

**CUYAMACA COLLEGE**  
**“Learning for the Future”**  
**Fall, 2008**

**COURSE:**                   **Math 110 – Intermediate Algebra for Business, Mathematics, Science and Engineering** (5 units, 5 hours lecture 1 hour lab)

**Section 1449** – M-12:30-2:20 Rm F502 and 2:30-3:20 Rm L103,  
W- 12:30-3:20 Rm F502

**INSTRUCTOR:**             Jan Ford

**OFFICE & PHONE:**       F403   (619) 660-4250

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**OFFICE HOURS:**         M, W - 11:30-12:30, 3:30-4:00 in F403  
Also by appointment

**COURSE DESCRIPTION:**

Application of graphic, numeric, and analytic methods to model, interpret, and solve real world problems involving: linear, quadratic, rational, radical, exponential, and logarithmic functions; systems of linear and quadratic equations or inequalities; and absolute value equations or inequalities. Selection and application of appropriate graphing utility and/or computer program to interpret, model, and analyze a collection of data and/or application problems. Additional topics include conic sections and an introduction to matrices and determinants. Computational techniques developed in beginning algebra are prerequisite skills for this course. This course is appropriate for students with knowledge of beginning algebra or who have had at least two years of high school algebra but have not used it for several years. A student can earn a maximum of 5 units for taking MATH 103 and 110.

**PREREQUISITES:**

Pass (Credit - grade of “C” or better) in Math 90 or the equivalent.

## **COURSE PREREQUISITE SKILLS:**

Ability to:

1. Operate, simplify and manipulate: real numbers, polynomials, variables with integer exponents, and square roots of variables.
2. Solve: linear equations in one or two variables, linear inequalities, systems of linear equation in two variables, and quadratic equations.
3. Graph: points, lines, and linear inequalities.
4. Interpret numeric, analytic and graphical data and solve applications associated with linear relationships.

## **COURSE OBJECTIVES:**

Upon completion of the course, the student should be able to:

1. Analyze linear, quadratic, rational, radical, exponential and logarithmic functions from a graphic, numeric, and analytic perspective.
2. Analyze and solve linear and non-linear systems of equations and inequalities.
3. Use matrices and determinants to solve systems of two or three equations.
4. Analyze and solve applied problems using linear, quadratic, rational, radical, absolute value, exponential, and logarithmic equations.
5. Apply principles of rational exponents.
6. Apply critical thinking and mathematical reasoning skills necessary in algebraic problem solving and related disciplines.
7. Observe, interpret, and analyze the behavior of graphs and statistical plots.
8. Articulate and analyze the connection between numerical, graphical, and verbal approaches to solving problems.
9. Recognize trends in a table of data.
10. Analyze functional relationships.
11. Extract and interpret information from the graph of a function.

## **COURSE MATERIALS:**

1. **TEXT: Intermediate Algebra** – Bittinger, Ellenbogen – **7<sup>th</sup> Edition**
2. Math 110 – Class Lecture Notes: These notes are required for the course and may be purchased in the bookstore.
3. **CALCULATOR:** A graphing calculator is required. The Mathematics Department highly recommends using Texas Instruments calculators. Several models exist – the TI83 Plus or TI84 Plus are recommended. The calculator you buy may depend on your major and the next math class(es) you plan to take. Check with your math instructor.
4. **SUPPLIES:** Notebook for class notes, graph paper, and folder for your homework.

### LEARNING RESOURCES:

1. The student solution guide is not required for this class, but some students find it very helpful. If you decide to buy one, be sure that you buy the one that goes with this course.
2. Software tutorial packages called MyMathLab will be available for your use in the Math Basic Skills Lab L103. This software program is also available on line.
3. Tutorial help is available in the Math Study Center - L104.
4. Instructor office hours held in F403.

