Math 1302 – College Algebra – Section 501

Course Instructor

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Textbook and Materials

You have a couple of options for this course depending on personal preference. If you choose to purchase your items through the UTA Bookstore, please contact Shiva in the bookstore: shiva@uta.edu.

1. **Access Code and Textbook Bundle**: *College Algebra*, 11th Ed., Lial, Hornsby, Schneider, and Daniels, Pearson Ed. Inc., 2013. ISBN#1-323-042520 ; containing MLP access code and *MyNotes* workbook.
2. **Access Code for MyLabsPlus**: Purchase your stand-alone access code at the UTA bookstore— or purchase online at www.uta.mylabsplus.com on the first class day. There is a free E-book within the MLP website.

Additional materials include a 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 3 units of material which will correspond to the 3 chapter tests. Within each unit there are two blocks with specific details and assignment requirements. 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. Each webcast date and time will be announced weekly depending on the class schedule for that week. You will access the webcasts through the live webcasts tab within blackboard.

Schedule of Lessons and Tests

You must complete all assignments and tests 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

Homework, Tests, Exam	Percent of Grade
Homework/Quizzes	20%
Chapter Exams (Average of 3 Tests)	50%
Comprehensive Final Exam	30%
Total:	100%

- Two of the lowest homework grades and one quiz grade will be dropped at the end of the semester.
- In the event you are not satisfied with one of your three chapter exam scores, you may ask your instructor for a retake. Only ONE retake on a chapter exam of your choosing will be granted. Please reference the course schedule for specific retake dates. You MUST receive email confirmation from your instructor prior to taking your ONE retake exam.

Grading Scale

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

90 — 100%	A
80 — 89%	B
70 — 79%	C
60 — 69%	D
Below 60%	F

Homework and Quizzes

All homework and quizzes will be assigned in MyLabsPlus. (www.uta.mylabsplus.com) All homework and quiz assignments are available to you on the first class day.

- **NO late homework or quizzes will be accepted,** so watch the due dates on the MyLabsPlus calendar. You will receive a zero for any assignments not submitted.
- There is a homework assignment covering each section of material, a syllabus quiz, and there are 6 ten question content quizzes. Homework assignments are set for unlimited access up until the due

date and you have 3 attempts per question, however you only have two attempts at each quiz which have a 45 minute time limit and must be completed once opened. Quizzes cannot be saved and resumed later.

- 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. You have three chances at a question per attempt. 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. Quizzes are designed to check your knowledge retention and therefore do not contain the learning aids except in review mode once the quiz has been submitted.
- If you have trouble completing the assignments, please seek some form of tutoring and/or see your instructor or coach for assistance.

Extra Credit: Signature Assignments

This course contains three related concept assignments. Each of these assignments will cover two of the six learning objectives and outcomes listed in the objective section of your master syllabus. You will be required to complete a variety of short answer questions. These assignments will count as bonus points on a chapter exam based on the percentage score earned on each assignment. No more than 5 points can be earned on any given test. Extra credit will be applied at the end of the semester and cannot apply to the final exam. These assignments will access the following skills:

- Critical Thinking Skills - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
- Communication Skills - to include effective development, interpretation and expression of ideas through written, oral and visual communication.
- Empirical and Quantitative Skills - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

Tests

There will be three online proctored chapter tests throughout the course of the semester. (Please reference the course schedule for exact dates.)

- All chapter tests are found within MLP and are comprised of 20 questions that must be completed within 90 consecutive minutes. Tests cannot be opened, saved, and returned to at a later time. Tests are opened a few days prior to the deadlines.
- You may use one 3x5 index card with notes front and back, a scientific calculator (no cell phones), and blank scratch paper. No additional materials are allowed.
- All exams are either 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.

Final Exam

The final exam is a comprehensive, proctored exam containing material from all 30 sections covered over the course of the semester. (Please reference the course schedule for exact dates.)

- The final is found within MLP and is comprised of 30 questions that must be completed within 150 consecutive minutes. The final cannot be opened, saved, and returned to at a later time. It will be opened a few days prior to the deadline.
- You may use two 3x5 index cards with notes front and back, a scientific calculator (no cell phones), and blank scratch paper. No additional materials are allowed.
- The final 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.
- Supplemental Instruction – 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 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.

