1	Module name MSE-	Semiparametric Methods in Econometrics and Applications	5 ECTS
2	Courses/lectures	L: Semiparametric Methods and Applications (2 SWS)	5 ECTS
3	Lecturers	Prof. Fitzenberger	

4	Module coordinator	Prof. Fitzenberger
5	Contents	This course presents nonparametric and semiparametric regression techniques which are part of the tool set of modern microeconometric methods and applications. The course covers saturated OLS regression, kernel density estimation, nonparametric regression, partially linear models, semiparametric selection models, inverse probability weighting, penalized regression models as well as parametric and nonparametric quantile regression as basic tools. These methods are used for cross-section data and longitudinal data. Students will familiarize themselves with applying the methods based on selected applications in economic research papers.
6	Learning objectives and skills	Students • learn how to learn to think of regression as modelling conditional expectations and features of conditional distribution • learn how that there is a bias and variance trade-off between choosing a flexible regression specification and obtaining precise estimates in light of the curse-of-dimensionality • learn that flexible regression methods require the choice of tuning parameters and how to use statistical approaches to choose the tuning parameters • learn how semiparametric methods are applied in real world econometric studies
7	Recommended prerequisites	Master level "Einführung in die Ökonometrie (Introduction into econometrics)" (mandatory) and a further course (recommended) in microeconometrics such as "Panel and Evaluation Methods" or "Mikroökonometrie und Maschinelles Lernen".
8	Integration in curriculum	Elective area for the MSE students
9	Module compatibility	Master Economics: Elective Area Master Arbeitsmarkt und Personal: Elective Area Master Sozialökonomik: freier Vertiefungsbereich Master Management, Marketing, FACT, Gesundheitsmanagement und –ökonomie, IIS: Elective Area
10	Method of examination	Written examination (90 minutes)
11	Grading procedure	Written examination (100%)
12	Module frequency	Winter Semester
13	Workload	Attendance: 24 h Independent study: 40 h
14	Module duration	1 semester
15	Teaching and examination language	English
16	Recommended Reading	Pagan, A. and A. Ullah (1999): Nonparametric Econometrics, Cambridge University Press. Wooldridge, J. M. (2010): Econometric Analysis of Cross Section and Panel Data. 2nd edition, Cambridge, MA: MIT Press.
17	Information on Winter Semester 2020/21	The course will be conducted in a virtual format for the time being. Updates will be provided on the website and StudOn. Contact: Prof. Bernd Fitzenberger (bernd.fitzenberger@faufau.de)