# **TIM-7101: Statistics with Technology Applications**

**(3 credits)**

## Course Description:

This course serves as an extensive exploration of statistics for the technology leader. Included in the course, is an advanced examination of statistical analyses commonly used for information systems and technology research. During this course, you will use different statistical tools to enhance your advanced analytical skills. These statistical analysis skills are required to plan, conduct, and interpret quantitative data to inform enterprise decisions. You will also learn to illustrate and produce technical output reports.

## Number of Activities: 8

## Learning Outcomes:

1. Analyze numeric data using a variety of statistical methods.
2. Interpret quantitative data to inform enterprise decisions.
3. Evaluate the application of statistics for decision-making.
4. Produce statistical output reports using technology tools.

## Course Concepts:

1. Descriptive Data Analysis
2. Statistics, Probability, Random Variables, and Probability Distributions
3. Inferential Data Analysis
4. Predictive Analysis
5. Design of Experiments
6. Enterprise Decision Making Applications
7. StatisticalReporting

## Primary Resource/textbook:

None

## Course Overview

### Section 1: Enterprise Statistical Applications

#### Week 1: The Art and Science of Statistical Applications

Week 1 Assignment: Create a Business Case for Statistical Applications (10 Points)

#### Week 2: Technology Resources for Statistical Applications

Week 2 Assignment: Evaluate Tools Used for Statistical Applications (10 Points)

### Section 2: Design of Experiments and Statistical Analysis

#### Week 3: Designing Experiments for Hypothesis Testing

Week 3 Assignment: Design an Experiment for Enterprise Decisioning (10 Points)

#### Week 4: Analyzing Enterprise Data for Continuous Improvement

Week 4 Assignment: Analyze Statistical Output (15 Points)

#### Week 5: Interpreting Enterprise Data Analysis Results

Week 5 Assignment: Interpret Statistical Output (10 Points)

#### Week 6: Enterprise Statistical Application

Week 6 Assignment: Evaluate the Process of Statistical Application (5 Points)

### Section 3: Enterprise Management Informed by Statistical Data

#### Week 7: Strategic Enterprise Decision Making

Week 7 Signature Assignment: Formulate a Strategic Plan Informed by Statistical Applications (30 Points)

#### Week 8: Communicating and Reporting Strategic Plans

Week 8 Assignment: Create an Executive Presentation for Stakeholders (10 Points)