

## 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

#### Instructor Information :

Title	Name	Office hours
Lecturer	Eman Mahmoud Abdelmetaal Mohamed	3
Lecturer	Mostafa Sayed Mostafa Abd Elhamed	11
Lecturer	Eman Mahmoud Abdelmetaal Mohamed	3
Teaching Assistant	Mennatallah Mohamed Hassan Mahmoud Mohamed Elgamal	
Teaching Assistant	AMR MOSTAFA MAHMOUD MOSTAFA	5

#### 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 :

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#### 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

### Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
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 Paperó 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