

7/10/2025

DATE



REQUIRED COURSE



ELECTIVE COURSE

MSD

DIVISION



NEW COURSE



REVISION

# Lake Land College

## Course Information Form

<b>COURSE NUMBER:</b>	MAT-124		<b>TITLE: (30 Characters Max)</b>		Statistics Pathway								
<b>SEM CR HRS:</b>	4.0	<b>Lecture:</b>	3.0		<b>Lab:</b>	2.0	<b>ICCB Lab:</b>	2.0	<b>ECH:</b>	5.0			
<b>Course Level:</b>	<input type="checkbox"/> Gen Ed / IAI <input type="checkbox"/> Career/Technical <input checked="" type="checkbox"/> Baccalaureate /Non-IAI <input type="checkbox"/> Dev Ed/ Not in Degree Audit				<b>Clinical Practicum:</b>	0.0	<b>Work-based Learning:</b>	0.0	<b>WBL ECH:</b>	0.0			
<b>Course PCS &amp; CIP:</b>	11 - 27.0501		<b>IAI Code:</b>		M1 902			<b>Contact Hours (Minutes/Week)</b>					
<b>Repeatable (Y/N):</b>	N	<b>Pass/Fail (Y/N):</b>	N	<b>Variable Credit (Y/N):</b>	N	<b>Min:</b>		<b>Max:</b>		16 Wks	250	8 Wks	500
<b>Prerequisites:</b>	Placement by assessment. QL/Stats Transitional Math (TM002). Also one year of high school geometry.												
<b>Corequisites:</b>	None												
<b>Catalog Description: (40 Word Limit)</b>	Application of elementary principles of descriptive statistics. Elements of probability, sampling techniques, binomial and normal distribution, correlation/regression and hypothesis testing. Graphing calculator and Excel required. Intended for students that don't assess directly into MAT-125 Statistics. Includes supplemental instruction lab.												

List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
Descriptive statistics/pictures of data	11	7		
Probability	7	5		
Probability distributions	5	3		
Normal probability distributions	6	4		
Confidence intervals	4	3		
Hypothesis testing	3	2		
Correlation and regression	5	3		
Technology (graphing calculator and Excel)	4	3		
<b>TOTAL</b>	<b>45</b>	<b>30</b>	<b>0</b>	<b>0</b>

EVALUATION			
<b>QUIZZES</b> <input checked="" type="checkbox"/>	<b>EXAMS</b> <input checked="" type="checkbox"/>	<b>ORAL PRES</b> <input type="checkbox"/>	<b>PAPERS</b> <input type="checkbox"/>
<b>LAB WORK</b> <input type="checkbox"/>	<b>PROJECTS</b> <input checked="" type="checkbox"/>	<b>COMP FINAL</b> <input checked="" type="checkbox"/>	<b>OTHER</b> <input checked="" type="checkbox"/> homework

COURSE MATERIALS	
<b>TITLE:</b>	Elementary Statistics
<b>AUTHOR:</b>	Mario F. Triola
<b>PUBLISHER:</b>	Addison-Wesley Publishing Company
<b>VOLUME/EDITION/URL:</b>	13th edition
<b>COPYRIGHT DATE:</b>	2018

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		<i>The student will be able to:</i>
Descriptive statistics/pictures of data	18	1. Demonstrate the following topics - introduction to statistics, tables and graphs summarizing data, measures of central tendency, measures of variation and measures of position - by displaying these skills in solving applied problems.
Probability	12	1. Demonstrate the following topics - introduction to probability, addition rule, multiplication rule, conditional probability, complements and odds and permutations and combinations - by displaying these skills in solving applied problems.
Probability distributions	8	1. Demonstrate the following topics - discrete probability distributions, binomial distributions and Poisson distribution - by displaying these skills in solving applied problems.

Normal probability distributions	10	1. Demonstrate the following topics - standard normal distributions, applications of normal probability distributions, sampling distributions and central limit theorem - by displaying these skills in solving applied problems.
Confidence intervals	7	1. Demonstrate the following topics - estimates and sample sizes, Student's t distribution, and chi-square distribution - by displaying these skills in solving applied problems.
Hypothesis testing	5	1. Demonstrate the following topics - hypothesis testing and p-value method - by displaying these skills in solving applied problems.
Correlation and regression	8	1. Demonstrate the following topics - scatterplots, linear correlation, correlation coefficient r, bi-variate data, regression - by displaying these skills in solving applied problems.
Technology (graphing calculator and Excel)	7	1. Use technology (graphing calculator and Excel) to conduct statistical analysis and interpret the results.
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Outcomes*	Outcome Title	At the successful completion of this course, students will be able to:
Course Outcome 1	Descriptive Stats	Collect, analyze and interpret data using descriptive statistics.
Course Outcome 2	Probability	Compute and understand probability.
Course Outcome 3	Probability Distributions	Construct a probability distribution using the rules of probability, including the multiplication rule, binomial probability, etc.
Course Outcome 4	Normal Distribution	Demonstrate the normal distribution with its role in basic statistical methods.
Course Outcome 5	Central Limit Theorem	Illustrate the central limit theorem and its role in basic statistical methods.
Course Outcome 6	Correlation and Regression	Identify correlation and regression and its role in basic statistical methods.
Course Outcome 7	Technology Stats	Apply technology (graphing calculator and Excel) to conduct statistical analysis and interpret the results.
Primary Laker Learning Competency Critical Thinking: Students connect knowledge from various disciplines to formulate logical conclusions.		
Secondary Laker Learning Competency Quantitative Literacy: Students analyze data and mathematical patterns in real-life situations.		

\*Course and program outcomes will be used in the software for outcomes assessment and should include at least 1 primary and 1 secondary Laker Learning Competency. Limit to 3-5.

\*Lab hours provide individualized and group instruction on prerequisite skills and foundational knowledge needed for MAT-125 Statistics.