

Basic Statistical Methods and Applications

| | | | |
|----------------------|--|----------------------|-----------------|
| Course Title | Basic Statistical Methods and Applications | | |
| Course Code | BUS208C | Course Type | Core Foundation |
| Credit | 3 | Contact Hours | 45 |
| Prerequisites | MAT121C or MAT150 | Co-Requisites | None |
| Duration | 15 weeks | Class Type | Lecture |

| SolBridge GACCS Objectives | % | Learning Objectives |
|---------------------------------|----|--|
| 1. Global Perspective | 35 | 1. Explain the importance and applications of statistics to business |
| 2. Asian Expertise | 10 | 2. Ability to understand data and explain differences between quantitative and qualitative data with examples |
| 3. Creative Management Mind | 30 | 3. Define and demonstrate use of data sets, mean, median, mode, standard deviation, and variance |
| 4. Cross Cultural Communication | 10 | 4. Interpret numerical and visual presentation of data including tables, frequency distributions, histograms, etc. |
| 5. Social Responsibility | 15 | 5. Ability to explain the probability of outcomes |
| | | 6. Knowledge of discrete and continuous probability distributions, especially normal distribution |
| | | 7. Ability to manage a few key data sampling methods such as random, panel and cluster etc. |
| | | 8. Demonstrate application of hypotheses testing to population parameters |
| | | 9. Demonstrating comparisons for means and proportions |
| | | 10. Understanding of simple linear regression, including dependent and independent variables, slope |
| | | 11. Ability to use PC apps or software for statistical applications such as Excel and/or SPSS |

Course Description

This course will contribute to all elements of the SolBridge mission. This will be specifically done by equipping students with the context covered in the text book and also the cases and articles covering wide range of topics. This course introduces students to deals with application of statistical methods to business problems. This course covers descriptive statistics, elementary probability, random variables and probability distributions, the binomial, Poisson, normal and "t" distributions; estimation and hypothesis testing; type I and II errors and their control

Learning and Teaching Structure

This course is an introductory course in statistics for students interested in business. It provides introduction to concepts in statistical methods and their applications to real world problems. Sessions will consist of lectures and diverse activities including but not limited to in-class exercises, computer-based exercises and cases. Through these activities students will develop statistical knowledge as well as mastery of the most relevant Excel statistical routines and functions. Students will get ample details of these activities with enough lead time for proper preparation.

The course will be conducted using Moodle (<http://moodlex.solbridge.ac.kr>), and all students must familiarize themselves with its usage. There will be no printed notes, and most of the distributed materials will be in electronic form. All the course materials will be posted in the Moodle including the assignments.

| Assessment | % | Text and Materials |
|-----------------------|----|--|
| Attendance | 20 | Title: Fundamental of Business Statistics, International Edition |
| Assignments & Quizzes | 30 | Edition: 6th edition |
| Midterm Examination | 20 | Author(s): Sweeney, Williams and Anderson |
| Final Examination | 30 | Publisher: Cengage Learning (ISBN-10: 1-111-22127-8, ISBN-13: 978-1-111-22127-0) |

Course content by Week

| | |
|-------|---|
| 1 | Orientation, Course outline, Data and Statistics |
| 2-3 | Descriptive Statistics: Tabular, Graphical Presentations and Numerical Measures |
| 4-6 | Introduction to Probability, Discrete and Continuous Probability Distributions |
| 7 | Review and Mid-term Examination |
| 8-10 | Sampling Distributions, Interval Estimation and Hypothesis Tests |
| 11 | Comparisons Involving Means, Experimental Design and Analysis of Variance |
| 12 | Comparisons Involving Proportions and a Test of Independence |
| 13-14 | Simple Linear Regression and Multiple Regression |
| 15 | Review and Final Exam |