

Course Descriptions None 2025-2026

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

Period	Start	End	Mon	Tue	Wed	Thu	Fri
4	2-2-2026	27-3-2026	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 Disciplinary Courses