Mathematics 143-C01
College Algebra
Course Syllabus
3 Credit Hours

Spring 2007
Instructor: Constance Meade

Office: Shields 207-D
Office Hours: 2:00-2:50 MWF
12:00-11:50 T
Lab Hour: 2:00-2:50 W
Office Phone: 732-6809
E-mail Address: cmeade@csi.edu

Course Description:
This course covers the fundamental concepts of Algebra; equations and inequalities; functions and graphs; polynomial and rational functions, exponential, logarithmic functions; systems of equations and inequalities; conics; and The Binomial Theorem.

Prerequisites:
Mathematics 108 with a grade of “C” or better, or 62 or higher on COMPASS Algebra or 31-51 on COMPASS College Algebra.

Required Textbooks and Supplies:
• College Algebra, 3rd Edition, by Robert Blitzer
• Graphing paper - http://www.mathematicshelpcentral.com/graph_paper
  www.google.com
• Pencil
• Loose leaf paper
• A graphing calculator is required. A TI-83 or TI-83 Plus is preferred, but not required. However, the classroom lectures will be geared to the use of the TI-83. A student with an alternate calculator must not expect to receive instruction on the use of their calculator during class time. However, help will be available. The use of TI-84, TI-84 Plus, TI-89, and TI-92 Plus calculators will not allowed in this course. Nor will any HP calculators be allowed.

Aids For The Course:
• Math Lab - The math lab will be open the first week of the semester. The hours of operation will be announced and posted.
• Study Group - If you need assistance forming a study group, I will gladly make assignments based upon your schedules. Being an active member of a study group is extremely important to your success in this class.
• Videotapes - The Mathematics Department has a set of video tapes to supplement classroom and textbook material. These tapes are available for check out in the Library, and are an excellent supplement to the course.
• Student Solutions Manual - Student Solutions Manual by Patricia Foard to accompany College Algebra, 3rd Edition, by Robert Blitzer
• **Graphmatica** - This is a free computer software program that is extremely user friendly and will provide a tremendous amount of assistance in learning the course material and completing your homework.

• **Instructor** - I have office hours scheduled on a daily basis. If you need to meet with me and cannot do so during those scheduled times, please feel free to set up another time that is convenient for you.

### Expected Outcomes and Outcomes Assessment:

**Outcome 1:** The student will master course content as presented in lecture and assigned homework.

**Assessment 1:** The student will demonstrate their understanding of this material by completion of weekly assignments. Student performance will be further measured by unit lecture, exams and a comprehensive final exam.

**Outcome 2:** The student will apply mathematics to real world situations.

**Assessment 2:** The student will demonstrate this skill by completion of individual or group projects that require mathematical reasoning.

**Outcome 3:** The student will display the use of technology to enhance their understanding of mathematics.

**Assessment 3:** The student will display this skill by completion of individual or group projects that require the use of a graphing calculator and/or use of the computer lab.

As part of departmental analysis of outcomes in this course and its place in the Mathematics program, student completion of the pre-requisite, success in the current course, success in subsequent courses and student satisfaction will be reviewed by the instructor. A report containing this information will be submitted by department faculty to determine what, if any, changes can be made to improve the course in terms of content, focus, and instruction.

### Topical Outline:

I. Fundamental Concepts
   • Real Number System
   • Intervals, Absolute Values and Distance
   • Integer and Rational Number Exponents
   • Complex Numbers
   • Polynomials
   • Factoring
   • Rational Expressions

II. Equations and Inequalities
   • Linear Equations
   • Formulas and Applications
   • Quadratic Equations
   • Other Types of Equations
   • Inequalities
   • Absolute Value Equations and Inequalities
III. Functions and Graphs
- Cartesian Coordinate system
- Functions
- Linear Functions
- Quadratic Functions
- Properties of Graphs
- Algebra of Functions
- Inverse Functions
- Variations and Applications

IV. Polynomial and Rational Functions
- Polynomial Division and Synthetic Division
- Polynomial Functions
- Zeros of Polynomial Functions
- Fundamental Theorem of Algebra
- Rational Functions and Their Graphs

V. Exponential and Logarithmic Functions
- Exponential Functions and Their Graphs
- Logarithms and Logarithmic Properties
- Logarithmic Functions and Their Graphs
- Exponential and Logarithmic Equations
- Applications of Exponential and Logarithmic Functions

VI. Systems of Equations and Inequalities
- Systems of Linear Equations in Two Variables
- Systems of Linear Equations in More Than Two Variables
- Nonlinear Systems of Equations in Two Variables
- Systems of Inequalities
- Linear Programming

VII. Conic Sections
- The Ellipse
- The Hyperbola
- The Parabola

VIII. Sequences and Series
- Binomial Theorem

Policies and Procedures:

**Attendance:** Attendance may, or may not, be taken on a daily basis. However, you are expected to be in attendance each class period. If, for one reason or another, you are unable to attend, you will still be responsible for all material covered that day. When the number of class hours that you are absent exceeds twice the number of course credits, I will drop you from this course. This does not apply to absences due to a verified school activity. Also, see current catalogue regarding attendance.

