

Department of Mathematics & Statistics

COLLEGE ALGEBRA

MAT 140 – Entry # 1705

Course Section: 8 – Credit Hours: 4

FALL 2008 – Course Syllabus

Meeting: M T W Th 1:30–2:20PM; FH 307

Instructor: Dr. Donald Adongo, FH 6A-7

Contact: donald.adongo@murraystate.edu, 809-2490

Office Hours: M T W Th 2:30-3:30 PM

Website: <http://campus.murraystate.edu/academic/faculty/donald.adongo/140syf08.html>

I Title

COLLEGE ALGEBRA

II Catalog Description

Course develops and extends the student's basic algebra concepts and problem-solving skills in the context of functions, models, and applications. Topics include exponents and radicals; graphing; setting up and solving equations in linear, quadratic, and other forms; systems of equations; and operations on functions. Properties and applications of linear, quadratic, polynomial, rational, exponential, and logarithmic functions are studied. Prerequisite: ACT math standard score of at least 20 or MAT 105.

III Purpose

This purpose of this course is to provide a firm grasp of the function, to develop a basic understanding of the concept of the Limit, and to use this knowledge to build the Derivative, Integral, and associated applications.

IV Course Objectives

The primary objective of this course is for students to gain a theoretical and operational understanding of the basic algebraic, exponential, logarithmic functions and a little bit of matrices. Even though graphing utility will be used to assist you in understanding these concepts, your performance will be measured primarily on your understanding of the concepts and your skill in doing symbolic operations rather than your ability to use technology to get answers. At the completion of this course a student should be able to:

- Demonstrate a theoretical, operational, and graphic understanding of functions including polynomial, rational, exponential, logarithmic.
- Analyze and solve application problems.

- Use the graphics calculator for enhancement.
- Represent equations graphically through the use of graphing utility, and to integrate the algebraic and graphic interpretation of these concepts.
- Appreciate logarithms for solving unconventional equations.
- Solve system of linear equations and some applied problems.
- Understand the basic matrix operations and use them to solve systems of linear equations.

V Content Outline

In this course we will cover the following materials from the textbook. The number of class meetings per chapter may vary from section to section.

- Chapter R: Review [Sections R.2, R.4, R.5, R.7]
- Chapter 1: Graphs, Equations, and Inequalities [Sections 1.1 - 1.3, 1.5, 1.6, 1.8, 1.9]
- Chapter 2: Functions and Their Graphs [Sections 2.2, 2.3, 2.5 - 2.7]
- Chapter 3: Polynomial and Rational Functions [Sections 3.1 - 3.3]
- Chapter 4: Exponential and Logarithmic Functions [Sections 4.1 - 4.61]
- Chapter 5: Systems of Equations and Inequalities [Sections 5.1, 5.2]

VI Instructional Activities

A portion of most class periods will be spent discussing new material and working examples from this material as a class, another portion of most class periods will be spent addressing questions about the previous day's material. There is no need to be formal or to raise your hand to ask questions. Feel free to just ask, whether I am explaining a problem or introducing new material. There is no need to feel shy about asking questions; that is the purpose of the class. Those in the class who do not ask questions do not necessarily know more than you do, they might be shy about asking questions, or they might not be aware of what they do not know because they have not read the sections or worked any problems.

VII Calculators

A graphing calculator is required. The preferred calculator is one in either the TI-83 or TI-84 family of calculators.

VIII Resources

No outside texts or materials are required. However, occasionally handouts will be given to aid in the understanding and organization of the material. If you miss a class period, it is your responsibility to get a copy of any item handed out that day.

IX Grading Procedures

Your grade will be based on EXAM grades, HOMEWORK grades, PARTICIPATION grades, and the FINAL EXAM. Sixty-five percent of the course grade will come from 5 major exams (each exam counts 13 percent of the grade) and twenty percent of the course grade will come from the final exam. The homework grade will contribute 10 percent while the participation grade is worth 5 percent of the course grade. The grading scale will be:

% Points (x)	90 - 100	$80 \leq x < 90$	$70 \leq x < 80$	$60 \leq x < 70$	$0 \leq x < 60$
Grade	A	B	C	D	E

Exams: The Exams will test your comprehension of concepts and skills not covered on a previous exam. Exams may contain both problem-solving questions. Exams occur for everyone (to be fair to everyone) on the scheduled date. Sometimes, however, extenuating circumstances do exist. If you absolutely must miss an exam, you are to stop by or call me (or leave a message with the office if I am not in when you call) before the exam to tell me why you cannot be at the exam. In addition, you must complete the "missed exam form" (see the course website) within one week. If you do not, you will get a zero on that exam with no opportunity to make it up. An excused missed exam will be made up in my office within two weeks (an extension may be granted in rare cases), with the grade to be determined as explained at that time. Our five semester exams will be **September 16, October 2, October 21, November 10 and November 24.**

Final: The Final will be a comprehensive exam covering any material addressed that semester. The Final exam will be on **Thursday, December 11th at 1:30 p.m. in FH 307.**

Homework: Homework will be assigned at the beginning of each section and will also be listed on the course website. Homework will be collected weekly.

