Math 0302 – Fundamentals of Algebra Section 501

Course Instructor

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Textbook and Materials

There is no need to purchase a textbook or any supplementary materials for this course. You will need a basic or scientific calculator. Please note that graphing calculators and calculators that have excessive text and storage capabilities are not allowed.

Software and System Requirements:

Mozilla Firefox and Google Chrome are the recommended and supported browsers for this course. The course also has the following options for system requirements:

- Windows 7.0 or higher
- Mac OS x 10.8 or higher

Students are encouraged to use the Browser Check on the initial page within the MLP system in order to check and/or update (free download) the following software requirements:

- Adobe Flash Player version 11.9 or higher
- Adobe Reader version XI or higher

Course Elements

Course Lectures and Webcasts

Content material and notes can be found in the unit tabs within blackboard. The course is separated into two units of material which will correspond to the midterm and final exam. Within each unit there are six objective blocks with specific details and assignment requirements. There are videos to assist you in learning all course objectives. Preparation will take place within blackboard and all graded assignments are found within the MLP system.

You will have weekly webcasts with your course instructor. See Webcast Schedule for details and times. You will access the webcasts through the live webcasts tab within blackboard.

Schedule of Exams

You must complete your exams by the due dates. Due dates are listed in **MyLabsPlus** and also in the Course Schedule located in blackboard. **All deadline times are in Central Time**.

Grade Calculation

Exams	Percent of Grade
Quizzes	30%
Midterm Exam	35%
Final Exam	35%
Total:	100%

Grading Scale

Grades will be computed based on the following distribution. Grades are rounded up accordingly.

70 — 100%	P
Below 70%	F

Homework/Study Plan and Quizzes

This is a self-paced, diagnostic course. Therefore, all homework assignments will be individualized and based on a pre-test evaluation. All assignments will be located in MyLabsPlus. (www.uta.mylabsplus.com) Both pretests and the corresponding homework assignments are available to you on the first class day.

- Within each of the two units, there is a pretest assignment. Once the pretest is taken, the system will recommend homework assignments based on the six learning outcomes included within the pretest. Homework assignments are found within the study plan and are set for unlimited access. Students should work through the questions until they feel comfortable with the material. The grades reflected in MLP for homework are not counted toward the actual course average.
- All homework assignments contain learning aids to help you through the material. Be careful not to become overly dependent on these aids or you may not perform well on the exams. To gain access to the next attempt once a question is marked wrong, simply select the "similar exercise" button at the bottom of the homework screen.
- **NO late quizzes will be accepted**, so watch the due dates on the MyLabsPlus calendar. You will receive a zero for any quizzes not submitted. There will be six quizzes throughout the course, three within each unit. You will have three attempts at each quiz. The system will only count the attempt with the highest score toward your average. The quizzes are timed and do not contain any learning aids for assistance. Quizzes should be used to help prepare for the exams. For time limits, numbers of questions, and other details for each quiz, please see your course schedule.
- If you have trouble completing the assignments, please seek some form of tutoring and/or see your instructor for assistance.

Midterm and Final Exam

The midterm and final exam are **proctored** exams containing material from all course learning outcomes. The midterm covers the first six objectives and the final covers the last six objectives. (Please reference the course schedule for exact dates.)

- The midterm and final are found within MLP and are comprised of 30 questions that must be completed within 120 consecutive minutes. Each exam cannot be opened, saved, and returned to at a later time.
- You may use two 3x5 index cards with notes front and back, a basic or scientific calculator (no cell phones), and blank scratch paper. No additional materials are allowed.
- Each exam can either be taken in the Math Computer Lab (PKH 308) on the UTA campus by appointment only or by making arrangements for online proctoring with Proctor U which requires prior scheduling and a webcam. Students are solely responsible for their own scheduling and the fees associated with using the service. See tab in blackboard called Testing/Proctor U for details.
- Use of any unauthorized electronic devices or notes during an exam will result in a grade of ZERO.

Announcements: Found in *MyLabsPlus* and in *Blackboard*.

- Students are responsible for all information found in these announcements.
- Students should check for new announcements at least twice a week.

