**COURSE NUMBER, TITLE**
MAT 104, College Algebra.

**COURSE TEXT and REQUIRED SOFTWARE**

Required Software: The HLS software is now web based and can be accessed at [https://learn.hawkeslearning.com](https://learn.hawkeslearning.com). However, to use this software to complete your assignments, you will be required to purchase an access code either bundled with the text (Student Textbook/Software Bundle: ISBN#978-1-935782-04-9) or from the website [www.hawkeslearning.com](http://www.hawkeslearning.com). ($78.00 – debit card or credit card required). If you prefer an electronic version of the text, you can purchase the eBook for an additional $10.

**COURSE DESCRIPTION**
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)

**GENERAL COURSE OBJECTIVES (GOALS)**
Students will demonstrate active engagement in their learning experience by interacting with the Hawkes Learning Systems Course Management system software to demonstrate “Mastery” learning of the material in completing homework assignments, and to take quizzes and tests.

**GENERAL EDUCATION COMPETENCIES**
Students will demonstrate competency in:
GE 1. **Critical and Creative Thinking** – Developing sound analytical and reasoning skills and the ability to use them to think critically, solve problems, analyze logically and quantitatively, and effectively respond to change.
GE 2. **Communication** – Developing skills to communicate effectively through reading, writing, speaking, and listening.

**SPECIFIC 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.

**MAJOR STUDENT ACTIVITIES**
1. Students must attend class regularly and on time in accordance with the regulations of the University and the Department.
2. Students must complete homework by due dates as assigned through the HLS software.
3. Students will be required to attend lab at least one hour each week.
4. Students will take weekly quizzes in the math lab using the HLS software.
5. Students will take four pre-announced tests in the math lab during the semester.
6. Students must take a comprehensive final exam as scheduled at the end of the semester.

**EVALUATION AND GRADING**

*Homework* will be assigned (online using the Hawkes Learning Systems Course Management System software*) upon completion of each lesson and must be completed by the assigned due date to get full credit.

Late homework penalties will be assessed as follows:
- 25% for homework 1 day late;
- 50% for homework 2-3 days late;
- 75% for homework 4 days late;
- 100% for homework more than 4 days late.

1. **Weekly quizzes** based on homework assignments will be scheduled.
2. **Four scheduled tests** will be given during the semester. Tests are administered online in a computer Lab (Ewing 238) using the Hawkes Learning Systems Course Management System software. Your lab attendance/activity will be reflected in your test grades.
3. A comprehensive final exam will be given as scheduled by the university.

The final grade will be calculated as follows: homework 20%; quizzes 5%; Four scheduled tests 50%; and the final exam 25%.

i.e., 20/100; 5/100; 50/100 and 25/100.

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 the instructor as soon as possible of their status as seniors.

**PRESENTATION METHODS**
1. Lecture with demonstration 90%.
2. Learning by solving problems during class to include small group work 5%.
3. Class discussion and questions and answer period at beginning of class 5%.
**ACADEMIC HONESTY POLICY**

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.

**AMERICANS WITH DISABILITIES ACT**

Delta State University is committed to a policy of equal employment and educational opportunity. Delta State University does not discriminate on the basis of race, color, religion, national origin, sex, age, disability, or veteran status. This policy extends to all programs and activities supported by the University. The Office of Disability Services is available for students who require academic accommodations due to any physical, psychological, or learning disability. Any student with a clinically diagnosed disability who desires accommodation under this Act should contact Dr. Richard Houston in the Office of Disability Services at 846-4690.

**ADDITIONAL COURSE-SPECIFIC RULES, POLICIES, EXPECTATIONS**

**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 room 302B of the Student Union.
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. **You will not be allowed to use a programmable calculator for tests in this class.** BRING A SCIENTIFIC CALCULATOR TO CLASS EVERY DAY.

**CLASS ATTENDANCE**

1. Prompt and regular attendance is necessary for success in this course. To receive credit in this course a student must attend minimum of 75% of the class meetings. Classes meeting two times per week will be allowed 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.
Absences will begin to accrue the first official day that this class meets, regardless of when you actually enroll in the class.

2. If a student is tardy for class, it is the student's responsibility to request that the faculty member change the recorded absence to a tardy. This must be done on the day the tardy occurs. A maximum of 2 tardies will be allowed. Each additional tardy will be recorded as an unexcused absence.

3. Perfect attendance will be rewarded at the end of the semester. Two points will be added to your final semester average if you have no absences, excused or unexcused, and one point will be added if you have only one absence, excused or unexcused. Please remember to notify me if you are tardy for class! Do this the day the tardy occurs so that I might change the recorded absence to a tardy. Failure to do so will result in the loss of your perfect attendance points.

