**Course Code**: SRV.211  
**Course Title**: STATISTICS I  
**Program**: Business  
**Year/Semester**: Year 2 / Fall  
**Course Status**: Compulsory  
**Prerequisite**: -  
**Course Language**: English  
**Course Credit**: 3 (3 hours/week)  
**ECTS**: 5  
**Instructor**: Prof. Dr. Osman UNUTULMAZ

## COURSE DESCRIPTION

**Objectives**

The course is designed to provide a statistical foundation for descriptive statistics, including the statistical concepts, a part of the set theory related to statistics, counting methods such as combination and permutation, introduction to the probability theory, grouping the raw data; constructing distributions, graphical tools, employing the graphical tools for grouped data, descriptive measures for populations and samples; measures of central tendency and measures of dispersions for raw (ungrouped) and the grouped data, random variables and the distributions; discrete and continuous distributions, expected value of random variables. In this course, some basic statistical concepts and the theoretical background will be provided to guide the students step by step through the materials in logical manner to prepare them for the real life problems that they encounter later in their field of study.

**Content**

Introduction to the discipline of statistics; as an art and a science, basic concepts of set theory, counting methods, concept of probability, population and sample, tools of descriptive statistics; grouping the raw data; forming the simple and the cumulative frequency distributions, probability distributions and the percentage distributions, measures of central tendency; simple and weighted arithmetic, geometric and harmonic means, the median, mode and the quartile, measures of dispersion; range, average deviation, variance, standard deviation, quartile deviation and the coefficient of variation for grouped and ungrouped data, the graphical tools like bar charts, histograms, frequency polygons and ogives are presented. The discrete and the continuous random variables, the concepts of discrete and continuous distributions, the concepts of expected value, the expected value of such variables and the expected value of some special functions of such variables are discussed. A number of discrete theoretical distributions, like Binomial, Hyper Geometric, Geometric, Poisson and a number of continuous theoretical distributions like, Normal, Standard Normal, Exponential and the Uniform distributions and their properties are also presented. In each step the theoretical development is supported by solving related problems.
**Methodology**

For each topic, after giving the theoretical information, a number of problems are presented and solved. After completing the subject, homework problems are assigned to the students. In the following lecture, students are allowed to ask questions on the homework problems they had.

**Requirements**

Student shall attend the lectures, look at the subject before it is lectured and go over the topics that are discussed earlier. To be able to realize his or her limitation every student shall solve at least the problem sets that are assigned as homework. When the student faces any difficulty while solving the problem sets, he or she shall ask questions to clarify the points that are not clear, in the following lecture.

**Assessment**

40% of the midterm exam and 60% of the final exam constitute the raw grade of the course. Raw grade is then converted into letter grade through the curve system. The outcomes are e-mailed to the students.

**Materials**

Statistics For Business And Economics, Osman Unutulmaz, Lecture Notes, Erciyes University, Faculty of Economics and Administrative Sciences.


**Supplementary Materials:**


**Additional Information**

Office Hours:
Mondays : 09.00-10.00
Wednesdays: 14.00-15.00
Fridays : 10.00-11.00

**Course Outline**

<table>
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<tr>
<th>Week 1</th>
<th>Introduction to statistics; Statistics as a science and as an art, Descriptive Statistics, Why statistics?</th>
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<tr>
<td>Week 2</td>
<td>Basic concepts of set theory, counting methods, concept of probability, population and sample</td>
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<td>Week 3</td>
<td>Some tools of descriptive statistics; measures of central tendency; simple and weighted arithmetic, geometric and harmonic means, the median, mode and the quartile, measures of dispersion; range, average deviation, variance, standard deviation, quartile deviation and the coefficient of variation for grouped and ungrouped data</td>
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<td>Week 4</td>
<td>Grouping the raw data; forming the simple and the cumulative frequency distributions, probability distributions and the percentage distributions, measures of central tendency; simple and weighted arithmetic, geometric and harmonic means, the median, mode and the quartile, measures of dispersion; range, average deviation, variance, standard deviation, quartile deviation and the coefficient of variation for grouped data</td>
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<td>Week 5</td>
<td>The graphical tools like bar charts, histograms, frequency polygons and ogives</td>
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<td>Week 7</td>
<td>Mid-term exams</td>
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<td>Week 8</td>
<td>Discrete random variables, discrete distributions, the concepts of expected value, the expected value of such variables and the expected value of some special functions</td>
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<tr>
<td>Week 11</td>
<td>The continuous random variables, continuous distributions, expected value of continuous random variables and the expected value of some special functions of such variables are discussed.</td>
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<td>Week 13</td>
<td>Some theoretical discrete distributions; Binomial, Hyper Geometric, Geometric, Poisson</td>
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<td>Week 14</td>
<td>Some theoretical continuous distributions; Normal, Standard Normal, Exponential and the Uniform distributions</td>
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