



<b>Course Code</b> OGEE-290	<b>Course Title</b> Probability & Statistics for Engineers	<b>ECTS Credits</b> 6
<b>Department</b> Engineering	<b>Semester</b> Fall, Spring	<b>Prerequisites</b> MATH-191
<b>Type of Course</b> Required	<b>Field</b> Engineering	<b>Language of Instruction</b> English
<b>Level of Course</b> 1 <sup>st</sup> Cycle	<b>Year of Study</b> 2 <sup>nd</sup>	<b>Lecturer(s)</b> Dr Loizos Hadjiloizou
<b>Mode of Delivery</b> Face-to-face	<b>Work Placement</b> N/A	<b>Co-requisite</b> None

**Objectives of the Course:**

The main objectives of the course are to:

- Familiarize students with the fundamental concepts of probability and statistics.
- Develop an understanding of the role of statistics with emphasis on engineering applications.
- Provide an understanding of the processes by which real-life statistical engineering and science problems are analyzed.
- Acquaint students with computer-based statistical analysis.

**Learning Outcomes:**

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

- Acquire knowledge on statistics and probability theory with emphasis on science and engineering problems.
- Develop designs and conduct experiments.
- Analyze, and evaluate statistical data using a computer software.
- Employ techniques, skills, and the modern engineering tools necessary for engineering practice.

**Course Contents:**

- Descriptive Statistics
- Probability Theory (Probability, Discrete and Continuous Random Variables and Probability Distributions)
- Joint Probability Distributions and Random Samples
- Point Estimation
- Statistical Intervals and Hypothesis Testing (one and two samples)
- ANOVA

**Learning Activities and Teaching Methods:**

Lectures, examples, discussion

**Assessment Methods:**

Homework, computer projects, mid-term exam, final exam.

**Required Textbooks/Reading:**

<b>Authors</b>	<b>Title</b>	<b>Publisher</b>	<b>Year</b>	<b>ISBN</b>
Jay L. Devore	Probability and Statistics for Engineering and the Sciences	Duxbury Press	2011	978-0538733526

**Recommended Textbooks/Reading:**

<b>Authors</b>	<b>Title</b>	<b>Publisher</b>	<b>Year</b>	<b>ISBN</b>
Richard L. Scheaffer, Madhuri Mulekar and James T. McClave	Probability and Statistics for Engineers	Cengage Learning	2010	978-0534403027