**Dr. Donald Adongo, FH 6A-7**

dadongo@murraystate.edu**, 809-2490**

**Office Hours: MR 9:00 – 10:20 am; and by appointment**

**Section 4 CRN 80974**

**Meeting: 10:30 am – 11:20 am MTRF FH 310**

**http://campus.murraystate.edu/faculty/dadongo**

**DEPARTMENT:  MATHEMATICS AND STATISTICS**

**COURSE PREFIX:** MAT        **COURSE NUMBER: 135**        **CREDIT HOURS:** 4

I.  **TITLE:**
Introduction to Probability and Statistics

II.  **COURSE DESCRIPTION AND PREREQUISITE(S):**
Elementary probability, the binomial, normal, student's and chi-square distributions, random sampling, regression and correlation.
**Prerequisite(s):**  ACT math standard score of at least 20 or MAT 105.

III.  **COURSE OBJECTIVES:**
The student will:
A.  Have the tools that will enable them to understand and appreciate the role probability and statistics plays in the process of gathering data and drawing information from it;
B.  Understand experimental design, random sampling and sampling variability;
C.  Learn and implement strategies for summarizing and displaying data in ways that aid the investigator in drawing conclusions;
D.  Be able to apply concepts like measures of central tendency, dispersion and correlation will be applied to a variety of examples from different  discipline;
E.  Understand the role of probability in quantifying the uncertainty in the decision process will be emphasized;
F.  Learn elementary probability concepts through problem solving;
G.  Be able to use probability distributions like the binomial and normal distributions in the context of applications where they are the appropriate tools for analysis;
H.  Understand the role of formal inference procedures such as confidence intervals and hypothesis testing as general strategies for making decisions;
I.  Understand and be able to implement these strategies in a few common settings (e.g. the t-test for a mean).

IV.  **CONTENT OUTLINE:**
A.  Have the tools that will enable them to understand and appreciate the role probability and statistics plays in the process of gathering data and drawing information from it;
B.  Describing and summarizing data (Graphical and Numerical)
C.  Relationships in data (Correlation, Linear regression, least squares principle, categorical data, contingency tables)
D.  Producing data (Experimental design, randomization, Sampling, random samples, simulation, sampling variability, bias)
E.  Probability concepts (Random variables and probability distributions, Binomial distributions, Normal distributions, sampling distributions
F.  Inference (Confidence intervals, Hypothesis testing-general strategy, Applications [one sample-means and proportions, two sample-means and proportions]

V.  **INSTRUCTIONAL ACTIVITIES:**
Lecture, daily assignments, group work, projects, reading assignments, oral presentations, and quizzes on the material.

VI.  **FIELD, CLINICAL, AND/OR LABORATORY EXPERIENCES:**
None

VII.  **TEXT(S) AND RESOURCES:**
*Intro Stats,* by De Veaux, Velleman, and Bock; Addison Wesley; Along with the text and a graphing calculator, the video series *Against All Odds: Inside Statistics* (26 half-hour programs), produced by the Consortium for Mathematics and It's Applications, is available for use in the classroom and/or by students outside the classroom.  A graphing calculator is required for portions of this course and will be necessary for exams.  Acceptable models include any TI-82, TI-83, TI-84, TI-85, and TI-86.  The TI-80, TI-81, TI-89, and TI-92 are not allowed

## VIII. EVALUATION AND GRADING PROCEDURES:

A. Your grade will be based on Exam grades, Homework (written) grades, and Online Assignment grades. Sixty percent of the course grade will come from 4 major exams (each exam counts 15 percent of the course grade). The homework grade will contribute 10 percent, while the online assignment grade is worth 10 percent of the course grade. The Final Exam is worth twenty percent of the course grade.  The grading scale is:

Grading Scale:

| | |
|---|---|
| 90 - 100 % | A |
| 80 - 89 % | B |
| 70 - 79 % | C |
| 60 - 69 % | D |
| Below 60% | 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 day. 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 days (an extension  may be granted in rare cases), with the grade to be determined as explained at that time. Our four semester exams will be **September 13**, **October 9, November 5**, and **November 27**.

**Final:** The Final will be a comprehensive exam covering any material addressed that semester. The Final exam will be on **Thursday, December 13th** at **10:30 a.m**. in **FH 310**.

**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 twice a week (Monday & Thursday).  **(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 graded**.   Your name and class meeting time should be written on the top right part of the first page.

