Georg-August-Universität Göttingen **Module B.Inf.1237: Deep Learning**	6 C 4 WLH

Learning outcome, core skills: Students	**Workload:**
• learn concepts and techniques of deep learning and understand their advantages and disadvantages compared to alternative approaches • learn to solve practical data science problems using deep learning • implement deep learning techniques like multi-layer perceptrons, convolutional neural nerworks, recurrent neural networks, deep reinforcement learning • learn techniques for optimization and regularization of deep neural networks	Attendance time: 56 h Self-study time: 124 h

Course: Deep Learning (Lecture)	2 WLH
Goodfellow, Bengio, Courville: Deep Learning. https://www.deeplearningbook.org Bishop: Pattern Recognition and Machine Learning. https://bit.ly/2KDkueT	

Examination: Written examination (90 minutes) **Examination prerequisites:** B.Inf.1237.Ex: At least 50% of homework exercises solved. **Examination requirements:** Knowledge of basic deep learning techniques, their advantages and disadvantages and approaches to optimization and regularization. Ability to implement these techniques.	6 C

Course: Deep Learning - Exercise (Exercise)	2 WLH

Admission requirements: none	**Recommended previous knowledge:** Knowledge of basic linear algebra and probability; knowledge of basics of machine learning
Language: English	**Person responsible for module:** Prof. Dr. Alexander Ecker
Course frequency: each winter semester	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:**
Maximum number of students: 100	