Introduction to Data Science

Course code	student workload	credits (according to ECTS)	semester	frequency	duration
CIF61059	90 hours	4.5 ECTS	Sem. 5 or 7	each odd-semester	16 meetings

1	Types of courses	contact hours	independent study	class size
	elective	63 hours	27 hours	40 students

5 Prerequisites for participation

Completed Algorithms and Data Structures

2 Learning outcomes

IF-ILO-3

Graduates are able to develop professional careers in the field of computer science based on quality aspects, data-based decision making, be responsible, and make continuous improvements.

IF-ILO-10

Graduates are able to analyze, design, build and evaluate an intelligent system that has the ability to learn from the environment.

IF-ILO-12

Graduates are able to apply the principles of engineering to develop good quality software on top of various platforms

3 Subject aims

1. Students are able to describe and explain about data, data journey, and how to explore data
2. Students are able to describe and explain data science
3. Students are able to describe and explain the main concepts, tools, algorithms, and data science applications
4. Students are able to explain data science methodology
5. Students are able to present information through simple data processing using the Python programming language

4 Teaching methods

lectures, case study, class discussion, presentation

6 Assessment methods

	assignment, mid-term examination, end-term examination, project evaluation, practical-skill assessment
8	**This module is used in the following degree programmes as well** Informatics Engineering
10	**Responsibility for module** ***Name of lecturers***
11	**Other information** *1.* Kwang H. Lee. 2005. First Course on Fuzzy Theory and Applications. Springer"Saltz, J. S., & Stanton, J. M. (2017). An introduction to data science. Sage Publications *2.* Cielen, D., Meysman, A., & Ali, M. (2016). Introducing data science: big data, machine learning, and more, using Python tools. Manning Publications Co. 3. VanderPlas, J. (2016). Python data science handbook: Essential tools for working with data. " O'Reilly Media, Inc.". 4. Shan, C. (2015). The Data Science Handbook: Advice and Insights from 25 Amazing Data Scientists. Data Science Bookshelf.