COURSE DETAIL

FORMAL LANGUAGES AND AUTOMATA

Country
Germany

Host Institution
Technical University Berlin

Program(s)
Technical University Berlin

UCEAP Course Level
Upper Division

UCEAP Subject Area(s)
Computer Science

UCEAP Course Number
134

UCEAP Course Suffix

UCEAP Official Title
FORMAL LANGUAGES AND AUTOMATA

UCEAP Transcript Title
FORML LANG&AUTOMATA

UCEAP Quarter Units
5.50

UCEAP Semester Units
3.70

Course Description

This course covers the basics of mathematical and logical foundations of theoretical computer science and the distinction between syntax and semantics. Students acquire the ability of structured reasoning in the sense of carrying out simple mathematical proofs, and they are able to apply simple abstraction techniques to switch between propositions at different levels of abstraction. They master the treatment of formal languages with their counterparts of grammars, finite automata, and push-down automata. Course topics include sets, logical propositions, proof notation, and proof techniques; relations, orders, maps, equivalences, quotients, and cardinality; words, languages, and expressions; Chomsky-hierarchy, grammars, and syntax trees; automata, push-down automata, and pumping lemma; and non-determinism.

Language(s) of Instruction
German

Host Institution Course Number
0401 L 155, 0401 L 155/2

Host Institution Course Title
FORMAL LANGUAGES AND AUTOMATA

Host Institution Campus

Host Institution Faculty
FAKULTÄT IV ELEKTROTECHNIK UND INFORMATIK

Host Institution Degree

Host Institution Department
Softwaretechnik und Theoretische Informatik

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