Course Descriptions None 2018-2019

Course Title	Empirical Analysis II
Course Code	EBC4134
ECTS Credits	6,5
Assessment	None

Period

Period	Start	End	Mon	Tue	Wed	Thu	Fri
2	29-10-2018	21-12-2018	C				

Level	Advanced
Coordinator	Peter Schotman For more information:p.schotman@maastrichtuniversity.nl
Language of instruction	English

Goals

The goal of this course is to introduce the participants to a number of relevant analysis techniques and methodological approaches, and applying them 'hands-on.' Participants will not only acquire an introduction to the analysis techniques and methodological approaches, they will also have the opportunity to apply them to real-life problems using structured data assignments. The course will not only focus on 'hard skills,' but also on 'soft skills,' such as creativity in problem solving, collaboration and teamwork and providing a research 'narrative' on the basis of the extant literature. The course objectives of this course can be summarized as follows:
* Introduce participants to key data analysis techniques and methodological approaches that are an essential part of a PhD training, and indeed for many management and research-oriented jobs in industry;
* Participants will apply these key data analysis techniques and methodological approaches using real-life problems using structured data assignments as teamwork;
* Apart from the data analysis and methodological skills the participants will also gain further experience in the application of R complemented by alternative analysis platforms and
* 'Soft' skills to complement the data analysis and methodological skills of the participants, such as creativity in problem solving, collaboration and teamwork, providing a research 'narrative' on the basis of the extant literature communication of findings and in-class interaction

Description

For academic researchers, it is crucial nowadays to be familiar with a large number of data analysis techniques and methodological approaches. Not only has the availability of data increased dramatically, IBM (www.ibm.com) for instance predicts that every day, 2.5 quintillion bytes of data is created, so much indeed that 90% of the data in the world today has been created in the last two years alone, also the data is predominantly getting unstructured in nature. Moreover, for most research disciplines in business and economics, novel analysis techniques and methodological approaches are very rapidly evolving. This implies that studying state-of-the-art analysis techniques and methodological approaches have become an essential part of a PhD training, and indeed for many management and research-oriented jobs in industry. Actually, in their
2012 seminal Harvard Business Review article Davenport and Patil exclaim that the data scientist might well evolve into '...the sexiest job of the 21st century.'
This course aims at providing the participants with a number of introductory sessions to different state-of-the-art analysis techniques and methodological approaches. Rather than focusing on every technical detail, this course will provide you with the general idea underlying different analysis techniques and methodological approaches. In addition, you will learn how to apply the different analysis techniques 'hands-on' employing real-life problems using structured data analysis assignments. This course builds on the knowledge and skills acquired in Empirical Analysis 1. We will use R (https://cran.r-project.org/) as the core analysis platform for this course, complemented by alternative analysis packages, such as SPSS, STATA, LISREL, SmartPLS, MLwiN. As far as topics are concerned we will extend the classical OLS regression framework introducing concepts from psychometric theory, such as factor analysis and principal components analysis, path modeling, structural equation modeling and Partial Least Squares (PLS) path modeling. Furthermore, we will introduce the participants to hierarchical linear modeling (HLM), social network analysis, moderation and mediation, endogeneity and panel analysis.

Literature	To be announced.
Prerequisites	* Empirical Analysis 1, or alternatively a course on basic statistics covering descriptive and inferential statistics, basic matrix algebra, basic mathematics, hypothesis testing, univariate and bivariate tests (parametric and nonparametric), ANOVA, correlation analysis and OLS regression analysis. * Experience with R, or any alternative analysis platform, such as SPSS, STATA, etc.
Teaching methods	Presentation / Lecture / Assignment / Groupwork
Assessment methods	Final Paper / Participation
Evaluation in previous academic year	For the complete evaluation of this course please click http://iwio-sbe.maastrichtuniversity.nl/rapporten.asp?referrer=codeUM

This course belongs to the following programme / specialisation

Master Business Research	Compulsory Courses