SLCC

SOUTH LOUISIANA COMMUNITY COLLEGE

Master Syllabus

MATH 2020 – Introductory Statistics

Revision Date: September 27, 2019

Previous Revision Dates (list all): 8/15/2018, 2/22/2017

Course Credit Value: 3
   If taught in a 15 week semester, students spend the following clock hours, each week in:
   Lecture: 3
   Laboratory: 0
   Clinical Experience/Internship/Workplace experience: 0

Pre and/or Co Requisites:
   Pre-Requisite(s):   Eligibility for MATH 1105
   Concurrency: None
   Co- Requisite(s):   None
   Equivalency SLCC: NA
   Equivalency BOR: CMAT 1303

Course Description: Descriptive statistics; probability; discrete and continuous (including binomial, normal and T) distributions; sampling distributions; interval estimation; hypothesis testing; linear regression and correlation. A graphing calculator is required.

Student learning Outcomes:
As a result of successful completion of this course the student will be able to:
   1. Describe data using measures of central tendency, dispersion, and position
   2. Examine relationships between two quantities by using graphs, correlations, and regression lines
   3. Use elementary probability theory to calculate and interpret probabilities of events and solve counting problems
   4. Compute probabilities using the properties of discrete and continuous random variables as well as their means and variances, including the binomial and normal distributions
   5. State appropriate hypotheses and alternatives and perform tests using sample data

Course Content:
   I. Numerically Summarizing Data
       A. Measures of Central Tendency
       B. Measures of Dispersion

NOTE: The intention of this master course syllabus is to provide you with an overview of the contents of this course, as specified by the faculty of South Louisiana Community College. Please note: individual course syllabi will reflect the diversity of individual approaches to course material and assessment.
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     C. Measures of Central Tendency and Dispersion for Grouped Data
     D. Measures of Position and Outliers
     E. Five-Number Summary and Boxplots

II. Describing the Relation Between Two Variables
     A. Scatter Diagrams and Correlation
     B. Least-Squares Regression

III. Probability and Probability Distributions
     A. Probability Rules
     B. The Addition Rule and Complements
     C. Independence and the Multiplication Rule
     D. Conditional Probability and the General Multiplication Rule
     E. Counting Techniques

IV. Discrete Probability Distributions
     A. Discrete Random Variables
     B. The Binomial Probability Distribution

V. The Normal Probability Distribution
     A. Properties of the Normal Distribution
     B. Applications of the Normal Distributions

VI. Sampling Distributions
     A. Distribution of the Sample Mean
     B. Distribution of the Sample Proportion

VII. Estimating the Value of a Parameter
     A. Estimating a Population Proportion
     B. Estimating a Population Mean

VIII. Hypothesis Tests Regarding a Parameter
     A. The Language of Hypothesis Testing
     B. Hypothesis Tests for a Population Proportion
     C. Hypothesis Tests for a Population Mean

Methods of Delivery: Lecture

Assessment: Assessment such as unit tests, graded homework, quizzes, projects, reports and other writing assignments, group activities, participation/attendance and a comprehensive final exam can be used. A: 90-100; B: 80-89; C: 70-79; D: 60-69; F: 0-59.

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