

Dr. Garner's MA 302 Elementary Statistics Syllabus

MISSISSIPPI VALLEY STATE UNIVERSITY
Department of Mathematics, Computer and Information Sciences

| Instructor | Class Meetings-Location/Time: | Office Location: |
|---|--------------------------------------|-------------------------|
| Dr. Latonya Garner | Tuesday 1:00 – 2:15pm Lab 108 | CRB 117A |
| Office Phone: | E-mail Address: | Office Hours: |
| MCIS Office #: 254-3422 MCIS Fax #: 254-3408 | lgarner@mvsu.edu | By Appointment |

TEXTBOOK/SUPPLIES

Beginning Statistics, by C. Warren, K. Denley, & E. Atchley by Hawkes Learning Systems

A calculator with a statistical package is required for this course. Acceptable calculators include the TI-83, TI-30, and TI-36.

CREDIT HOURS

3 hours

PREREQUISITE(S)

MA 111 College Algebra or MA 299 Calculus I

COURSE DESCRIPTION

This course is designed to enable students to grasp important concepts in statistics. The content of the course contains tabular and graphical representation of statistical data, measures of central tendency and variation, probability, sampling, statistical inference, confidence intervals, linear regression, and correlation.

STUDENT LEARNING OBJECTIVES

Students will be able to:

1. Define statistics and give the differences between levels of data.
2. Summarize raw data by grouping into frequency distributions as table distributions and representing these distributions as frequency polygons or other graphic techniques including stem and leaf displays.
3. Identify, define, calculate, and give examples of the proper usage of three kinds of measures of central tendency.
4. Calculate measures of dispersion as specified.
5. Use counting techniques to distinguish between discrete and continuous variables, and use the Normal curve.
6. Apply mathematical reasoning in testing hypotheses under several statistical conditions.
7. Select and calculate the appropriate statistic based on data type and for making predictions.

COURSE CONTENT

The content of this course is designed to promote the students' scholarly and reflective thinking as well as their abilities as classroom facilitators and lifelong learners. This course includes the following topics:

1. Introduction to Statistics
 - a. Getting Started
 - b. Data Classification
 - c. The Process of a Statistical Study
 - d. The Reality of Conducting a Study

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2. Graphical Descriptions of Data
 - a. Frequency Distributions
 - b. Graphical Displays of Data
 - c. Analyzing Graphs
3. Numerical Descriptions of Data
 - a. Measures of Center
 - b. Measures of Dispersion
 - c. Measures of Relative Position
6. Continuous Random Variables
 - a. Introduction to Normal Curve
 - b. Reading a Normal Curve Table
 - c. Finding Probability Using the Normal Curve
 - d. Finding z -values Using the Normal Curve
7. Samples and Sampling Distributions
 - a. Central Limit Theorem
 - b. Central Limit Theorem with Population Means
 - c. Central Limit Theorem with Population Proportions
8. Confidence Intervals
 - a. Introduction to Estimating Population Means
 - b. Estimating Population Means (Large Samples)
 - c. Estimating Population Proportions

TEACHING AND LEARNING STRATEGIES:

The primary instructional model for this course is collaborative learning. Specifically, the instructor will set course content, course objectives, and methods of classroom assessment. The course will incorporate the following instructional strategies: online activities, assigned readings, and/or individual projects. Students are encouraged to actively participate in activities, ask questions, and contribute comments for discussion, use of technology and group activities. Students are also encouraged to offer input regarding instructional strategies and assignments. Most importantly, students are expected to be active learners and to ask for clarification when they have questions. In order to be successful in the class, it is important that students, read the assigned material, and submit assignments and be prepared to discuss what they have read. The goal of this approach is to develop a safe learning environment that addresses a variety of learning styles, promotes critical thinking, and fosters creativity.

TECHNOLOGY INFUSION

The text is accompanied by a *cd* that serves as supplementary material to the text. This *cd* also contributes to completion of homework, quizzes, and exams given by the instructor. Also, the students may use calculators in this course. (**No sharing of calculators allowed/No cell phones may serve as calculators**). Students are also encouraged to use the internet to explore other activities on a given concept.

ATTENDANCE POLICY

It is necessary for students to attend every class meeting and lab sessions. Any student who misses more than the allowed number (**3**) of absences will be subject to a decrease in their final grade.

