

COURSE SYLLABUS

Course Title:	Elementary Statistics with Computer Applications	Date submitted:	March 2015 (AAC: 17-25)	
Department:	Mathematics & Science			
Curriculum:	Mathematics			
Course Descriptors: Make certain that the course descriptors are consistent with college and Board of Trustees policies, and the current course numbering system.	Course Code: (eg. ACC 101)	MAT*165		
	Course Type:	D/X		
	A: Clinical B: Lab D: Distance Learning I: Individual/Independent L: Lecture N: Internship M: Seminar P: Practicum U: Studio X: Combined Lecture/Lab Y: Combined Lecture/ Clinical/Lab Z: Combined Lecture/Studio	Elective Type:	G/LAS/M	
	AH: Art History E: English FA: Fine Arts FL: Foreign Language G: General HI: History HU: Humanities LAS: Liberal Arts & Sciences M: Math S: Science SS: Social Science	Credit Hours:	4	
	Developmental: (yes/no)	No		
	Contact Hours:	Lecture:	3	
		Clinical:	0	
		Lab:	1	
		Studio	0	
		Other:	0	
	TOTAL:	4		
Class Maximum:	27			
Semesters Offered:	F/S/Su			
Prerequisites: C- or better in Intermediate Algebra (MAT*137), OR Intermediate Algebra for Liberal Arts (MAT*137L), OR Elementary Algebra/Intermediate Algebra Combined (MAT*139), or appropriate placement test score				
Corequisites: None				
Other Requirements: None				
Catalog Course Description:	Introduction to statistical theory including the nature of statistical methods, exploratory data analysis, the rules of probability, frequency distributions, probability distributions (Binomial, Poisson, uniform, normal), sampling distributions, estimation, hypothesis testing, correlation, and regression. Learning to do statistical analysis using technology is required of all students and is an integral part of the course.			
Topical Outline: List course content in outline format.	<ol style="list-style-type: none"> 1. Summarizing data: measures of location and dispersion 2. Summarizing data: frequency distributions and graphs 3. Probability and mathematical expectation 4. Probability distributions: Binomial, Poisson, uniform, normal 5. Random sampling 6. The behavior of sample means--the Central Limit Theorem 7. Inference about Means and proportions: point estimation, overall estimation, confidence intervals, hypothesis testing 			
Outcomes:	Upon successful completion of this course, the student will be able to do the following: COURSE: :			

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<p>Describe measurable skills or knowledge that students should be able to demonstrate as evidence that they have mastered the course content.</p>	<ol style="list-style-type: none"> 1. find the mean, median, mode, range, standard deviation of a frequency distribution given as single data, weighted data or classed data 2. list the outcomes of an experiment using a sample space or tree diagram and determine the number of possible outcomes of an experiment 3. using formulas, crosstabulations and Venn diagrams, find the probabilities for the complement, union and intersection of events and for conditional probabilities 4. using formulas or tables, find the probability of an event in a Binomial, Poisson, uniform or normal distribution 5. find the mean and standard deviation of a probability distribution 6. apply the Central Limit Theorem accurately 7. produce a confidence interval for a population mean or proportion 8. test a hypothesis about a population mean or proportion 9. utilize technology to produce graphs and numerical data
	<p>PROGRAM: <i>(Numbering reflects Program Outcomes as they appear in the college catalog)</i> N/A</p>
	<p>GENERAL EDUCATION: <i>(Numbering reflects General Education Outcomes as they appear in the college catalog)</i></p> <p>7. Quantitative Reasoning -Students will learn to recognize, understand, and use the quantitative elements they encounter in various aspects of their lives. Students will develop a habit of mind that uses quantitative skills to solve problems and make informed decisions.</p> <p>Demonstrates: Interprets numerical information and applies sufficient laws of logic and mathematics to solve problems using numbers, symbols, graphs and/or descriptions.</p> <p>Does Not Demonstrate: Misinterprets numerical information or insufficiently applies laws of logic and mathematics to solve problems using numbers, symbols, graphs and/or descriptions.</p>
<p>Evaluation: List how the above outcomes will be assessed.</p>	<p>Assessment will be based on the following criteria:</p> <ul style="list-style-type: none"> quizzes tests and exams computer projects group work - where assigned
<p>Instructional Resources: List library (e.g. books, journals, on-line resources), technological (e.g. Smartboard, software), and other resources (e.g. equipment, supplies, facilities) required and desired to teach this course.</p>	<p>Required: Classrooms with sufficient seating and board space Computer classroom (part-time basis) with sufficient seating and appropriate software</p> <p>Desired:</p>
<p>Textbook(s)</p>	<p>Refer to current academic year printout.</p>