Math 143: COLLEGE ALGEBRA
TTh 8 a.m. – 9:20 a.m.
3 Credits – Fall 2008

Instructor: Cindy Dickson, M.S.
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Phone: 732-6544
1-800-680-0274 x6544
Office Hrs: MTWF 11:00 – 11:50 a.m.
Th 10:00-10:50 a.m. or by appointment
Math Lab Shields 207: W 3:00-3:50 p.m.
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Webpage: http://www.csi.edu/dir.asp?cdickson

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

2. Prerequisite: MATH 108 grade of “C” or better, or Math Placement Test.

3. Required Textbook and Supplies:
   b. Calculator: A graphing calculator is Strongly Suggested. The TI-83/84 or TI-83/84 Plus are the only calculators that will be allowed in the Testing Center.
   c. Supplies: 3-ring binder with dividers, paper, pencil, stapler.

4. Course Objectives:
Students who complete Math 143, College Algebra, will have a strong understanding of the topics listed in the course description and in the detailed list of course outcomes. This course will prepare students for Math 144, Math 157, Math 160, Math 253 and other courses which have a College Algebra pre-requisite.

5. Outcomes Assessment:
   Students: Daily assignments, chapter tests, and a comprehensive final exam will be used to assess how well students achieve the expected course outcomes. Exams as well as student evaluations will be analyzed to help improve curriculum and instruction for the course. Also, regular informal feedback will be solicited in an effort to improve the class as it progresses.

   Department: 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 and the department chair. 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.

6. Online Course Evaluations: To help instructors continually improve courses, students are strongly encouraged to go online to http://evaluation.csi.edu and complete anonymous evaluations which open two weeks before the end of the course and close the last day of class. When students enter the site, they find evaluations for their enrolled courses. Thank you for this valuable input!

7. Policies and Procedures:
   a. Attendance: Attendance is essential to student success. If you miss a class, you are responsible for material discussed in class as well as any additional assignments and announcements made during class time.

   b. Homework: Assignments will be given daily and will be collected on Tuesday of each week. Be sure to read each section before attempting the homework. Late homework will not be accepted under any circumstances. It will be given no credit if turned in after the
due date & time listed. If you have a planned absence, you may turn homework in early. Your lowest 5 homework scores will be dropped.

c. **Exams:** Five exams and a comprehensive final will be given. Exams will be taken in the Campus Testing Center (GRM 230) or outreach testing centers. The final will be taken in the classroom with the instructor present. Make-up exams will **NOT BE GRANTED** unless you have a medical excuse validated by a doctor or the consent of the instructor at least one week **prior** to the exam. Make-up final exams will **NOT BE GRANTED UNDER ANY CIRCUMSTANCES.** Your lowest test score can be dropped and replaced by your final exam score if it is to your benefit.

d. **Academic Integrity:** If a student is caught cheating on an exam or copying another student’s assignment, a student will be subject to a failing grade (0 credit).

e. **Classroom Behavior:** You as a student are expected to maintain good conduct during class, treating fellow students with respect and demonstrating a cooperative attitude toward the instructor. Inappropriate behavior will not be tolerated. After one warning, further breaches in acceptable conduct will result in your being dropped from the course, and the matter will be referred to student services for college discipline. If there is a situation creating a problem for you in this class, please let me know so that I can conference with any students who are involved. Information regarding student **Behavior Policies** can be found on p. 31 and 32 of the C.S.I. catalog. See also the **Code of Conduct** in the Student Handbook.

f. **Other Policies:** All cell phones and pagers must be turned off or to a vibrate mode during class. No children are allowed in class.

8. **Grading Practices:**

a. **Testing Center:** All chapter exams will be taken in the Testing Center. It is located in GRM 230 and is open from 8:00 am – 9:30 p.m. Mon.-Thurs. and from 8:00 a.m. – 5:00 p.m. on Fridays. A picture ID is required to take any test in the Testing Center. You cannot start a test in the Testing Center if closing time is less than one hour away.

b. **Evaluation:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
<th>Grade Range</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Exams</td>
<td>500</td>
<td>90-100%</td>
<td>A</td>
</tr>
<tr>
<td>Homework</td>
<td>100</td>
<td>80-89%</td>
<td>B</td>
</tr>
<tr>
<td>Final Exam</td>
<td>150</td>
<td>70-79%</td>
<td>C</td>
</tr>
<tr>
<td>Total Possible</td>
<td>750</td>
<td>60-69%</td>
<td>D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Below 60%</td>
<td>F</td>
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</table>

c. **It is the student’s responsibility to drop the course.**

*During the first two weeks of the term, a student may drop a course or completely withdraw without its being recorded on the student’s official transcript. After the first two weeks a “W” will be recorded in any course the student drops.*

*A student desiring to drop a course during the first two weeks of the term may do so online. In order to drop or completely withdraw after the first two weeks, the student must complete and submit a drop or complete withdrawal form to the Admissions and Records Office.*

*If you stop attending the course and do not withdraw, you will receive an F in the course.*

*NOTE: No course may be dropped or withdrawn from after 75% of the course or twelve weeks of the term has elapsed, whichever is earlier.*
9. 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 for a class. Student Disability Services is located on the second floor of the Taylor Building on the Twin Falls Campus. 208.732.6250 (voice) or 208.734.9929 (TTY), or e-mail Candida Mumford, cmumford@csi.edu.

