

<b>MW53: Data Science in Accounting, Taxation and Auditing (starting WS 2017/18)</b>				<b>Study Program:</b>	M
<b>Module Type:</b>	<b>ECTS Points:</b>	<b>Workload:</b>	<b>Semester:</b>	<b>Module Duration:</b>	
Optional compulsory	8	240	2. and 3.	Two semesters	
<b>Courses (HPW=hours per week):</b>			<b>Contact hours:</b>	<b>Independent study:</b>	<b>Planned Group Size:</b>
Course 1: Data Science – Digital Financial Reporting (2 HPW)			30h	90h	30
Course 2: Data Science – Applied Analyses (2 HPW)			30h	90h	30
<b>Intended Learning Outcomes (ILOs):</b>					
<p>After having completed the module, students will be able to</p> <ul style="list-style-type: none"> <li>- describe the regulatory and organizational framework of Accounting Information Systems,</li> <li>- identify critical aspects in the accounting process and show approaches for the solution (e.g. Internal Control System),</li> <li>- assess organizational forms with regard to different risk factors (e.g. accounting principles, data protection, cyber security),</li> <li>- model, describe and interpret accounting-related processes and data structures for the collection, processing and output of relevant content,</li> <li>- evaluate data from different systems in terms of their applicability for statistical analyses</li> <li>- extract data from different sources and transfer it to evaluable formats,</li> <li>- describe and apply basic statistical evaluation methods for data, including through artificial intelligence and</li> <li>- draw conclusions for specific questions from data and correlations.</li> </ul>					
<b>Key competencies:</b>					
<ul style="list-style-type: none"> <li>- independent scientific work</li> <li>- critical thinking,</li> <li>- development of own questions and their answers and</li> <li>- the ability to transfer and present existing knowledge.</li> </ul>					
<b>Description/Contents:</b>					
<p><b>Course 1: Data Science – Digital Financial Reporting</b></p> <ol style="list-style-type: none"> <li>1. Accounting   Information   Systems</li> <li>2. Regulatory principles</li> <li>3. ERP systems</li> <li>4. Illustration of business/operational processes</li> <li>5. Internal Control System &amp; IT audit</li> <li>6. IT management &amp; security</li> <li>7. Data analysis for business audits</li> <li>8. XBRL &amp; Digital Financial Reporting</li> <li>9. Outlook Digitalization (Machine Learning, Block Chain, Big Data)</li> </ol>					

**Course 2: Data Science – Applied Analyses**

1. Data sources in companies and the Internet
2. Preparation of data from various sources (operational processes, Internet, accounting)
3. Data evaluation and interpretation

**Language:**

Lectures will be given in German, part of the literature will be in English. Therefore, good or very good English language skill is required.

**Teaching Methods:**

Lectures, student presentations, group work, self-study/reading.

**Module Applicability:**

M.Sc. of Business Administration; M.Sc. of Economics; M.Sc. of Business and Chemistry; M.Sc. Financial and Actuarial Mathematics.

**Pre-requisites/Requirements:**

Admission to study Business Administration, Economics, Business and Chemistry or Financial and Actuarial Mathematics for a Master's degree. Successful completion of the module "MS00: Methods of Empirical Economic Research" or "MV04: Econometrics" is recommended.

**Examination Types:**

The module graduation consists of a combined examination (50% seminar paper, 50% written exam), which must be completed in two consecutive semesters.

**Requirements for Award of Credit Points:**

Successful participation in the exam. The exam is passed if the mark is at least „sufficient“ (4,0).

**Availability:**

All courses usually take place each academic year beginning in the summer term.

**Assessment:**

This module is graded and taken into account when calculating the overall grade of your master's degree. For more detailed information on the calculation of the overall grade, please refer to the examination regulations of your respective course of studies.

**Person Responsible and Main Lecturer:**

Responsible: Professor Dr. Barbara E. Weißenberger and teaching/research assistants at the chair of Accounting  
Main Lecturers: Dr. Peter Kotzian and Prof. Dr. Marcus Bravidor.

**Further Information:**

Further information can be found at <http://www.accounting.hhu.de/en.html>. See also eCampus Accounting under ILIAS and HIS-LSF. Students have to register for the course via LSF.

State: 21.08.2023