Participation: Each day's discussion of new material depends on vigorous participation on your part. During the semester you will have to work out on the board a total of fifteen (15) problems. Each problem will be worth 5 points. The problems have to be picked from the assigned homework in the immediate past class meeting. Only one problem may be solved per class meeting and this will take place at the beginning of class.

The value of board presentations depend upon basic familiarity with the topic, and naturally, your participation might be limited by your attendance. See attendance policy below.

Important Grade-dates: The last day to drop a course without receiving a grade (or a W) is Tuesday, August 26th. The last day to change from Audit to Credit is Tuesday, August 26th. The last day to drop individual courses and receive a grade of "W" is Friday, October 31st. Students who withdraw from all classes after Friday, October 31st and before Thursday, November 25th will receive a 'WP' or a 'WE'. The last day to change from Credit to Audit is Friday, October 31st, if you qualify for an Audit. (See the Audit policy below.)

Auditing: To Audit the course you need my permission. You will be expected to participate in all tests and assignments with a course average of at least 25%, and you will be expected to attend with no more than 5 absences for the whole semester. If you switch to 'Audit' in mid-semester, you must meet all of the requirements of an ordinary auditor (mentioned above). In addition, you may not miss more than 7% of the remaining class periods and you may not have more than 5 absences for the entire semester. Thus, if you have already missed 6 or more class periods, you may not change to 'Audit.' Failure to meet any of these after being granted an Audit will result in the grade 'Au' being changed to an 'E.'

X Attendance Policy

If you miss class you are responsible for obtaining the day's notes and assignments. While you are not graded on class attendance, you are expected to attend every class period and your grade will suffer (indirectly) if you do not attend. If you miss three or fewer days this semester, I will drop your two lowest homework grades. If you miss between four and six days for the semester, I will drop one of your homework grades. If you miss seven or more days this semester, no homework grades will be dropped. To level the playing field between those who must miss classes because of MSU and those who do not, the only kind of absence which will not be counted in this regard is a university-required absence. Thus,

anything else (for instance, being sick, going on a job interview, taking care of a sick relative, etc.) will count as one of these absences. See the MSU policy on attendance in the current Catalog: (online at <http://www.murraystate.edu/provost/catalogs/010507.html#Policies>) Note the following provisions on arriving late to class or leaving early:

- (a) Every two tardies (arriving late) will count as an absence.
- (b) Leaving class early will count as an absence unless you provide me with a reason in advance.

Your participation grade can be no more than 1.1 *your percentage of class attendance.

Holidays: We will not have class on Monday September 1 (Labor Day), Friday October 3 (Fall Break) and from Wednesday November 26 through 28 (Thanksgiving Break).

XI Academic Honesty

Cheating and plagiarism (submitting another person's material as one's own, or doing work for another person which will receive academic credit) are all impermissible. This includes

- 1) the use of unauthorized notes on an exam,
- 2) looking at the exam of another or allowing another to look at your exam,
- 3) taking an exam for another or having another take an exam for you,
- 4) telling others the contents of an exam they have not yet taken or soliciting from others the contents of an exam which you have not taken, and
- 5) copying the contents of another's take-home assignment or allowing another to copy the contents of your take-home assignment (this does not include working together, with mutual understanding, on a take-home assignment).

The result of non-premeditated cheating (i.e. (2) or (5)) will be a zero for that assignment. The result of premeditated cheating (i.e. plagiarism or (1), (3), or (4)) will result in a grade of 'E' for the course. See the MSU policy on Academic Honesty in the current Catalog: (online at <http://www.murraystate.edu/provost/catalogs/010507.html>)

XII Texts and references

Algebra & Trigonometry Enhanced with Graphing Utilities, Fourth Ed., by Sullivan & Sullivan.

XIII Prerequisites

ACT math standard score of at least 20 or MAT 105.

XIV Statement of Affirmative Action and Equal Opportunity

Murray State University does not discriminate on grounds of race, color, gender, sexual orientation, religion, national origin, age, disability, or veteran's status in providing any educational or other benefits services of Murray State University to students or those applying for admission at Murray State University. Murray State University attempts to provide equal opportunity in all areas of student admissions, financial aid, employment, and placement and provides upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities. For information regarding nondiscrimination policies contact the Office of Equal Opportunity, 270-809-3155. Additional information is provided in the current Catalog: (online at <http://www.murraystate.edu/provost/catalogs/010507.html#Policies>).