

Faculty of Economics and Political Science

Introduction to Statistics

Information :

Course Code : STS 101

Level : Undergraduate

Course Hours : 3.00- Hours

Department : Faculty of Economics and Political Science

Area Of Study :

This course presents the basic statistical ideas that are used in different social science disciplines. The course covers various statistical instruments such as: calculating the measures of central tendency (mean- median- mode- variance- standard deviation), providing the students with different graphical illustrations (histogram- bar charts- pie charts- stem and leaf-line and scatter plot), analyzing data and its distribution (discrete distribution-continuous distribution), as well as covering structures and methods of probability distributions. The course also familiarizes students with the use of statistical software program.

Course Goals:

- Prepare students with a deeper insight on the possible sub-fields in economics, political science, public administration and mass media.
- Organize analyses, interpret and summarize the data in a useful and informative manner.
- Distinguish between different kinds of data and how they can describe the data in several behaviors.

Description :

This course presents the basic statistical ideas that are used in different social science disciplines. The course covers various statistical instruments such as: calculating the measures of central tendency (mean- median- mode- variance- standard deviation), providing the students with different graphical illustrations (histogram- bar charts- pie charts- stem and leaf-line and scatter plot), analyzing data and its distribution (discrete distribution-continuous distribution), as well as covering structures and methods of probability distributions. The course also familiarizes students with the use of statistical software program.

Course outcomes :

a.Knowledge and Understanding: :

- | | |
|-----|--|
| 1 - | 1.1) Understand data types, how data should be sampled, tabulated and graphed. |
| 2 - | 1.2) Comprehend frequency distributions and different graphical techniques. |
| 3 - | 1.3) Differentiate between descriptive and inferential statistics |

b.Intellectual Skills: :

- | | |
|-----|---|
| 1 - | 3.1) Analyze problems and design problem solving techniques. |
| 2 - | 3.2) Compare and examine observational studies. |
| 3 - | 3.3) Analyze data using graphs Construct a frequency distribution, histogram, pie chart and a scatter plot. |

c.Professional and Practical Skills: :

- | | |
|-----|---|
| 1 - | 2.1) Select the right sample, distinguishing between random and nonrandom sampling. |
| 2 - | 2.2) Select the appropriate law of probability to use in solving problems. |

3 -	2.3) Compute the mean, median, mode, percentile, quartile, range and variance on grouped and ungrouped data.
4 -	2.4) Distinguish between discrete distribution and continuous distribution.
5 -	2.5) Experiment probability theory and rules.

d.General and Transferable Skills: :

1 -	4.1) Enhance critical thinking and innovation.
2 -	4.2) Abstract reasoning, methodological knowledge and technical know-how.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Introductory Lecture and Course Outline	5	1	1
Data Collection "Methods of Collecting Data "Descriptive vs. Inferential Statistics	5	1	1
Population, Sample and Sampling Techniques	5	1	1
Data Description: Charts and graphical representation "Frequency Distribution "Histograms "Bar Chart- Pie chart- Stem and Leaf Diagram "Scatter Plot and Line Chart	10	2	2
Midterm Exam		1	
Measuring of Center and Location: "Population Mean and Sample Mean "Median "Mode "Weighted Mean "Percentiles and Quartiles	10	2	2
Measurements of Variation: "Range "Interquartile range "Population Variance and Standard Deviation "Sample Variance and Standard Deviation "Coefficient of Variation	15	3	3
Introduction to Probability: "Probability Rules	15	3	3
Final Exam		1	

Teaching And Learning Methodologies :

Presentation
Group discussion
Research Paper

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Course Work (Attendance, Participation, Assignments, Quizzes, Research Paper) D	30.00		To assess theoretical background of the intellectual and practical skills
Final Exam	40.00	15	To assess knowledge and intellectual skills
Midterm Exam	30.00	6	To assess professional skills