Course Outline for
MATH1213 — Introduction to Statistics

Credits:	4 (4/0/0)
Description:	Meets MnTC Goal Areas 2 and 4. Topics include data summary, frequency distributions, plots, graphs, measures of central tendency, variation, probabilities, probability distributions and confidence intervals. Hypothesis testing of means, proportions and variances will be conducted using the z-test, t-test, chisquare-test, f-test and ANOVA. Optional topics may include nonparametric statistics, sampling and simulation.
Prerequisites:	MATH1114 AND or by placement exam OR MATH1118
Corequisites:	(None)
Competencies:	1. Demonstrate knowledge of statistical terms and concepts. 2. Organize and represent data using frequency distributions. 3. Organize and represent data using graphs. 4. Summarize data using measures of central tendency. 5. Summarize data using measures of variation and position. 6. Find probability of an event using probability properties. 7. Find probability of an event using counting techniques. 8. Analyze the characteristics of discrete probability distributions including binomial. 9. Analyze the characteristics of a normal distribution, including the central limit theorem. 10. Identify the confidence interval for mean, proportion, variance, and standard deviation. 11. Demonstrate the process of hypothesis testing for specific values of mean, proportion, variance, and standard deviation. 12. Test the difference between two means, two variances, and two proportions. 13. Perform a linear correlation and regression analysis. 14. Perform chi-square test for goodness of fit, independence and

	homogeneity of proportions. 15. Perform a one way analysis of variance.
Goal Areas:	(2) Critical Thinking (4) Mathematics/Logical Reasoning