# 7/27/2020

# brcc keystone logo

Baton Rouge Community College

*Academic Affairs Master Syllabus*

Date Approved: 2 September 2020

Term and Year of Implementation: Fall 2020

**Course Title:** Basic Statistics II

**BRCC Course Rubric:** MATH 2313

**Previous Course Rubric**: MATH 203

**Lecture Hours per week-Lab Hours per week-Credit Hours**: 3-0-3

**Per semester: Lecture Hours-Lab Hours-Instructional Contact Hours**: 45-0-45

**Louisiana Common Course Number:** CBUS 2313

**CIP Code:** 27.0501

**Course Description:** : Provides brief review of MATH 2303 (MATH 202); data analysis (including computer applications) and interpretation using correlation and simple regression, multiple regression, analysis of variance; analytical approaches to decision making using linear programming; and decision analysis.

**Prerequisites:** Appropriate placement test score or MATH 2303 (or MATH 202) with a grade of C or better

**Co-requisites:** None

**Suggested Enrollment Cap:** 30

**Learning Outcomes.** *Upon successful completion of this course, the students will be able to:*

1. Understanding and demonstrate the Hypothesis Testing – apply the five step process, mean, proportions, standard deviation, variance, difference of two means and two proportions.

2. Compute the equation of the regression line, the coefficient of determination, the standard error of the estimate and correlation coefficient. The student will find a prediction interval.

3. Test a distribution for goodness of fit, two variables for independence, and proportions for homogeneity using chi-square.

4. Use the one-way ANOVA technique to determine if there is a significant difference among three or more means.

5. Use nonparametric tests for statistical inference.

**General Education Learning Outcome(s):** This course supports the development of competency in the following area(s). Students will:

Represent mathematical information numerically, symbolically, and visually, using graphs and charts. (General Education Competency: Quantitative and Symbolic Reasoning)

**Assessment Measures.** Assessment of all learning outcomes will be measured using the following methods:

1. Instructor created exams and or homework

2. A comprehensive final exam

**Information to be included on the Instructor’s Course Syllabi:**

* ***Disability Statement*:** Baton Rouge Community College seeks to meet the needs of its students in many ways. See the Office of Disability Services to receive suggestions for disability statements that should be included in each syllabus.
* ***Grading:*** The College grading policy should be included in the course syllabus. Any special practices should also go here. This should include the instructor’s and/or the department’s policy for make-up work. For example in a speech course, “Speeches not given on due date will receive no grade higher than a sixty” or “Make-up work will not be accepted after the last day of class”.
* ***Attendance Policy*:** Include the overall attendance policy of the college. Instructors may want to add additional information in individual syllabi to meet the needs of their courses.
* ***General Policies*:** Instructors’ policy on the use of things such as beepers and cell phones and/or hand held programmable calculators should be covered in this section.
* ***Cheating and Plagiarism*:** This must be included in all syllabi and should include the penalties for incidents in a given class. Students should have a clear idea of what constitutes cheating in a given course.
* ***Safety Concerns:*** In some courses, this may be a major issue. For example, “No student will be allowed in the lab without safety glasses”. General statements such as, “Items that may be harmful to one’s self or others should not be brought to class”.
* ***Library/ Learning Resources:*** Since the development of the total person is part of our mission, assignments in the library and/or the Learning Resources Center should be included to assist students in enhancing skills and in using resources. Students should be encouraged to use the library for reading enjoyment as part of lifelong learning.

**Expanded Course Outline:**

I. Review of MATH 2303 (MATH 202)

A. Properties of normal distribution

B. Standard Normal distribution

C. Central Limit theorem

II. Confidence Intervals and Sample Size

A. Confidence intervals for the mean and sample size(n>=30)

B. Confidence intervals for the mean and sample size(n<30)

III. Hypothesis Testing

A. Steps in hypothesis testing

B. Z-test for a mean

C. T-test for a mean

D. Z-test for a proportion

IV. Correlation and Regression

A. Scatter Plots

B. Correlation

C. Regression

D. Prediction interval

E. Multiple regression

V. Chi Square Tests

A. Goodness of Fit Test

B. Test of Independence and Homogeneity

VI. Analysis of Variance

A. One-way ANOVA

B. Two –way ANOVA

VII. Nonparametric Statistics

A. Nonparametric methods

B. The sign test

C. The Wilcoxon Rank sum test