Course Code	Course Title	ECTS Credits
MBAN-530	Foundations in Statistics and Research	None
Department	**Semester**	**Prerequisites**
School of Business	Fall, Spring	None
Type of Course	**Field**	**Language of Instruction**
Foundation	Statistics	English
Level of Course	**Year of Study**	**Lecturer(s)**
2nd Cycle	1st	Dr Haritini Tsangari
Mode of Delivery	**Work Placement**	**Co-requisites**
face-to-face	N/A	None

Objectives of the Course:

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, MBA 604, 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 probability).
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 their 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).

Course Contents:

1. **Data and Statistics:** data collection methods, questionnaire design, types of data.
2. **Graphical Data Analysis:** creation and interpretation of graphs and tables according to the type of data in hand.
3. **Descriptive Statistics:** Measures of Central Tendency and Variation.
4. **Probability Theory:** Classical and Empirical Probability.
5. **Discrete Probability Distributions:** random variables, distribution requirements, expected value, variance, some common discrete probability distributions.
6. **Continuous Probability Distributions:** the normal random variable, transformation to a standard normal and computation of probabilities.

Learning Activities and Teaching Methods:

Lectures, Assignments, Handouts, In-Class Exercises and real-life examples.

Assessment Methods:

Homework/ Assignments, Final examination

Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Newbold, P., Carlson, W.L. and Thorne, B.	Statistics for Business and Economics	Pearson Education	2010	0-13-507248-4

Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Anderson, D. R., Sweeney, D. J. and Williams, T.A.	Statistics for Business and Economics	Thomson Learning	2002	0-324-06671-6
Keller, G and Warrack, B.	Statistics for Management and Economics	Thomson Publications	2003	0-534-49123-5