

KODAS ACADEMY DATA QUALITY CERTIFICATE PROGRAM 2024-2025

Modules and Course Curriculum

Duration of 6 months (Cohort 1: November 2024-June 2025)

CERTIFICATE PROGRAM KICK-OFF	Nov. 21, 2024	The Program's Kick-off will be hosted by GESIS-Leibniz Institute for the Social Sciences in Mannheim. Participants are expected to participate on-site.
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COURSE A (Nov 25, 2024 to Dec 20, 2024)		
MODULE 1.1 Terms, concepts and frameworks	Week 1	Data Quality Dimensions
	Week 2	Intrinsic Data Quality: Measurement Dimension
	Week 3	Intrinsic Data Quality: Representation Dimension
	Week 4	Extrinsic Data Quality: Coping strategies

COURSE B (Jan 06, 2025 to Jan 31, 2025)		
MODULE 1.2 Indicators and metrics	Week 5	Quantifying Data Quality - Introduction to Indicators and Metrics
	Week 6	Applying Quality Indicators and Metrics to Assess Data Incompleteness and Representation
	Week 7	Applying Quality Indicators and Metrics to Assess Reliability and Validity of Measurements
	Week 8	A gold standard of data quality? On how to evaluate, document, and communicate data quality limitations

COURSE C: ELECTIVE TRACK (Feb 03, 2025 to Feb 28, 2025)				
		ELECTIVE TRACK 1: SURVEY DATA	ELECTIVE TRACK 2: DIGITAL BEHAVIOUR DATA	ELECTIVE TRACK 3: LINKED DATA
MODULE 1.3 Remedies and corrections	Week 9	Basics of Remedies and Corrections; Questionnaire Design	Introduction: Different Types of Digital Behavioral Data and their Challenges	Basics of Linked Data; Conceptual Framework of Errors in Linked Data
	Week 10	Survey Weighting	The Interplay of Tools and Data Quality for DBD	Linked Data Weighting
	Week 11	(Multiple) imputation	Data Donation as a Data Source	(Multiple) Imputation in Linked data
	Week 12	Comparability of Measures, Data Harmonization	Transparent Communication of Data Quality	Data Linkage for Data Quality

MODULE 2.1 Tools and workflows	COURSE D (Mar 03, 2025 to Mar 28, 2025)			
	Week 13	Robust Methodology – Extended		
	Week 14	Data Collection Techniques and Data Management Skills		
	Week 15	Data Quality Assessment Procedures		
	Week 16	Transparency, Reproducibility, and Ethical Considerations Open Science		
	COURSE D1: ELECTIVE TRACKS (Mar 31, 2025 to Jun 06, 2025) <i>Please note that there are no sessions planned for the Easter vacation break (April 14-25)</i>			
		ELECTIVE TRACK 1: SURVEY DATA	ELECTIVE TRACK 2: DIGITAL BEHAVIOUR DATA	ELECTIVE TRACK 3: LINKED DATA
	Week 17	DQAres WS - Introduction DQ Framework for survey (response) scales	Introduction to APIs + how they influence data quality	Introduction to Record Linkage
	Week 18	DQAres WS - Workflow for preprocessing survey data	Automated Interactions with APIs (code + libraries)	Preprocessing Techniques & Blocking
	Week 19	DQAres WS - DQ Tools for Paradata, Check-Items & Item responses	The Role of Web-Data Pre-Processing for Data Quality	Record Linkage Consent
	Week 20	DQAres WS - Tutorial on DQ workflow in R Markdown + interactive html	Basic Workflow for Natural Language Processing	Comparisons and Match Classifications
	Week 21	DQAres WS - Software-Demo Mini Project + Intro Submission task	Comparing the Quality of Tools for Sentiment Analysis Opinion Analyses	Probabilistic Blocking and Record Linkage
	Week 22	DQAres WS -Mini Project (detect & document)	Workflows for Quality of Annotations	Privacy-Preserving Record Linkage Methods
Week 23	DQAres WS -Mini Project (flag & filter)	option a) quality in network analysis	Advanced Topics, Software, and Applications	
Week 24	DQAres WS - Final Presentation and Discussion of Mini Projects	option b) best practices for Crowdsourcing tasks	Evaluating and Visualizing Linkage Quality	
Module 2.2 SAFARIS	Spring 2025	<i>Attendance to an on-site visit to a designated data producer/processing/analysis institution in Germany.</i>		
Module 2.3: KODAQs Datafest	Mar, 28-30 2025	<i>Participate in the 2025 edition of DatafestGermany, taking place at the Ludwig Maximilians University in Munich. Participants are expected to submit a group project as a result of their attendance to the DataFest.</i>		

