



Itä-Suomen ICT-polku

COURSE DATA

BASIC INFO

Name	Data Structures and Algorithms II		
Code	Savonia: ETX7600 Karelia: LTD7005 UEF: 3621424		
Name in Finnish	Tietorakenteet ja algoritmit II		
Credits (ECTS)	4	Grading	0 - 5
Teaching period	2S		
Language	Finnish		
Type	Savonia: elective course Karelia: elective course UEF/TKT: mandatory course		



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DESCRIPTION

Objectives	After completing the course student knows how to analyse asymptotic time complexity of algorithms, including recursive algorithms. Student can measure and extrapolate running real time of programs. Student understands basic concepts of graphs, graph properties and graphs as abstract data types. Student understands elementary graph algorithms and is able to design, implement, and analyse simple graph algorithms. Student knows elementary algorithm strategies and is able to apply those. Student knows how to use mass storage efficiently and is able to analyse running time of algorithms using mass storage.
Content	Algorithms and running time analysis. Experimental time complexity analysis. Graphs, graph algorithms, and applying graph algorithms. Using mass storage efficiently.
Modes of study	Exam + exercises
Study materials	Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, Clifford Stein: Introduction to Algorithms, 3rd Ed. The MIT Press, 2009. Lecture notes.
Teaching methods	Lectures 32h, exercises 16h
Prerequisites	Data Structures and Algorithms I, or similar skills.
Other issues	