



Courses taught in English at the Faculty of Economic Sciences

<p>Module No.: M.WIWI-QMW.0001</p> <p>Title: Generalized Linear Models</p>	<p>Credits:</p> <p>6</p>
<p>Course Content:</p> <p>Generalized linear models (binary and Poisson regression, exponential families, maximum likelihood estimation, iteratively weighted least squares regression, tests of hypotheses, confidence intervals, model selection and model checking, categorical regression models), nonparametric smoothing techniques (penalized spline smoothing, local smoothing approaches, general properties of scatterplot smoothers, choosing the smoothing parameter, bivariate and spatial smoothing, generalized additive models).</p> <p>The students</p> <ul style="list-style-type: none"> • gain an overview on extended regression modelling techniques that allow to analyse data with non-normal responses. • learn about approaches for modeling nonlinear effects in scatterplot smoothing. • get an introduction to additive models for complex regression analyses. • learn how to implement these approaches using statistical software packages. 	<p>Course Type:</p> <p>Lecture (2 WLH) + Tutorial (2 WLH)</p>

<p>Recommended Prerequisites:</p> <p>Bachelor courses "Statistics" and "Linear Models" (or similar courses)</p>	<p>Exam:</p> <p>Written examination (90 minutes)</p>
<p>Recommended Semester:</p> <p>2</p>	<p>Cycle:</p> <p>Every summer semester</p>
<p>Literature:</p> <p>Dobson, Anette J.: An Introduction To Generalized Linear Models, Chapman & Hall, 1990.</p>	<p>Lecturer:</p> <p>Prof. Dr. Thomas Kneib</p>

Lindsey, J.K.: Applying Generalized Linear Models, Springer, New York, 1997.

McCullagh, Peter & Nelder, John A.: Generalized Linear Models, Chapman & Hall, 1983.

Hand, D.J. et al: A Handbook Of Small Datasets, Chapman & Hall, 1994.