Help for Students

- Online Coach – information is found on the opening page of the Blackboard website.
- Math Emporium – computer lab located in Pickard Hall 308, offers free daily tutoring. For details and scheduling visit the website, http://www.uta.edu/math/emporium/
- Math Clinic – located in Pickard Hall 325, offers free daily help.
- SOAR is a cost/share tutoring service Ransom Hall 205.
- Maverick Resource Hotline (817-272-6107).
- Online help: khanacademy.org.

Course Objectives

Learning Objectives and Outcomes

After completing the course, students should be able to demonstrate the following competencies:

1.0 Students will be able to perform calculations with basic geometric shapes and convert units of measurement.
2.0 Students will be able to perform integer operations and evaluate variable expressions within the real number system.
3.0 Students will be able to solve linear and absolute value equations and inequalities as well as obtain a basic knowledge of set operations.
4.0 Students will be able to interpret linear equations and their graphs using the rectangular coordinate system, forms of lines, and slope.
5.0 Students will be able to discuss functions in a conceptual, graphical, and numerical manner.
6.0 Students will be able to evaluate exponents and perform operations involving polynomials.
7.0 Students will be able to factor second and third degree polynomials.

8.0 Students will be able to evaluate, perform operations, and solve equations involving rational expressions, roots, and radicals.
9.0 Students will be able to solve and graph quadratic equations.
10.0 Students will be able to solve simultaneous systems of equations interpreting the meaning of the solution(s) and demonstrating graphical solution techniques when appropriate.
11.0 Students will be able to convert between decimals, fractions, and percentages while learning to solve mathematical applications in various forms.
12.0 Students will be able to distinguish patterns and develop mathematical reasoning skills.

Course Competencies

1.0 To demonstrate competency in geometric shapes and measurements, a student should be able to:
- 1.1 Find the perimeter and area of rectangles, squares, triangles, and composite shapes.
- 1.2 Use square roots, problem solving skills, and the Pythagorean Theorem to determine unknown lengths.
- 1.3 Apply the appropriate formula for applications.
- 1.4 Convert between metric and U.S. customary units using unit fractions and operations.
- 1.5 Determine the correct unit measurement and make inferences about reasonable dosage requirements.
- 1.6 Use formulas to convert between Celsius and Fahrenheit temperatures.

2.0 To demonstrate competency in the real number system, a student should be able to:
- 2.1 Evaluate exponential expressions, use order of operations, and inequality symbols.
- 2.2 Translate between word statements and mathematical symbols.
- 2.3 Simplify absolute value expressions.
- 2.4 Add, subtract, multiply, and divide signed numbers.
- 2.5 Identify and illustrate properties of the real number system.
- 2.6 Simplify expressions by combining like terms.

3.0 To demonstrate competency in solving equations and inequalities, a student should be able to:
- 3.1 Solve linear equations containing both integer and fractional values.
- 3.2 Solve linear equations that are conditional, identities, and contradictions.
- 3.3 Solve for a specified variable.
- 3.4 Determine the appropriate formula for applications of linear equations.
- 3.5 Use and understand set notation involving intersections and unions.
- 3.6 Solve linear inequalities.
- 3.7 Use and understand interval notation and graph solutions on the real number line.
- 3.8 Solve absolute value equations and inequalities.

4.0 To demonstrate competency in graphing, a student should be able to:
- 4.1 Learn the characteristics of the Cartesian coordinate system and linear equations in two-variables.
- 4.2 Read and interpret graphs.
- 4.3 Calculate the slope of a line given two points, an equation, or the graphical representation.
- 4.4 Interpret slope as an average rate of change.
- 4.5 Use slope to determine parallel and perpendicular lines.
- 4.6 Find the slope-intercept, point-slope, and standard forms of a linear equation.
- 4.7 Evaluate intercepts and build tables of ordered pairs.
- 4.8 Graph lines using points, intercepts, and slope.

5.0 To demonstrate competency in functions, a student should be able to:
- 5.1 Define and identify relations and functions.
- 5.2 State the domain and range of a function.
- 5.3 Evaluate functions using function notation.
- 5.4 Graph linear functions.

