

COURSE SYLLABUS



Education That Works For a Lifetime

Course Title:	Principles of Statistics		Date submitted:	Fall 2019 (AAC: 19-30)
Department:	STEAM			
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)	MAT167	Prerequisites:	
	Course Type:	L/D	C- or better in Intermediate Algebra (MAT*137), OR Intermediate Algebra for Liberal Arts (MAT*137L), OR Elementary & Intermediate Algebra Combined (MAT*139) or appropriate placement score; AND C- or better in Integrated Reading & Writing II (ENG*075), or Intro to College Reading and Writing (ENG*093), or Intro to College English (ENG*096) or Reading and Writing VI (ESL*162) or placement into Composition (ENG *101)	
	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:	3		
	Developmental: (yes/no)	N		
	Lecture:	3		
	Clinical:	0		
	Lab:	0		
Studio:	0			
Other:	0			
TOTAL:	3			
Class Maximum:	30	Corequisites:		
Semesters Offered:	F/S/Su	None		
Catalog Course Description:	Introduces the concepts of collecting and compiling data. Reviews data presentation in tabular and graphic forms, bivariate data and its presentation, probability and probability structures, inferential statistics, analysis of variance, and hypothesis testing. Uses statistical computing software.			
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 			

	<ol style="list-style-type: none"> 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
<p>Outcomes: Describe measurable skills or knowledge that students should be able to demonstrate as evidence that they have mastered the course content.</p>	<p>Upon successful completion of this course, the student will be able to do the following:</p> <p>COURSE:</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></p> <p>N/A</p> <p>GENERAL EDUCATION: <i>(Numbering reflects General Education Outcomes as they appear in the college catalog)</i></p> <p>4. 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> <p>Quizzes, Tests and Exams, Computer projects, Group work - where assigned Homework</p>
<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 Possibly a computer classroom occasionally to work on the technology aspect of the course</p> <p>Statistical software of some sort (Instructor Choice): Statcrunch, Minitab, Excel, etc</p> <p>Desired: Classroom sets of TI-84 graphing calculators</p>

Textbook(s)

Refer to current academic year printout.