10. Student e-mail: Since email is the primary source of written communication with students, all registered CSI students get a college email account. Student e-mail addresses have the following format: username@students.csi.edu. Students can check their CSI e-mail online at http://students.csi.edu. Instructors and various offices send messages to these accounts. Students must check their CSI e-mail accounts regularly to avoid missing important messages and deadlines. At the beginning of each semester free training sessions are offered to students who need help in using their accounts.

11. Do not put off getting help! If you wait until you are totally lost, you might find it impossible to get back on track.

12. Keys to success in this class: Show up every day and pay attention; ask questions; practice by doing assignments and forming study groups; don’t quit!

13. Where to get help:
   - Ask questions in class or stop by to see me – I’m here to help you!
   - One-on-one instructor and peer tutoring are available at…
     - Math Lab (SHL 207)
     - Instruction Lab (GRM 202)
   - Instructional DVDs come with new textbook purchases and are also available for check out at the Library (GRM 131) and Outreach Centers.
   - Study groups are a great resource and I encourage you to form them to do assignments, study for tests, etc.
   - Student Solutions Manuals for our textbook are packaged with new textbooks. These are not required, but some students find them useful.
14. Tentative topical outline:

<table>
<thead>
<tr>
<th>Date</th>
<th>Section</th>
<th>Date</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug. 26</td>
<td>Syllabus, P1-P7</td>
<td>Oct. 21</td>
<td>3.5 Mathematical Modeling and Variation</td>
</tr>
<tr>
<td>Aug. 28</td>
<td>1.1 Graphs of Equations, 1.2 Linear Equations</td>
<td>Oct. 23</td>
<td>4.1 Rational Functions, 4.2 Graphs of Rational Functions</td>
</tr>
<tr>
<td>Sept. 2</td>
<td>1.3 Modeling with Linear Equations, 1.4 Quadratic Equations</td>
<td>Oct. 28</td>
<td>Chapter 3 &amp; 4 Review</td>
</tr>
<tr>
<td>Sept. 4</td>
<td>1.4 Quadratic Equations, 1.5 Complex Numbers</td>
<td>Oct. 30</td>
<td>5.1 Exponential Functions, 5.2 Logarithmic Functions</td>
</tr>
<tr>
<td>Sept. 9</td>
<td>1.6 Other Types of Equations, 1.7 Linear Inequalities</td>
<td>Nov. 4</td>
<td>5.2 Logarithmic Functions, 5.3 Properties of Logarithms</td>
</tr>
<tr>
<td>Sept. 11</td>
<td>1.7 Linear Inequalities, 1.8 Other Types of Inequalities</td>
<td>Nov. 6</td>
<td>5.4 Exp &amp; Log Equations, 5.5 Exp &amp; Log Models</td>
</tr>
<tr>
<td>Sept. 16</td>
<td>Chapter 1 Review</td>
<td>Nov. 11</td>
<td>Veteran’s Day – No Class</td>
</tr>
<tr>
<td>Sept. 18</td>
<td>2.1 Linear Equations in Two Variables, 2.2 Functions</td>
<td>Nov. 13</td>
<td>5.5 Exp &amp; Log Models, Chapter 5 Review</td>
</tr>
<tr>
<td>Sept. 23</td>
<td>2.2 Functions, 2.3 Analyzing Graphs of Functions</td>
<td>Nov. 18</td>
<td>4.3 Conics</td>
</tr>
<tr>
<td>Sept. 25</td>
<td>2.4 A Library of Parent Functions, 2.5 Transformations of Functions</td>
<td>Nov. 20</td>
<td>4.4 Translations of Conics</td>
</tr>
<tr>
<td>Sept. 30</td>
<td>2.5 Transformations of Functions, 2.6 Combinations of Functions: Composite Functions</td>
<td>Nov. 25</td>
<td>6.1 Linear &amp; Nonlinear Systems of Equations , 6.2 Two Variable Linear Systems</td>
</tr>
<tr>
<td>Oct. 2</td>
<td>2.7 Inverse Functions</td>
<td>Nov. 26-28</td>
<td>Thanksgiving Break</td>
</tr>
<tr>
<td>Oct. 7</td>
<td>Chapter 2 Review</td>
<td>Dec. 2</td>
<td>6.2 Two Variable Linear Systems, 6.3 Multivariable Linear Systems</td>
</tr>
<tr>
<td>Oct. 9</td>
<td>3.1 Quadratic Functions, 3.2 Polynomial Functions</td>
<td>Dec. 4</td>
<td>6.5 Systems of Inequalities, Chapter 6 Review</td>
</tr>
<tr>
<td>Oct. 14</td>
<td>3.2 Polynomial Functions, 3.3 Dividing Polynomials</td>
<td>Dec. 9</td>
<td>8.5 Binomial Theorem, Review for Final</td>
</tr>
<tr>
<td>Oct. 16</td>
<td>3.4 Zeros of Polynomials Functions</td>
<td>Dec. 11</td>
<td>Review for Final</td>
</tr>
</tbody>
</table>

