

STUDY SUBJECT PROGRAMME

Subjectcode	Subjectgroup	Credits	Subjectcertified	Subjectcertificationvaliduntil	Reg. No.
INF5019		6	2012-06-01	2014-06-01	

Course type (compulsory or optional)	Optional
Course level (study cycle)	Master
Semester the course is delivered	1
Study form (face-to-face or distant)	Face-to-Face

Title in Lithuanian

DUOMENŲ VIZUALIZAVIMAS

Title

DATA VISUALIZATION

Subject annotation

The aim of this course is to provide the student the theoretical and practical bases of data visualization techniques in 2 and 3 dimensional space. Students will be acknowledged with the variety of data visualization methods: such as Geo-spatial Visualization; Volume Visualization; Vector Visualization; Visualization of High-dimensional Data; Tree and Graph Visualization and at the successful end of course student will be capable of selecting correct visualization algorithms for any type of information and independently implement the visualization task.

Necessary background knowledge for the study of the subject

Fundamentals of computer graphics, basics of C# programming language.

Study outcomes

On successful completion of this course, the student: 1) will have an understanding of data visualization techniques, its application in practice; 2) will get in depth knowledge about the 2D and 3D data visualization algorithms, 3) will be capable to select the correct data visualization technique for the specified visualization task and data type 4) will be capable to apply data visualization tools, 5) will get an understanding about the problematic areas in data visualization and 6) will be capable to independently conduct research in data visualization.

Subject content

This course will cover topics in visualization: the visual representation of large amounts of data. A partial list of topics includes the following: Geo-spatial Visualization, Volume Visualization, Vector Visualization, Visualization of High-dimensional Data, Tree and Graph Visualization, Visualization Design, Evaluation of Visualization.

Study hours

Lectures – 45 hours,
Laboratory classes – 15 hours,
Consultations – 4 hours,
Individual work, including preparation for laboratory works, midterm and final exams – 96 hours.

Evaluation of study results

Laboratory classes – 33%, written midterm exam – 17%, written final exam – 50% of the final grade.

Literature

1. Telea A. C. (2008). Data Visualization. Principles and Practice. A K Peters Ltd. Wellesley, 502p.
2. Fry B. (2008). Visualizing Data. O'Reilly, 367p.
3. Chen C., Härdle W., Unwin A. (2008). Handbook of Data Visualization, Springer-Verlag, 954p.
4. Information in Internet.

Programme prepared by

Doc.dr. Tomas Krilavičius, Faculty of Informatics, Department of Applied Informatics