Instructor: Dr. Abdallah Shuaibi  
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Office Hours: Office Hours:

1. WALK-IN OFFICE HOURS
   Monday & Wednesday: 9:00-9:30 AM; 12:00-1:00 PM; 3:30-4:00 PM  
   Friday: 4:30-5:30 PM

2. BY APPOINTMENT OFFICE HOURS
   Tuesday & Thursday: 11:00 AM-12:00 PM  
   Monday & Wednesday: 5:30-6:00 PM

Class Time and Place: Monday, Wednesday 1:00 PM - 3:20 PM, Room #: 3973.  
Prerequisite: A grade of C or better in Mathematics 98 or appropriate placement test score or  
consent of department chairperson.  
2008.  
Course Description: Solution of linear and absolute value equations and linear inequalities; integer 
and rational exponents, simplification of radicals; slope and graphing linear equations; systems 
of linear equations; solution of quadratic equations by factoring, completing the square and using 
the quadratic formula; introduction to functions; applications included throughout the course. Writing 
assignments, as appropriate to the discipline, are part of the course.  
Other materials: Students are required to have a scientific or a graphing calculator. You are not 
allowed to use a cell phone as a calculator.  
Internet Resources: The textbook we are using is bundled with MathZone software. MathZone is 
a complete online tutorial and course management system for mathematics and statistics, designed 
for greater ease of use than any other system available. MathZone is a powerful Web-based tutorial 
for homework, quizzing, testing, and multimedia instruction. Also available in CD-Rom format, 
MathZone offers:

- Practice Exercises based on the text and generated in unlimited quantity for as much 
  practice as needed to master any objective.

- Video clips of classroom instructors showing how to solve exercises from text step by step.

- e-Professor animations that take the student through step-by-step instructions, delivered 
on-screen and narrated by a teacher on audio, for solving exercises from the textbook; the 
user controls the pace of the explanations and can review as needed.
• **NetTutor**, which offers personalized instruction by live tutors familiar with the textbook’s objectives and problem-solving methods.

Every assignment, exercise, video lecture, and e-Professor is derived from the textbook. If you bought your new textbook at Beck’s Bookstore, you should have automatically received MathZone access code. If you bought your textbook elsewhere, you may not have MathZone access code. You should be able to purchase a code online at http://www.mathzone.com, and I think it costs around $25.

**Credit Hours:** 5 credit hours.

**Course Objectives:**

1. Develop the algebraic skills necessary for problem solving.

2. Develop the ability to model linear, quadratic, and other nonlinear relations, including the use of the graphing techniques and geometrical principles as tools, for the purpose of solving contextual (real-world) problems.

3. Manipulate and apply literal equations for the purposes of solving contextual (real-world) problems.

4. Writing and communicating the results of problem solving appropriately.

5. Use technology as one aide for the purposes of solving contextual (real-world) problems.

**Student Learning Outcomes:**

Upon satisfactory completion of the course, students will be able to:

1. Simplify expressions containing rational exponents.

2. Perform operations on and simplify radicals.

3. Perform operations on and simplify rational expressions.

4. Solve quadratic equations with real solutions, including the use of the quadratic formula.

5. Solve rational equations.

6. Solve absolute value equations of the form \(|ax + b| = c\).

7. Solve radical equations of the form: \(\sqrt{ax + b} = c\)

8. Solve compound linear inequalities.

9. Solve systems of linear inequalities in two variables.

10. Solve systems of linear equations in two and three variables.

11. Formulate and apply an equation, inequality or system of linear equations to a contextual (real-world) situation.

12. Solve and evaluate literal equations, including nonlinear equations.
13. Formulate and apply nonlinear literal equations to a contextual (real-world) situation.

