

# 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

FORMALE SPRACHEN UND AUTOMATEN

## Host Institution Course Details

<https://moseskonto.tu-berlin.de/moses/modultransfersystem/bolognamodule/beschre...>

## Host Institution Campus

## Host Institution Faculty

FAKULTÄT IV ELEKTROTECHNIK UND INFORMATIK

## Host Institution Degree

## Host Institution Department

Softwaretechnik und Theoretische Informatik

**Course Last Reviewed**

2021-2022

[Print](#)