Georg-August-Universität Göttingen **Module M.WIWI-WIN.0023: Selected Problems in Business Information Systems: Machine Learning Solutions for Business Practice**	6 C 2 WLH

Learning outcome, core skills: The students • can apply a wide variety of algorithms in the field of machine learning and can assess their suitability to different problems, • must be able to handle large amounts of data and prepare appropriate concepts for their processing, • should know the state of the art regarding research on different problems in the field of machine learning, and • will be able to elaborate a research problem in a specific business context and develop an application to solve this problem on the basis of machine learning.	**Workload:** Attendance time: 28 h Self-study time: 152 h

Course: Machine Learning Solutions for Business Practice (Seminar) *Contents*: The seminar consists of two parts: an introductory lecture and a presentation date. In the introductory lesson, the goals will be clearly formulated, presented topics to be processed and assigned to groups of 2-3 students. Furthermore, the data basis is defined and important concepts of machine learning in relation to practical applications are described. These concepts include: • Business-relevant questions that can be answered with data-driven approaches, • Data pre-processing, • Reliability of machine learning solutions, • Distributed data analysis, • Real-time analysis, • Adaptation of models to changing business conditions.	2 WLH

Examination: Paper (8000 words of core text in addition to the relevant source code and a two- to three-sided written documentation of the source code) with presentation (ca 30 minutes) **Examination prerequisites:** Regular attendance.	6 C

Examination requirements: The seminar paper should demonstrate students' ability to reproduce basic principles and concepts, develop machine learning-based applications, and solve a current broadly faced business or research problem with machine learning approaches. Students must show that they can assess the suitability of existing and self-developed models of machine learning for a given research issue. They apply models in a sequential manner, and create self-designed interfaces between the models to create a coherent data analysis system. Students should demonstrate the relevance of the developed system for meeting implementation requirements in a specific business environment.	

Admission requirements: none	**Recommended previous knowledge:** • Appropriate knowledge in the field of machine learning by passing a module with at least 6 C and with a focus on machine learning (e.g. „Machine Learning Applications in the Context of Digital Transformation“). • Advanced programming skills in an object-oriented language
Language: English	**Person responsible for module:** Dr. Andre Hanelt
Course frequency: once	**Duration:** 1 semester[s]
Number of repeat examinations permitted: twice	**Recommended semester:** 2 - 3
Maximum number of students: 20	