Courses in English
Course Description

Department	09 Engineering and Management
Course title	**AI in Python**
Course number	no number available
Hours per week (SWS)	4
Number of ECTS credits	5
Course objective	You understand the big picture of artificial intelligence such that you are able to describe the overall field with some examples. Beside this, you learn the main techniques for classification and clustering methods. Additionally, you understand what (deep) neural networks are and you can implement example problems using Tensorflow and Keras. The course provides many opportunities to gain practical experience and to solve several practical problems.
Prerequisites	None. The participation in the other modules "Business Analytics and Machine Learning" and "Industrial Digitalization" and the knowledge of a programming language, specifically Python, would be an advantage.
Recommended reading	Aurelien Geron: "Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow: Concepts, Tools, and Techniques to Build Intelligent Systems" (O'Reilly)
Teaching methods	Lectures in the form of seminars
Assessment methods	Module work (you hand in programming code and a corresponding documentation for a given problem)
Language of instruction	English
Name of lecturer	Prof. Dr. Franke, Prof. Dr. Hinz
Email	carsten.franke@hm.edu
Link	
Course content	Theoretical and practical parts on the following topics: - data preparation with Python Pandas - theoretical and practical introduction of classification methods (decision trees, naive bayes, ensemble methods, random forests, support vector machines) - theoretical and practical introduction of clustering methods (kmeans, k-nearest neighbors) - theoretical and practical introduction of (deep) neural networks using Tensorflow and Keras
Remarks	The lecture is part of the Master courses in FK09.