### COURSE REQUIREMENTS:

1. **HOMEWORK:** Homework problems will be assigned from each section of the text covered in class. **The homework problems are to be kept in a notebook or folder and will be collected the day of each test. Each assignment should be neat with the first page labeled by the section number and the problems assigned from that section.** Failure to meet these requirements or to submit work late will result in points deducted from those designated for the assignment. Homework from previous chapters may not be submitted late once the test on that chapter has been returned to you.
2. **QUIZZES:** Class quizzes may be announced or unannounced and will cover specific homework problems or topics being discussed at the time. **There will be no make-up quizzes given.**
3. **ASIGNMENTS OTHER THAN HOMEWORK:** These assignments may include writing, research, and group work with more complex mathematical investigations. Points will be deducted if an assignment is handed in after the due date. No assignment will be accepted after the assignments have been returned.
4. **COMPUTER LAB ASSIGNMENTS:** Software lesson assignments will be made each week and are to be completed during the lab portion of the class.
5. **TESTS:** There will be 6 tests given throughout the semester. **The lowest exam score will be dropped before figuring grades provided that the student has missed no more than twice the number of lecture hours the class meets per week.** (For this class that would be 10 hours). A comprehensive final exam will be given at the end of the course and count as much as two test grades. The final exam is mandatory.
6. **GRADING SCALE:** Grades will be based on homework, quizzes, other assignments, computer lab assignments and class tests as shown below.

|                   |            | Grading Scale           |
|-------------------|------------|-------------------------|
| Homework          | 100        |                         |
| Quizzes &         | 100        |                         |
| Other Assignments |            | 90% of total points – A |
| Tests             | 500        | 80%-89% - B             |
| Computer Lab      | 100        | 70%-79% - C             |
| Final Exam        | <u>200</u> | 60%-69% - D             |
| Total             | 1000       | Below 60% - F           |

To receive a Pass grade in M110 the student must have accumulated a minimum of 70% of the total possible points. If any changes are made to the total number of points for the course, they will be discussed in class before they are finalized.

### **ACADEMIC ACCOMMODATIONS:**

Academic accommodations are available for students with disabilities. Please identify yourself to your instructor and/or to Disabled Students Programs and Services (DSP&S) staff so that the appropriate accommodations can be ensured.

### **CLASS POLICIES:**

1. **You are expected to attend each class, arriving on time and remaining for the entire class time.** If this is not possible it is your responsibility to contact your instructor concerning the reasons for arriving late (immediately after class) or leaving early (before class) in which the occurrence takes place.
2. **All pagers and cell phones are to be turned to a non-noise mode during class time. Cell phones must be kept in backpacks, purses, etc. during class time. Phones may not be used as calculators.**
3. You may be dropped from class for missing twice the number of hours as the class meets per week unless your special situation has been discussed with your instructor.
4. **The opportunity to make up a missed test will be permitted only in the case in which you have received permission from the instructor prior to the test time. It is your responsibility to initiate the change in deadline with the instructor by phone or email.** No make-up tests will be given if prior arrangements have not been made. Work handed in late will be subject to a point penalty. There will be no make-ups on quizzes or in-class assignments.
5. **You are responsible for getting class notes** from other classmates and getting any **schedule changes** or other **class announcements** from classmates or the instructor on days missed from class.
6. **You are expected to be courteous to each other and to the instructor.** You will be asked to leave the class for display of behavior the instructor deems as disruptive to the class environment.
7. **Cheating in any form will not be tolerated.** No points will be awarded on any test or assignment in which cheating has occurred. During in-class tests you are to keep your eyes on your own work to avoid suspicion. No hats are to be worn while taking a test.

