

Course: College Algebra (Math 245-4500), Spring 2015

Meeting time & Location: TTh 7:15 PM – 8:40 PM, MSA 102

Instructor: W. Tu, PhD (email: miaowe@wlac.edu) Please include “Math 245” on the subject line when sending messages to me.

Office Hours: 8:40 – 9:15 PM Tuesday

We will be using Piazza for class discussion. The system is highly catered to getting you help fast and efficiently from classmates and myself. Rather than emailing questions to me, I encourage you to post your questions on Piazza. If you have any problems or feedback for the developers, email team@piazza.com.

Find our **class page** at: <http://piazza.com/wlac/spring2015/math245/home>

Prerequisite: Completion of Math 125 or Math 128 with a grade of C or better

Course Descriptions: This course covers relations, functions and their graphs, exponential and logarithmic functions, theory of equations, matrices and determinants, theory of equations, permutations, combinations, probability, sequences and series, conic sections, and mathematical induction.

Course Objectives: Upon successful completion of this course, the student will be able to:

- Graph linear functions and understand their properties.
- Analyze polynomial functions and solve polynomial equations.
- Perform algebraic manipulations involving radicals, exponents, rational expressions, and logarithms
- Analyze and graph conic sections
- Use matrices to solve a system of linear equations
- Evaluate determinants and understand their properties
- Compute and use permutations and combinations
- Compute basic probabilities
- Calculate with arithmetic and geometric sequences and series
- Understand and use the Binomial Theorem
- Apply mathematical induction

Student Learning Outcomes:

Choose an appropriate basic model (e.g. linear, quadratic, exponential, power, etc.) for an applied situation, find the equation(s) for that model, and solve equations to answer questions about the original situation.

Course Materials:

Textbook: *College Algebra, 8th ed.* Larson, R. Brooks/Cole, 2010. ISBN: 1-4390-4869-X

Calculator (**required**): Calculators with symbolic manipulation capabilities (CAS) are not allowed on tests. That includes the TI-Nspire series, Casio ClassPad or Algebra FX2+ or Prizm, HP Prime, etc. Also not allowed on tests are calculators built into a phone or any other device with communication capability.

WebAssign (required): This is a web-based e-learning application. You will need to do homework assignments and take quizzes through *WebAssign*. Register *WebAssign* at <http://webassign.net>. Class key for this course “Math 245 Spring 2015” is **elcamino 3197 5557**. To complete the registration, you’ll need to purchase the access code online. You have a grace period of 2 weeks to complete the registration.

Assessments:

- 20%: Online *WebAssign* homework assignments; one assignment for each section; up to 2 attempts, record the score from the last attempt.
- 50%: Five in-class tests on the following chapters
 - Test #1: Chapters 1 & 2
 - Test #2: Chapters 3 & 4
 - Test #3: Chapters 5
 - Test #4: Chapters 6
 - Test #5: Chapters 7 & 8
- 30%: Comprehensive final exam

Grading: A passing grade of C will not be assigned to students with final exam scores lower than 65% regardless of the overall grade

Percentage cutoff	Grade
89.5%	A
79.5%	B
69.5%	C
59.5%	D
Below 59.5%	F

General rules on assignments/exams:

1. Online assessments need to be completed and submitted on or before the due date given for each assignment. No extension will be granted to individuals for any reason. However, re-open of the online assessments will be made available during and at the end of the semester. Refer to course calendar for specific dates and chapters for re-open.
2. There are **no makeup tests for any reason**. No tests will be given prior to the scheduled date either. Lowest test score will be replaced by the average of three test scores if you do not miss any one test. If you have to miss one test, the missing one will be replaced by 80% of your final exam. If you have to miss more than one test, you will be dropped from the class.
3. On the test date (including final exam), the test will not be given to a student 15 minutes late or after someone finishing the test, whichever comes first.
4. Tests are closed book and closed-notes. No scratch papers are allowed during the test. No sharing of the calculator is permitted. Cell phone should be turned off (not on vibrate) and stored away. If cell phone is seen during the test, you will be treated as cheating on a test.
5. Students are bound by the Code of Academic Conduct and Reporting Policy that addresses issues of academic dishonesty. If you are caught cheating on an exam, you will receive a grade of zero for that exam and the incident will be reported and become part of your permanent record. Please note that a zero grade assigned as a result of academic dishonesty will **not** be treated as the lowest score.

