

# Course Syllabus for MATH 263

December 2015

<b>Description:</b>	<b>Introduction to Statistics and Biostatistics</b> (3 units) – Organizing data, measures of center and spread, scatterplots, nonlinear models and transformations, correlation, regression. Design of experiments: models from probability, discrete and continuous random variables, normal distributions, sampling distributions, the central limit theorem. Statistical inference; confidence intervals and test of significance, t procedures, inference for count data, two-way tables and chi-square procedures, inference for regression, analysis of variance.
<b>Prerequisite(s):</b>	Appropriate Math Placement Level or Proctored/Prep for College Algebra 88+ or Proctored/Prep for Calculus 65+, or MATH 109C, 110, 112, 113, 116, 120R, 122B, 124, 125 or 129.
<b>Current Textbook:</b>	Moore, D.S., McCabe, G.P., and Craig, B.A. (2014). <i>Introduction to the Practice of Statistics</i> , 8th edn. New York: W. H. Freeman & Co.

<b>Topics:</b>	<b>Book Sections</b>
Data Summary, Data Visualization	1.1 – 1.3
Density Curves, The Normal Distribution	1.4
Scatterplots, Regression, Correlation	2.1 – 2.5, 2.7
Experimental Design, Sampling Design	3.1 – 3.3
Probability, Conditional Probability, Random Variables, Population Mean and Variance	4.1 – 4.5
Sampling Distributions, Concepts of Statistical Inference	3.4, 5.1 – 5.2
Confidence Intervals	6.1
Tests of Significance	6.2
One-Sample Inferences on Means	7.1
Two-Sample Inferences on Means	7.2
One-Sample Inferences on Proportions	8.1
Two-Sample Inferences on Proportions	8.2
R×C tables, $\chi^2$ Tests	9.1
Inferences in Regression	10.1
Multi-Sample Inferences/ANOVA	12.1 – 12.2