UNIVERSITY OF BORÅS

Data Mining
Data Mining
7.5 credits
7.5 högskolepoäng

Ladok Code: 22DM1D
Version: 5.0
Established by: Committee for Education in Librarianship, Information, and IT 2017-11-07
Valid from: Spring 2018

Education Cycle: Second cycle
Main Field of Study (Progressive Specialisation): Informatics (A1N)
Disciplinary Domain: Natural sciences
Prerequisites: Degree of Bachelor of Science in Informatics
Subject Area: Informatics/Computer and Systems Sciences
Grading Scale: ECTS-credits

Content
The course gives a general introduction to data mining by covering: data mining methodology, preprocessing of data and data quality aspects, data mining techniques, result analysis and evaluation methodology and practical work with modern data mining tools. Law and ethical aspects of data collection is also discussed.

Learning Outcomes
After having finished the course, the student is expected to, concerning:

Knowledge and understanding
1.1. give an account of how the discussed data mining techniques can be applied and how they work,
1.2. give an account of the methodology for performing and evaluating a data mining project,
1.3 give an account of law and ethical aspects connected to data collection and analysis.

Competence and skills
2.1. use the discussed data mining techniques in practice,
2.2. identify relevant data mining techniques from research articles for a given problem,
2.3. formulate a methodological description on how a problem ought to be solved using data mining,
2.4. analyse results and models from a data mining project.

Judgment and approach
3.1. identify problems for which data mining is appropriate to use,
3.2 select appropriate evaluation methods based on the data mining task at hand

Forms of Teaching
Teaching is done through lectures, seminars, workshops, laborations and assignments.

The language of instruction is English.

Forms of Examination
The course is examined through the following examination forms:

- Exam: written exam
Learning outcomes 1.1, 1.2, 2.2, 2.3, 2.4 and 3.2
Credits: 3.0
Scale: A-F

- Assignment: Written group assignment
Learning outcomes 1.1, 1.2, 1.3 and 2.2
Credits: 1.5
Betygskala: Fail or Pass (U-G)

- Laboration: predictive modelling group assignment
Learning outcomes 1.3, 2.1, 2.2, 2.3, 2.4, 3.1 and 3.2
Credits: 1.5
Betygskala: Fail or Pass (U-G)

- Laboration: descriptive modeling group assignment
Learning outcomes 1.3, 2.1, 2.2, 2.3, 2.4, 3.1 and 3.2
Credits: 1.5
Betygskala: Fail or Pass (U-G)

For the grade E on the entire course, the grade E is required on *Exam: written exam* together with Pass (G) on the other examination forms. A higher grade on the entire course is thereafter determined by the grade on *Exam: written exam.*

Student rights and obligations at examination are in accordance with guidelines and rules for the University of Borås.

Literature and Other Teaching Materials

The course literature is in english.

Linoff G. and Berry M., (2011). Data Mining Techniques for Marketing, Sales and Customer Relationship Management, John Wiley & Sons, Indianapolis.

Silipo, R. (n.d.) KNIME Beginner's luck: A guide to KNIME data mining software for beginners. KNIME Press. [Accessible electronically]

Student Influence and Evaluation

The course is evaluated in accordance with the current guidelines for course evaluations at the University of Borås, where students' views should be sought. The course evaluation report will be published and disseminated to participating and prospective students in accordance with the current guidelines, and forms the basis for future development of courses and training programs. The course coordinator is responsible for that the evaluation is performed according to current guidelines.

Miscellaneous

This course is taken as part of the Masters of Informatics Programme.

This syllabus is a translation from the Swedish original.