Itä-Suomen ICT-polku

COURSE DATA

BASIC INFO

Name	Basics Models of Computation		
Code	Savonia: ETX7700 Karelia: LTD7009 UEF: 3621423		
Name in Finnish	Laskennan perusmallit		
Credits (ECTS)	3	**Grading**	0 - 5
Teaching period	2K		
Language	Finnish		
Type	Savonia: elective course Karelia: elective course UEF/TKT: mandatory course		

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DESCRIPTION

Objectives	Grasp of the basics of theoretical computer science. Obtaining abilities in using techniques to generate and recognize regular languages and context-free languages. Understanding of the basics of computability and decidability, the Church-Turing thesis and their fundamental justifications and implications.
Content	Theoretical modeling of computational problems and their solutions, restricted to fundamental methods of describing and validating data in practical software work (that is, lexical analysis and parsing): Finite automata and regular languages, pushdown automata and context free languages.
Modes of study	Participation in exercises, and final (written) examination.
Study materials	Lecture notes. They can be supplemented with suitable books, such as: Kozen D.C.: Automata and Computability (Springer, 1997) or Hopcroft J.E., Motwani R., Ullman J.D.: Introduction to Automata Theory, Languages, and Computation, 3rd Ed. (Pearson, 2006).
Teaching methods	Lectures 22h, exercises 10h.
Prerequisites	Introduction to Computing, Data Structures and Algorithms I, Discrete Structures
Other issues	Course evaluation: course exam or its re-take 80%, exercises done 20%. General exams do not take exercises into account