Math 108: Intermediate Algebra  
MTWTHF 8 a.m.  
4 Credits – Fall 2005

Instructor: Cindy Dickson, M.S.   Office: GRM 208  
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1-800-680-0274 x6544  
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Office Hrs: M-F 9:00 a.m. – 9:50 a.m.  
in Shields 206E, 732-6830  
Math Lab: Wed. 3:00 - 3:50 p.m.

1. **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.

2. **Prerequisite:** MATH 010 grade of “C” or better, or COMPASS placement test score.

3. **Required Textbook and Supplies:**
   b. **Calculator:** A calculator with LOG and EXPONENTIAL functions (a scientific calculator), but NO graphing or programmable calculators are allowed.
   c. **Supplies:** 3-ring binder with dividers, paper, pencil, graph paper, stapler.

4. **Course Objectives:** The student will demonstrate a working knowledge of the material covered in Chapters 1-10 of the textbook. The topics are listed in the course description above and a detailed list of course objectives is attached to this syllabus.

5. **Outcomes Assessment:** Daily assignments, chapter tests, and a comprehensive final exam will be used to assess how well students achieve the course objectives. All 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 we go along. Please feel free to contact me with any suggestions or concerns.

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.

6. **Course Evaluations:** Students will be asked to fill out an online course evaluation near the end of the semester. Students have responsibility for completing this as part of their course work before they take the final exam. I take your evaluations seriously as I try to improve my teaching and the course overall. The website to access evaluations is: [http://evaluation.csi.edu](http://evaluation.csi.edu).

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. CSI policy allows me to drop you if you miss eight (8) classes, but I feel dropping the course is your responsibility. Do not expect me to drop you if you stop attending. If you stop attending and do not contact me or drop the course, you will receive an F.

   b. **Homework:** Assignments will be given daily and will be collected at the next class meeting. 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 I have collected homework during the first part of class. If you have a planned absence,
you may turn homework in early, or have someone turn it in for you. Your lowest 5 homework scores will be dropped.

c. Exams: Eight exams and a comprehensive final will be given. Exams will be taken in the Campus Testing Center (GRM 230). 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. I will not drop your final exam.

d. Testing Center: The 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.

e. 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).

f. 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. 16 and 17 of the C.S.I. catalog.

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

7. Grading Practices:

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>Points</th>
<th>Grade Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 Exams:</td>
<td>800</td>
<td>90-100% = A</td>
</tr>
<tr>
<td>Homework:</td>
<td>100</td>
<td>80-89% = B</td>
</tr>
<tr>
<td>Final Exam:</td>
<td>200</td>
<td>70-79% = C</td>
</tr>
<tr>
<td>Total Possible:</td>
<td>1100</td>
<td>60-69% = D</td>
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<td></td>
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<td>Below 60% = F</td>
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</table>

8. 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. 208.732.6260 (voice) or 208.734.9929 (TTY), or e-mail aflannery@csi.edu.*

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

10. 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!

This syllabus may contain errors. I reserve the right to correct omissions and errors.
11. Where to get help:
- Ask questions in class or stop by to see me – I’m here to help you!
- Video tapes/DVD’s of our class topics are available for check out at…
  o Library (GRM 131)
  o Outreach Center
- One-on-one instructor and peer tutoring are available at…
  o Math Lab (SHL 207)
  o Instruction Lab (GRM 202)
- Computer tutoring programs, which parallel our textbook, are available on computers at…
  o Math Lab (SHL 207)
  o Math/Science Lab (SHL 211)
  o You can also check out two computer disks to download onto your home program. See me if interested.
- Smarthinking, an online tutoring service, can be used with an access code. This is included with new books. If you bought a used book, contact Nate Kelsey at 732-6548 to receive a code.
- 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 and are for sale separately in the CSI Bookstore. They are also available on reserve at the CSI Library and in the Math Lab. These are not required, but some students find them useful.

