

**Statistics Economics**  
**Single Courses**  
**a.y. 2022-2023, 2nd semester, 12 ECTS Credits**

**Prof. Francesco Rania**

<b>Course Information</b>	Statistics Economics and Finance (SECS-S/03) 12 ECTS Lesson period: 2nd semester, a.y. 2022-2023 Single Courses
<b>Professor Information</b>	Prof. Francesco Rania Department of Law, Economy and Sociology Website: <a href="https://www.diges.unicz.it/web/docenti/rania-francesco/">https://www.diges.unicz.it/web/docenti/rania-francesco/</a> Email: <a href="mailto:raniaf@unicz.it">raniaf@unicz.it</a> Phone: +39 0961 3694 4987 Office hours: during the lesson period; before and after the lessons and every month before the examination
<b>Course Description</b>	The aim of the course is to provide probabilistic and statistical tools for the quantitative treatment of data on economic phenomena observed in time and space.
<b>Course goals and Expected Learning Outcomes</b>	Upon course completion, a student will be able to: <ul style="list-style-type: none"> <li>• Know and apply the index numbers, simple and complex.</li> <li>• Understand National Accounts and know main economic aggregates;</li> <li>• Describe the relationship among the variables characterizing development, growth, labour, production, and wellness of a country;</li> <li>• Estimate efficiency measures, and temporal variations;</li> <li>• Perform analysis of time series regarding economic phenomena;</li> <li>• Measure effects of growth, development, unemployment, and productivity.</li> </ul>
<b>Program</b>	<u>Elements of Statistics</u> : univariate descriptive statistics: frequency tables, graphical summaries (plots), summary statistics; contingency table; Random variables; Elements of point estimate statistics; Hypothesis tests. <u>Index numbers</u> : classification of index numbers; numbers elementary indices, fixed-base, a mobile base; Synthetic index numbers; Choice of the base; Choosing the method of calculation; properties and formal conditions of index numbers; Index numbers calculated by ISTAT: Laspeyres, Paasche e Fisher; numbers of prices, productions, exchanges, and labor. <u>National Accounts and economic aggregates</u> : characteristics of SEC95, operations among economic aggregates, the production and distribution account, the use of income, the accumulation accounts, the balance sheet, and the accounts of the rest of the world. <u>Series analysis</u> : classical analysis of time series; models for economic time series; the approach based on deterministic functions; approach with stochastic components; stochastic processes ARIMA. <u>Analysis of growth, development, and labor</u> : economic growth; growth accounting and structural indicators; the labor market ; sources of labor force statistics; synthetic indices and specific employment and unemployment Labour; <u>Analysis of production</u> : economic interdependences, input-output table; framework of an open economic system; social accounting matrix; indices of sectoral Integration; the production function and the measurement of productivity; production function; the production function of Cobb Douglas; productivity indicators; Solow model. <u>Welfare Analysis</u> : Consumption analysis; the function of aggregate consumption; specification and estimation of the parameters of a function of consumption; models and measures of income inequalities, prices elasticity.

<b>Expected student workload</b>	Approximately 90 hours.			
<b>Teaching methods</b>	<ul style="list-style-type: none"> <li>- Lectures</li> <li>- Problem-solving</li> <li>- Exercises during the classroom lessons</li> </ul>			
<b>Learning resources (textbooks, eventual further reading, ...)</b>	<p><u>Textbook</u></p> <ul style="list-style-type: none"> <li>• R. Guarini, F. Tassinari, Statistica Economica, il Mulino manuali, 2000</li> </ul> <p><u>Further reading</u></p> <ul style="list-style-type: none"> <li>• Paolo Chirico, Lezioni di statistica economica, G Giappichelli Editore, 2013</li> <li>• Simone. Compendio di Statistica economica, 2014.</li> </ul>			
<b>Support activities</b>	Subject-specific seminars			
<b>Attendance policy</b>	The attendance policy is established by art. 8 of the University teaching regulation: <a href="http://www.unicz.it/pdf/regolamento_didattico_ateneo_dr681.pdf">http://www.unicz.it/pdf/regolamento_didattico_ateneo_dr681.pdf</a> .			
<b>Assesment Methods</b>	The course includes intermediate assessment tests for attending students. The examination is written and oral. The student must have obtained a score of 14/30 in the written part to be able to sit for the final (oral) part.			
	<b>Grade</b>	<b>Grade knowledge and understanding of the topic</b>	<b>Ability to analyze and synthesize</b>	<b>Use of references</b>
	Fail	Severe shortcomings and inaccuracies	Irrelevant frequent generalizations. Inability to synthesize	Completely inappropriate
	18-20	Sufficient. Important shortcomings.	Sufficient capabilities	Sufficient
	21-23	Basic knowledge	The student is capable of correct analysis and synthesis, he argues logically and consistently	The student uses standard references
	24-26	Satisfactory. Good knowledge	The student has good analysis and synthesis skills. The arguments are expressed consistently	The student uses standard references
	27-29	Very good	The student has considerable skills in analysis and synthesis	The student studies in depth the topics of the exam
	30-30L	Excellent	The student has Excellent analysis and synthesis skills	Important insights