



## COURSE PRESENTATION FORM – ACADEMIC YEAR 2010/2011

<b>COURSE NAME</b>	<b>Probability Theory and Statistics</b>
<b>COURSE CODE</b>	70013
<b>LECTURER</b>	<a href="#">Mario Fedrizzi</a>
<b>TEACHING ASSISTANT</b>	
<b>TEACHING LANGUAGE</b>	English
<b>CREDIT POINTS</b>	4
<b>LECTURE HOURS</b>	24
<b>EXERCISE HOURS</b>	12
<b>TIME SPAN</b>	27.09.2010 - 21.01.2011
<b>TIME TABLE</b>	See <a href="#">Timetable Page</a>
<b>OFFICE HOURS LECTURER</b>	During the lecture time, Thursdays 17:00 – 18:30, <a href="#">Faculty of CS, POS Building, piazza Domenicani 3</a> , office 2.10
<b>OFFICE HOURS TEACHING ASSISTANT</b>	
<b>PREREQUISITES</b>	Basic concepts of Analysis
<b>OBJECTIVES</b>	Enable students to model random experiments using basic methods of probability theory and to apply statistical estimation techniques to sample data.
<b>SYLLABUS</b>	<p>Describing and summarizing data:</p> <ul style="list-style-type: none"><li>• data and variables;</li><li>• description of the observed distributions;</li><li>• histograms;</li><li>• linear relationships;</li><li>• multiplicative and additive structures in two-way tables.</li></ul> <p>Probability and probability distributions:</p> <ul style="list-style-type: none"><li>• observations and events;</li><li>• the axioms of probability theory;</li><li>• conditional probabilities;</li><li>• discrete and continuous random variables;</li><li>• mean values and variances;</li><li>• special discrete and continuous distributions.</li></ul> <p>Inferences based on samples:</p> <ul style="list-style-type: none"><li>• Chebyshev's rule;</li></ul>



- the central limit theorem;
- estimation with confidence intervals;
- the t-statistic;
- one-sided and two-sided tests about a population mean.

**TEACHING FORMAT**

Frontal lectures

**ASSESSMENT**

- Mid-term written examination (40%)
- Final written examination (60%)

**READING LIST**

- James T. McClave, P. George Benson, Terry Sincich, A First Course in Business Statistics, Prentice –Hall, 2001

**SOFTWARE USED**

None.

**LEARNING OUTCOME**

Provide models and methods of probability theory and statistics that lead to improve the capacity of solving quality control and reliability assessment problems.

**COURSE PAGE**

**For didactic reasons no materials are available on-line: students have to use the textbook.**