15. Exam Dates:

**Exam 1:** Ch.1 (sections 1-8) open: **Sept. 16-18**
**Exam 2:** Ch.2 (sections 1-7) open: **Oct. 7-9**
**Exam 3:** Ch. 3 (section 1-5) open & Ch. 4 (sections 1-2): **Oct. 28-30**
**Exam 4:** Ch. 5 (sections 1-5) open: **Nov. 13, 14, 17**
**Exam 5:** Ch. 4 (sections 3-4) & Ch. 6 (sections 1-5) open: **Dec. 4, 5, 8**

**FINAL EXAM:**
8 a.m. class: **Thursday, Dec. 18, from 8 a.m. – 10 a.m.** in the classroom
16. Course Outcomes:
   Students will demonstrate a working knowledge of the following processes and concepts:
   a. **Linear equations** (solve all types, simple to complex, model data and solve application problems)
   b. **Formulas** (solve problems using formulas, isolate a specified variable)
   c. **Quadratic equations** (solve by factoring, by taking square roots, by completing the square, using the quadratic formula, solve application problems)
   d. **Solve other types of equations** (polynomial, radical, absolute value, equations that are quadratic in form, equations with rational exponents)
   e. **Inequalities with one variable** (graph and solve linear, compound, absolute value, quadratic and rational inequalities)
   f. **Lines** (find slope, graph, write equation, model data, use idea of parallel and perpendicular)
   g. **Circles** (equation, center, radius, graph, convert equation to standard form)
   h. **Functions** (definition, domain, range, zeros, use vertical line test, evaluate, intervals for increasing and decreasing, odd, even, symmetry, model data)
   i. **Graph and analyze common functions** (quadratic, cubic, square root, absolute value, reciprocal, piece-wise, greatest integer)
   j. **Transformations and combinations of functions** (vertical shifts, horizontal shifts, reflections, vertical stretching and shrinking, add, subtract, multiply, divide, composition, inverse)
   k. **Quadratic functions** (graph, standard form, vertex, intercepts, model data, solve application problems)
   l. **Polynomial functions** (end behavior, leading coefficient test, graph, Remainder Theorem, Factor Theorem, find all zeros)
   m. **Rational functions** (vertical asymptotes, horizontal asymptotes, slant asymptotes, intercepts, graph, solve application problems)
   n. **Variations** (direct, inverse, joint, combined)
   o. **Conic sections** (analyze and graph ellipses, hyperbolas and parabolas, find vertices, foci, axis of symmetry, directrix, eccentricity, and asymptotes as applicable, model data and solve application problems)
   p. **Exponential functions and equations** (evaluate, graph, transform, solve equations, model data and solve application problems)
   q. **Logarithmic functions and equations** (log notation, properties of logs, evaluate, graph, solve log equations, change bases, model data and solve application problems)
   r. **Systems of equations** (linear equations in two variables, linear equations in three variables, nonlinear equations in two variables, application problems)
   s. **Systems of inequalities** (linear, nonlinear, linear programming)
   t. **Binomial theorem** (expand binomial raised to a power, find one specified term)
How to Access Outlines for Notes & Chapter Exam Answer Keys
1. Go to http://www.csi.edu/dirdetail.asp?cdickson
2. Click to “View Personal Webpage”
3. Click on our class – Math 143 8 a.m.
4. Notes for each class lecture will be posted there, and answer keys for chapter exams will be posted after each exam. Click on any that you want to open and print from there.

Homework Assignment Format
Math 143
Fall 2008

1. Use loose leaf paper
2. On the top right hand corner of the first page, include the following:
   • Name
   • Course title
   • Date
   • Section
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 final answer when possible.
6. Write legibly. If I cannot decipher your work, it will not be graded.
7. Do your work horizontally (going down) instead of vertically (going across).
8. Correct all odd number problems using the back of the book. You may rework the problem until you get the correct answer, if possible. Write a “C” for correct by the problem number if it is correct, or a check mark √ if it is incorrect.
9. Staple all pages for each section’s homework assignment together.
10. No late homework will be accepted.
Testing Center Hours

Blaine County Center
   Monday, Tuesday, Friday   8 a.m. – 4:30 p.m.
   Wednesday, Thursday       8 a.m. – 7 p.m.

Burley Center
   Monday & Tuesday           11 am – 8:30 pm
   Wednesday & Thursday       8 am – 8:30 pm
   Friday                     8 am – 5:00 pm

Northside Center
   Monday – Friday            8 a.m. – 5 p.m.