



UNIVERSITY OF NICOSIA

ΠΑΝΕΠΙΣΤΗΜΙΟ ΛΕΥΚΩΣΙΑΣ

University of Nicosia, Cyprus

Course Code MATH-221	Course Title Statistics I	ECTS Credits 6
Department Computer Science	Semester Fall/Spring/Summer	Prerequisites MATH-105
Type of Course Elective	Field Mathematics	Language of Instruction English
Level of Course 1 st Cycle	Year of Study 2 nd	Lecturer(s) Dr Stavros Pouloukas
Mode of Delivery face-to-face	Work Placement N/A	Co-requisites None

Objectives of the Course:

The main objectives of the course are to:

- Make students aware of the concept of measures of central tendency and variation.
- Make students aware of elementary probability theory.
- Cover in detail all aspects of the binomial and the normal random variables and distributions.
- Thoroughly discuss estimation and hypothesis testing.

Learning Outcomes:

After completing the course students are expected to be able to:

1. Explain the meaning of statistical measures and compute measures of central tendency and variation from data.
2. Solve basic theoretical and empirical probability problems
3. Demonstrate the basic concept of discrete and continuous random variables.
4. Compute Probabilities for the binomial distribution and for the normal distribution.
5. Compute confidence intervals.
6. Execute hypothesis testing on the value of the population mean.

Course Content:

1. Descriptive Statistics: Measures of Central Tendency and Variation.
2. Classical and Empirical Probability.
3. Discrete probability distributions: the binomial random variable.
4. Continuous probability distributions: the normal random variable.
5. Sampling distribution of the Mean.
6. Estimation and Confidence Intervals.
7. Introduction to Hypothesis Testing.
8. Hypothesis Testing for the value of the Population Mean

Teaching Methods:

Lectures, In-class exercises, In-class discussions and homework

Assessment Methods:

Assignments, mid-term exam, final exam

Required Textbooks:

Authors	Title	Publisher	Year	ISBN
Brace and Brace	<i>Understandable Statistics</i>	Wiley	2005	0-618-94992-5

Required Textbooks:

Authors	Title	Publisher	Year	ISBN
Keller and Warrack	<i>Statistics for Management and Economics</i>	Thompson	2003	0-534-49123-5
