

# ADIN006NABB – Project Management in Data Science

## Spring Semester, Academic Year 2023/2024

<b>Course leader:</b>	Gábor Klimkó PhD
<b>Department:</b>	Institute of Data Analytics and Information Systems
<b>Office hours:</b>	
<b>Availability:</b>	
	Email address:
<b>Course type:</b>	Lecture, seminar
<b>Prerequisites:</b>	293NBUSK276B - Business Economics
<b>Credits:</b>	6
<b>Number of hours per semester</b>	52 hours (2 + 2)
<b>Time of lecture:</b>	TBA
<b>seminar:</b>	TBA

### Aims and objectives and description of the course:

The aim of the course is to provide students with the knowledge and skills necessary to successfully manage and implement data analysis, data mining and data science projects. In order to develop an appropriate project management approach, students will gain an overview of the basic concepts and tools needed to effectively plan, implement and monitor projects. They will learn about the structure and characteristics of data analysis and data mining projects based on the CRISP-DM framework and build on this to learn how to select the appropriate data analysis project methodology, estimate project scope, build the project team and develop the technological background for the analysis. Students will also learn about project failures in data analytics and learn how to identify and manage the associated risks.

The course will also introduce students with those institutions in the legal environment of data-driven economy, which provide the most important alignment points for businesses concerning data protection and IT security. The history and structure of the institutions and regulations will also be presented both in the Hungarian and EU Community's legal systems. The course will provide an understanding of relevant concepts and doctrines and introduce the regulatory-based law enforcement practices and will show perspectives concerning the necessary adaptation steps to be taken in the corporate environment and in data analysis projects.

### Course description

The course is a combination of lectures and seminars.

Classes are held through exercises that require creative solutions, seminars will tend to expand upon the written material presenting new perspectives and real world illustrations, through case studies, and group discussions. Seminars will often cover practical subjects or discuss findings provided by participants.

### Methodology to be used:

Besides the theoretical lectures, case studies, classroom discussions, group assignments will be provided.

### Detailed class schedule, 1<sup>st</sup> – 15<sup>th</sup> week:

<u>Date of class</u>	<u>Topics to be discussed, readings required for the class</u>
week 1	The Scope and Challenge of Data Science, CRISP-DM Methodology
week 2	Introduction to the project management
week 3	Investment justification, project organization
week 4	Project planning
week 5	Data science projects: Project management methods
week 6	Data protection, GDPR
week 7	Spring Break
week 8	Managing DS projects: Risk management
week 9	Managing DS projects: Real world examples
week 10	Managing DS projects: deployment
week 11	The structure of national and EU community law, the relationship between the two legal systems
week 12	The regulatory environment of IT security
week 13	Ethical issues - machine learning, technology assessment
week 14	Wrap up session

**Assignments:** There will be case studies to be read. Many companies consider case analyses skills valuable. There is no point of discussion and learning if you do not read the cases.

**Assessment, grading:**

50 % from lectures

50 % from seminars

**Class participation:** Class attendance is mandatory. Participation in lectures is an important part of the process and understanding of the subject, and tutors have the right to make a so-called ‘positive attendance sheet’. Attendance of the seminars is compulsory. The acceptable level of absence is ¼ of all lessons (i.e. 3 seminars). In exceptional cases (hospital treatment, permanent illness) provided that the total absence is less than 50%, the tutor can (if he/she so decides) give an opportunity for supplement.

If the student has exceeded the maximally allowed number of absences, only verifiable, official hospital- or treatment center documentation proving hospital treatment or permanent illness shall be accepted.

Students whose absence from the seminars exceeds the maximally allowed 3 occasions (partial seminar attendance is counted as absence), will be given a “not signed” (aláírás megtagadva) grade. Students receiving the “not signed” grade will not have the option of taking either the final or any of the retake examinations but shall have to retake the course in a subsequent semester.

DO NOTE THAT EVERY POINT IS EARNED, NOT NEGOTIATED!

**Plagiarism**

Any and all statements contained in any assignment or paper that are based upon ideas or words of another must be properly credited to the original author or source. Paraphrasing the ideas or words of another is acceptable so long as the original author or source is cited. DO NOT quote words or expressions from existing works verbatim without designating the passage as a quote and crediting the source. Any student who plagiarizes the work of any other person (author, professor, student, parent, friend, etc.) is committing academic dishonesty and misconduct.

Any student caught committing plagiarism will automatically fail the course.

**Compulsory readings:**

- Dubovikov, K. (2019) Managing Data Science: Effective strategies to manage data science projects and build a sustainable team. Packt Publishing. ISBN 9781838826321
- REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

**Grade Conversion Table for Programs and Courses taught in English**

<i>Percentage achieved</i>	<i>Hungarian Grade</i>	<i>ECTS Grade</i>	<i>International Grade</i>	<i>Explanation</i>
97-100	5	A	A+	Excellent
94-96	5	A	A	Excellent
90-93	5	A	A-	Excellent
87-89	5	B	B+	Excellent/Very good
84-86	4	C	B	Good
80-83	4	C	B-	Good
77-79	4	C	C+	Good
74-76	3	D	C	Satisfactory
70-73	3	D	C-	Satisfactory
67-69	3	D	D+	Satisfactory
64-66	2	D	D	Low pass/Sufficient
51-63	2	E	D-	Low pass/Sufficient
0-50	1	FX/F	F	Fail, 0 credit
	N		N	No grade received, 0 credit