Democritus University of Thrace, Kavala, Greece
School of Science
Department of Informatics

Department of European and International Programmes – Erasmus+
Agios Loukas, 654 04, Kavala University Campus, Greece
0030-2510-462221 & -290 & -308

Proposed Course for incoming Erasmus students[1]

Responsible for the course (lecturer) (name, phone number, e-mail address)	Professor Stergios Papadimitriou 0030 2510 462 323 sterg@cs.duth.gr
Title of the Course	**Distributed Systems and Big Data**
ECTS credits	5
Short contents of the course	Introduction to Machine Learning Regression Neural Networks Probability Distributions Convolutional Neural Networks Graphical Models Autoencoders Restricted Boltzmann Machines Transformers Adversarial Networks Diffusion Models
Aim of the course and target audience	• The course will introduce students to Deep Learning • Target audience: Undergraduate students of Informatics/ Computer Science OR Education
Teaching Methods duration and Evaluation	Lectures: 26 hours Hands-on exercises: 26 hours Evaluation: 100% Individual AND/OR Group Assignments
Offered Period	Fall semester

Indicative bibliography	1. Christopher M. Bishop, with Hugh Bishop, *Deep Learning*, Springer *2024* 2. Ian Goodfellow, Yoshua Bengio, and Aaron Courville, *Deep Learning*, MIT Press, 2916 3. Sergios Theodoridis, *Machine Learning: A Bayesian and Optimization Perspective,* Second Edition, Academic Press 2020 4. Bharath Ramsundar, Peter Eastman, Patrick Walters, Vijay, *Deep Learning for the Life Sciences,* O'Reily, 2019 5. Charu C. Aggarwal, *Neural Networks and Deep Learning*, Second Edition, Springer 2023

[1] Could be easily used and offered for TS movement to our Erasmus partners