Fakultät für Wirtschaftswissenschaften
Facoltà di Economia
Faculty of Economics and Management

Syllabus
Course description

Course title	**APPLIED STATISTICS FOR ACCOUNTING AND FINANCE**
Course code	**25408**
Scientific sector	SECS-S/01
Degree	Master in Accounting and Finance
Semester and academic year	1st semester 2024/2025
Year	1
Credits	6
Modular	No

Total lecturing hours	36
Total lab hours	-
Total exercise hours	-
Attendance	Strongly suggested, but not mandatory
Prerequisites	A bachelor-level introductory course in statistics; an introductory course in econometrics and knowledge of R are helpful plus
Course page	Laurea magistrale in Accounting e Finanza / Libera Università di Bolzano (unibz.it)

Specific educational objectives	The course provides statistical and computational tools useful in accounting and finance applications. The main objectives are: 1) learn R as computing environment; 2) apply well known statistical tools (exploratory statistics, statistical distributions, statistical inference, correlation and linear regression) on real data using R; 3) learn new statistical methods frequently used in accounting and finance (logistic regression, repeated cross sections, panel data analysis, difference-in-difference inference, propensity score matching, Heckman model), in a practical way by applying them to real data using R.

Lecturer	Prof. Fabrizio Cipollini
Scientific sector of the lecturer	SECS-S/03
Teaching language	English

Learning outcomes	Knowledge and understanding: • Learn R • Revise well known statistical methods by applying them • Learn some new statistical methods frequently used in accounting and finance applications Applying knowledge and understanding: • Read, manage and summarize data; • Apply suitable statistical methods to real data; • Interpret the results of the analyses in light of the empirical context. Making judgments: • Choose the suitable statistical methods for an empirical problem; • Take effective decisions in light of the results obtained. Communication skills • Communicate effectively the results obtained, even to a non-specialised audience.

Assessment	Assignments + final-term exam. The assignments concern: 1) exercises with R; 2) data analysis and writing reports on them. The final term exam is composed of questions on data analysis (to be done using R) and theoretical questions.
Assessment language	English
Evaluation criteria and criteria for awarding marks	Assignments during the course: 50% Final-term exam: 50%

Required readings	Since there is not a unique textbook covering all topics to a level suitable for the course students, the main reference to prepare the exam are lesson notes delivered by the teacher.
Supplementary material	Additional references on computing and statistical methods proposed in the course are: • Dalpiaz D. (2022). Applied Statistics with R, https://book.stat420.org/applied_statistics.pdf • Wasserman L. (2011), All of Statistics: A Concise Course in Statistical Inference https://egrcc.github.io/docs/math/all-of-statistics.pdf • Wooldridge, J. M. (2019). *Introductory Econometrics: A Modern Approach.* Nelson Education, 7th ed • Ruppert and D. S. Matteson (2015). Statistics and Data Analysis for Financial Engineering, 2nd ed. Springer https://ethz.ch/content/dam/ethz/special-interest/math/statistics/sfs/Education/Advanced%20Studies%20in%20Applied%20Statistics/course-material-1921/FinancialData/2710528_1_ruppert.pdf