EVALUATION CRITERIA - TESTS AND ASSIGNMENTS

1. There will be four (4) major tests during the course. Each test will count 100 points. The lowest of the four test grades will be dropped.
2. There will be a 200 - point homework grade. The instructor will assign lessons from *Hawkes Learning Systems: Statistics*, and each lesson will be worth 10 points. See the instructions at the end of this syllabus for how to use the Hawkes software and register certificates.
3. There will be a 40 - point project grade. Projects will be assigned at the instructor's discretion and accumulated to form this grade.
4. There will be a 60 - point quiz grade. Projects will be assigned at the instructor's discretion and accumulated to form this grade.
5. There will be a comprehensive final exam for the course worth 200 points.
6. Study guides for each test as well as answers to selected homework exercises can be found at the following website:

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GRADING CRITERIA

The final grade will be based on the following point scale:

| Grade | Points Necessary for Grade |
|--------------|-----------------------------------|
| A | 720 = 90% of 800 |
| B | 640 = 80% of 800 |
| C | 560 = 70% of 800 |
| D | 480 = 60% of 800 |
| F | Below 480 |

VERY IMPORTANT:

1. If a test or quiz is missed for ANY reason, a grade of 0 will be given. There will be no make-up tests or quizzes given except for University approved functions.
2. The lowest of the four test grades will be dropped.
3. Any person who must miss a scheduled test and/or quiz because of an official University function must reschedule and take this test and/or quiz at a time BEFORE the test and/or quiz is scheduled to be given. NO OTHER rescheduling will be allowed.
4. A two-day grace period will be extended for software assignments with a 50% penalty attached to the late assignment. No software assignments will be accepted after the two-day grace period, for any reason.
5. An "I" grade will not be given without the permission of the Department of Mathematics, Computer and Information Science.

***Note:** As soon as you feel that you need extra help, please come by my office immediately. Feel free to come by at any time or call. To be sure that I will be there at times other than office hours, make an appointment.*

MAKE-UP POLICY

No make-up work will be allowed. All students can make up a missed exam with an approved absence. If an exam is missed due to a serious verifiable circumstance, the zero exam grade will be replaced with the final exam grade (see Replacement Policy). Students who must miss work due to official University business must make other arrangements **beforehand**.

SPECIAL DATES

| | |
|------------------|--|
| September 4 | Labor Day Holiday Observed, No Classes |
| September 11 | Last Day to Drop and Add Classes (Registration Closes) |
| October 2-6 | MidTerm Week |
| October 12 | Online Registration begins for Spring 2017 |
| November 3 | Last day to withdraw from class and receive a grade of "W" |
| November 10 | Last day to Withdraw from University |
| November 20 – 24 | Fall Break & Thanksgiving Holiday |
| December 4 – 8 | FINAL EXAMS |

CALENDAR OF ACTIVITIES/COURSE OUTLINE/SCHEDULE: *subject to some changes depending on the needs and level of the class*

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| WEEK | ASSIGNMENTS | DUE DATE |
|---------|-------------------|----------|
| Week 1 | Chapter 1 | |
| Week 2 | Chapter 1 | |
| Week 3 | Chapter 2 | |
| Week 4 | Chapter 2 | |
| Week 5 | Test 1 | |
| Week 6 | Chapter 3 | |
| Week 7 | Chapter 3 | |
| Week 8 | Chapter 6 | |
| Week 9 | Chapter 6 | |
| Week 10 | Test 2 | |
| Week 11 | Chapter 7 | |
| Week 12 | Chapter 7 | |
| Week 13 | Chapter 8 | |
| Week 14 | Chapter 8 | |
| Week 15 | Test 3 | |
| Week 15 | Final Exam | |

ADA/STUDENTS WITH SPECIAL NEEDS:

Mississippi Valley State University is committed to providing reasonable accommodations for students with a documented disability. If you feel you are eligible to receive accommodations for a covered disability (medical, physical, psychiatric, learning, vision, hearing, etc.) and would like to request it for this course, you must be registered with the Services for Students with Disabilities (SSD) program administered by University College. It is recommended that you visit the Disabilities Office located inside the EMAP Computer Lab in the Technical Education (IT) Building to register for the program at the beginning of each semester. For more information or to schedule an appointment, please contact Mr. Billy Benson, Jr. via phone or email at 662-254-3005 or billy.benson@mvsu.edu.

PLAGIARISM /ACADEMIC INTEGRITY:

Cheating is a serious offense and will not be tolerated. You are expected to complete your own work for the homework assignments submitted on Hawkes Learning Systems for a grade, although you are free to seek assistance with similar problems before submitting your homework problems. Any student found cheating on homework or any other class activity will be subject to disciplinary action. Penalties for academic dishonesty might include the assignment of an "F" for the course grade and/or other administrative penalties consistent with the policies of the university.

PAGERS OR CELL PHONES

The volume of cell phones and pagers must be turned **off/vibrate** if you have these items with you in class. The noise is distracting not only to the instructor but to your classmates as well.

REFERENCES:

Johnson, R., & Kuby (1999) Elementary Statistics (8th ed.). Boston: Allyn and Bacon.

Johnson, D. M. (1995) Probability and Statistics (3rd ed.). Boston: Allyn and Bacon.

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