

## Course Descriptions NonDegree 2020-2021

Course Title	Data Analysis Skills							
Course Code	EBS4001							
ECTS Credits	4,0							
Assessment	Pass / Fail							
Period	Period	Start	End	Mon	Tue	Wed	Thu	Fri
	3	11-1-2021	22-1-2021	C				
Level	Advanced							
Coordinator	Bram Foubert For more information:b.foubert@maastrichtuniversity.nl							
Language of instruction	English							
Goals	<p>In terms of the so-called Assurance of Learning standards, this course pursues the following learning objectives:</p> <ul style="list-style-type: none"><li>* Knowledge acquisition: students will acquire knowledge of statistical methods and econometric models that are relevant when dealing with limited or nonmetric dependent variables.</li><li>* Knowledge application and judgement: in four assignments, students will learn to use and extend their knowledge on the basis of realistic cases and datasets.</li><li>* Research skills: the acquired knowledge involves (the application of) econometric techniques and thus directly contributes to students' research skills.</li><li>* Communication and professional attitude: to realize the above learning objectives, interaction, feedback, and teamwork will be key. As a result, students will also sharpen their communication skills and improve their professional attitude.</li></ul>							
Description	<p>Dependent variables rarely cover the full line of real numbers. Although the assumption of an unconstrained continuous dependent variable may be relatively harmless in quite some cases, many situations require a different approach. For example, when a consumer purchases packaged goods, he or she only buys an integer, nonnegative number of units. In surveys, Likert or semantic scales not only discretize but also limit a person's true response, in that they impose minimum and maximum values. Finally, 0/1 phenomena by definition demand techniques that recognize the binary, nominal nature of the data. Ignoring the true characteristics of your data may lead to inefficient and inconsistent estimates and may generate nonsensical predictions. This skills training therefore introduces students to:</p> <ul style="list-style-type: none"><li>* different types of limited and/or nonmetric dependent variables and the inherent dangers of ignoring the data's real nature;</li><li>* models that take into account the peculiarities of the data; and</li><li>* a particularly popular estimation technique that is flexible enough to estimate all studied models, namely Maximum Likelihood Estimation (MLE).</li></ul> <p>On the basis of structured assignments with realistic data, we will conduct econometric analyses in the open-source programming environment R.</p>							
Literature	Selected chapters from textbooks, course slides, course book							
Prerequisites	<ul style="list-style-type: none"><li>* Experience with a statistical package like SPSS</li><li>* First experience with R (if not, preparatory assignment will be provided)</li><li>* Knowledge of multiple regression analysis and Ordinary Least Squares</li><li>* Knowledge of elementary and matrix algebra (if not, preparatory assignment will be provided)</li><li>* Knowledge of basic calculus</li></ul>							
Teaching methods	PBL / Presentation / Lecture / Assignment							
Assessment methods	Attendance / Participation							
Evaluation in previous academic year	For the complete evaluation of this course please click <a href="http://iwio-sbe.maastrichtuniversity.nl/rapporten.asp?referrer=codeUM">http://iwio-sbe.maastrichtuniversity.nl/rapporten.asp?referrer=codeUM</a>							
This course belongs to the following programme / specialisation	Master Business Research - No specialisation				Year 1 Compulsory Skill(s)			
	SBE Exchange Master				Master Exchange Skills			
	SBE Non Degree Courses				Master Skills			