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Office Hours: MWF 11:00-12:00 or by appointment in FEM 1E	

**Math 103-56021:** Intermediate Algebra (5 Units)**Class meets:** M-F (9:00-9:50) RM# CCI 201**Text (Optional):** Elementary & Intermediate Algebra, McKeague, 3<sup>rd</sup> ed.,

ISBN-10: 0495108510

**Prerequisite:** Math 101**Basic Skills Advisories:** Eligibility for English 126.**Description**

This course will deal with many algebraic concepts including: equations and inequalities in two variables, rational exponents and roots, quadratic functions, exponential and logarithmic functions, and conic sections.

**Expectations / Responsibilities**

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| <b>Instructor</b> | <ul style="list-style-type: none"> <li>• Provide the necessary instruction and model the quality of work to be successful in Math 103.</li> <li>• To hold students accountable for their achievement in relation to the course outcomes.</li> <li>• Clearly communicate progress being made in a timely fashion.</li> <li>• Cancelled classes will be posted on Blackboard and the Reedley College website.</li> </ul>   |
| <b>Student</b>    | <ul style="list-style-type: none"> <li>• Be in each class on time from <b>REEDLEY</b> to <b>TIGERS</b>.</li> <li>• Be properly enrolled on WebAdvisor and WebAssign by Noon Thursday, January, 14, 2010.</li> <li>• Follow the class rule – <b>Be Nice</b>.</li> <li>• Learn the material that is taught and <b>get help</b> when necessary.</li> <li>• Complete at least 70% of the unit's homework prior to each test.</li> <li>• Monitor the class Blackboard site regularly, provide a working e-mail address, and monitor grades online.</li> <li>• Provide a working e-mail address that you check regularly.</li> <li>• Study the material daily and stay current on all assignments.</li> <li>• Students are responsible for officially dropping the class.</li> <li>• You may be dropped if you have more than 5 absences.</li> </ul> |

*NOTE: If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act or section 504 of the Rehabilitation act please contact me as soon as possible.*

*Please refer to SCCCD policies for guidance on all matters relating to this course.*

**Important Dates**

January 29, 2010	Friday	Last day to register for a full-term fall class
January 29, 2010	Friday	Last day to drop a fall full-term class to avoid a "W"
March 12, 2010	Friday	Last day to drop a full-term class to avoid a grade
May 19, 2009	Wednesday	<b>Final Exam 9:00-10:50</b>

**Grading Scale:** A 90-100%    B 80-89%    C 70-79%    D 60-69%

**Tests (70%)**

There will be three tests and a comprehensive final. There are **no make-up tests**. A test may be taken early with prior approval.

**Homework (20%)**

Homework may be assigned online, from the text, or from handouts. Each student is allowed up to 5 WebAssign homework deadline extensions for the semester.

**Quizzes (10%)**

Quizzes will monitor student progress on current material. They will be given at random.

**There is no extra credit.**

**ACADEMIC DISHONESTY**

**Cheating** is the act or attempted act of taking an examination or performing an assigned, evaluated task in a fraudulent or deceptive manner, such as having improper access to answers, in an attempt to gain an unearned academic advantage. Cheating may include, but is not limited to, copying from another's work, supplying one's work to another, giving or receiving copies of examinations without an instructor's permission, using or displaying notes or devices inappropriate to the conditions of the examination, allowing someone other than the officially enrolled student to represent the student, or failing to disclose research results completely.

**Plagiarism** is a specific form of cheating: the use of another's words or ideas without identifying them as such or giving credit to the source. Plagiarism may include, but is not limited to, failing to provide complete citations and references for all work that draws on the ideas, words, or work of others, failing to identify the contributors to work done in collaboration, submitting duplicate work to be evaluated in different courses without the knowledge and consent of the instructors involved, or failing to observe computer security systems and software copyrights. Incidents of cheating and plagiarism may result in any of a variety of sanctions and penalties, which may range from a failing grade on the particular examination, paper, project, or assignment in question to a failing grade in the course, at the discretion of the instructor and depending on the severity and frequency of the incidents.

**COURSE OUTCOMES:**

Upon completion of this course, students will be able to:

1. Simplify and/or factor mathematical expressions into forms more conducive to analysis.
2. Solve equations introduced in Intermediate Algebra.
3. Graph functions and relations introduced in Intermediate Algebra.
4. Apply Intermediate Algebra topics to solve real-life problems.

**COURSE OBJECTIVES**

In the process of completing this course, students will:

- A) use function notation and the properties of lines and linear inequalities.
- B) simplify radical expressions and perform operations on radical expressions.
- C) graph parabolas and solve quadratic equations.
- D) use the properties of exponents and logarithmic functions to change the base of a logarithm.
- E) generalize arithmetic and geometric sequences and find the  $k^{\text{th}}$  term of a binomial expansion.
- F) manipulate and graph equations of conic sections.

**COURSE OUTLINE**

- A. Equations and Inequalities in Two Variables
  1. Slope of a line
  2. The equation of a line
  3. Linear inequalities in two variables
  4. Algebra using function notation
- B. Rational Exponents and Roots
  1. Rational exponents
  2. Simplified form for radicals
  3. Addition, subtraction, multiplication, and division of radical expressions
  4. Equations with radicals
  5. Complex numbers
- C. Quadratic Functions
  1. Completing the square
  2. The quadratic function
  3. Graphing Parabolas
  4. Quadratic Inequalities
- D. Exponential and Logarithmic Functions
  1. Exponential Functions
  2. The Inverse of a function
  3. Logarithms and their properties
  4. Exponential equations and change of base
- E. Sequences and Series
  1. Arithmetic and geometric sequences
  2. Series
  3. Binomial Expansion
- F. Conic Sections
  1. Circle
  2. Ellipses and Hyperbolas
  3. Second-degree inequalities and non-linear systems