### ADVICE ON LEARNING MATHEMATICS:

1. **Read ahead** in the text the section(s) to be covered in class on a particular day.
2. **Take notes on the lecture.** Attempt to understand “why” as well a “how” problems are solved. Ask questions during the lecture on points you do not understand.
3. **Complete homework assignments before the next class.** If time does not allow you to complete the assignment at least try some of the problems and ask questions about the ones you don’t understand.
4. **Ask questions in class on topics that are confusing to you.** Prepare to be able to answer questions about previous assignments when asked by your instructor.
5. **Begin reviewing and studying for a test days before the scheduled test date.** Make review notes covering the test material. Design practice tests to prepare you for the in-class tests.
6. **Do not attempt to learn math by yourself.** Team up with another classmate and work together. Share ideas and help each other understand the material. **Ask your instructor questions during office hours.** Use the tutoring services available to you. Be prepared to ask specific questions to maximize your time with the tutor. **Do not expect the tutors to complete your assignments for you.**

This course adheres to the policies outlined in the Cuyamaca College catalogue. For further information, see [Academic Policies](#) stated in the catalogue.

### IMPORTANT DATES:

|                 |  |
|-----------------|--|
| Aug. 25         | Classes begin  |
| Aug. 25-Sept. 6 | Program Adjustment Period (9/6 – last day to add or drop)  |
| Sept. 1         | Holiday - No Classes (Labor Day)                           |
| Sept. 15        | College Hour 11:30-12:30 pm                                |
| Sept. 27        | <b>Last day to apply for CR/NC</b> semester length classes |
| Oct. 9          | College Hour 10:00-11:00 am                                |
| Nov. 10         | Holiday – No Classes (Veteran’s Day)                       |
| Nov. 15         | <b>Last day to drop</b> semester length classes            |
| Nov. 27-29      | Holiday – No Classes (Thanksgiving)                        |
| Dec. 15-22      | Final Exams  |
| Dec. 15         | <b>Final Exam Section 1449 – 12:00 noon – 2:00 pm</b>      |

**Fall 2008 Tentative Schedule  
Corresponding to Chapter Sections in the Text**

| <b>MATH 110</b>            | <b>Monday</b>                        | <b>Tuesday</b> | <b>Wednesday</b>              | <b>Thursday</b> | <b>Friday</b> |
|----------------------------|--------------------------------------|----------------|-------------------------------|-----------------|---------------|
| <b>Aug 25-29</b>           | 1.1-1.4<br>Highlights,<br>Lab        |                | 1.5, 1.6, 1.7<br>2.1          |                 |               |
| <b>Sept 1-5</b>            | HOLIDAY                              |                | 2.2, 2.3, 2.4                 |                 |               |
| <b>Sept 8-12</b>           | 2.5, 2.6,<br>Lab                     |                | Review,<br>3.1, 3.2           |                 |               |
| <b>Sept 15-19</b>          | Test 1 on<br>C1 & C2,<br>Lab         |                | 3.3, 3.4, 3.5                 |                 |               |
| <b>Sept 22-26</b>          | 3.6, 3.7,<br>Lab                     |                | 4.1, 4.2, 4.3                 |                 |               |
| <b>Sept 29 –<br/>Oct 3</b> | 4.4, 5.1,<br>Lab                     |                | Review, 5.2,<br>5.3           |                 |               |
| <b>Oct 6-10</b>            | Test 2 on<br>C3 & C4,<br>5.4,<br>Lab |                | 5.5, 5.6, 5.7                 |                 |               |
| <b>Oct 13-17</b>           | 5.8, 6.1,<br>Lab                     |                | Review, 6.2,<br>6.3           |                 |               |
| <b>Oct 20-24</b>           | Test 3 on<br>C5,<br>Lab              |                | 6.4, 6.5, 6.6                 |                 |               |
| <b>Oct 27– 31</b>          | Review, 7.1,<br>Lab                  |                | Test 4 on<br>C 6,<br>7.2, 7.3 |                 |               |
| <b>Nov 3-7</b>             | 7.4, 7.5,<br>Lab                     |                | 7.6, 7.7, 7.8,<br>8.1         |                 |               |

|  |                               |  |                       |         |         |
|--|-------------------------------|--|-----------------------|---------|---------|
| <b>Nov 10-14</b>                       | HOLIDAY                       |  | Review, 8.2, 8.3      |         |         |
| <b>Nov 17-21</b>                       | Test 5 on C7, Lab             |  | 8.4, 8.6, 8.7         |         |         |
| <b>Nov 24-28</b>                       | 8.8, 8.9, Lab                 |  | 9.1, 9.2, Review      | HOLIDAY | HOLIDAY |
| <b>Dec 1-5</b>                         | Test 6 on C8, Lab             |  | 9.3, 9.4, 9.5         |         |         |
| <b>Dec 8-12</b>                        | 9.6, Review, Lab              |  | Review for Final Exam |         |         |
| <b>Dec 15-19</b><br><b>Final Exams</b> | Final Exam 12:00 noon-2:00 pm |  |                       |         |         |

