

SOUTHEASTERN LOUISIANA UNIVERSITY
DEPARTMENT OF MATHEMATICS
MATH 241 SYLLABUS
Effective Fall 2018

COURSE TITLE: Elementary Statistics

CREDIT: 3 semester hours

TEXT: Michael Sullivan, *Fundamentals of Statistics: Informed Decisions Using Data*,
5th edition, Pearson Education, Inc. 2018

PREREQUISITE: MATH 105 or 151 or 161.

CATALOGUE DESCRIPTION: An introduction to statistical reasoning. Topics include graphical display of data, measures of central tendency and variability, sampling theory, the normal curve, standard scores, Student's T, Chi Square, and correlation techniques.

COURSE OBJECTIVES – the section numbers in the textbook covering these objectives are given in parentheses:

- Identify the population and sample from a research objective. (1.1)
- Decide whether a variable is quantitative or qualitative (1.1)
- Construct a histogram from a list of quantitative data. (2.2)
- Find the mean, median and mode from a list of quantitative data. (3.1)
- Find the range and standard deviation from a list of quantitative data. (3.2)
- Find the mean and standard deviation of a frequency table. (3.3)
- Find and interpret standard scores. (3.4)
- Find the interquartile range for a quantitative data set. (3.4)
- Find the five-number summary for a quantitative data set. (3.5)
- Construct a modified boxplot (i.e. possible outliers are removed from the data set, but their locations are noted by a special symbol such as an asterisk.) (3.5)
- Make a scatter diagram for two quantitative variables. (4.1)
- Find and interpret the correlation coefficient between two quantitative variables. (4.1)
- Find the equation of the least squares linear regression line between two quantitative variables and plot this line on the corresponding scatter diagram. (4.2)
- Compute and interpret the value of the coefficient of determination between two quantitative variables. (4.3)
- Approximate the probability of an event using the empirical approach. (5.1)
- Decide whether or not a distribution is in fact a discrete probability distribution. (6.1)
- Compute the mean and standard deviation of a discrete probability distribution. (6.1)
- Find probabilities for a binomial experiment. (6.2)
- Find the mean and standard deviation for a binomial experiment. (6.2)
- Find probabilities involving a normal distribution. (7.2)
- Find percentiles and cutoff scores corresponding to given probabilities for a normal distribution. (7.2)
- Decide whether or not a data set is normally distributed. (7.3)
- Find a probability involving the mean using the Central Limit Theorem. (8.1)
- Determine a confidence interval for a mean or a proportion. (9.1–9.2)
- Determine the minimum sample size necessary for determining a confidence interval for a mean or a proportion. (9.1–9.2)
- Test a hypothesis about a mean or a proportion. (10.2–10.3)
- Test a hypothesis about two means or proportions being equal. (11.1–11.3)

NOTE: All sections of Math 241 will have a minimum of 3 regular examinations and a final examination, in addition to quizzes and/or homework.

EMAIL REQUIREMENT: According to Southeastern Louisiana University policy, your Southeastern email address is the only acceptable email address that I may use in communicating with you.

OFFICE OF DISABILITY SERVICES: If you are a qualified student with a disability seeking accommodations under the Americans with Disabilities Act, you are required to self-identify with the Office of Disability Services, Student Union, Room 1304. No accommodations will be granted without documentation from the Office of Disability Services. The deadline for registering or making accommodation changes is two weeks prior to the start of the Final Exam period. Any requests received after the deadline will generally be considered for the following semester.

ACADEMIC INTEGRITY: Southeastern Louisiana University expects students to maintain the highest standards of academic integrity at all times. Behavior that violates these standards is not acceptable. In this class, examples of *cheating* include the use of unauthorized material or communication with fellow students during a quiz or exam, attempting to benefit from the work of another student, and similar behavior that defeats the intent of a quiz or exam. I consider cheating as a very serious offense, and it will be grounds for disciplinary action as outlined in the current [General Catalogue](#).

FAMILY MEMBERS: According to Southeastern Louisiana University policy, students cannot bring children to any classroom for day care or baby-sitting.

VICTIMS OF SEXUAL MISCONDUCT: If you are the victim of a sexually oriented crime, please be aware that the University Policy regarding Victims of Sexual Misconduct is located online at

www.southeastern.edu/resources/policies/assets/sexual_misconduct.pdf

as well as at page 68 in the University Student Handbook at

http://www.southeastern.edu/admin/stu_affairs/handbook/index.html

The policy includes definitions of the various sexually oriented offenses prohibited by Southeastern as well as the reporting options for victims and the process of investigation and disciplinary proceedings of the university. For more information log onto

http://www.southeastern.edu/admin/police/victims_soc/index.html