Department of Mathematics & Statistics

MATHEMATICAL CONCEPTS

MAT 117 – Entry # 1595

Course Section: 3 – Credit Hours: 3

SPRING 2009 – Course Syllabus

Meeting: T Th 9:30 – 10:45AM; FH 307

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

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

Office Hours: T Th 11:00 – 12:00 PM; M W F 2:00 – 3:00 PM

Web site: `http://campus.murraystate.edu/academic/faculty/donald.adongo`

I   Title

Mathematical Concepts

II   Catalog Description

Provides students with problem-solving skills and literacy related to the mathematics which is commonly encountered in our society. Topics can include descriptive statistics, personal finance, voting methods, elementary probability, and graph theory. This course is especially appropriate for students whose degree programs do not otherwise require a course in mathematics. It is not an adequate preparation for any other mathematics course except MAT 115 and MATH 215. Prerequisite: ACT math standard score of at least 18 or MAT 100.

III   Purpose

To give students a basic conceptual and computational understanding of finance, probability, statistics, voting methods, and graph theory.

IV   Course Objectives

Give students an introduction to a few areas in mathematics commonly encountered in our society. Students should:

1) be able to work proficiently in the areas of finance, probability and statistics;

2) have a broad overview in the areas of voting methods and graph theory.

V   Content Outline

This course will address chapters 11 Consumer Mathematics, 12 Probability, 13 Statistics, 14 Graph Theory and 15 Voting and Apportionment.

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   Calculator

The use of a calculator is not required in this course; however, one is **HIGHLY** recommendend. A scientific calculator would be adequate for the course, however, research has shown that students benefit greatly by utilizing a graphing calculator.

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. Eighty percent of the course grade will come from 4 major exams (each exam counts 20 percent of the final grade). The homework grade will contribute 12 percent while the participation grade is worth 8 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 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 three semester exams will be **February 10, March 10,** and **April 7**.

Final: The Final will cover the material addressed after Exam 3. The Final exam will be on **Wednesday, May 6, 2009 at 8:00 a.m.** in **FH 307**.

Homework: Homework will be assigned at the beginning of each section and will also be listed on the course web site. 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**.

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 ten (10) 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 Friday, January 16 th. The last day to change from Audit to Credit is Friday, January 16 th. The last day to drop individual courses and receive a grade of "W" is Friday, March 27 th. Students who withdraw from all classes after Monday, March 30 th and before Friday, April 24 th will receive a 'WP' or a 'WE'. The last day to change from Credit to Audit is Friday, March 27, 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 Tuesday, March 17 and Thursday, March 19 (Spring Break).

XI 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 Honesy in the current Catalog: (online at http://www.murraystate.edu/provost/catalogs/010507.html#Policies)

XII Texts and references

A Survey of Mathematics with Applications by Allen R. Angel, Christine D. Abbott, and Dennis C. Runde, 8th Ed.

XIII   Prerequisites

ACT math standard score of at least 18 or successful completion of MAT 100. Anyone with a math ACT of less than 18 who has not had MAT 100 **must take** MAT 100. Students in this situation need to consult with your advisor as soon as possible for a possible drop/add. If your math ACT is 20 or more, you should more than likely be taking one or our other math courses such as MAT 130, 135, 140, or 150. See your advisor if you fall in this category.

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) .