Elective course in the area **Computer-Based Analysis**

Econometrics

Teaching Load	4 hours per week
Kind of course	Elective in Master Program
ECTS Credit Points	8 = 240 hours Lecture: • 60 hours = 15 x 4 SWS Self-study: • 180 hours ➢ 140 hours: preparation before and after lectures, reading of handouts and textbooks, PC exercises ➢ 40 hours: Preparation for final exam
Lecturer	Prof. Dr. Karsten Schmidt
Course objective and Learning Outcomes	Students will learn fundamental methods of econometrics and develop their ability to evaluate empirical research critically.
Topics	• Review of matrix algebra (trace, rank, determinant, eigenvalues, nonnegative matrices, generalized inverse) • The multiple linear regression model (notation, assumptions, parameter estimation) • Properties of estimators • Hypothesis testing • Dummy variables as independent variables • Dummy variable as dependent variable (LPM, Logit, Probit) • Application (cross section and time series data)
Literature	➢ Kennedy, P.: A Guide to Econometrics, 6th ed., Malden (Blackwell)

	2008 ➢ Ryan, T.P.: Modern Regression Methods, 2nd ed. Hoboken (Wiley) 2009 ➢ Schmidt, K., Trenkler, G.: Einführung in die Moderne Matrix-Algebra - mit Anwendungen in der Statistik, 2nd ed. Heidelberg (Springer) 2006 *[abbreviated version in English]*
Teaching Methods	• Lectures • Discussions • Exercises Each student is to become an "expert" on one major area in matrix algebra; any matrix-algebra-related questions will be directed to the "experts".
Grading	Final exam
Language of Instruction	English