

Course Descriptions Exchange 2023-2024

Course Title	Data Science							
Course Code	BENC2011							
ECTS Credits	5,0							
Assessment	Whole/Half Grades							
Period	Period	Start	End	Mon	Tue	Wed	Thu	Fri
	5	15-4-2024	7-6-2024		X		X	L
Level	Introductory							
Coordinator	Adriana Iamnitchi For more information:a.iamnitchi@maastrichtuniversity.nl							
Language of instruction	English							
Goals	<p>Learn about the data science lifecycle;</p> <ul style="list-style-type: none">* Apply Python as a programming language to perform data analysis tasks;* Become acquainted with the data manipulation process and how to achieve this in Python;* Get introduced to basic machine learning algorithms and their applications, network science techniques for modeling, analyzing and reasoning about relationships between entities* Understand and apply data interpretation and visualization tools							
Description	<p>Data science is an interdisciplinary field concerning scientific methods, processes, and systems to extract knowledge or insights from data in various forms, either structured or unstructured. This course presents the key four aspects of data science: data acquisition and preparation for investigation (scrapping, wrangling, cleaning, sampling, management) to guarantee high quality and quick and reliable access, exploratory data analysis to generate hypotheses and intuition, modelling based on statistical/machine learning and correct communication of the analysis outcomes through visualisation, storytelling and reporting. Lectures and tutorials emphasise the practical use of these aspects and prepare students for developing real-world data-driven applications.</p>							
Literature	Data Science by John D. Kelleher and Brendan Tierney Data Science from Scratch by Joel Grus Python Data Science Handbook by Jake VanderPlas							
Prerequisites	BENC1002 Calculus BENC1004 Linear Algebra							
Keywords								
Teaching methods	PBL / Presentation / Lecture / Assignment / Papers / Groupwork / Skills							
Assessment methods	Final Paper / Written Exam / Assignment / Presentation							
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	Bachelor Business Engineering			Year 2+3 Elective Courses				
	SBE Exchange Bachelor			Bachelor Exchange Courses				
	SBE Exchange Master			Bachelor Exchange Courses				