Course: Math 1204, College Algebra (Self-Directed Study Course)

Credit Hours: 4 credit hours for transfer

Prerequisite: ACSK 0103 (Intermediate Algebra) with a grade of “C” or better, or 19 on the Math portion of the ACT, or 43 – 55 on the Intermediate Algebra portion of the Asset, or 65-100 on the Intermediate Algebra portion of the Compass, or 0 – 45 on the College Algebra portion of the Compass.

Instructor: Tracy Vaughan
Office: MAT 01
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Office Hours: Tuesday and Thursday, 7:30 a.m. – 8:45 a.m. MAT 01
Since this course is a Self-Directed Study, I will also hold on-line office hours. They will vary from day to day, but I will check and respond to e-mail questions at least once a day Monday through Friday (except holidays).

Course Description:
An overview of the fundamental concepts of algebra. Topics include linear and quadratic equations and inequalities; the Cartesian plane and graphing; using a graphing utility; functions, graphs, and models: polynomial and rational functions; exponential and logarithmic functions; systems of equations, inequalities and matrices.

Course Objectives: A student who is successful in College Algebra should be able to:

1) Find the equation of a line and put in slope-intercept form.
2) Recognize, combine, and graph various functions including, but not limited to linear, polynomial, rational, exponential and logarithmic functions.
3) Identify various translations of “basic” graphs.
4) Manually find the zeros of a polynomial function using tools including the Rational Zero Theorem and synthetic division.
5) Solve exponential and logarithmic equations manually. Set up and solve application problems involving exponential and logarithmic equations including compound interest problems and other types of exponential growth and decay problems.
6) Solve systems of equations using matrices. Specifically using Gauss-Jordan elimination and/or Gaussian Elimination with back-substitution and/or inverse matrices.
7) Use the above skills to formulate and solve mathematical models pertaining to real-world applications.

Required Text

Downloading the Software to Home Computers:
Go to mrtc.uark.edu. Click on College Algebra. Click on download software. Follow onscreen instructions. If you do not have internet access, or have problems downloading via the internet, see Jacque’ Carpenter-Burns in MAT 02, for software disks.

Problems with Students Disks:
If you lose or ruin your student disk, take the disc and your book to Jacque’ Carpenter-Burns in MAT 02, for a replacement disk.

Open Lab/Test Time
You will have access to the lab in MAT 101 for test taking or working on your module homework during open lab times. The schedule for these times will be posted in WebCT and on my web-page by the beginning of the 2nd week of classes.

Calculator Usage
You will need a graphing calculator for this course. I recommend a TI-82 or TI-83. If you do not wish to purchase a calculator one can be rented through the math department for $30 for the semester. To rent a calculator you must first go to the cashier’s office and pay. You then bring your receipt and your driver’s license to Jacque’ Carpenter-Burns in MAT 02. She will then rent a calculator to you.
Lab Protocol:
Never load or download ANYTHING on the computers in the MAT 101 lab unless previously approved by the instructor.

Course Requirements:
Homework: The homework in this course is largely done on computer. For each module, you are required to demonstrate understanding of the concepts presented in the text by answering a series of questions ON COMPUTER. Only after you have gotten a score of at least 90% on the questions from a module will you be allowed to work on the problems for that module, also on computer. You may try any problem as many times as you need to get it worked correctly. Problems may be worked correctly any number of times. Guided tours are available for each problem. You must work EVERY problem in a module correctly at least once before taking the test for that module. It is strongly advised that you work the problems more than once. All computer work results are recorded on the student disk that accompanies the textbook. Keep your student disk in a safe place at all times. You will also be given paper homework assignments to accompany the computer homework assignments. These will not be turned in, but you will be tested on these topics on the paper tests that will accompany the computer tests. You will earn a homework grade by working the “Weekly Problems” that I post on WebCT and my web page. These supplemental problems will be turned in when you take an exam and will be worth 2 points each problem. I will keep your best 10 of these scores for your “Daily Grade”.

Tests: You will be given 8 modular tests. These will be completed on the computer. Each modular test will be worth 50 points. You will be allowed to drop 1 modular test. You will also be given 8 paper tests worth 10 points each. You will be allowed to drop 1 paper test. You must have all computer problems done correctly at least once before you will be allowed to take that modular exam. You must bring your student disk for check-in when you come for testing. If you do not bring the disk in, or have not completed all the problems, you will not be allowed to take that modular exam at that time. If you do not make arrangements to take that modular exam before the listed deadline, you will receive a grade of 0 for that module. The final exam will consist of a modular test taken on the computer worth 100 points, and a paper test worth 60 points. The final will be comprehensive and will not be dropped. NO MODULAR EXAMS WILL BE GIVEN AFTER THE DEADLINES LISTED.

Test Deadlines To minimize the number of times you are required to be on campus test deadlines have been designed for two modules at the time. If you do not wish to take them two at the time you need to make other arrangements with the instructor. If you take two modules exams at the time you should reserve approximately 2 hours and 20 minutes for a test time. If you are taking only one modular exam, one hour and 10 minutes should be sufficient. I do not recommend that you take more than 2 module tests at the time. The test times listed below are the last times you will be allowed to take the indicated modular exams. If you have not taken them prior to these dates, you must take them then or you will receive a grade of 0. We will test on the following dates. Test time is 6:15 p.m. – 8:45 p.m. If you cannot test at these times or want to test earlier, you must make arrangements with the instructor at least one week in advance. If you prefer to take your modular exams one at a time, you may do so as long as you make appropriate arrangements with the instructor. Failure to do so will result in a grade of 0 for those modules. Our lab/test time is limited and waiting until the last minute may result in you not being able to take a test.

| Modules 5 and 6 | Thursday, September 19, 2002 |
| Modules 8 and 9 | Tuesday, October 15, 2002   |
| Modules 10 and 11 | Tuesday, November 5, 2002 |
| Modules 12 and 13 | Thursday, December 5, 2002 |

FINAL EXAM Thursday, December 12, 2002 (evening) OR Friday, December 13, 2002 (morning)

NO MAKEUPS WILL BE GIVEN FOR ANY EXAM AFTER THE DEADLINES LISTED ABOVE.

Grading
Your grade in this course will be based on the following:
8 modular exams @ 50 points each. (drop lowest modular test score) 350 pts
Daily Grade 20 pts
Paper tests 70 pts
Final Exam (computer and paper portions) 160 pts
Total points 600 pts

A = 540 – 600 pts, B = 480 – 539 pts, C = 420 – 479 pts, D = 360 – 419, F = 0 – 359 pts
Special Services
If you are a student with a disability who will be requesting accommodations, you should contact the Office of disAbility Services at the Student Information Center in the Central Education Facility, 619 – 4384. The director of disAbility Services will meet with you and recommend appropriate accommodations and services after you have submitted the required documentation. After you have met with disability Services and receive your registration card it is your responsibility to contact the instructor to make the appropriate arrangements.

Student Resources:
There is free tutoring available in the Math Café (MAT) Monday through Thursday from 8:00 a.m. until 4:00 p.m. and in the Learning Lab (CEF), Monday through Friday from 8:00 a.m. until 5:00 p.m.