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 solve algebraic equations and inequalities including linear, quadratic, radical, and absolute value relations and functions.
2.0 Students will be able to interpret equations and their graphs using the rectangular coordinate system, forms of lines, and slope.
3.0 Students will be able to use functions both in a procedural and a conceptual manner. They will be able to represent functions graphically, numerically, algebraically, and/or verbally.
4.0 Students will be able to solve, graph and determine characteristics for polynomial and rational functions.
5.0 Students will be able to transform and solve equations involving logarithmic and exponential functions.
6.0 Students will be able to solve simultaneous systems of equations and inequalities interpreting the meaning of the solution(s) and demonstrating graphical solution techniques when appropriate. They will also be able to perform matrix operations, including multiplication, inverses, and determinants.

Course Competencies

1.0 To demonstrate competency in various relations and functions, a student should be able to:
- 1.1 Solve linear equations and inequalities.
- 1.2 Solve rational equations and inequalities.
- 1.3 Solve equations involving radicals.
- 1.4 Solve absolute value equations and inequalities.
- 1.5 Identify characteristics, evaluate, and graph linear, nth-root, and absolute value functions.
- 1.6 Solve quadratic equations and inequalities using factoring, square root property, completing the square, the quadratic formula, and substitution. Include complex solutions.
- 1.7 Use the discriminant to describe solutions to quadratic equations.
- 1.8 Solve applied problems involving linear, rational, radical, absolute value, and quadratic equations.

2.0 To demonstrate competency in the rectangular coordinate system, a student should be able to:
- 2.1 Define the parts of the rectangular coordinate system.
- 2.2 Graph lines using points, intercepts, and slope.
- 2.3 Find the slope of a line and interpret slope as an average rate of change.
- 2.4 Use slope to determine parallel and perpendicular lines.
- 2.5 Write the equation of a line given points, slope, or intercepts.

3.0 To demonstrate competency in basic functions and operations, a student should be able to:
- 3.1 Define and identify relations and functions.
- 3.2 Determine the domain and range of a function.
- 3.3 Evaluate functions using function notation.
- 3.4 Determine the intervals for which a function is increasing, decreasing, or constant.
- 3.5 Determine the intervals for which a function is continuous.
- 3.6 Find the average rate of change between two values of a function.
- 3.7 Use functions to model data.
- 3.8 Identify characteristics and evaluate piecewise-defined functions.
- 3.9 Graph basic functions using translations.
- 3.10 Identify symmetry of the graph of a function.
- 3.11 Determine whether a function in even or odd.
- 3.12 Find the sum, difference, product, and quotient of functions.
- 3.13 Determine the difference quotient.
- 3.14 Find the composition of functions and determine the effect on domain.

4.0 To demonstrate competency in polynomial and rational functions, a student should be able to:
- 4.1 Determine domain and range.
- 4.2 Identify increasing, decreasing, and constant functions.
- 4.3 Graph quadratic functions.
- 4.4 Find and use the vertex of a quadratic function in an application.
- 4.5 Use long division and synthetic division algorithms for polynomials.
- 4.6 Determine zeros and factors of functions using a variety of algebraic techniques.
- 4.7 Determine the value of a polynomial function using the remainder theorem.
- 4.8 Sketch the graph of a polynomial function.
- 4.9 Use the intermediate value theorem for polynomial functions.
- 4.10 Determine the asymptotes of a rational function.
- 4.11 Sketch the graph of a rational function.
- 4.12 Create a polynomial function given zeros of the function.

5.0 To demonstrate competency in exponential and logarithmic functions, a student should be able to:
- 5.1 Identify characteristics and determine the inverse of a function.

- 5.2 Evaluate exponential and logarithmic functions.
- 5.3 Expand and condense expressions using logarithmic properties.
- 5.4 Relate logarithmic and exponential functions.
- 5.5 Determine the graph of logarithmic and exponential equations.
- 5.6 Solve exponential and logarithmic equations.
- 5.7 Solve problems consisting of exponential and logarithmic applications.

6.0 To demonstrate competency in systems of equations and matrices, a student should be able to:

- 6.1 Solve linear and non-linear systems of equations using algebraic techniques.
- 6.2 Solve systems of equations using the Gauss-Jordan elimination.
- 6.3 Solve systems of equations using Cramer's Rule and determinants.
- 6.4 Determine the solution of a system of inequalities.
- 6.5 Relate solving equations and inequalities to linear programming applications.
- 6.6 Solve application problems using systems of equations.
- 6.7 Apply properties of matrices and perform basic operations.
- 6.8 Determine inverse matrices and use to solve systems of equations.