description:

Algebraic equations and inequalities are studied as well as the following functions: polynomial, rational, exponential, and logarithmic. Emphasis is placed on graphing relations and functions.

PREREQUISITE: MATH 0930 with a grade of C or better, or appropriate score on mathematics placement exam.

Rationale:

This course is offered to meet requirements for several programs at Eastern Wyoming College; it also fulfills a QA requirement at the University of Wyoming.

Resources:

Before purchasing your textbook, please read the following purchasing options.

1. *College Algebra: Graphs & Models*, Fifth Edition, bundled with MYMathLab Student Access Kit
Author Bittinger, Beecher, Ellenbogen, Penna Publisher Addison Wesley Longman, Inc., 2013 ISBN 978-0-321-78395-0
MyMath Lab Student Access Kit: 0-321-19991-X
2. MathLab only (Can be purchased either through the EWC bookstore or online.) ISBN: 032119991X

Course Objectives:

At the conclusion of this course the student should be able to:

1. Simplify all types of algebraic expressions.
2. Solve linear and quadratic equations and inequalities.
3. Solve pre-calculus algebra word problems.
4. Graph various functions from equations, including linear, quadratic, rational, absolute value, step, radical, and piece-wise functions
5. Perform operations with exponential and logarithmic functions, including those with base e ; use the properties of logarithms to simplify expressions; solve exponential and logarithmic equations.
6. Factor polynomials.
7. Use a graphing calculator as an aid in the above.

Course Content:

Review Chapter: Basic Concepts of Algebra

R.1 The Real-Number System

R.2 Integer Exponents, Scientific Notation, and Order of Operation

R.3 Addition, Subtraction, and Multiplication of Polynomials

R.4 Factoring

R.5 The Basics of Equation Solving

R.6 Rational Expressions

R.7 Radical Notation and Rational Exponents

Chapter 1: Graphs, Functions, and Models

1.1 Introduction to Graphing

1.2 Functions and Graphs

1.3 Linear Functions, Slope, and Applications

1.4 Equations of Lines and Modeling

1.5 Linear Equations, Functions, Zeros, and Applications

1.6 Solving Linear Inequalities

Chapter 2: More on Functions

2.1 Increasing, Decreasing, and Piecewise Functions; Applications

2.2 The Algebra of Functions

2.3 The Composition of Functions

2.4 Symmetry

2.5 Transformations

Chapter 3: Quadratic Functions and Equations; Inequalities

- 3.1 The complex Numbers
- 3.2 Quadratic Equations, Functions, Zeros, and Models
- 3.3 Analyzing Graphs of Quadratic Functions
- 3.4 Solving Rational Equations and Radical Equations
- 3.5 Solving Equations and Inequalities with Absolute Value

Chapter 4: Polynomial and Rational Functions

- 4.1 Polynomial Functions and Modeling
- 4.2 Graphing Polynomial Functions
- 4.3 Polynomial Division; The Remainder and Factor Theorems
- 4.4 Rational Functions
- 4.5 Polynomial and Rational Inequalities

Chapter 5: Exponential and Logarithmic Functions

- 5.1 Inverse Functions
- 5.2 Exponential Functions and Graphs
- 5.3 Logarithmic Functions and Graphs
- 5.4 Properties of Logarithmic Functions
- 5.5 Solving Exponential and Logarithmic

Tentative Test Dates:

Review Chapter Test	Tuesday, September 17
Chapter 1 Test	Wednesday, October 2
Chapter 2 Test	Wednesday, October 16
Chapter 3 Test	Monday, November 4
Chapter 4 Test	Thursday, November 21
Chapter 5 Test	Tuesday, December 10

The final is scheduled for Thursday, December 12, 2013, from 10:00 - 11:45 a.m. Finals must be taken at this time. Please make appropriate travel arrangements.

Attendance:

A student at Eastern Wyoming College is expected to attend all sessions of each course in which he/she is enrolled. Active participation in all scheduled learning activities is essential for the student to satisfactorily achieve the educational objectives of any course. An instructor is authorized to withdraw a student from a course whenever:

- a) the student's absences in the course exceed 20% (twenty percent) of the scheduled sessions for the semester, or
- b) the student has been absent 6 (six) consecutive class hours in the course, or
- c) the student has not completed 20% (twenty percent) of the assigned learning activities.

