Course Descriptions None 2026-2027

Course Title	Deep Learning for (Un)structured Data
Course Code	EBC2200
ECTS Credits	6,5
Assessment	Pass / Fail

Period

Period	Start	End	Mon	Tue	Wed	Thu	Fri
4	1-2-2027	25-3-2027	X			X	

Level	Advanced
Coordinator	Rui Jorge De Almeida e Santos Nogueira For more information:rj.almeida@maastrichtuniversity.nl
Language of instruction	English
Goals	Deep Learning is a fundamental block in AI. This course is a deep dive into the details of deep learning architectures, where you will understand how to build neural networks, with a focus on learning end-to-end models for unstructured data.
Description	This course will cover several deep learning algorithms. You will learn about Convolutional networks, RNNs, LSTM, Adam, Dropout, BatchNorm, Xavier/He initialization, GenAI, Reinforcement Learning amongst other subjects. We will discuss theoretical properties of the methods, their practical implementation using a suitable programming language (e.g. Python). This course relates to several application areas where business problems are supported using systematic data analysis.
Literature	•Goodfellow, I., Bengio, Y. Courville, A. (2016). Deep Learning. MIT Press. ISBN: 978-0-262-035613. Freely available at: http://www.deeplearningbook.org. •Sutton, R. S. (2018). Reinforcement learning: An introduction. A Bradford Book. •Stevens, E., Antiga, L., & Viehmann, T. (2020). Deep learning with PyTorch. Manning Publications. ISBN: 9781617295263 •Shukla, N., & Fricklas, K. (2018). Machine learning with TensorFlow.
Prerequisites	Students need to have solid background in probability theory, mathematical statistics, and programming in Python.
Keywords	
Transitional Regulations	
Teaching methods	PBL / Lecture
Assessment methods	Final Paper / Participation / Assignment
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 Analytics	Year 3 Elective Courses
Bachelor Econometrics and Operations Research	Year 3 Disciplinary Courses
Bachelor Econometrics and Operations Research	Year 3 Elective Courses