**Hours of lecture each week:** 1:00-1:50 AM Monday, Wednesday, and Friday
Shields Building Room 209
Homework: Homework will be assigned daily and will be due and collected on a random basis. Your ten best homework scores will be averaged and this average will count as one test score. Always review your homework when it is returned. Check for grading errors, and try to determine where you made your mistakes. Engaging in this activity will reinforce what you have learned.

On occasion, the grader may make errors when grading your paper. To receive credit for any errors on the grader's part, you must return your entire homework paper to me within one week after it has been returned to you. I am the only person who can adjust your homework score. Do not return it to the grader.

A random selection of problems will be graded from each assignment, with a weekly total possible of 100 percentage points. This homework is designed to help you develop your mathematical skills. You must show all work necessary to correctly complete the problems, or no credit will be given.

Exams: Five regular exams will be given during the semester. The dates of these exams will be announced. These exams may be given through the Testing Center. There will be no make-up or re-take exams given. If you must miss one of the exams, the next one will count twice.

Final Exam: The final exam will be comprehensive and will count as one regular exam. This exam will be given on Wednesday, May 9, 2007 from 12:00-2:00 PM.

Grading:

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<th>Component</th>
<th>Points</th>
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<tbody>
<tr>
<td>Tests (5)</td>
<td>500</td>
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<tr>
<td>Homework</td>
<td>100</td>
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<tr>
<td>Final</td>
<td>100</td>
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<tr>
<td>Total</td>
<td>700</td>
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Your percentage will be calculated as follows: Your Total Points = \( \frac{\text{Your Total Points}}{7} \)

Although I reserve the right to revise this scale downward, 90% of the possible points, or above will always be an 'A', 80%-89% a 'B', etc.

Coverage: Chapters 1-4, Sections 5.1, 5.2, 5.4-5.6, chapter 7, Section 8.5

Cheating: See page 16 of the current CSI catalogue. Any violation of the policy will be dealt with severely, including but not limited to, being dismissed from the class and/or given a grade of "F" for the course.

Cellular Telephones: Cellular telephones are expected to be turned off during class time.

General Classroom Behavior: See pages 16-17 of the current CSI catalogue.
Course Evaluation:

Students are strongly encouraged to complete evaluations at the end of the course. Evaluations are very important to assist the teaching staff to continually improve the course. Evaluations are available online at: http://evaluation.csi.edu. Evaluations open up to two weeks prior to the end of the course. The last day to complete an evaluation is the last day of the course. During the time the evaluations are open, students can complete the course evaluations at their convenience from any computer with Internet access, including the open lab in the Library and in the SUB. When students log in they should see the evaluations for the courses in which they are enrolled. Evaluations are anonymous. Filling out the evaluation should only take a few minutes. Your honest feedback is greatly appreciated!

Disabilities:

Any student with a documented disability may be eligible for related accommodations. To determine eligibility and secure services, students should contact the coordinator of Disability Services at their first opportunity after registration of a class. Student Disability Services is located on the second floor of the Taylor Building on the Twin Falls Campus: 208.732.6260 (voice) or 208.734.9929 (TTY), or e-mail aflannery@csi.edu.

Note 1: Mathematics is not a spectator sport. You must be actively engaged in the course work on a daily basis to be successful. Sporadic and/or occasional engagement most generally results in a failing grade for the course.

Note 2: I reserve the right to correct errors or omissions in this syllabus.
Homework Assignment Format
Mathematics 143

1. Use loose leaf paper.

2. Write on the front of the page only.

3. Do all homework in pencil. Work done in pen will not be graded.

4. Show all work necessary to complete the problem. A correct answer with little, no, or incorrect work will receive no credit.

5. Circle your answer when possible.

6. Write legibly. If the grader cannot decipher your work, it will not be graded.

7. No late homework will be accepted.

8. On occasion, the grader may make errors when grading your paper. To receive credit for any errors on the grader’s part, you must return your entire homework paper to me within one week after it has been returned to you. I am the only person who can adjust your homework score. Do not return it to the grader.

To Submit
Fold entire document in half, lengthwise.

One the outside of the document, write
- Your name
- Course title
- Course section (Your section is C06)
- Date

Example
John Doe
Math 143-C02
April 1, 2007
<table>
<thead>
<tr>
<th>Homework Assignments</th>
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