

Data Science Fundamental					
Course Code CIS61021	Student Workload 90 hours	Credits (according to ECTS) 3	Semester 5	Frequency each odd-semester	Duration 16 meetings
1	Types of courses Compulsory (programme study level)	contact hours 42 hours	independent study 18 hours	class size 40 students	
2	Prerequisites for participation Have completed Statistic course				
3	Learning outcomes IS-ILO-4 Graduates can develop professional careers in computer science based on quality aspects, data-driven decision making, be responsible, and make continuous improvements.				
4	Subject aims <ul style="list-style-type: none"> • Students are able to describe and explain data definition and variety, data travel, and data exploration stages. • Students are able to describe and explain key concepts, tools, algorithms, and applications of data science. • Students are able to explain and identify the needs of data science methodologies in accordance with the data conditions encountered. • Students are able to apply and demonstrate data science methodologies independently through the presentation and processing of simple data using Python programming language. 				
5	Teaching methods Lectures, case studies, class discussions				
6	Assessment methods Assignment, mid-term examination, end-term examination, project evaluation, practical-skill assessment				
7	This module is used in the following degree programs as well				
8	Responsibility for module				
9	Other information Saltz, J. S., & Stanton, J. M. (2017). An introduction to data science. Sage Publications. Cielen, D., Meysman, A., & Ali, M. (2016). Introducing data science: big data, machine learning, and more, using Python tools. Manning Publications Co. VanderPlas, J. (2016). Python data science handbook: Essential tools for working with data. O'Reilly Media, Inc. Shan, C. (2015). The Data Science Handbook: Advice and Insights from 25 Amazing Data Scientists. Data Science Bookshelf.				