COURSE SYLLABUS
MATH 108, Intermediate Algebra
MTWF (4 credits)

Semester/Year: Fall 2009
Instructor: Estella Elliott
Email: celliott@csi.edu

Office: Shields 207B
Office Hours: MTWHF, 9-10 am;
Office Phone: 732-6823

Substitute Instructor Information through October 1:
Instructor: Cindy Dickson, M.S.
Office: Shields 207 C
e-mail: cdickson@csi.edu

Phone: 732-6544 or 1-800-680-0274 x6544
webpage: http://www.csi.edu/dir.asp?cdickson

Office Hours:
MWF: 9:00 – 9:50 a.m.
TH: 5 – 5:30 p.m. & 7:30 – 8:00 p.m.
Math Lab Tutoring in Shields 207: Tuesday 2:00 – 2:50 p.m.
Office Hours also by appointment

Course Description: This course is designed to prepare the student for college algebra. It covers first-degree equations and inequalities, linear functions, systems of linear equations, polynomials, factorization, rational expressions, negative and rational exponents, radicals, quadratic equations, graphing functions, logarithms, and application problems.

Prerequisite: MATH 025/010 with C grade or higher, or Math Placement Test (COMPASS Algebra score of 41 or higher).

Textbook and Supplies:
- Scientific calculator (Graphing calculators are acceptable, but not required.)

Course Objective: Students who complete Math 108, Intermediate 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 130, Math 143, Math 147 and other courses which have an Intermediate Algebra pre-requisite.

Outcomes Assessment: Daily assignments, exams, 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.

The course content includes:
- Rational numbers (addition, subtraction, multiplication, and division)
- Variable expressions (simplify, translate, evaluate)
- Operations on sets of numbers (union, intersection)
- Set-builder notation and interval notation
- First degree equations in one variable (solve, translate from application problems such as percent problems, mixture problems, business related problems, uniform motion problems, investment problems)
f. First degree inequalities (solve and graph simple, compound)
g. Linear functions (evaluate, graph, find slope)
h. Find length and midpoint of a segment
i. Write the equations for lines (including parallel lines and perpendicular lines)
j. Solve systems of linear equations (use graphs, substitution method, addition method)
k. Polynomials (add, subtract, multiply, divide using long division and synthetic division, evaluate, factor)
l. Solve polynomial equations by factoring
m. Simplify exponential expressions having integer and variable exponents
n. Scientific notation
o. Expressions with rational exponents (simplify, change to radical form)
p. Radical expressions (simplify, add, subtract, multiply, divide)
q. Complex numbers (simplify, add, subtract, multiply, divide)
r. Solve equations containing radicals
s. Functions (domain, range, graph, use vertical line test, add, subtract, multiply, divide, find inverse, do composition of functions)
t. Rational expressions (find the domain, simplify, multiply, divide, add, subtract, simplify complex fractions)
u. Solve rational equations (including application problems like work problems, uniform motion problems, proportions, variations, and literal equations)
v. Solve quadratic equations (use factoring, completing the square, and quadratic formula)
w. Solve equations that are quadratic in form
x. Solve quadratic and rational inequalities
y. Parabolas (find axis of symmetry, vertex, x-intercepts, graph)
z. Exponential functions (evaluate, graph)
aa. Logarithms (log notation, properties of logarithms, evaluate logs with and without a calculator, solve log equations, graph log functions using ordered pairs)

These additional, optional topics may be covered by some instructors:
a. Absolute value equations
b. Absolute value inequalities
c. Evaluate determinants (2 x 2 and 3 x 3)
d. Solve a system of equations using Cramer’s Rule
e. Solve a system of equations using Gaussian elimination with matrices
f. Application problems with systems of equations
g. Application problems with quadratic equations and functions
h. Application problems with exponential equations and functions
i. Application problems with logarithmic equations and functions

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.
On-line 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 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 in 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.

Policies and Procedures:

- EXAMS: Regular exams will be given in the classroom. There will be no make-up exams given! If you have an unforeseeable and unavoidable emergency, I will replace that exam score with the final exam score, weighted to 100 points. Only the first exam you miss under extenuating circumstances will be replaced – any others will receive a score of 0. The comprehensive, common final exam will be given in the classroom with the instructor present. A make-up final will not be granted under any circumstances.

- HOMEWORK: Homework will be assigned during most class sessions and will be due at the beginning of the next class session. Late homework will not be accepted under any circumstances! At the end of the semester, the 10 lowest homework scores will be dropped and the remaining scores will be averaged to give your overall homework grade. You must show your work to receive full credit!

- GRADING: 6 Exams worth 100 points each 600 points
  Homework 100 points
  Final Exam 200 points
  Total Possible 900 points

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<thead>
<tr>
<th>Points</th>
<th>Grade</th>
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<tbody>
<tr>
<td>810-900</td>
<td>A</td>
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<tr>
<td>720-809</td>
<td>B</td>
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<tr>
<td>630-719</td>
<td>C</td>
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<tr>
<td>540-629</td>
<td>D</td>
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<tr>
<td>0-539</td>
<td>F</td>
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- ATTENDANCE: All students are responsible for the material presented in class whether they are there or not. Dropping or withdrawing from the course is the student’s responsibility.

