



Course Syllabus

Course Code	Course Title	ECTS Credits
MBAN-560	Foundations in Statistics and Research	0
Prerequisites	Department	Semester
None	School of Business	Fall, Spring
Type of Course	Field	Language of Instruction
Foundation	Statistics	English
Level of Course	Lecturer(s)	Year of Study
2 nd Cycle	Prof. Haritini Tsangari	1st
Mode of Delivery	Work Placement	Corequisites
Face-to-Face	N/A	None

Course Objectives:

The main objectives of the course are to:

- Introduce students to the basic principles of Statistics
- Provide the foundations to quantitative methods for business.
- Prepare students by giving them the necessary tools needed for the core course in quantitative methods, MBAN-560, Decision Making methods and tools
- Make students appreciate the importance of statistical methods in business
- Make students able to interpret statistical output.

Learning Outcomes:

After completion of the course students are expected to be able to:

1. **Use the basic concepts of graphical analysis** (students should be able to create and explain graphs and tables that are appropriate for different types of data).
2. **Compute basic descriptive statistics** (students should be able to explain the concept of statistical measures and compute measures of central tendency and variation from data).
3. **Utilize the basic concepts of probability theory** (students should compute classical and empirical probabilities).
4. **Handle discrete probability distributions** (students should explain what a random variable is, calculate expected value and variance of a random variable and compute probabilities for various discrete distributions).

5. Use the normal random variable to compute probabilities (students should use the standard normal variable and transform any normal variable into standard in order to use for real-life problems).

6. Develop the ability to summarize and present data in a professional way (students should be able to look beyond the numbers and interpret the numerical results according to the business problem they are dealing with).

“Details on the contribution of the course’s learning outcomes towards the learning goals / competencies and learning objectives of the programme are included in the curriculum map of each programme”.

Course Content:

- 1. Introduction to Statistics and Graphical Data Analysis:** data collection methods, questionnaire design, types of data. Graphical Data Analysis for categorical and numerical data: creation and interpretation of graphs and tables. Graphical data analysis for two numerical variables: cross tabulations and scatter diagrams.
- 2. Measures:** measures of central tendency or location, measures of Variation, measures of the association between two variables.
- 3. Probability Theory and Discrete Probability Distributions:** Classical and Empirical Probability, basic relations of probabilities, mutually exclusive and independent events. Discrete Probability Distributions: random variables, distribution requirements, expected value, variance.
- 4. Continuous Distributions: Normal and Standard Normal:** the normal and standard normal random variable, computation of probabilities for real life data with the use of the z-score obtained from the transformation of a normal random variable.

Learning Activities and Teaching Methods:

1. Lectures
2. Assignments
3. Handouts
4. Discussion on exercises and real-life examples

Assessment Methods:

Final Exam

Required Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Statistics for Business and Economics	Newbold, P., Carlson, W.L. and Thorne, B.	Pearson Education	2013	978-0-273- 76706-0

Recommended Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Basic Statistics for Social Research	Hanneman, R.A., Kposowa, A.J. and Riddle M.D.		Basic Statistics for Social Research	Hanneman, R.A., Kposowa, A.J. and Riddle M.D.