Department of Mathematics & Statistics

ALGEBRA AND TRIGONOMETRY

MAT 150-01 – CRN 80992

Course Section: 1 – Credit Hours: 5

FALL 2011 – Course Syllabus

Meeting: M T W R F 9:30–10:20 am; FH 302

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

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

Office Hours: M T R F 10:30-11:20 am and by appointment

Website: http://campus.murraystate.edu/academic/faculty/dadongo

I   Title

ALGEBRA AND TRIGONOMETRY

II   Catalog Description

Course is an intensive study of college algebra and trigonometry. A combination of MAT 140 and MAT 145, it is a faster-paced course for students with some familiarity with the subjects. MAT 150 may be used as a refresher course to help prepare students for MAT 250. Prerequisites: ACT math standard score of at least 23. Restriction: A student who receives credit for MAT 150 may not receive credit for MAT 130, 140, or 145. (Credit or the combination of MAT 140 and MAT 145 will substitute for MAT 150.)

III   Purpose

This course is primarily a standard college algebra and trigonometry course designed for those students who wish to enter our Calculus sequence, but do not have the prerequisite knowledge. It can also be used as a terminal general education course in mathematics.

IV   Course Goals

The primary goals of this course are that a student who successfully completes it will have a firm knowledge of the techniques and terminology of algebra and trigonometry. The above is quite an important prerequisite for a student to have a successful encounter with the calculus course.

V Course Objectives

A student who successfully completes this course should be able to:

- Demonstrate a theoretical, operational, and graphic understanding of functions including polynomial, rational, exponential, logarithmic, trigonometric.

- Analyze and solve application problems in algebra.

- Represent equations graphically through the use of graphing utility, and to integrate the algebraic and graphic interpretation of these concepts.

- Compute the values of the six trigonometric functions for key angles measured in both degrees and radians.

- Graph all six trigonometric functions and their transformations.

- Use the basic trigonometric identities to verify other trigonometric identities.

- Solve trigonometric equations.

- Solve right and oblique triangles.

- Use the concepts of trigonometry to solve applied problems.

VI 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 1: Equations, and Inequalities [Sections 1.1 – 1.7]

- Chapter 2: Graphs [Sections 2.1 – 2.4]

- Chapter 3: Functions and Their Graphs [Sections 3.1 – 3.5]

- Chapter 4: Polynomial and Rational Functions [Sections 4.1, 4.2, 4.6]

- Chapter 5: Exponential and Logarithmic Functions [Sections 5.1 – 5.5]

- Chapter 6: Trigonometric Functions [Sections 6.1 – 6.9]

- Chapter 7: Analytic Trigonometry [Sections 7.1 – 7.5, 7.7, 7.8]

- Chapter 8: Additional Topics in Trigonometry [Sections 8.1, 8.2]

VII 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.

VIII   Field, Clinical, And/Or Laboratory Experiences:

NONE

IX   Calculators

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

X   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.

XI   Electronic Communication Policy

It is the default policy of the **Department of Mathematics and Statistics** that, without the prior consent of the course instructor, no device may be used for electronic communication in class. This shall include cell phones, smart-phones, computers, laptops, and tablets. In addition, this includes verbal calling, incoming calls, email, text messaging, the use of cell phone calculators on tests and quizzes, and the use of the wireless capabilities of calculators or other electronic devices. Unless given special permission in advance from the course instructor for potential cases of emergency or critical family situations, cell phones must be kept on silent and out of sight (i.e. secured to a person's belt or kept in a bag or purse away from desks). Should a student's cell phone be visible, ring, or should the student be engaged in some other form of unauthorized usage that the course instructor finds to be disruptive to the class, the student may be asked to leave class and not return for that class period, and be counted absent for that day. Similar restrictions and penalties apply to use of other electronic devices, unless permitted by the instructor for that class period.

XII   Grading Procedures

Your grade will be based on EXAM grades, HOMEWORK grades, PARTICIPATION grades, and the FINAL EXAM. Sixty percent of the course grade will come from 6 major exams (each exam counts 10 percent of the grade) and twenty percent of the course grade will come from the final exam. The homework grade will contribute 13 percent while the participation grade is worth 7 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

I do reserve the right to curve the grade should I deem it necessary.

Exams: The Exams will test your comprehension of concepts and skills not covered on a previous exam. Exams may contain both problem-solving questions and essay 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 six semester exams will be **September 2, September 23, October 10, October 21, November 8** and **November 22**.

Final: The Final will be a comprehensive exam covering any material addressed that semester. The Final exam will be on **Tuesday, December 6th at 8:00 a.m.** in **FH 302**.

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. **(No Late Homework)**. Homework must be completed in pencil, separate from your notes, and on loose-leaf paper or paper without rough edges. **Staple** your papers together if you have used more than one sheet other wise your homework **will not be accepted**. Your name and class meeting time should be written on the top right part of the first page.

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 twenty (20) problems. Each problem will be worth 5 points. The problems have to 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 Monday, August 22nd. The last day to change from Audit to Credit is Monday, August 22nd. The last day to drop individual courses and receive a grade of "W" is Tuesday, November 15th. The last day to change from Credit to Audit is Tuesday, November 15th, 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.'

XIII   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 or your grade will suffer (indirectly) if you do not attend. If you miss three or fewer days (or do not miss at all) this semester, I will drop your two lowest homework scores. 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 provi-

sions 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 5 (Labor Day), Thursday September 29 – 30 (Fall Break) and from Wednesday November 23 through 25 (Thanksgiving Break).

XIV Academic Honesty

Cheating and plagiarism (submitting another person's material a is 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#Policies)

XV Texts and references

Algebra & Trigonometry, Second Edition, by Cynthia Young. John Wiley & Sons, Inc. ISBN: 978-0-470-22273-7

XVI Prerequisites

ACT math standard score of at least 23.

XVII Non-Discrimination Policy Statement

Murray State University endorses the intent of all federal and state laws created to prohibit discrimintation. Murray State University does not discriminate on the basis of race, color, national origin, gender, sexual orientation, religion, age, veteran status, or disability in employment, admissions, or

the provision of services and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities equal access to participate in all programs and activities. For more information, contact Sabrina Y. Dial, Director Equal Opportunity, Murray State University, 103 Wells Hall, Murray KY 42071-3318. Telephone 270-809-3155 (voice), 270-809-3361 (TDD).

Please fill out this portion, detach it and return to the instructor by **Friday August 19, 2011**.

By my signature below, I certify that I have received a copy of the course syllabus for MAT 150 taught by Dr. Donald Adongo during the Fall Semester of 2011. Furthermore, I certify that I have read and understand the contents of the course syllabus.

Printed Name ....

Signature ....

Date ....