



## Course Syllabus

<b>Course Code</b>	<b>Course Title</b>	<b>ECTS Credits</b>
HMATH- 350	Statistics	10
<b>Prerequisites</b>	<b>Department</b>	<b>Semester</b>
None	Mathematics	Spring
<b>Type of Course</b>	<b>Field</b>	<b>Language of Instruction</b>
Required	Statistics	English
<b>Level of Course</b>	<b>Lecturer(s)</b>	<b>Year of Study</b>
1 <sup>st</sup> Cycle	Dr. Stavros Pouloukas	2 <sup>nd</sup>
<b>Mode of Delivery</b>	<b>Work Placement</b>	<b>Corequisites</b>
Distance Learning	N/A	None

### Course Objectives:

The main objectives of the course are to:

- Use examples, graphical and numerical data to discuss the concepts of randomness and probability with emphasis on variations.
- Teach procedures and calculations needed to analyze the results of experimental data.
- Cover in detail all aspects of the binomial and the normal random variables and distributions
- Train students to assess the nature of case studies/projects that involve data analysis, to formulate the null/ alternative hypothesis, to decide on the statistical procedure/assumptions.
- Use examples from the field of hospitality management for practice in applying statistics, assessing statistical significance and drawing conclusions.

### 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. Define a hypothesis and differentiate the statistical concepts and statistical procedures to be used in descriptive and quantitative data
3. Solve basic theoretical and empirical probability problems
4. Demonstrate the basic concept of discrete and continuous random variables.

5. Compute Probabilities for the binomial distribution and for the normal distribution.
6. Compute confidence intervals.
7. Execute hypothesis testing on the value of the population mean.
8. Calculate least-squares regression lines.

**Course Content:**

- Sampling, variables and Data; Continues Variations, Populations and Samples.
- Descriptive Statistics: Central tendency, dispersion, variability.
- Random Variables and Probability Distributions.
- Sampling Distributions and Confidence Intervals.
- Hypothesis Testing on the Mean. One Sample and Two Sample Paired and Independent.
- Analysis of variance.
- Correlation and Regression.
- Test of Independence and Homogeneity. Goodness of Fit. ntinuous variations, Populations and samples.

**Learning Activities and Teaching Methods:**

Online Tutor-led Lecturing, Online Video/PDF Tutorials, Case Studies, Assignment, Online Interactions (Forums and Chats).

**Assessment Methods:**

Midterm Examination / Final Exam

**Required Textbooks / Readings:**

Title	Author(s)	Publisher	Year	ISBN
Understandable Statistics	Brase and Brase	Wiley	2016	978-1285460918

**Recommended Textbooks / Readings:**

<b>Title</b>	<b>Author(s)</b>	<b>Publisher</b>	<b>Year</b>	<b>ISBN</b>
Statistics for Management and Economics	Keller & Warrack	Thompson	2016	978-1337093453