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**ASHEVILLE-BUNCOMBE TECHNICAL COMMUNITY COLLEGE**  
**MATHEMATICS DEPARTMENT**  
**COMMON SYLLABUS DIRECTORY**

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**PREFIX:** MAT **NUMBER:** 151A **TITLE:** Statistics I Lab

**CONTACT HOURS:** 2 **CREDIT HOURS:** 1

**CCL DESCRIPTION:** This course is a laboratory for MAT 151. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

**PREREQUISITE(S):** MAT 080 or MAT 090

**TEXTBOOK:** Triola, *Excel Student Laboratory Manual and Workbook*.  
ISBN: 978-0-321-57073-4

**DELIVERY METHOD:** Online

**GRADING POLICY:** Online Quizzes – 60%; Excel Projects – 40%

**CONTENT OUTLINE:**

- 1.1 Introduction
- 1.2 The Basics
- 1.3 Entering and Editing Data into Excel®
- 1.4 Understanding and Using Formulas
- 1.5 Relative and Absolute Reference
- 1.6 Modifying Your Workbook
- 1.7 Printing Your Excel Work
- 1.8 Getting Help While Using Excel
- 2.1 Overview and Add-Ins
- 2.2 Frequency Distributions
- 2.3 Histograms

- 2.4 Statistical Graphs
- 3.1 Overview
- 3.2 Measures of Center
- 3.3 Measures of Variation
- 3.4 Measures of Relative Standing
- 4.1 Overview
- 4.2 Pivot Tables
- 4.3 Generating Random Numbers
- 4.4 Probabilities through Simulations
- 4.5 Factorial
- 4.6 Permutations and Combinations
- 5.1 Overview
- 5.2 Random Variables and Probability Distributions
- 5.3 Binomial Probability Distributions
- 5.4 Mean, Variance, and Standard Deviation for Binomial Distribution
- 6.1 Overview
- 6.2 Working with the Standard Normal Distribution
- 6.3 Applications of Normal Distributions
- 6.4 Sampling Distributions and Estimators
- 6.5 The Central Limit Theorem
- 6.6 Normal Distribution as Approximation to Binomial
- 6.7 Determining Normality
- 7.1 Overview
- 7.2 Estimating a Population Proportion
- 7.3 Estimating a Population Mean:  $\sigma$  Known
- 7.4 Estimating a Population Mean:  $\sigma$  Unknown
- 8.1 Overview
- 8.2 Testing a Claim about a Proportion
- 8.3 Testing a Claim about a Mean:  $\sigma$  Known
- 8.4 Testing a Claim about a Mean:  $\sigma$  Unknown
- 10.1 Overview
- 10.2 Correlation
- 10.3 Regression, Variation and Prediction Intervals
- 11.1 Overview
- 11.3 Contingency Tables: Independence and Homogeneity

**COMMENTS:** Any policy concerning the possible acceptance of a late assignment or the possibility of a special arrangement that might be made with the student who missed a scheduled examination due to circumstances beyond his/her control is left to the discretion of the instructor.

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