14. Graph linear and quadratic equations.

15. Determine equations of lines, including parallel and perpendicular lines.

16. Determine whether given relationships represented in multiple forms are functions.

17. Determine domain and range from the graph of a function.

18. Formulate and apply the concept of a function to a contextual (real-world) situation.

19. Interpret slope in a linear model as a rate of change.

20. Apply formulas of perimeter, area, and volume to basic 2- and 3-dimensional figures in a contextual (real-world) situation.

21. Apply the Pythagorean Theorem to various contextual (real-world) situations.

22. Apply the concepts of similarity and congruency of triangles to a contextual (real-world) situation.

**General Education Goals:**
This course addresses the following TR General Education Goals:

- The student performs effectively in the workplace and has the ability to work and make effective use of wide variety of current technologies. (Gen. Ed. Goal 2)
- The student demonstrates the ability to think critically, abstractly, and logically. (Gen. Ed. Goal 4)
- The student demonstrates the ability to work independently. (Gen. Ed. Goal 6)

**Class Operation:**

1. Homework: Homework assignments will be collected every week. The quizzes will be based on the homework problems and additional worksheets. Students who keep up the daily work are generally those who do well on quizzes and tests.

2. Web site & Blackboard: It is your responsibility to check My Web site & the Blackboard regularly for announcements and other important information regarding the course.

3. Online Assignments: Some of the homework assignments, quizzes, and tests are online assignments which are created by using MathZone software. These assignments are automatically graded. Online homework exercises include guided solutions and sample problems to help students understand and master concepts.

4. Quizzes: Throughout the semester, we will have at least 10 quizzes. Quizzes cannot be made up. *There are no exceptions.* As a result, I will drop the lowest two quizzes. We will not have quizzes on the weeks an exam is scheduled.
5. Tests: There will be three exams during the semester besides the final exam. Each of the first and third exams will cover about one-third of the material, but the second exam (midterm exam) is cumulative. The final exam is also cumulative and it will be given during the last week of the semester.

6. COMPASS Test: All exiting Math 99 students must take the COMPASS test during the fifteenth week of the semester. This test will count 5% of the final exam score.

Policies:

- **Participation policy**: Class participation is mandatory. You are expected to attend most of the class sessions. If you have any question, be ready to ask it at the beginning the class. The average student should plan two hours of out of class time for each hour of class. Some students need more time than this.

- **Make-up Policy**: No make-up exam is given without prior notification and documented acceptable excuse. The student must contact the instructor by telephone or e-mail on the day of the exam if there is a problem. If you know in advance of an unavoidable absence, arrangements can be made to take a test prior to the absence.

- **Attendance Policy**: Students must attend most of the class sessions. They are expected to be there ON TIME. Attendance will be taken daily. If you miss a class, it is your responsibility to obtain the assignment and find out what material was covered.

- **Mathematics Department Active Pursuit of Course Objectives & ADW Policy**: Students are not actively pursuing the course objectives and will be administratively withdrawn (ADW) at midterm if at least two of the following apply:

  1. Less than 70% of assignments up to the midterm have been completed.
  2. Less than 70% of quizzes and tests up to the midterm have been attempted.
  3. Less than 50% of class sessions up to the midterm have been attended.

- **Cell Phones/Beepers policy**: Electronic devices cause disruption during class and are not permitted. In order to respect the learning environment, please turn off all such items prior to class.

**Truman College Academic Integrity Policy**: If the alleged violation of the Academic Integrity policy occurs in the classroom, the instructor will determine if a student has committed an act of academic dishonesty. The instructor may take action commensurate with the severity of the act. The instructor may:

1. Assign a grade ‘F’ or ‘0’ to the assignment or test or appropriate part of the assignment or test.

2. Make a proportional reduction in the grade for an entire assignment, if the assignment is a part of a large assignment.

