Study programmes: Bachelor studies - Informatics

Course name: R274 - Data Mining 1

Lecturers: Nenad Mitić and other lecturers at Department of computer Science

Status: Compulsory

ECTS: 6

Attendance prerequisites: P100, P101, P103, R270, M106, M120

Course aims: An introduction to general topics of data mining and its applications.

Course outcome: After completion of the course, the student have adopted the elementary concepts and techniques of Data Mining and trained for their practical applications.

Course content: And introduction to Data Mining. Basic terms and defintions. Overview of Data Mining techniques, goals and problems. Data: ypes, preprocessing, quality, measures of similarity and dissimilarity. Data preparation: sumarization, cleansing, transformation, integration, reduction and discretization. Association rules, corelation and anlysis of frequent patterns. Basic concept of classification techniques and metrics. algorithms: statistical based, distance based, tree based, rule based. Neural networks. Support vector machines. Cluster analysis - basic concepts and algorithms. Hierarhical and partitional algorithms. Analysis of outliers. Data and results visualization.

Literature:

1. Pang-Ning Tan, Michael Steinbach and Vipin Kumar, Data Mining, Addison-Wesley, (2nd ed.), 2006
2. Xindong Wu, Vipin Kumar (eds.): The Top Ten Algorithms in Data Mining, CRC Press, 2009.

(The lecturer can choose another relevant current literature)

Number of hours: 5	**Lectures: 2**	**Tutorials: 3**	**Laboratory: -**	**Research: -**

Teaching and learning methods: Frontal lectures, group and individual tutorials and exercises.

Assessment (maximal 100 points)

Course assignments	**points**	**Final exam**	**points**
Lectures	-	Written exam	-
Exercises / Tutorials	-	Oral exam	-
Colloquia	30	Written-oral exam	70
Essay / Project	-		