**IMPORTANT DATES**
1. **August 25** 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.
2. Those who plan to audit this course, must make the change by **August 28**.
3. Students who remain in the course after the first test and who then 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. **The last day to drop a class is December 4.**
4. The comprehensive final exam for this course is scheduled for **Monday, December 7, 2015** from 8:00 a.m. until 11:00 a.m. That is when it must be taken.

**OFFICE HOURS**

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*Other Times by Appointment*

**VIDEO TUTORING**
A list of video clips related to the main topics in college algebra can be accessed through the following website: [http://www.deltastate.edu/college-of-arts-and-sciences/mathematics/mat104/](http://www.deltastate.edu/college-of-arts-and-sciences/mathematics/mat104/). These videos will provide an additional resource.

**LABS AND TUTORING**
The math department will have access to labs in the Robert E. Smith Nursing Building and Broom Hall for tutoring and lab time for college algebra. The lab locations and hours are posted below:

- Broom Hall Lab (BR 202)  
  3:00–5:00  Tuesday
- Robert E. Smith Nursing Building Lab (room 140)  
  2:00–5:00  Wednesday

Additionally, tutors will be available on the 2nd floor of Broom Hall on Mondays and Thursdays. Check with the math department secretary, LaTonya Ingram, at 662-846-4475 for hours and locations.
MAT 104 COLLEGE ALGEBRA - PRACTICE HOMEWORK

Students should log on to Hawkes daily to keep up with homework assignments and due dates.

CHAPTER 1 Number Systems and Fundamental Concepts of Algebra
Section 1.3 Properties of Exponents
  p. 33, #’s: 1–45 odd
Section 1.5 Polynomials and Factoring
  p. 61, #’s: 39–93 odd

CHAPTER 2 Equations and Inequalities of One Variable
Section 2.1 Linear Equations in One Variable
  p. 95, #’s: 1–25 odd, 47–55 odd, 57–67 odd, 68
Section 2.2 Linear Inequalities in One Variable
  p. 107, #’s: 5–33 odd, 51, 55, 61
Section 2.3 Quadratic Equations in One Variable
  p. 120, #’s: 1–27 odd, 39–45 odd, 48, 49, 55, 63, 65 – 67
  Test #1
Section 2.4 Higher Degree Polynomial Equations
  p. 127, #’s: 1, 3, 9, 15, 16, 19–33 odd
Section 2.5 Rational Expressions and Equations
  p. 137, #’s: 1–13 odd, 17, 19, 23–31 odd, 51, 57
Section 2.6 Radical Equations
  p. 146, #’s: 1, 5, 6, 9, 23 – 29 odd

CHAPTER 3 Linear Equations and Inequalities in Two Variables
Section 3.1 The Cartesian Coordinate System
  p. 171, #’s: 33, 37, 39, 42
Section 3.2 Linear Equations in Two Variables
  p. 181, #’s: 1, 2, 5, 11, 17, 25, 28, 29, 33, 37
Section 3.3 Forms of Linear Equations
  p. 191, #’s: 1–15 odd, 16, 18, 19, 21, 24, 28, 32, 37, 40, 46 – 48, 51, 52, 55, 69, 72
  Test #2

CHAPTER 4 Relations, Functions, and Their Graphs
Section 4.1 Relations and Functions
  p. 247, #’s: 1, 3, 4, 9, 13, 17-19, 25, 33, 37, 39, 43, 45, 51, 61–73 odd
Section 4.2 Linear and Quadratic Functions
  p. 261, #’s: 3, 4, 17–29 odd, 39, 41, 43, 49, 51
Section 4.3 Other Common Functions
  p. 275, #’s: 23, 26, 38–42, 49, 50
Section 4.5 Combining Functions
  p. 301, #’s: 1, 3, 11, 17, 23, 25, 31, 35, 40
Section 4.6 Inverses of Functions
  p. 313, #’s: 1, 3, 7, 13, 15, 17, 21, 29, 31, 35, 37, 47, 51
  Test #3

CHAPTER 7 Exponential and Logarithmic Functions
Section 7.1 Exponential Functions and Their Graphs
  p. 468, #’s: 1, 3, 7, 23, 29, 33, 37, 45
Section 7.2 Applications of Exponential Functions
  p. 478, #’s: 13, 15, 23, 25, 29, 33
Section 7.3 Logarithmic Functions and Their Graphs
  p. 491, #’s: 1–23 odd, 47–69 odd
Section 7.4 Exponential Functions and Their Graphs
  p. 503, #’s: 1, 3, 19, 21, 33, 55, 59, 75, 79, 81, 82, 85, 90, 93
Section 7.5 Exponential and Logarithmic Equations
  p. 513, #’s: 1, 2, 5, 9, 18, 20, 27, 28, 31, 45, 46, 58, 75, 79
  Test #4

CHAPTER 8 Systems of Equations
Section 8.1 Solving Systems by substitution and Elimination
  p. 539, #’s: 1, 3, 4, 5, 8, 17, 18, 25, 51, 54, 56, 62