3. Assign a grade ‘F’ for the course. “See the student Handbook for specifics”.

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**Types of Activities:** There will be an emphasis on active and cooperative learning strategies throughout this class. Active Learning is, in short, anything that students do in a classroom other than merely passively listening to an instructor’s lecture. This includes everything from listening practices which help students to absorb what they hear, to short writing exercises in which students react to lecture material, to complex group exercises in which students apply course material to "real life" situations and/or to new problems. Cooperative learning is a successful teaching strategy in which small teams, each with students of different levels of ability, use a variety of learning activities to improve their understanding of a subject. Each member of a team is responsible not only for learning what is taught but also for helping teammates learn, thus creating an atmosphere of achievement. Some of the class active/cooperative learning strategies are listed below. Think-Pair-Share, Student Summaries, One-Minute Paper, Jigsaw Teamwork, Roundtable, Corners and Shared Brainstorming.

**Weekly Schedule:**

1. [Aug 25-Aug 29]: Introduction to Geometry(R.3), Linear Equations in One Variable (Review B)[Optional], Linear Equations in Two Variables (Review C:C2-C5 only).

2. [Sep 1-Sep 05]: Slope-Intercept Form of a Line (3.4), Point-Slope Formula (3.5).  
   **[Sep 1: Labor Day(Holiday)]**

3. [Sep 8-Sep 12]: Applications of Linear Equation (3.6), Systems of Linear Equations in 2 variables (Review D: D1, and D2 only)[Optional], Solving Systems of Linear Equations by the Addition Method(4.3).

4. [Sep 15-Sep 19]: Applications of Linear Equations in Two Variables(4.4), Systems of Linear Equations in Three Variables(9.1).

5. [Sep 22-Sep 26]: Applications of Systems of Linear Equations in Three Variables(9.2).  
   **[Review & Exam I].**

6. [Sep 29-Oct 3]: Polynomials and Properties of Exponents(Review E), Factoring Polynomials and Solving Quadratic Equations(Review F), Rational Expressions(Review G: G1,G2, and G3 only), Least Common Denominator(7.3), Addition and Subtraction of Rational Expressions(7.4).

7. [Oct 6-Oct 10]: Complex Fractions(7.5), Rational Equations(7.6), Applications of Rational Equations and Proportions(7.7).

8. [Oct 13-Oct 17]: Introductions to Relations(8.1), Introductions to Functions(8.2).Graphs of Functions(8.3).  
   **[Review & Exam II (Midterm Exam)].**


10. [Oct 27-Oct 31]: Linear Inequalities in Two Variables(10.5), Definition of the nth Root(11.1), Rational Exponents(11.2).

11. [Nov 3-Nov 7]: Simplifying Radical Expressions(11.3), Addition and Subtraction of Radicals(11.4), Multiplications of Radicals(11.5).
12. [Nov 10-Nov 14]: Rationalization(11.6), Radical Equations(11.7), Complex Numbers(11.8).

13. [Nov 17-Nov 21]: Square Root Property and Completing the Square(12.1), Quadratic Formula (12.2).  
   **[Review & Exam III]**.


15. [Dec 1-Dec 5]: Graphs of Quadratic Functions(12.4), Vertex of Parabola and Applications(12.5).

16. [Dec 8-Dec 12]: **[Review & Final Exam]**.

**Grading Policy:**

- *Exam I* @ 10 %
- *Exam II* @ 20%
- *Exam II* @ 15%
- *Final Exam* @ 30 %
- *Quizzes* @ 10 %
- *Online Assignments* @ 05 %
- *Homework Assignments, Class Participation & Attendance* @ 10 %

**Grading Scale:**

- (90 - 100)% A
- (80 - 89)% B
- (70 - 79)% C
- (60 - 69)% D
- (0 - 59)% F

**Extra Help!**: Many students find that they need extra help in addition to that available in class. Help is available from the instructor at the times indicated or by appointment. Also, recognize that others in the class can and are willing to help. You are encouraged to keep in touch with classmates who have similar schedules. Tutoring is also available at Truman college.

**GOOD LUCK**

*Shuaibi, A.*