A student who is withdrawn from a course on or before the school's official last day to drop classes will receive a grade of W (Withdrawal) for the course. A student who is withdrawn after the official last day to drop classes will receive either a grade of F (Failure), a grade of IW (Institutional Withdrawal), or a grade of W (Withdrawal) for the course. (Eastern Wyoming College Catalog, page 44)

STUDENTS WILL NOT BE WITHDRAWN FROM CLASS BY THE INSTRUCTOR AFTER THE DROP DEADLINE.

Course Expectations**Evaluation Criteria**

All written homework, CourseCompass homework, and tests may be taken earlier than the due date. Homework will be graded and returned as it is received. However, tests will not be graded and returned until after all tests have been received.

Weekly Discussion (70 points total)

Each student is required to make a non-trivial posting (at least once a week beginning September 3) such as a question from the homework, a solution to a classmate's inquiry, or a math related topic. This will be worth 5 points per week.

Be sure to read the Online Etiquette section in the "Get Started" materials. The instructors reserve the right to delete posts which they believe are inappropriate.

CourseCompass Homework (264 total points)

CourseCompass can be accessed through the installation of the MyMathLab Student Access Kit. The electronic homework assignments on CourseCompass will provide practice problems to help you understand the major concepts for the course. Each problem is worth ½ point. Check the calendar for due dates.

Written Homework (325 total points)

There will be eleven (11) homework assignments. Due dates are posted on LancerNet under the calendar file which provides a suggested pace for the course. Homework assignments must be submitted on or before the due date. Homework will not be accepted late. Each problem is worth 1 point.

FORMAT FOR WRITTEN HOMEWORK:

1. Use Homework Coversheet.
2. Copy the problem (except for story problems), then work it step by step. Work must be done in a neat and orderly manner with the answer "boxed in."
3. Work problems in a vertical manner.
4. Graphs must be done on graph paper. (Graph paper may be downloaded from LancerNet under Shared Files.)
5. Homework may be submitted in one of the following ways: fax, U.S. mail, hand deliver, or scan and send as an e-mail attachment or submit on the assignment page. (If you are submitting your assignments electronically, please use pdf formatting. This is the easiest way to grade and return homework.)

Tests (750 total points)

There will be 6 chapter tests each worth 100 points and a final worth 150 points. Test must be administered by an approved proctor. The tests must be completed on or before the dates listed below. These dates can also be found on LancerNet under assignments and on the calendar.

Standards for Course Work

Participation A meaningful learning experience requires each person to have respect and consideration for others. It is not possible to provide an inclusive list of all disrespectful, disruptive behaviors. The mature college student will recognize the following as being unacceptable:

negatively challenging an instructor online (make an appointment to discuss conflicts privately or through e-mail)

use of disrespectful language in online discussions or e-mail

There will be 1409 total possible points for the course.

Work	Points available
5 Chapter Tests (each worth 100 points)	600
CourseCompass Homework	264
Written Homework (including Assignment 0)	325
Weekly Discussions	70
Final Exam	150
TOTAL	1409

Grades will be calculated based on the following percentages:

Letter Grade	Points
A	1268 < A < 1409
B	1127 < B < 1268
C	986 < C < 1126
D	845 < D < 985
F	below 844

Communication Skills: Graduates will be able to understand and communicate ideas and information in written and spoken English that reveals a mastery of terminology appropriate to their disciplines.

Analytical and Quantitative Reasoning: Graduates will be able to solve problems through critical thinking involving analytical and quantitative reasoning at a level appropriate to their disciplines.

Technology Skills: Graduates will be able to demonstrate competence using technology appropriate to their disciplines.

Social Awareness: Graduates will be able to demonstrate an awareness of the relationship between the individual and the world.

Information Literacy: Graduates will be able to locate, evaluate, and use information effectively.

Safety:

If you have a personal health problem or limitation of which I should be aware, please advise me of this personally, as soon as possible after the first class meeting.

American with Disabilities:

Eastern Wyoming College is committed to providing reasonable accommodations for “qualified individuals with disabilities.” If you are a person with a disability that qualifies under the Americans with Disabilities Act (ADA), please notify Debbie Oschner in the Student Success Office as soon as possible so that arrangements for accommodations may be made.

Disclaimer:

Information contained in this syllabus was to the best knowledge of the instructor, considered correct and complete when distributed for use at the beginning of the class. However, this syllabus should not be considered a contract between Eastern Wyoming College and the student. The instructor reserves the right, acting within the policies and procedures of E.W.C., to make changes in course content or instructional techniques without notice or obligation.