12. Tentative topical outline:

<table>
<thead>
<tr>
<th>Date</th>
<th>Section</th>
<th>Date</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sept. 12</td>
<td>Syllabus, 1.1 - Real Numbers</td>
<td>Oct. 26</td>
<td>6.4 – Rational Equations</td>
</tr>
<tr>
<td>Sept. 13</td>
<td>1.1, 1.2 – Rational Numbers</td>
<td>Oct. 27</td>
<td>6.5 – Proportions</td>
</tr>
<tr>
<td>Sept. 14</td>
<td>1.3 - Variable Expressions, 1.4 - Verbal Expressions</td>
<td>Oct. 28</td>
<td>6.6 – Literal Equations</td>
</tr>
<tr>
<td>Sept. 15</td>
<td>2.1 – Equations</td>
<td>Oct. 31</td>
<td>Review</td>
</tr>
<tr>
<td>Sept. 16</td>
<td>2.2 – Integer Problems</td>
<td>Nov. 1</td>
<td>7.1 – Radicals</td>
</tr>
<tr>
<td>Sept. 19</td>
<td>2.3 – Motion Problems</td>
<td>Nov. 2</td>
<td>7.2 – Radical Operations</td>
</tr>
<tr>
<td>Sept. 20</td>
<td>2.4 – Investment Problems</td>
<td>Nov. 3</td>
<td>7.2 – Radical Operations</td>
</tr>
<tr>
<td>Sept. 21</td>
<td>2.5 – Inequalities</td>
<td>Nov. 4</td>
<td>7.4 – Radical Equations</td>
</tr>
<tr>
<td>Sept. 22</td>
<td>Review</td>
<td>Nov. 7</td>
<td>7.5 – Complex Numbers</td>
</tr>
<tr>
<td>Sept. 23</td>
<td>3.1 – The x/y Plane</td>
<td>Nov. 8</td>
<td>Review</td>
</tr>
<tr>
<td>Sept. 26</td>
<td>3.2 – Functions</td>
<td>Nov. 9</td>
<td>8.1 – Quadratic Equations</td>
</tr>
<tr>
<td>Sept. 27</td>
<td>3.3 – Linear Functions</td>
<td>Nov. 10</td>
<td>No Class</td>
</tr>
<tr>
<td>Sept. 28</td>
<td>3.4 – Slope</td>
<td>Nov. 11</td>
<td>No Class</td>
</tr>
<tr>
<td>Sept. 29</td>
<td>3.5 – Equations of Lines</td>
<td>Nov. 14</td>
<td>8.2 – Completing the Square</td>
</tr>
<tr>
<td>Sept. 30</td>
<td>3.6 – Parallel/Perpendicular</td>
<td>Nov. 15</td>
<td>8.2 – Quadratic Formula</td>
</tr>
<tr>
<td>Oct. 3</td>
<td>Review</td>
<td>Nov. 16</td>
<td>8.3 – Reducible Equations</td>
</tr>
<tr>
<td>Oct. 4</td>
<td>4.1 – Systems of Equations</td>
<td>Nov. 17</td>
<td>8.5 – Nonlinear Inequalities</td>
</tr>
<tr>
<td>Oct. 5</td>
<td>4.2 – Systems of Equations</td>
<td>Nov. 18</td>
<td>8.6 – Quadratic Functions</td>
</tr>
<tr>
<td>Oct. 6</td>
<td>4.3 – Cramer’s Rule</td>
<td>Nov. 21</td>
<td>Review</td>
</tr>
<tr>
<td>Oct. 7</td>
<td>4.3 – Matrices</td>
<td>Nov. 22</td>
<td>9.1 – Graphs of Functions</td>
</tr>
<tr>
<td>Oct. 10</td>
<td>Columbus Day – No Class</td>
<td>Nov. 23-25</td>
<td>Thanksgiving Break</td>
</tr>
<tr>
<td>Oct. 11</td>
<td>Review</td>
<td>Nov. 28</td>
<td>9.3 – Algebra of Functions</td>
</tr>
<tr>
<td>Oct. 12</td>
<td>5.1 – Exponential Expressions</td>
<td>Nov. 29</td>
<td>9.4 – One-to-One &amp; Inverse Functions</td>
</tr>
<tr>
<td>Oct. 13</td>
<td>5.2 – Polynomials 5.3 – Multiply Polynomials</td>
<td>Nov. 30</td>
<td>10.1 – Exponential Functions, 10.2 – Logarithms</td>
</tr>
<tr>
<td>Oct. 14</td>
<td>5.4 – Divide Polynomials</td>
<td>Dec. 1</td>
<td>10.2 – Logarithms</td>
</tr>
<tr>
<td>Oct. 17</td>
<td>5.5 – Factor Polynomials</td>
<td>Dec. 2</td>
<td>10.3 – Graphs of Logarithms</td>
</tr>
<tr>
<td>Oct. 18</td>
<td>5.6 – Special Factoring</td>
<td>Dec. 5</td>
<td>10.4 – Exp. &amp; Log. Equations</td>
</tr>
<tr>
<td>Oct. 19</td>
<td>5.7 – Solving Equations</td>
<td>Dec. 6</td>
<td>Review</td>
</tr>
<tr>
<td>Oct. 20</td>
<td>Review</td>
<td>Dec. 7</td>
<td>Review Chapters 1-5</td>
</tr>
<tr>
<td>Oct. 21</td>
<td>6.1 Rational functions, 6.2</td>
<td>Dec. 8</td>
<td>Review Chapter 6-10</td>
</tr>
<tr>
<td>Oct. 24</td>
<td>6.2 – Rational Expressions</td>
<td>Dec. 9</td>
<td>Review Final Exam</td>
</tr>
<tr>
<td>Oct. 25</td>
<td>6.3 – Complex Fractions</td>
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</tr>
</tbody>
</table>