**Math 110 Homework Assignments**  
Intermediate Algebra – Bittinger & Ellenbogen – 7<sup>th</sup> Edition

**Chapter 1**

- 1.5 1-57 every other odd
- 1.6 1-115 every other odd
- 1.7 1-52 every third problem, 54, 55, 61, 67,68

**Chapter 2**

- 2.1 1,3,5,17,21,25,29,31,35,39,41,47,51,65,71,74
- 2.2 1,3,5,13,17,21,25-65odds,69,71
- 2.3 1-82 every third problem,85,87,89,100,101
- 2.4 1-73 every third problem,77,79,81
- 2.5 19-45odds,49,51,55,59,61,63,65,67,69
- 2.6 1-70 odds

**Chapter 3**

- 3.1 1-28 and 35-53 every third problem, 55, 57, 59, 62
- 3.2 1-49 every other odd, 54
- 3.3 19-37 and 55-64 every third problem
- 3.4 1-29 every other odd
- 3.5 1-17 every other odd
- 3.6 1-12 every third problem, 15, 17
- 3.7 1-19 every third problem

**Chapter 4**

- 4.1 13-33 and 39-65 odd
- 4.2 none
- 4.3 1-23, 47-75 odd, 83
- 4.4 1-49 odd, 53, 55, 57

**Chapter 5**

- 5.1 1-11 odd, 19-45 odd, 49-65 odd, 71-83 odd
- 5.2 1-49 odd, 55-71 odd
- 5.3 1-43 odd
- 5.4 1-57 odd,81,83,85
- 5.5 1-15 odd, 19-39 odd,61,63,65,67
- 5.6 1-35 every other odd
- 5.7 1-11 odd,31,35,37,49,53
- 5.8 1-23 odd,35-41 odd,45,47,53,55,57,59,61,63,67,71,73

## **Chapter 6**

- 6.1 3,5,11-21 odd,25,31,33,37,39,41,43,45,57,59,61,65,67,77,79,81
- 6.2 1-11 odd,15,23,25,27,33,49
- 6.3 1,5,7,9,13,15,43,45
- 6.4 1-23 odd
- 6.5 7,9,11,13,17,19,23,25,29,35,37,41,43,45
- 6.6 1-37 Every other odd

## **Chapter 7**

- 7.1 9-17 odd, 23-57 odd, 99-103 odd
- 7.2 1-69 every other odd, 71, 73
- 7.3 1-33 every other odd, 41-69 every other odd, 73-78 all
- 7.4 1-49 odd, 67, 69, 71
- 7.5 1-61 every other odd
- 7.6 1-27 odd
- 7.7 1-87 every other odd
- 7.8 1-95 every other odd

## **Chapter 8**

- 8.1 1-15 odd, 23-51 odd, 69, 71
- 8.2 1,5,9,13,17,21,25,31,33,35,45,47
- 8.3 1-9 odd
- 8.4 1-43 every third problem
- 8.6 1-49 odd, 53, 55, 57
- 8.7 1-35 every other odd, 37, 39, 47
- 8.8 1,5,9,11,25,29
- 8.9 1-25 every other odd, 39, 43, 51

## **Chapter 9**

- 9.1 1,3,5,17,19,21,23,25,31,33,35,37,39,41,43,49,53,57
- 9.2 1-37 every other odd
- 9.3 1-85 every third problem
- 9.4 1-62 every third problem
- 9.5 1-69 every other odd
- 9.6 1-55 every third problem