

# Methods in Transportation Econometrics and Statistics (Master)

## Curriculum WS 2021/22

Subject	# Lectures
General: definition and objectives of econometrics; the role of statistics; mathematical models and their categories	1
Actual use case: data and models of the Covid-19 pandemic	1
Linear models: specification, matrix notation, ordinary-least squares parameter estimation	1
Linear models: classical inferential statistics: confidence intervals and tests	1.5
Logistic regression	0.5
Is the $p$ -value dead? Bayesian inference	1
<i>Why the interviewer wants to know my age?</i> principles of surveys as input for discrete-choice models: variable categories, revealed preference/choice, stated preference/choice, choice-based conjoint analysis, design of the questionnaire.	1
<i>Car or public transport?</i> general aspects of discrete-choice theory, its difference to linear models, and their relevance for traffic econometrics	1
<i>How to model a homo oeconomicus not knowing everything?</i> binomial and multinomial logit and probit models	1
<i>How to maximize profit from an airports perspective?</i> Elasticities	0.5
<i>How to estimate the value of time?</i> Maximum-likelihood estimation and inferential statistics	1
<i>How to proceed if my utility cannot be linearized or if my ignorance is correlated?</i> Nonlinear models and GEV models, particularly nested-logit models; also	1
<i>Is Greta right in promoting electrical vehicles?</i> introduction to life-cycle assessment (German: "Ökobilanz")	1
Spare time and preparation for the examination	0-1