Valid from 2024.HS

Module description: Data Analytics, AI and Storytelling

Module Code	w.MA.XX.DAAS.21HS
ECTS Credits	3
Language of Instruction/Examination	German
Module Description	Building on the compulsory modules "Controlling" and "Tools and Technology", this module expands on various aspects of business intelligence, data analytics, and storytelling. Students acquire advanced data modeling competencies as well as the ability to perform specific data analytics analysis, communicate data and analyses, and structure data analytics and business intelligence platforms.
Organizational Unit	IFI Ltg.
Module Coordinator	Ursina Hüppin
Deputy Module Coordinator	Andreas Buchs
Program and Specialization	• Accounting and Controlling
Legal Framework	Academic Regulations MSc in Accounting and Controlling dated 10.12.2015, Appendix to the Academic Regulations for the degree program in Accounting and Controlling, first adopted on 26.01.2016
Module Category	**Module Type** Compulsory Elective
Prerequisite Knowledge	The compulsory modules "Controlling" and "Tools and Technology" are prerequisites for this module.
Contribution to Program Learning Objectives (by the concerned Module)	• Professional Competence • Methodological Competence • Social Competence • Self-Competence
Contribution to Program Learning Objectives	**Professional Competence** • Knowing and Understanding Content of Theoretical and Practical Relevance • Apply, Analyze, and Synthesize Content of Theoretical and Practical Relevance • Evaluate Content of Theoretical and Practical Relevance **Methodological Competence** • Problem-Solving & Critical Thinking • Scientific Methodology • Work Methods, Techniques, and Procedures • Information Literacy • Creativity & Innovation **Social Competence** • Written Communication • Oral Communication • Teamwork & Conflict Management • Intercultural Insight & Ability to Change Perspective **Self-Competence** • Self-Management & Self-Reflection • Ethical & Social Responsibility • Learning & Change

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Module Learning Objectives

Students...
- are able to perform advanced data transformation operations using Power Query (low code).
- know about advanced data modelling issues (star models).
- acquire a basic knowledge of Data Analysis Expressions (DAX).
- understand the basics of project organization and of the operation of BI systems.
- are able to apply advanced methods and tools of analysis.
- deepen their knowledge of storytelling.
- work effectively in groups.
- assume various perspectives in evaluating solution approaches and problem situations.

Module Content

- ADVANCED BUSINESS INTELLIGENCE:
- The business intelligence framework (revisited)
- Consolidating exercises on ETL (extract, transform, and load) in an accounting and controlling context
- Consolidating exercises on data modelling (star model) in an accounting and controlling context
- Introduction to Data Analysis Expressions (DAX)
- Exercises using DAX: defining and visualizing measures
- Advanced data modelling techniques
- The arrival of AI in business intelligence
- Project organization: How to structure a BI project
- Business organization: How to operate a BI platform
- ADVANCED DATA ANALYSIS AND STORYTELLING:
- Master data management and data quality as a basis for data analytics
- Advanced Analysis I - Designing a forecasting model for binary questions of accounting and controlling (e.g., purchasing probability, failure-to-pay probability) using binary logistic regression (RapidMiner)
- Advanced Analysis II - Deviation and outlier analysis in accounting and controlling using process control chartes (EXCEL)
- Advanced Analysis III - Communicating data using storytelling and data storytelling. Practical exercises and games

Links to other modules

This module is linked to the following modules:
- w.MA.XX.TAT-M8.22HS
- w.MA.XX.CO-M3.16HS

Digital Learning Resources

- Reader
- Practice and Application Exercises (with Key)

Methods of Instruction

- Exercises
- Lecture
- Application Tasks
- Case Studies
- Project Work

Social Settings Used:
- Individual Work
- Group Work

Type of Instruction

	Classroom Instruction	Guided Self-Study	Autonomous Self-Study
Lecture	24 h	36 h	
Excercise	-	-	
Project Work	-	-	
Seminar	-	-	
Total	**24 h**	**36 h**	**30 h**

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Performance Assessment

End-of-module exam	Form	Length (min.)	Weighting
-			
Permitted Resources			

Others	Assessment	Length (min.)	Weighting
Talk/oral presentation	Grade	20	50
Documentation of the solution for the case study	Grade	0	50

Classroom Attendance Requirement

None

Compulsory Reading

Recommended Reading

- Heath, C. & Starr, K. (2022). Making Numbers Count: The Art and Science of Communicating Numbers. 11th edition. New York: Avid Reader Press. ISBN 978-1-9821-6544-4.
- Graban, M. (2019). Measures of Success – React Less, Lead Better, Improve More. Colleyville. ISBN 978-1-7335194-1-0. Chapter 2.

Comments