This syllabus may contain errors. I reserve the right to correct omissions and errors.
Exam 1: Ch.1 (sections 1-4) & Ch. 2 (sections 1-5) open: Sept. 22, 23, 26, 27
Exam 2: Ch. 3 (section 1-6) open: Oct. 3-6
Exam 3: Ch. 4 (sections 1-3) open: Oct. 11-14
Exam 4: Ch. 5 (sections 1-7) open: Oct. 20, 21, 24, 25
Exam 5: Ch. 6 (sections 1-6) open: Oct. 31, Nov. 1-3
Exam 6: Ch. 7 (sections 1-5) open: Nov. 8, 9, 10, 14
Exam 7: Ch. 8 (sections 1-6) open: Nov. 21, 22, 28, 29
Exam 8: Ch. 9 (sections 1, 3, 4) & Ch. 10 (sections 1-4) open: Dec. 6-8

FINAL EXAM:
Tuesday, Dec. 13, 8 a.m. – 10 a.m in classroom
Detailed Course Objectives for Math 108, Intermediate Algebra

Students will demonstrate a working knowledge of the following processes and concepts:

a. Rational numbers (addition, subtraction, multiplication, and division)
b. Variable expressions (simplify, translate, evaluate)
c. Operations on sets of numbers (union, intersection)
d. Set-builder notation and interval notation
e. First degree equations in one variable (solve, translate from application problems such as coin and stamp problems, integer 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, Cramer’s Rule, and gaussian elimination with matrices)
k. Evaluate determinants (2 x 2 and 3 x 3)
l. Polynomials (add, subtract, multiply, divide using long division and synthetic division, evaluate, factor)
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 (simplify, multiply, divide, add, subtract, simplify complex fractions)
u. Solve fractional 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. value mixture problems
b. percent mixture problems
c. absolute value equations
d. absolute value inequalities
e. application problems with systems of equations
f. application problems with quadratic equations and functions

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Homework Assignment Format
Math 108
Fall 2005

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 vertically (going down) instead of horizontally (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. I will correct the even problems.
10. Staple all pages for each section’s homework assignment together (i.e. staple all of section 1.1 together, then staple all of 1.2 separately, and all of 1.3 separately).
11. No late homework will be accepted.