



## Final competences

- 1 • Applying modern programming frameworks for machine learning to novel data science problems.
- 2 • Evaluation, implementation and usage of unseen machine learning techniques.
- 3 • Understanding recent scientific advancements in the domain of machine learning

## Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

## Conditions for exam contract

This course unit cannot be taken via an exam contract

## Teaching methods

Lecture, Practical, Independent work

## Extra information on the teaching methods

Theoretical concepts and principles are introduced in the lectures. More realistic and elaborate examples, as well as programming skills, are introduced in the practicals. Each student delivers at the end of the semester an individual assignment.

## Learning materials and price

Slides, Jupyter notebooks

We follow the book of "A. Géron. Hands-on Machine Learning with scikit-learn, keras and Tensorflow (3rd edition)". An electronic version of this book can be freely accessed in the university library.

## References

- S. Raschka, V. Mirjalili. Python Machine Learning, 3rd edition, Packt, 2019
- Ethem Alpaydin.; Introduction to Machine Learning, 4th instruction, 2020
- A. Géron, Hands-on Machine Learning with Scikit-learn, Keras, and Tensorflow (2nd edition), 2019
- I. Goodfellow, Y. Bengio: "Deep Learning", 2016.

## Course content-related study coaching

Educational team is available during lectures, or an individual appointment can be made.

## Assessment moments

end-of-term and continuous assessment

## Examination methods in case of periodic assessment during the first examination period

Written assessment

## Examination methods in case of periodic assessment during the second examination period

Written assessment, Assignment

## Examination methods in case of permanent assessment

Assignment

## Possibilities of retake in case of permanent assessment

examination during the second examination period is possible in modified form

## Extra information on the examination methods

### Non-periodic evaluation:

Intermediate reporting and submitted notebooks (individual assignment)

### First assesment period:

Written exam

### Second assesment period:

Written exam, revision of individual assignment

## Calculation of the examination mark

### First assesment period:

50% permanent evaluation (individual assignment)

50% written exam

### Second assesment period

50% written exam

50% revision of individual assignment

A mark of ten or more out of twenty obtained for the written exam can be transferred between

the assessment periods of the same academic year.

A mark of ten or more out of twenty obtained for the permanent evaluation (individual assignment) can be transferred between the assessment periods of the same academic year.

When the student obtains less than 8/20 for the written exam, and/ or for the mark calculated from the individual assignment (permanent evaluation), they can no longer obtain a pass mark for the course unit as a whole. If the total score does turn out to be a mark of ten or more out of twenty, this is reduced to the highest fail mark (i.e. 9/20)

Students who eschew one or more parts of the assessment (exam, individual assignment) can no longer obtain a pass mark for the course unit. Should the final mark be higher than 7/20, it will be reduced to the highest non-passable mark (i.e. 7/20).