

MAT 104 – College Algebra Course Syllabus
Tuesday, Thursday (08:00 – 09:15) / Walters 256
Spring 2009

COURSE DESIGNATION

MAT 104, College Algebra. Review of the fundamentals of algebra; linear and quadratic equations and inequalities; functions and graphs; systems of equations and inequalities; exponential and logarithmic functions; and theory of equations. A student who has earned credit in MAT 106 cannot receive credit for this course. Prerequisite: 2 years of high school algebra or equivalent. (3 credit hours)

TEXT

Michael Sullivan. College Algebra Essentials. Eighth Edition. Pearson Prentiss Hall 2008.
Course ID: smith56961

INSTRUCTOR

Mack Smith Email: msmith@deltastate.edu Office: Walters 270-G Phone: 846-4517

General Course Objectives

Upon completion of the course, the student will be able to:

1. Simplify algebraic expressions.
2. Solve linear equations.
3. Solve quadratic equations.
4. Solve inequalities.
5. Solve applied problems.
6. Describe and define a function.
7. Find the equation of a linear function satisfying given conditions.
8. Identify the domain and range.
9. Find the intercepts of an equation or graph.
10. Sketch the graph of a function.
11. Verify that a function has an inverse and compute the inverse of a function.
12. Simplify exponential and logarithmic expressions and solve equations.
13. Solve systems of linear equations.

TUTORING SERVICE

Free tutoring will be available in the Mathematics Department for students who need help outside of class. Hours when tutors are available will be given to the students and posted on the door of the math office, Walters 270.

GRADING AND EVALUATION

1. Unannounced quizzes may be given throughout the semester (based on homework assignments).
2. Homework will count as 20% of your final grade. Homework (to be done on the computer using **MyMathLab** software) must be done by the due date to get full credit.

Late homework penalties will be assessed as follows:

- 25% for homework 1-3 days late;
- 50% for homework 4-7 days late;
- 100% for homework more than 7 days late;

3. **Four scheduled tests** will be given during the semester.

Your **final grade** will be the **average of: the homework grade; the 3 best scheduled test grades; and the final exam** (all equally weighted).

There will be No Extra Credit or “make-up” work to improve your grade.

Grades will be assigned according to the following scale:

A (90 – 100) B (80 – 89) C (70 – 79) D (60 – 69) F (Below 60)

Graduating seniors should notify me as soon as possible of their status as seniors.

Cheating and plagiarism are not tolerated. If it is established that a violation has occurred, the instructor may determine the penalty, or he/she may report the offense to the department chair and dean of the school. The usual penalty involves a grade of zero on the test, examination or paper in question.

CLASS ATTENDANCE

Prompt and regular attendance is necessary for success in this course. To receive credit in this course, you must attend a minimum number of the class meetings. **Classes meeting three times per week** will be allowed a **total of 9 absences** (excused and unexcused), and **classes meeting two times per week** will be allowed a **total of 7** (excused and unexcused). If you **exceed the allowable number** of absences, a **grade of “F”** will be assigned as the final grade in the course. **To be counted present, you must arrive on time for the class and remain in class the entire time.** When a student is tardy for class, it is the student’s responsibility to request that the instructor change the recorded absence to a tardy. **This must be done on the day the tardy occurs. A maximum of 3 tardies will be allowed** without consequences. **Each additional tardy** will be recorded as an **unexcused absence.**

CLASSROOM POLICIES AND MAKE-UP TESTS

1. **Do NOT go to SLEEP in CLASS!!!**
2. Do not use tobacco or eat in the classroom.
3. Do **come to class on time** and be prepared to begin class at the scheduled time.
4. Do not ask to leave class early. Schedule all appointments at times that do not conflict with class time.
5. **Cell Phones and Pagers must be turned off during class.** Cell Phones may not be used as calculators.
6. Calculator use is permitted during all classes and tests.
7. **Take earphones and listening devices out of your ears upon entering the classroom.**
8. Scheduled tests will be announced about a week prior to the actual test dates.
9. Be sure to **show all work on tests.** No partial credit will be given if the work is not shown in detail. **“Answers only” will not be accepted.**
10. Come to my office for help during scheduled office hours. No appointment is necessary. It is extremely important that you understand the material and are able to complete the homework assignments for each class prior to the next class. Tutoring is also available in Walters 272.
11. You must expect to practice assigned problems until you understand them. HLS is a good tool for this purpose.
12. **Make-up tests will be given only to those students presenting a written excuse,** acceptable by the university. **Any absence from scheduled work must be covered by a written excuse by the Vice President for Academic Affairs, the Student Health Service, or a doctor before the student is allowed to make up that missed work.** **All make-up work must be completed within three days of returning to class.** Any exception to this rule must be arranged before the work is missed.
13. Buy a scientific calculator or graphing calculator early in the semester and learn how to use it. Do not expect me to know how to use your calculator without the manual. Please do not ask to borrow a calculator from me or one of your classmates on test day since rarely do two calculators operate exactly the same. **BRING YOUR CALCULATOR TO CLASS EVERY DAY.**

Note: OKRA mail is the official communications link between students and the university.

