

PACE ACADEMY
STATISTICS AND PROBABILITY
CURRICULUM GUIDE
S.Y. 2020-2021

Most Essential Learning Competencies	Statistics and Probability Lessons
THIRD QUARTER	
Illustrates a random variable (discrete and continuous)	Lesson 3.1 Random Variable
Distinguishes between a discrete and continuous variable	
Finds the possible values of a random variable	
Illustrates a probability distribution for a discrete random variable and its properties	Lesson 3.2 Probability Distribution for a Discrete Random Variable
Computes probabilities corresponding to a given random variable	
Illustrates the mean and the variance of a discrete random variable	Lesson 3.3 Mean and Variance of a Discrete Random Variable
Calculates the mean and the variance of a discrete random variable	
Interprets the mean and variance of probability distributions	
Illustrates a normal random variable and its characteristics	Lesson 3.4 Normal Random Variable
Identifies regions under the normal curve corresponding to different standard normal values	Lesson 3.5 Standard Normal Variable
Converts a normal random variable to a standard normal variable and vice versa	
Computes probabilities and percentiles using the standard normal table	
Illustrates random sampling	Lesson 3.6 Random Sampling
Distinguishes between parameter and statistic	
Identifies sampling distribution of the sample mean	Lesson 3.7 Sampling distribution of the sample mean
Finds the mean and variance of the sampling distribution of the sample mean	Lesson 3.8 Mean and Variance of the Sampling Distribution of the Sample Mean
Defines the sampling distribution of the sample mean for normal population when the variance is (a) known; (b) unknown	
Solves problems involving sampling distributions of the sample mean	
Illustrates the Central Limit Theorem	Lesson 3.9 The Central Limit Theorem
Defines the sampling distribution of the sample mean using the Central Limit Theorem	
Illustrates the t-distribution	Lesson 3.10 The t- distribution
Identifies percentiles using the t-table	
Identifies the length of a confidence interval	Lesson 3.11 Confidence Interval

Computes for the length of the confidence interval	
Computes for an appropriate sample size using the length of the interval	Lesson 3.12 Sample Size Determination
Solves problems involving sample size determination	
FOURTH QUARTER	
Illustrates: null hypothesis, (b) alternative hypothesis, (c) level of significance, (d) rejection region, and (e) types of errors in hypothesis testing	Lesson 4.1 Hypothesis Testing
Identifies the parameter to be tested given a real-life problem	Lesson 4.2 Hypothesis Testing: Z- Test
Formulates the appropriate null and alternative hypotheses on population mean	
Identifies the appropriate form of the test-statistic when: the population variance is assumed to be known, and the Central Limit Theorem is to be used	
Identifies the appropriate rejection region for a given level of significance when the population variance is assumed to be known, and the Central Limit Theorem is to be used.	
Computes for the test statistics value (population mean)	
Draws conclusion about the population mean based on the test-statistic value and the rejection region	
Solves problems involving test on the population mean	
Formulates the appropriate null and alternative hypotheses on population mean	Lesson 4. 3 Hypothesis Testing: t- test
Identifies the appropriate form of the test-statistic when the population variance is assumed to be unknown	
Identifies the appropriate rejection region for a given level of significance when the population variance is assumed to be unknown	
Computes for the test statistics value (population mean)	
Draws conclusion about the population mean based on the test-statistic value and the rejection region	
Solves problems involving test on the population mean	
Formulates the appropriate null and alternative hypotheses on a population proportion	

Identifies the appropriate form of the test-statistic when Central Limit Theorem is to be used	Lesson 4.4 Hypothesis Testing: Population Proportion
Identifies the appropriate rejection region for a given level of significance when the Central Limit Theorem is to be used	
Computes for the teste-statistic value (population proportion)	
Draws conclusion about the population proportion based on the test- statistic value and the rejection region	
Solves problems involving test of hypothesis on the population proportion	
Illustrates the nature of bivariate data	Lesson 4.5 Scatter Plot
Constructs a scatter plot	
Describes the shape(form), trend (direction), and variation (strength) based on scatter plot	
Calculates the Pearson's sample correlation coefficient	Lesson 4.6 Pearson's Sample Correlation
Solves problems involving correlation analysis	
Identifies the independent and dependent variables	Lesson 4.7 Regression Analysis
Calculates the slope and y- intercept of the regression line	
Interprets the calculated slope and y- intercept of the regression line	
Predicts the value of the dependent variable given the value of the independent variable	
Solves problems involving regression analysis	

Reference:

Soaring 21st Century Mathematics: Statistics and Probability (2017). Phoenix Publishing House,, Inc.

Time Allotment: Four (4) synchronous sessions (40 minutes per session); Five (5) asynchronous sessions (40 minutes per session)

Promotion/Retention:

- Assessments will be categorized as the following with the corresponding weight:
 - Short Quizzes (20%)
 - Written Outputs (35%)
 - Product and Performance Tasks (45%)
- **Short Quizzes.** These include summative assessments after every lesson, group of related lessons, or chapter.
- **Written Outputs.** These include data recording and analyses, geometric and statistical analyses, graphs, charts, or maps, problem sets, and surveys.
- **Product and Performance Tasks.** These include diagrams, mathematical investigatory projects, models or making models of geometric figures, number representations, constructing graphs from survey conducted, multimedia presentation, outdoor math,

probability experiments, problem-posing, reasoning and proof through recitation, using manipulatives to show math concepts or solve problems, and using measuring tools and devices.