Attendance/Participation:

Good attendance and active participation are crucial for the success of this class. Please arrange your schedule accordingly prior to enrolling the class. Frequently missing the class is not acceptable. Coming late or leaving early is also unacceptable. You may be dropped from the class for an accumulation of absence (including being tardy/leaving early) of 4 hours. However, it is still your responsibility to drop the class if you do not wish to complete. Failure to drop in a timely manner might result in an F on your academic record. Final exam will not be given to a student with excessive missing from the class.

Students are expected to have all the necessary course-related materials/handouts ready when coming to the class. Cell phones should be turned off (not on vibrate) and put away. No cell phones and materials unrelated to the class should be visible during the class. All students should participate in discussions and work on practicing sample questions given inside the class. Any disruptive behavior includes but is not limited to talking, listening to ipod's, reading materials other than classroom text, and obstruction or disruption of classes may result in the exclusion from the class.

Students are responsible for all the announcements made in the class.

Tentative Course Calendar

Date	Class Activities/Topics to be covered	Online Assignments Due Dates
2/10 T	<ul style="list-style-type: none"> • Overview/Introduction to the course • 1.1: Graphs of Equations 	HW 1: 2/25
2/12 TH	<ul style="list-style-type: none"> • 1.2: Linear Equations in One Variable • 1.4: Quadratic Equations and Applications 	
2/17 T	<ul style="list-style-type: none"> • 1.5: Complex Numbers • 1.6: Other Types of Equations 	
2/19 TH	<ul style="list-style-type: none"> • 1.7: Linear Inequalities in One Variable 	
2/20: Last day to add a class, to drop a class without a fee, and to drop a class without a "W"		
2/24 T	<ul style="list-style-type: none"> • 1.8: Other Types of Inequalities 	HW 2: 3/18
2/26 TH	Test #1-1 (Chap 1)	
3/3 T	<ul style="list-style-type: none"> • 2.1: Linear Equations in Two Variables • 2.2: Functions 	
3/5 TH	<ul style="list-style-type: none"> • 2.3: Analyzing Graphs of Functions 	
3/10 T	<ul style="list-style-type: none"> • 2.4: A Library of Parent Functions • 2.5: Transformations of Functions 	
3/12 TH	<ul style="list-style-type: none"> • 2.6: Combinations of Functions: Composite Functions 	
3/17 T	<ul style="list-style-type: none"> • 2.7: Inverse Functions 	
3/19 TH	Test # 1-2 (Chap 2)	
3/24 T	<ul style="list-style-type: none"> • 3.1: Quadratic Functions and Models 	
3/26 TH	<ul style="list-style-type: none"> • 3.2: Polynomial Functions of Higher Degree 	
3/31 T	No Class Today!	
4/2 TH	<ul style="list-style-type: none"> • 3.3: Polynomial and Synthetic Division 	
4/7 & 4/9: Spring Break; Online assignments reopen for Chaps 1 ~ 3 (4/3 ~ 4/15)		

Tentative Course Calendar (Cont'd)

Date	Class Activities/Topics to be covered	Online Assignments Due Dates
4/14 T	<ul style="list-style-type: none"> 3.4: Zeros of Polynomial Functions 	HW 3: 4/15
4/16 TH	Test # 2-1 (Chap 3)	
4/21 T	<ul style="list-style-type: none"> 4.1: Rational Functions and Asymptotes 	
4/23 TH	<ul style="list-style-type: none"> 4.2: Graphs of Rational Functions 	HW 4: 4/27
4/28 T	Test # 2-2 (Chap 4)	
4/30 TH	<ul style="list-style-type: none"> 5.1: Exponential Functions and Their Graphs 	
5/5 T	<ul style="list-style-type: none"> 5.2: Logarithmic Functions and Their Graphs 	
5/7 TH	<ul style="list-style-type: none"> 5.3: Properties of Logarithms 	
5/8: Last day to drop with a "W"		
5/12 T	<ul style="list-style-type: none"> 5.4: Exponential and Logarithmic Equations 	HW 5: 5/13
5/14 TH	Test # 3 (Chap 5)	
5/19 T	<ul style="list-style-type: none"> 6.1: Linear and Nonlinear Systems of Equations 	
5/21 TH	<ul style="list-style-type: none"> 6.2: Two-Variable Linear Systems 	
5/26 T	<ul style="list-style-type: none"> 6.4: Partial Fractions 	HW 6: 5/27
5/28 TH	Test # 4 (Chap 6)	
5/29 ~6/3: Online assignments reopen for Chaps 4 ~ 6		
6/2 T	<ul style="list-style-type: none"> Final Review 	
6/4 TH	Final Exam	