IMPORTANT DATES

January 21, 2009 is the last day that a course may be added to your schedule; this includes changes from one section to another within the same course. If you plan to **audit** this course, you must make the change by **January 27, 2009.** Students who remain in the course **after January 28, 2009,** and who elect to drop the course will receive a grade of **W if passing or F if failing** the course at the time of the drop. The withdrawal process is not complete until the drop slip has been signed by all designated parties and the completed form has been turned in to the Registrar’s office. **No course on campus may be dropped after May 1, 2009.**

The **comprehensive Final Exam** for this course is scheduled for **May 4, 2009** at 8:00 am. You will be required to take the exam on the day it is given.

Martin Luther King Holiday
Spring Break
Easter Holiday

January 19, 2009 (day classes)
March 16 –20, 2009
April 10, 2009

OFFICE HOURS

Monday	Tuesday	Wednesday	Thursday	Friday
07:30 – 08:00	07:30 – 08:00	07:30 – 08:00	07:30 – 08:00	07:30 – 08:00
	09:30 – 10:30		09:30 – 10:30	
10:00 – 11:00		10:00 – 11:00		10:00 – 11:00
11:00 – 13:00*		11:00 – 13:00*		11:00 – 12:00*

Other Times by Appointment

* Math Lab hours

MAT 104 COLLEGE ALGEBRA - PRACTICE PROBLEMS

Please note that this list is only tentative and is subject to change during the semester

Chap	Topic	
R.1	Real Numbers	16
R.1.3	Evaluate Numerical Expressions	
R.2	Algebra Essentials	25
R.2.2	Find Distance on the Real Number Line	
R.2.3	Evaluate Algebraic Expressions	
R.2.4	Determine the Domain of a Variable	
R.2.5	Use the Laws of Exponents	
R.4	Polynomials	20
R.4.3	Add and Subtract Polynomials	
R.4.4	Multiply Polynomials	
R.4.5	Know Formulas for Special Products	
R.4.7	Work with Polynomials in Two Variables	
R.5	Factoring Polynomials	25
R.5.1	Factor the Difference of Two Squares and the Sum and Difference of Two Cubes	
R.5.2	Factoring Perfect Squares	
R.5.3	Factor a Second-Degree Polynomial: $x^2 + Bx + C$	
R.5.4	Factor by Grouping	
R.5.5	Factor a Second-Degree Polynomial: $Ax^2 + Bx + C$	
R.7	Rational Expressions	20
R.7.1	Reduce a Rational Expression to Lowest Terms	
R.7.2	Multiply and Divide Rational Expressions	
R.7.3	Add and Subtract Rational Expressions	
R.7.4	Use the Least Common Multiple Method	
R.7.5	Simplify Complex Rational Expressions	
R.8	nth Roots; Rational Exponents	20
R.8.1	Work with nth Roots	
R.8.2	Rationalize Denominators	
R.8.3	Simplify Expressions with Rational Exponents	
1	Equations and Inequalities	
1.1	Solving Linear Equations	19
1.2	Quadratic Equations	23
1.3	Complex Numbers	
1.4	Radical Equations; Equations Quadratic in form; Factorable Equations	15
1.5	Solving Inequalities	12
1.6	Equations and Inequalities Involving Absolute Values	11
1.7	Problem Solving: Interest; Mixture; Uniform Motion; Constant Rate; Job Applications	06
2	Graphs	
2.1	The Distance and Midpoint Formulas	09
2.2	Graphs of Equations in Two Variables; Intercepts	05
2.3	Lines: slope; point-slope, slope-intercept, general form; horizontal and vertical lines	28
2.3	Lines: parallel; perpendicular	
3	Functions and Their Graphs	
3.1	Functions: relations; evaluate a function; domain of a function; operations on functions	21
3.2	The Graph of a Function	10
3.3	Properties of Functions	13
3.4	Piecewise-defined Functions	08
3.5	Graphing Techniques: Transformations	18
4	Linear and Quadratic Functions	
4.1	Linear Functions and Their Properties	09
4.2	Building Linear Functions from Data	
4.3	Quadratic Functions and Their Properties	16
4.4	Quadratic Models; Building Quadratic Functions from Data	
5	Polynomial and Rational Functions	
5.2	Properties of Rational Functions: domain; horizontal, vertical and oblique asymptotes	
5.3	Graph of Rational Functions	
5.4	Polynomial and Rational Inequalities	07
6	Exponential and Logarithmic Functions	
6.1	Composition of Functions	08
6.2	One-to-One Functions	23
6.3	Exponential Functions	19
6.4	Logarithmic Functions	25
6.5	Properties of Logarithms	14
6.6	Logarithmic and Exponential Equations	12
6.7	Compound Interest	11
6.8	Exponential Growth and Decay.	
8	Systems of Equations	

Computer Lab Hours

Monday	11:00 – 1:00	3:15 – 5:15	5:15 – 7:15
Tuesday		3:00 – 5:00	
Wednesday	11:00 – 1:00	3:15 – 5:15	
Thursday		3:00 – 5:00	
Friday	11:00 – 12:00		