

Module Handbook

[TUK](#) [MODHB](#) [Homepage](#)

Course INF-32-55-K-5

Compiler and Language Processing Tools (3V+3U, 8.0 LP)

Course Type

SWS	Type	Course Form	CP (Effort)	Presence-Time / Self-Study
-	K	Lecture with exercise classes (V/U)	8.0 CP	156 h
3	V	Lecture		42 h
3	U	Exercise class (in small groups)		42 h
(3V+3U)			8.0 CP	84 h 156 h

Basedata

SWS	3V+3U
CP, Effort	8.0 CP = 240 h
Position of the semester	1 Sem. in WiSe
Level	[5] Master (Entry Level)
Language	[EN] English
Lecturers	Bieniusa, Annette, Dr. (WMA DEPT: INF)
Area of study	[INF-SE] Software-Engineering
Lifecycle-State	[NORM] Active

Possible Study achievement

- Verification of study performance: **proof of successful participation in the exercise classes (ungraded)**

- Details of the examination (type, duration, criteria) will be announced at the beginning of the course.

Contents

- Syntax analysis: specification of the syntax for formal languages
- Lexical analysis: scanning, scanner generation, use of scanner generators
- Context-free analysis: parsing, parser generation, application of parser generators
- Translation techniques for procedural and object-oriented languages
- Intermediate languages
- Semantic analysis and optimization techniques
- Translation into machine-oriented languages (register allocation, code generation)
- Automatic memory management

Literature

- Andrew W. Appel, Jens Palsberg: Modern Compiler Implementation in Java, 2nd edition. Cambridge University Press 2002, ISBN 0-521-82060-X.
- Alfred V. Aho, Ravi Sethi, Jeffrey D. Ullman: Compilers: Principles, Techniques, and Tools. Addison-Wesley series in computer science / World student series edition, Addison-Wesley 1986, ISBN 0-201-10088-6, pp. I-X, 1-796.

Requirements for attendance (informal)

Courses

- [INF-02-04-K-2] Formal Languages and Computability (3V+2U, 6.0 LP)
- [INF-02-05-K-2] Logic and Semantics of Programming Languages (3V+2U, 6.0 LP)
- [INF-02-10-K-2] Computer Organization and System Software (4V+2U, 8.0 LP)

Requirements for attendance (formal)

None

References to Course [INF-32-55-K-5]

Module	Name	Context	
[INF-32-55-M-5]	Compiler and Language Processing Tools	P: Obligatory	3V+3U, 8.0 LP
Course-Pool	Name		
[INF-SE_V-KPOOL-6]	Lectures of the teaching area Software Engineering		