Department of Applied Economics I

FACULTY OF TOURISM AND FINANCE

DEGREE IN TOURISM

(English language)

SYLLABUS OF STATISTICS

ACADEMIC YEAR 2016-2017

BASIC FEATURES OF THE SUBJECT

Degree: Degree in Tourism
Centre: Faculty of Tourism and Finance
Subject (code)   Statistics (1790016)
Type of subject   Common/Basic skills
Academic year   2nd year (1st term)

GOALS AND SCOPES

The main objective for the students is to attain a series of skills that can be used to analyze the essential features of a set of data in order to discover the most important and interesting aspects. To this end, students must posses general knowledge of the basic and practical procedures of statistical descriptive analysis in order to deal with real problems they may have to face throughout their professional career.

General skills

Elementary computer skills.
Capacity for analysis and synthesis.
Ability to apply the theory to practice.
Resolution of problems.
Teamwork.
Skills in the attainment and analysis of information from different sources.

Specific skills

Capacity to attain basic statistical information from primary and secondary sources.
Analysis and interpretation of the basic descriptive measures of a set of data referring to one or two characteristics.
Study of the relationship between statistical variables.
Comparative analysis of simplex and complex characteristic values in time and in space.

Course contents

CHAPTER I. ELEMENTARY CONCEPTS.

PART 1: INTRODUCTION
   1. Statistics, its goals and development.
   2. Statistics in tourism.
   3. The statistical method.

PART 2: ELEMENTARY CONCEPTS
   1. Population, sample and characteristics. Different kinds of characteristics.
   2. Scales of measurement.
   3. Cross-sectional studies and time series studies.

CHAPTER II. ANALYSIS OF ONE CHARACTERISTIC.

PART 3: FREQUENCY DISTRIBUTIONS
1. Frequency distributions. Absolute, relative and cumulative frequencies.
2. Frequency distributions of grouped variables.
3. Frequency distributions of attributes.
4. Graphic representations of frequency distributions.

PART 4: MEASURES OF POSITION
1. Introduction.
2. The arithmetic mean.
3. The median.
4. The mode.
5. The quantiles.

PART 5: MEASURES OF VARIATION
1. Concept of variation.
2. Absolute variation measures:
   Range, absolute deviations from the median and the mean.
   Variance and standard deviation.
3. Relative variation measures:
   Maximum ratio coefficient.
   Pearson's variation coefficient.

CHAPTER III. ANALYSIS OF TWO CHARACTERISTICS

PART 6: ANALYSIS OF BIDIMENSIONAL VARIABLES
1. Joint frequency. Contingence and correlation tables.
2. Marginal distributions.
3. Conditioned distributions.
4. Statistical independence between two variables.
5. Concept of statistical correlation. The covariance. Pearson's correlation coefficient

PART 7: LEAST-SQUARES MINIMAL REGRESSION
1. Concept of linear regression.
2. Lines of least-squares minimal regression and their properties.
3. Goodness of fit: residual variance and the coefficient of determination.
4. Forecasting and elasticity.
5. Non-linear regression.

CHAPTER IV. INDEX NUMBERS AND TIME SERIES

PART 8: INDEX NUMBERS. GENERAL CONSIDERATIONS
1. Concept of index number. Simple index numbers. Properties.
2. Change of the base period and chaining of index numbers. Chained index numbers.
3. Absolute and relative variations.
4. Aggregate index numbers. Most common index numbers.
5. Repercussion and participation.

PART 9: INDEX NUMBERS OF VALUES, PRICES AND QUANTITIES
1. Concepts of value index number, price index number and quantity index number. Most common formulations.
2. Statistical deflation.
3. The CPI index number.
4. Other indexes of common use.

PART 10: TIME SERIES.
1. Concept and graphical representation.
2. Classic decomposition of time series. Components of a time series.
3. Models for the integration of the components of a time series.
4. Goodness of fit. Residual analysis.
5. Forecasting.

Recommended bibliography

Probability and Statistics for finance
Rachev S.T., Höchstötter M., Fabozzi F.J. and Focardi S.M.
John Wyley & Sons, 2010

Modern Elementary Statistics
Freund J.H.
Prentice Hall, 1952

Statistics for Business and Economics
Newbold P.
Prentice Hall, 1995

A course in Business Statistics
Shannon P., Groebner D., Fry P. and Smith K.
Prentice Hall, 2001

Elementary Statistics
Weiss N.A.
Addison Wesley, 2001

TEACHING ACTIVITIES

REMOTE CONTROL COMMANDS (edu-click method)

This method, during a class session, provides the teacher with information on the following aspects:

- Whether the student has come to class.
- Whether the student has done the activities previously recommended for that session.
- Whether they have understood the concepts that have been explained throughout the session.
- Whether they correctly apply the concepts to certain cases that can be presented.

PRACTICAL CLASSES

The dynamics of these sessions are different from those in the theoretical classes in the sense that the questions that are projected refer to practical activities that the student should have had to solve while working on their own.

SCHEDULED GROUP TUTORIAL SESSIONS

Two sessions will be proposed to the students, one for the aspects referred to in Parts I and II, and a second session for the other parts. Here, the students have there to propose questions and problems and, in the scenario when there are insufficient questions, then the teachers will suggest questions and problems that may interest the students

DIFFERENT WAYS OF EVALUATION AND CRITERIA FOR THE FINAL MARKS

Continuous evaluation In this method all the marks given throughout the term will be taken into account in every official call the students have to attend until they manage to pass the subject. Students need to attend two or three exams during the academic
Theoretical exam weights 40% and practical exam weights 60%.
Just in case the students fail the continuous evaluation, the students can attend the final exam in January.