MAT 104 – College Algebra Course Syllabus
Tuesday, Thursday (1:40 – 2:55) / 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

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.

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 Hawkes Learning Systems software) must be done by the due date to get full credit.
   Late homework penalties will be assessed as follows:
   • 10% for homework 1-3 days late;
   • 25% for homework 4-7 days late.
   • 50% for homework 7-14 days late.
   • 100% for homework more than 14 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 absences** (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 in 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.

<table>
<thead>
<tr>
<th>Martin Luther King Holiday</th>
<th>January 19, 2009 (day classes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring Break</td>
<td>March 16 – 20, 2009</td>
</tr>
<tr>
<td>Easter Holiday</td>
<td>April 10, 2009</td>
</tr>
</tbody>
</table>

**OFFICE HOURS**

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:30 – 08:00</td>
<td>07:30 – 08:00</td>
<td>07:30 – 08:00</td>
<td>07:30 – 08:00</td>
<td>07:30 – 08:00</td>
</tr>
<tr>
<td>09:30 – 10:30</td>
<td>09:30 – 10:30</td>
<td>10:00 – 11:00</td>
<td>10:00 – 11:00</td>
<td>10:00 – 11:00</td>
</tr>
<tr>
<td>10:00 – 11:00</td>
<td>10:00 – 11:00</td>
<td>11:00 – 13:00*</td>
<td>11:00 – 13:00*</td>
<td>11:00 – 12:00*</td>
</tr>
</tbody>
</table>

**Other Times by Appointment**

* Math Lab hours
CHAPTER 1 Number Systems and Fundamental Concepts of Algebra

Section 1.3 Properties of Exponents
p.p. 39-44, #’s: 1-5, 11-19 odd, 28, 31, 33

Section 1.4 Properties of Radicals
p.p. 56-60, #’s: 1, 3, 5, 11, 13, 15, 18, 60-62, 66

Section 1.5 Polynomials and Factoring
p.p. 71-76, #’s: 21, 23, 30, 33, 41, 43, 47, 55, 57, 67, 70, 71, 73-78, 81, 85, 87, 88

Section 1.6 The Complex Number System
p.p. 83-85, #’s: 1, 3, 5, 14, 15, 22, 23, 25, 42, 45, 48

CHAPTER 2 Equations and Inequalities of One Variable

Section 2.1 Linear Equations in One Variable
p.p. 106-111, #’s: 1, 2, 3, 6, 8, 12, 14, 18, 19, 22, 49, 51, 52, 55, 61, 62, 64, 65, 70, 71

Section 2.2 Linear Inequalities in One Variable
p.p. 118-121, #’s: 1, 7 odd, 11, 12, 14, 23, 26, 27, 28, 29

Section 2.3 Quadratic Equations in One Variable

Section 2.4 Higher Degree Polynomial Equations
p.p. 141-142, #’s: 1, 3, 9, 15, 16, 22, 24, 26, 27, 31, 33

Section 2.5 Rational Expressions and Equations

Section 2.6 Radical Equations
p.p. 162-163, #’s: 1, 2, 6, 7, 9, 22, 26, 28

CHAPTER 3 Linear Equations and Inequalities in Two Variables

Section 3.1 The Cartesian Coordinate System

Section 3.2 Linear Equations in Two Variables
p.p. 194-196, #’s: 1, 2, 5, 11, 17, 23, 25, 28, 29, 33, 37, 40, 42, 43

Section 3.3 Forms of Linear Equations
p.p. 209-214, #’s: 1, 2, 4, 5, 7, 11, 13, 15, 16, 18, 21, 25-27, 34, 36, 39, 40, 42, 44, 45, 48, 49, 52, 57, 66, 68

Section 3.4 Parallel and Perpendicular Lines
p.p. 219-222, #’s: 1, 2, 5, 10, 19, 24, 29, 33, 35, 39, 40, 46

CHAPTER 4 Relations, Functions, and Their Graphs

Section 4.1 Relations and Functions
p.p. 266-270, #’s: 1, 3, 4, 9, 13, 17-21, 25, 27, 30-32, 61-73 odd

Section 4.2 Linear and Quadratic Functions
p.p. 281-286, #’s: 1, 3, 4, 5, 10, 16-18, 22, 39-41, 43, 49, 51

Section 4.3 Other Common Functions
p.p. 299-303, #’s: TBD ( problems to be given in class )

Section 4.4 Combining Functions
p. 330-335, #’s: 34-37, 39, 42

Section 4.5 Inverses of Functions
p. 344-348, #’s: 1, 3, 13-17, 19, 21, 26, 29, 30, 31, 33, 36, 37, 39, 47-55 odd

CHAPTER 7 Exponential and Logarithmic Functions

Section 7.1 Exponential Functions and Their Graphs
p.p. 514-516, #’s: 22, 24, 26, 27, 31, 33, 34, 37, 38, 42

Section 7.2 Logarithmic Functions and Their Graphs
p.p. 514-516, #’s: 1-17 odd, 18, 19, 21, 22, 46-50, 52, 55, 57, 58, 61, 64, 67, 68

Section 7.4 Exponential Functions and Their Graphs
p.p. 555-560, #’s: 1-7 odd, 19, 21, 25, 27, 31, 33, 43, 49, 55, 57, 59, 62, 69, 70, 79, 81, 82, 85, 90, 91

Section 7.5 Exponential and Logarithmic Equations
p.p. 571-574, #’s: 1, 2, 5, 9, 10, 12, 20, 25, 27, 28, 31, 45, 46, 52, 55

Computer Lab Hours

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>11:00 – 1:00</td>
</tr>
<tr>
<td>Tuesday</td>
<td>3:00 – 5:00</td>
</tr>
<tr>
<td>Wednesday</td>
<td>11:00 – 1:00</td>
</tr>
<tr>
<td>Thursday</td>
<td>3:00 – 5:00</td>
</tr>
<tr>
<td>Friday</td>
<td>11:00 – 12:00</td>
</tr>
</tbody>
</table>