



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## COURSE SYLLABUS

### Deep Learning for Physicists

2223-113R-07

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#### **Titolo**

Deep Learning for Physicists

#### **Docente(i)**

Prof. Stefano Giagu

#### **Lingua**

English

#### **Breve descrizione**

2h lecture: references and concepts on neural networks and DL

2h lecture: Graph Neural Networks

2h lecture: Attention and Transformers

2h lecture: Generative models

hands-on 1 ~3h: implementation and application of a GNN to an interesting physics problem

hands-on 2 ~3h: implementation and application of a Transformer for example to do jet-tagging at the LHC

hands-on 3 ~3h: implementation and application of a generative model for example based on normalizing flow or

on a diffusion model

**CFU / Ore**

2 CFU/16 hours

**Periodo di erogazione**

September/October

**Sustainable Development Goals**

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