

# Syllabus

## *Descrizione corso*

<b>Titolo insegnamento</b>	Preparatory course in Statistics
<b>Codice insegnamento</b>	27425
<b>Titolo aggiuntivo</b>	
<b>Settore Scientifico-Disciplinare</b>	STAT-01/A
<b>Lingua</b>	Inglese
<b>Corso di Studio</b>	Corso di laurea magistrale in Politiche Pubbliche e Governance innovativa
<b>Altri Corsi di Studio (mutuati)</b>	
<b>Docenti</b>	
<b>Assistente</b>	
<b>Semestre</b>	Primo semestre
<b>Anno/i di corso</b>	1
<b>CFU</b>	0
<b>Ore didattica frontale</b>	36
<b>Ore di laboratorio</b>	-
<b>Ore di studio individuale</b>	-
<b>Ore di ricevimento previste</b>	0
<b>Sintesi contenuti</b>	<p>Preparatory course in Statistics:</p> <p>The course is designed to acquire or review the core competencies in Statistics and Probability, necessary to more advanced topics (descriptive statistics, probability, random variables and inferential statistics).</p>
<b>Argomenti dell'insegnamento</b>	<ul style="list-style-type: none"> <li>• Descriptive Statistics: Frequency tables;</li> <li>• Summary Statistics (measures of central tendency and dispersion);</li> <li>• Graphical tools;</li> <li>• Introduction to bivariate analysis;</li> <li>• Probability: events, counting rules and classic definition, additive</li> </ul>

	<p>and multiplicative rule, conditional probability and independence;</p> <ul style="list-style-type: none"> <li>• Discrete and continuous random variables, probability distributions and expected values;</li> <li>• Central Limit theorem and its applications.</li> <li>• Introduction to inferential statistics.</li> </ul>
<b>Parole chiave</b>	Descriptive and summary statistics; bivariate analysis; probability; discrete and continuous random variables; probability distributions and expected values; central limit theorem, inferential statistics.
<b>Prerequisiti</b>	None
<b>Insegnamenti propedeutici</b>	None
<b>Modalità di insegnamento</b>	Frontal lectures and exercises
<b>Obbligo di frequenza</b>	Attendance is suggested, but not required. Students without a background in Statistics and Probability are strongly recommended to attend the “preparatory course” in Statistics and Probability organized at the beginning of the first semester.
<b>Obiettivi formativi specifici e risultati di apprendimento attesi</b>	<ul style="list-style-type: none"> <li>• Knowledge and understanding: Students learn the basics of probability and statistical theory.</li> <li>• Applying knowledge and understanding: Students develop the ability to analyze real data by exploiting via tables, graphical tools, and data summaries.</li> <li>• Making judgments: Ability to describe and discuss specific economic issues with a critical point of view by analysing data or evaluating probabilities.</li> <li>• Communication skills: Ability to present in a consistent and precise way the results obtained from the statistical or probabilistic analysis.</li> <li>• Learning skills: Ability to understand and analyse the economic data from a quantitative perspective.</li> </ul>
<b>Obiettivi formativi specifici e risultati di apprendimento attesi (ulteriori info.)</b>	Students successfully attending the course will be able to i) explore, visualize, and interpret different types of data by producing graphs and computing numerical data summaries, ii) describe empirical phenomena through probability and random variables, and use basic theorems to manipulate them.
<b>Modalità di esame</b>	A final written exam with both closed and open questions.
<b>Criteri di valutazione</b>	The test will have no negative consequences, as it is aimed at

	making aware students of their own knowledge. In case of “not-passed” outcome, the student could decide with the lecturer how to improve his/her knowledge.
<b>Bibliografia obbligatoria</b>	<ul style="list-style-type: none"> <li>- P. Newbold, W. L. Carlson, B. M. Thorne, Statistics for Business and Economics – Global Edition, Pearson, New York, 2023, 10th Ed.. ISBN 978-12-924-3684-5. Chapters 1-5.</li> <li>- Additional teaching material (slides, past exams) will be available on a web folder at the beginning of the course.</li> <li>- Further readings will be announced during the course.</li> </ul>
<b>Bibliografia facoltativa</b>	
<b>Altre informazioni</b>	Lecturer to be defined
<b>Obiettivi di Sviluppo Sostenibile (SDGs)</b>	Utilizzo responsabile delle risorse, Buona occupazione e crescita economica