6.0 To demonstrate competency in exponents and polynomials, a student should be able to:
- 6.1 Illustrate the product, power, and quotient rules of exponents.

6.2 Manipulate negative exponents and use combinations of rules.
6.3 Simplify and evaluate polynomials.
6.4 Add and subtract polynomials by combining like terms.
6.5 Multiply and find special products of polynomials.
6.6 Divide polynomials by a monomial and a polynomial.

7.0 To demonstrate competency in factoring, a student should be able to:
7.1 Determine the greatest common factor.
7.2 Factor by grouping.
7.3 Factor a trinomial with different leading coefficients and greatest common factors.
7.4 Factor a trinomial using various methods.
7.5 Factor using special factoring formulas.
7.6 Use factoring to solve quadratic equations.
7.7 Solve additional problems involving geometric figures and Pythagorean applications.

8.0 To demonstrate competency in rational expressions, roots, and radicals, a student should be able to:
8.1 Determine when a rational expression is undefined.
8.2 Find the numerical value of a rational expression.
8.3 Simplify a rational expression.
8.4 Identify the least common denominator of rational expressions.
8.5 Add, subtract, multiply and divide rational expressions.
8.6 Simplify complex fractions.
8.7 Evaluate expressions with radicals and rational exponents.
8.8 Simplify radical expressions and expressions with rational exponents.
8.9 Add, subtract, multiply, and divide radical expressions.
8.10 Rationalize denominators.
8.11 Write square roots of negative numbers in the form bi.
8.12 Solve equations involving rational expressions and radical expressions.

9.0 To demonstrate competency in solving and graphing quadratic equations, a student should be able to:
9.1 Solve quadratic equations using factoring, square root property, completing the square, and the quadratic formula.
9.2 Graph basic quadratic equations.
9.3 Determine domain and range for a quadratic function.
9.4 Use function notation for quadratics.

10.0 To demonstrate competency in solving systems of linear equations, a student should be able to:
10.1 Evaluate solutions of linear systems.
10.2 Solve linear systems in two variables by graphing.
10.3 Identify special linear systems in two variables.
10.4 Solve linear systems in two variables using substitution.
10.5 Solve linear systems in two variables using elimination.

11.0 To demonstrate competency in decimals, fractions, and percentages, a student should be able to:
11.1 Convert between fractions, decimals, and percentages.
11.2 Solve problems using a percent proportion.
11.3 Calculate simple interest.
11.4 Solve applications about sales tax and commission.

12.0 To demonstrate competency in mathematical reasoning, a student should be able to:
12.1 Identify patterns and apply inductive reasoning.
12.2 Use recursion formulas and factorial notation.
12.3 Evaluate conditional and biconditional statements.
12.4 Apply deductive reasoning skills.

Course Policies

Drop Policy:

If you withdraw from the course for any reason, you must follow University procedures. It is your responsibility to execute these procedures correctly and within the deadlines. **Instructors are unable to drop students**. The Math Department Office can help with the withdrawal process. We strongly recommend that you drop the course if you are significantly behind in completing the required assignments. Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (http://wweb.uta.edu/aao/fao).

Accommodations and Americans with Disabilities Act:

The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA).* All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Title IX:

The University of Texas at Arlington is committed to upholding U.S. Federal Law "Title IX" such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit www.uta.edu/titleIX.

Academic Integrity:

It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. This course includes a zero tolerance policy for academic dishonesty and students are expected to adhere to the UT Arlington Honor Code:

> *I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence. I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University. **Students found guilty of cheating will receive a grade of "F" for the course.**

> *"Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts." (Regents' Rules and Regulations, Series 50101, Section 2.2)*

Electronic Communication:

UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at http://www.uta.edu/oit/cs/email/mavmail.php.

Student Feedback Survey:

At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit http://www.uta.edu/sfs.

Student Support Services:

UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources.

Student Intellectual Property Rights Statement:

A student shall retain all rights to work created as part of instruction or using university technology resources.