

## **Exam Title: 1210300 Probability and Statistics**

### **Courses Assessed by this Exam: Probability and Statistics**

**Key Vocabulary:** box plot, observational study, measure of center, measure of spread, mean, median, interquartile range, standard deviation, distribution, skew, outliers, probability, 68-95-99.7 rule, scatterplot, least square regression line, residual plot, correlation coefficient, “cluster” method, heterogeneous groups, homogeneous groups, sample size, cluster sampling, simple random sampling, stratified sampling, systematic sampling, survey, experiment, observational study, complement, independent, conditional probability, dependent probability independent probability, mutually exclusive events,

#### **Student Tasks:**

- Represent data using appropriate displays
- Determine appropriate measures of center and spread given data/data displays
- Determine how skew in data can affect the spread of data
- Determine probability for the a normal distribution
- Understand the implications of residual in the original data set
- Determine the residual plot given the Least Square Regression Line (LSRL) and a table of values
- Interpret slope and intercept in context of problem
- Calculate correlation coefficient
- Identify appropriate samples when conducting surveys
- Identify appropriate sampling methods and be able to describe them
- Calculate complementary probabilities
- Identify independent and dependent events
- Calculate probability with and without replacement
- Calculate conditional probabilities
- Apply the addition/multiplication rule to calculate probability
- Calculate probabilities involving mutually exclusive, independent and dependent events