



"El saber de mis hijos  
hará mi grandeza"

**UNIVERSITY OF SONORA**

**CENTRAL REGION UNIT**  
**SCHOOL OF ECONOMIC AND ADMINISTRATIVE SCIENCE**  
**DEPARTMENT OF ECONOMY**  
***DEGREE IN BUSINESS AND INTERNATIONAL COMMERCE***

**Identification Data.**

<b>Subject:</b> Statistics I	<b>Formative pillars:</b> Basic
<b>Teaching-learning process:</b> Course-Workshop	<b>Pre-requirement:</b> None
<b>Hours per Course:</b> 5 weeks (3 theoretical - 2 practical)	<b>Post-requirement:</b> Statistics II
<b>Nature of subject:</b> Mandatory	<b>Credit Value:</b> 8

**Introduction**

The Statistics subject is a theoretical-practical type course. It is a fundamental class for the Organizational Communication and International Business and Commerce Degrees, since it covers the quantitative tools needed for the analysis and interpretation of organizational information as well as environmental. The descriptive techniques are studied and applied as well as the probabilistic basis needed to handle statistical inference. This course only covers manifest variables, while in Statistics II is where latent variables shall be studied.

**General Objectives**

The student will develop basic skills used in the statistical tools utilized to measure, describe, analyze, and obtain information about opinions, attitudes, and behavior from internal and external company audiences.

**Specific objectives:**

- The student will understand the importance of statistics used in communications and within organizations.
- The student will become familiar with and apply the main descriptive statistical tools such as measurements of central tendency and dispersion.
- The student will prepare statistical based sampling studies.
- The student will build statistical models to be able to understand and interpret his/her work environment.

## **Thematic content**

### **1. Introduction to statistics.**

- 1.1 Basics of statistics.
- 1.2 Importance of statistics in the analysis of information.
- 1.3 Statistics within companies.
- 1.4 Uses of statistics in organizational communication.

### **2. Descriptive statistics I: Tabular methods and graph.**

- 2.1 Use of tables.
- 2.2 Use of graphs.

### **3. Descriptive statistics II: Numeric methods.**

- 3.1 Measurements of central tendency.
- 3.2 Measurements of dispersion.

### **4. Discrete probability distributions.**

- 4.1 Discrete probability distributions.
- 4.2 Continuous probability distributions.

### **5. Statistical Inference.**

- 5.1 Interval estimate.
- 5.2 Hypothesis test.
- 5.3 Statistical inference regarding measurements and proportions.
- 5.4 Inference regarding the variances of population.
- 5.5 Goodness to fit and adjustment and independence test.
- 5.6 Regression Analysis.

### **6. Non-parametric methods.**

- 6.1 Sign test.
- 6.2 Sign test.

### **7. Sampling and surveying.**

- 7.1 Sampling types.
- 7.2 Surveying techniques.

### **8. Final project.**

- 8.1 Project design.
- 8.2 Elaboration of the test instruments.
- 8.3 Field work.
- 8.4 Data capture.
- 8.5 Information analysis.
- 8.6** Acquisition and presentation of results.

## **Teaching-learning strategies**

This course has a theoretical and practical approach. Therefore, the work strategy will have the objective of providing the student with the theoretical knowledge needed to understand the essential concepts of statistics; but, simultaneously, the student shall be prepared with the necessary resources to be able to identify, within his work field, the areas of application for this type of knowledge, and be able to utilize them as a valuable tool, leading to the identification, knowledge, analyzing, and projection of the information within his work context. It is, therefore, evident the need to connect the theoretical aspect with the practical one. The use of software packages should also be promoted, especially for theory based practical work. It is also especially important to attain self-learning and self-evaluation skills.

**Modalities and evaluation and accreditation requirements**

With the purpose of reaching a complete evaluation of the subject learning, the following criteria will be evaluated as well as the strategies of evaluation:

- Initial evaluation of the level of knowledge/skills of each student and his preferred learning style.
- Assign work that demands its practical application, of the theoretical procedures and concepts studied. Self-evaluation strategies acquired can be used here.
- Periodic evaluation of the knowledge obtained.
- Evaluation of the final project performed which should reflect the knowledge acquired in case studies.
- Final evaluation, where the concepts referred to are pointed out in the previous paragraphs.

**Bibliography**

Anderson, David, R., Sweeney, Dennis, J. y Williams, Thomas A. Estadística para Administración y Economía. International Thomson Editores, México. 1999.  
Pérez, Cesar. Técnicas Estadísticas con SPSS. Prentice Hall. Madrid, España. 1999.

**Software Packages**

SPSS (Statistical Package for Social Sciences) 12.0 for Windows.

**Profile of the Professor responsible of teaching the subject:**

Formation in related area. A Master's Degree as a minimum.

**Teaching experience:**

Teaching experience within the subject. Two year minimum.

**Academic and pedagogic formation:**

Facility in performance of teaching tasks involved

Facility in group and individual communication with students

Ability to use technology and didactic techniques (computer, image projection, projectors, films, slides, videos, etc.)

Knowledge of software packages related to the course.

Accredit the teacher formational process that the institution indicates.

Others:

Proficiency in the English language (specifically in the four basic skills)

