Course Descriptions None 2024-2025

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	7-4-2025	1-6-2025		X		X	L

Level	Introductory
Coordinator	Rohan Nanda For more information:r.nanda@maastrichtuniversity.nl
Language of instruction	English
Goals	Learn about the data science lifecycle; * 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	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.
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 Elective Course(s)
SBE Exchange Bachelor	Bachelor Exchange Courses
SBE Exchange Master	Bachelor Exchange Courses