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. M 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	In transition - Year 3 Disciplinary Courses
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