**Online Assignments:** We will use MathXL online homework system. The url is **http://www.mathxl.com** and you should get a print out from me on how to register and enroll in this part of the course. You will have two (2) attempts on each set of problems.  The assignments will be available at the beginning of each section covered and will automatically switch off on the due dates.  It is your responsibility to check online assignments at the start of  any new sections.

**Important Grade-dates:**  The last day to drop a course without receiving a grade (or a W) is Monday, August 27. The last day to drop individual courses and receive a grade of "W" (no penalty) is Thursday, November 15.  The last day to change a full semester class from CREDIT to AUDIT is Thursday, November 15.

No classes during Labor day September 3, Fall break October 4-5, Presidential Election November 6, and Thanksgiving November 21-23.

B. **Auditing**: If you seek to change your status to audit, you must continue to do all the graded assignments, to attend classes regularly after the audit is given, to miss no more than 5 class periods after the audit is given, and to maintain at least a 35% average in the course.  If these requirements are not followed, then an "E" will be earned for this course.

## IX. ATTENDANCE POLICY:

*Students are expected to adhere to the MSU Attendance Policy outlined in the current MSU Bulletins.*

Class attendance will be taken daily. 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 four lowest homework and online assignment 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.
Note the following provisions on arriving late to class or leaving early:
   Every two tardies (arriving late) will count as an absence.
   Leaving class early will count as an absence unless you provide me with a reason in advance.

## X. ACADEMIC HONESTY POLICY:

Murray State University takes seriously its moral and educational obligation to maintain high standards of academic honesty and ethical behavior. Instructors are expected to evaluate students' academic achievements accurately, as well as ascertain that work submitted by students is authentic and the result of their own efforts, and consistent with established academic standards. Students are obligated to respect and abide by the basic standards of personal and professional integrity.

**Violations of Academic Honesty include:**

**Cheating** - Intentionally using or attempting to use unauthorized information such as books, notes, study aids, or other electronic, online, or digital devices in any academic exercise; as well as unauthorized communication of information by any means to or from others during any academic exercise.

**Fabrication and Falsification** - Intentional alteration or invention of any information or citation in an academic exercise. Falsification involves changing information whereas fabrication involves inventing or counterfeiting information.

**Multiple Submission** - The submission of substantial portions of the same academic work, including oral reports, for credit more than once without authorization from the instructor.

**Plagiarism** - Intentionally or knowingly representing the words, ideas, creative work, or data of someone else as one's own in any academic exercise, without due and proper acknowledgement.

Instructors should outline their expectations that may go beyond the scope of this policy at the beginning of each course and identify such expectations and restrictions in the course syllabus. When an instructor receives evidence, either directly or indirectly, of academic dishonesty, he or she should investigate the instance. The faculty member should then take appropriate disciplinary action.

Disciplinary action may include, but is not limited to the following:
1) Requiring the student(s) to repeat the exercise or do additional related exercise(s).
2) Lowering the grade or failing the student(s) on the particular exercise(s) involved.
3) Lowering the grade or failing the student(s) in the course.
**If the disciplinary action results in the awarding of a grade of E in the course, the student(s) may not drop the course.**

Faculty reserve the right to invalidate any exercise or other evaluative measures if substantial evidence exists that the integrity of the exercise has been compromised. Faculty also reserve the right to document in the course syllabi further academic honesty policy elements related to the individual disciplines.

A student may appeal the decision of the faculty member with the department chair in writing within five working days. Note: If, at any point in this process, the student alleges that actions have taken place that may be in violation of the Murray State University Non-Discrimination Statement, this process must be suspended and the matter be directed to the Office of Equal Opportunity. Any appeal will be forwarded to the appropriate university committee as determined by the Provost.

**In this Course, violations of Academic Honesty will result in a failing grade awarded on the particular exercise involved.**

## XI. NON-DISCRIMINATION POLICY STATEMENT:

Murray State University endorses the intent of all federal and state laws created to prohibit discrimination. 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 the Director of Equal Opportunity, 103 Wells Hall. 270-809-3155 (voice), 270-809-3361 (TDD).

## XII. Other required departmental or collegiate committee information

**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.

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Please fill out this portion, detach and return to the instructor by **Friday August 24, 2012**.

By my signature below, I certify that I have received a copy of the course syllabus for MAT 135-(04) taught by Dr. Donald Adongo during the Fall Semester of 2012.  Furthermore, I certify that I have read and understand the contents of the course syllabus.

 **Printed Name:** ..........................................................................................................

**Signature:** ...........................................................................................................

**Date:** ..........................................................................................................