



I.	Course ID (department & number): MAT-114
II.	Course Name: Introduction to Statistics and Probability
III.	Number of Credits Awarded for Course: 3 credits
IV.	Prerequisite or Co-requisite courses or academic standing (if applicable): Pre-requisite: Exit through College Placement Test or Exit Academic Foundations Mathematics Coursework.
V.	Indicate if New or Modified Course: New
VI.	Semester and Year Course will First be Offered: Fall 2017
VII.	Name and Telephone Number and/or e-mail address of department chair or other appropriate contact person: Heather DeVries, Academic Representative to NJ Transfer 201-360-4660 hdevries@hccc.edu Ahmed Rakki, Coordinator of Upper-Level Mathematics arakki@hccc.edu Dr. Burl Yearwood, Associate Dean of STEM byearwood@hccc.edu
VIII.	Detailed Course Description: This course offers an analysis of the basic ideas and methods of collecting, tabulating, and representing data. Topics include frequency distributions, histograms and frequency polygons; measures of central tendency, variability percentiles; Z-scores, elementary probability, binomial and normal distributions; linear regression and correlation, and hypothesis testing.
IX	Outline of Course Objectives: <ol style="list-style-type: none"> 1. Analyze the issues and problems associated with collecting and interpreting data from surveys, polls, and other statistical studies. 2. Apply the appropriate tabular and graphical formats for displaying univariate data sets and correctly summarize information about the centre and spread of a univariate data set. 3. Apply the concepts of probability, random variables and their distributions, in particular the binomial distribution and normal distributions to data drawn from real-world statistical applications.

	4. Apply the concepts of estimation (confidence intervals) and hypothesis testing for population averages and percentages to datasets drawn from real-world statistical applications. 5. Select and produce the appropriate tabular and graphical formats for displaying bivariate data sets. 6. Analyze data using correlation, regression and chi-square analyses.
X.	Texts, Journals and Other Materials used in Course: <i>Statistics</i> , Charles Henry Brase, Corrine Pellilo Brase
XI.	Grade Determinants Three in class exams: 75% Final exam: 25%
XII.	Number of Papers & Examinations See XI.
XIII.	Schedule of Topics to be Covered See below.

Session	Chapter	Topic	SLO
1.	Introduction Organizing Data	• Frequency Distribution	1, 2
2.		• Stem-and-Leaf Display	
3.	Averages and Variation Test #1	• Measures of Central Tendency	2
4.		• Measures of Variation • Percentiles	
5.	Correlation and Regression	• Scatter Diagrams and linear regression • Linear Regression and the coefficient of Determination	1, 6
6.	Elementary Probability Theory Test #2	• Introduction	3
7.		• Compound Events • Counting Techniques	

8. 9.	Binomial Probability Distribution	<ul style="list-style-type: none"> • Introduction to Random Variables and Probability Distributions • Binomial Probabilities • Additional Properties of the Binomial Distribution 	3
10. 11.	The Normal Curves and Sampling Distributions Test #3	<ul style="list-style-type: none"> • Graphs and the Standard Normal Distribution • Nonstandard Normal Distribution • The Central Limit Theorem • Normal Approximation to the Binomial Distribution 	2, 3, 5, 6
12.	Estimation	<ul style="list-style-type: none"> • Estimating μ When σ is known • Estimating μ When σ is Unknown • Estimating ρ in The Binomial Distribution 	4
13. 14.	Hypothesis Testing Exam review	<ul style="list-style-type: none"> • Introduction to statistical Tests • Testing the mean μ • Testing a Proportion ρ 	4
15.	Final exam		