UNIVERSITY of NICOSIA

Course Syllabus

Course Code	Course Title	ECTS Credits
MATH-221DL	Statistics I	6
Prerequisites	**Department**	**Semester**
MATH-108DL	Computer Science	Fall/Spring
Type of Course	**Field**	**Language of Instruction**
Required	Mathematics	English
Level of Course	**Lecturer(s)**	**Year of Study**
1st Cycle	Mr Christoforos Christoforou	2nd
Mode of Delivery	**Work Placement**	**Corequisites**
Distance Learning	N/A	None

Course Objectives:

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 completion of 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.
7. Understand Hypothesis Testing.
8. Test the hypothesis for 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

Learning Activities and Teaching Methods:

Lectures, Handouts and Assignments.

Assessment Methods:

Assignments, Mid-Term Exam, Final Examination

Required Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Understandable Statistics: Concepts and Methods, 12th Ed.	Brace and Brace	Wiley	2018	1337119911

Recommended Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Statistics for Management & Economics, 10th Ed.	Keller and Warrack	Thompson	2014	1285425456