

Module description: Data Science Summer School	
Module Code	w.MA.XX.DSSS.26HS
ECTS Credits	3
Language of Instruction/Examination	English
Module Description	Our intensive 10-day Summer and Winter Schools are held at leading international partner universities during ZHAW's lecture-free periods. Past sessions have taken place in France, India, Czechia, South Africa and the United States. For more detailed information on the summer and winter schools, please visit www.baisummer.com and www.baiwinter.com respectively. Each school explores a focused theme within data science and digital transformation - such as health analytics, smart cities, financial services, and supply chain management - through a hands-on curriculum that blends theory with practical applications in real-world business contexts. Students work on-site with companies and local partners to analyze challenges and develop solutions using current AI methods, such as machine learning, decentralized systems, and agent-based models. This active-learning approach fosters both technical expertise and cross-cultural collaboration. Program timing aligns with ZHAW's examination calendar: Winter Schools run in weeks 5–7 or 6–8, Summer Schools in weeks 26–27 or 27–28. Each session features a unique curriculum, enabling students to attend two different schools during the Master's program. These immersive programs complement on-campus modules by providing applied experience in global innovation ecosystems. A minimum of 20 participants is required per school to ensure dynamic group interaction and personal engagement with faculty and industry mentors. If you are interested in this module, please contact the Head of Program early to register. For further details or to enroll, visit www.baisummer.com, www.baiwinter.com or contact the module coordinator.
Organizational Unit	Institut für Wirtschaftsinformatik
Module Coordinator	Christian Hitz
Legal Framework	Academic Regulations MSc in Business Information Technology dated 22.08.2019, Appendix to the Academic Regulations for the degree program in Business Information Technology, first adopted on 10.07.2012
Module Category	Module Type Compulsory Elective
Prerequisite Knowledge	While no specific prior coursework is mandatory, the following foundational knowledge will significantly enhance your experience in this intensive, hands-on program: • Basic Concepts of Information Systems: Familiarity with fundamental terms related to Business Intelligence (BI) and Corporate Performance Management. • Introductory Data Analysis: Understanding of basic data collection, reduction, and analysis principles. • Programming Fundamentals: Basic exposure to programming (e.g., Python or R) is advantageous, as the curriculum involves practical exercises with machine learning and AI tools. • Problem-Solving Mindset: A willingness to apply theoretical concepts to real-world business challenges through case studies and group projects. Important note regarding language: Please note that proficiency in English is a strict requirement, not a recommendation. The entire module, including lectures, practical exercises, and the final assessment, is conducted exclusively in English. Participants must be able to communicate complex technical and business concepts fluently in English.

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Contribution to Learning Objectives (by the concerned Module)	• Professional Competence • Methodological Competence • Social Competence • Self-Competence	
Contribution to 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	
Module Learning Objectives	Students... • are familiar with the important technical terms related to information systems and information technologies used in business intelligence and performance. • explain the interrelationships between various technical terms. • analyze specific business issues based on the knowledge structure taught. • apply business intelligence tools and methods in short practical exercises. • develop concrete solutions to business issues. • evaluate solutions for specific issues on the basis of the criteria taught. • weigh up the advantages and disadvantages of business intelligence and performance management systems in the creation of competitive advantage. • demonstrate the knowledge they have acquired in presentations and discussions. • work in groups to achieve a shared goal. • develop a willingness to engage more deeply with selected business intelligence and performance management approaches in an operational context. • appreciate different points of view in the evaluation of solution strategies and problem areas.	
Module Content	• The current syllabus is published six months before the summer school takes place. For more detailed information on the summer and winter schools, please visit www.baisummer.com and www.baiwinter.com respectively.	
Digital Learning Resources	• Reader • Teaching Videos • Teaching Materials • Practice and Application Exercises (with Key) • Case Studies (with Key) • Multiple Choice Tests	
Methods of Instruction	• Interactive Instruction • Case Studies • Exercises • Project Work • Lecture • Problem-Oriented Teaching • Application Tasks • Explorative Learning	Social Settings Used: • Pair Work • Individual Work • Group Work

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Type of Instruction		Classroom Instruction	Guided Self-Study	Autonomous Self-Study	
	Lecture	-	-		
	Excercise	-	-		
	Project Work	-	-		
	Seminar	70 h	20 h		
	Total	70 h	20 h	0 h	
Performance Assessment	End-of-module exam		Form	Length (min.)	Weighting
	-				
	Permitted Resources				
		Assessment	Format	Length (min.)	Weighting
	Others	Pass/Fail	Others	60	0.00%
Classroom Attendance Requirement	80%				
Compulsory Reading	Cao, L. Longbing Cao. Data science thinking. The next scientific, technological and economic revolution.. DOI: 10.1007/9783319950921.				
Comments	If you are interested in this module, please register early on Moodle for the respective group. For full details about the winter or summer school you are interested in, contact the module coordinator by email. For more information and to enroll in the next summer or winter schools, please visit www.baisummer.com and www.baiwinter.com respectively. Supplementary examinations may not be set, and assessed work may not be resubmitted.				