- COMMUNICATION: 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: <address>@eaglemail.csi.edu where <address> is a name selected by the student as a part of activating his/her account. Students activate their accounts and check their CSI e-mail online at http://eaglemail.csi.edu. Instructors and various offices send messages to these student 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.

- **COMPUTER LITERACY**: Please refer to the 2007-2008 College of Southern Idaho Catalog under Computer Literacy in the section, “DEGREE AND CERTIFICATE REQUIREMENTS”, on page 25. This can also be found online at [www.csi.edu](http://www.csi.edu).

- **CHEATING**: Cheating is unacceptable. Students caught cheating will be given a 0% for that assignment or exam and may face further disciplinary action.

- **STUDENT BEHAVIOUR**: Refer to pages 34-35 in the CSI catalog.

- **LEARNING ASSISTANCE RESOURCES**:
  a. Instructor: If you need extra explanation, stop by my office during office hours or set up an appointment for help at another time.
  b. Textbook: Read and study the examples in your textbook.
  c. Free Peer Tutoring: Free tutoring is available at the Academic Development Center Instruction Lab (GRM 202).
  d. DVDs: DVDs of the subject matter are available for checkout at the CSI Library.
  e. Study Groups: Study groups are a great way to learn. Organize one right away!

- **STUDENTS WITH 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. Students should contact the Student Disability Services Office at (208) 732-6260, (208) 734-9929 (TDD), or (800)680-0274 (Idaho & Nevada). Please refer to the College of Southern Idaho Catalog under “Student Disability Services” on pg. 38.

### Course Outline

*(Tentative and subject to change at any time)*

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<thead>
<tr>
<th>Date</th>
<th>Section</th>
<th>Topic</th>
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<tbody>
<tr>
<td>August 24-28</td>
<td>1.1 – 1.5, 2.1</td>
<td>Fundamentals of Algebra, Linear Equations</td>
</tr>
<tr>
<td>Aug 31, September 1-4</td>
<td>2.4, Review, 3.1</td>
<td>Inequalities, Review Chapters 1 and 2, Graphs</td>
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<tr>
<td><strong>Sept. 2: Exam 1</strong></td>
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<tr>
<td>September 7-11</td>
<td>3.2 – 3.4</td>
<td>Graphs and Functions</td>
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<td>September 14-18</td>
<td>3.6, 4.1 – 4.3</td>
<td>Systems of Equations</td>
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<tr>
<td>September 21-25</td>
<td>Review, 5.1 – 5.2</td>
<td>Review Chapters 3 and 4, Polynomials</td>
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<td><strong>Sept. 22: Exam 2</strong></td>
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<tr>
<td>September 28-30, October 1-2</td>
<td>5.3 – 5.6</td>
<td>Polynomials, Factoring</td>
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<td>Date</td>
<td>Topic</td>
<td>Notes</td>
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<tr>
<td>October 5-9</td>
<td>Review, 6.1 - 6.2</td>
<td>Review Chapter 5, Rational Expressions</td>
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<td><strong>Oct. 6: Exam 3</strong></td>
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<td>October 12-16</td>
<td>6.3 – 6.5</td>
<td>Rational Expressions</td>
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<td>October 19-23</td>
<td>6.6 - 6.7, Review</td>
<td>Rational Equations and Functions, Review Chapter 6</td>
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<td><strong>Oct. 23: Exam 4</strong></td>
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<tr>
<td>October 26-30</td>
<td>7.1-7.4</td>
<td>Radicals</td>
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<td>November 2-6</td>
<td>7.5 – 7.6, Review</td>
<td>Radicals and Complex Numbers</td>
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<td><strong>Nov. 6: Exam 5</strong></td>
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<td>November 9-13</td>
<td>8.1-8.3</td>
<td>Quadratic Equations</td>
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<td>November 16-20</td>
<td>8.4, 8.6</td>
<td>Quadratic Equations, Functions, and Inequalities,</td>
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<td>November 23-24</td>
<td>9.1, 9.2</td>
<td>Exponential Functions, Composite and Inverse Functions</td>
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<td>November 30, December 1-4</td>
<td>9.3</td>
<td>Review for Exam 6, Logarithmic Functions</td>
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<td><strong>Dec. 1: Exam 6</strong></td>
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<tr>
<td>December 7-11</td>
<td>9.4, 9.5, Review</td>
<td>Exponential and Logarithmic Functions, Review for Final Exam</td>
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**Final Exam** – Tuesday, December 15, 8:00 am to 9:50 am (Math 108-C11)  
Tuesday, December 15, 10:00 am to 11:50 am (Math 108-C02)

**Homework Assignment Format**
**Math 108**  
**Fall 2009**

1. Use loose leaf paper.
2. Write name, course title (ex Math 108-C05), and homework section in top right corner of first page.
3. Circle or highlight final answer when possible.
4. Show the work necessary to complete each problem. If little, no, or incorrect work is shown, you will not receive credit for that problem even if you have the correct answer.
5. Write legibly. If I cannot decipher your work, you will not receive credit.
6. Staple pages together in top left corner.
7. Fold assignment lengthwise with first page **on inside** of fold.
8. Write name, course title, and homework section on outside of folded assignment.