TECHNISCHE UNIVERSITÄT KAISERSLAUTERN

Module Handbook

TUK MODHB Homepage

Module INF-02-21-M-2

Programming Lab (M, 4.0 LP)

Module Identification

Module Number	Module Name	CP (Effort)
INF-02-21-M-2	*Programming Lab*	4.0 CP (120 h)

Basedata

CP, Effort	4.0 CP = 120 h
Position of the semester	1 Sem. in SuSe
Level	[2] Bachelor (Fundamentals)
Language	[DE] German
Module Manager	Hinze, Ralf, Prof. Dr. (PROF | DEPT: INF)
Lecturers	Hinze, Ralf, Prof. Dr. (PROF | DEPT: INF) Schweitzer, Pascal, Prof. Dr. (PROF | DEPT: INF)
Area of study	[INF-PFL] Mandatory Modules
Reference course of study	[INF-82.79-SG] B.Sc. Computer Science
Livecycle-State	[NORM] Active

Courses

Type/SWS	Course Number	Choice in Module-Part	SL	PL	CP	Sem.
2L	INF-02-21-K-2	P	L-Schein	no	4.0	SuSe

- About **[INF-02-21-K-2]**: Title: "Programming Lab"; Presence-Time: 28 h; Self-Study: 92 h
- About **[INF-02-21-K-2]**: The study achievement **"[L-Schein] proof of successful participation in the practical course / lab"** must be obtained.

Evaluation of grades

The module is not graded (only study achievements)..

Contents

From [INF-02-21-K-2] Programming Lab:

- Specification of software requirements
- Development and implementation of algorithms as well as data modeling in programs
- Characteristics of programming frameworks, algorithms and programming languages
- Development environments and other programming tools (e.g., version control systems)
- Testing and debugging as well as software quality assurance (e.g., module and integration tests)
- Practical experiments on the runtime behavior of algorithms
- Development and usage of libraries for efficient data structures

Competencies / intended learning achievements

After successfully completing the module, students will be able to

- develop their programming skills based on selected tasks, which mainly practice the application of algorithms and data structures,
- handle integrated development environments (IDE) using current programming languages and use appropriate resources to solve problems,
- document their source code appropriately,
- work together on certain programming tasks in software development teams.

Literature

From [INF-02-21-K-2] Programming Lab:

- Bloch, Joshua. Effective java . Pearson Education India, 2016.
- A. Hunt und D. Thomas,The Pragmatic Programmer: From Journeyman to Master , 1 edition. Reading, Mass: Addison-Wesley Professional, 1999.
- R. C. Martin, Clean Code: A Handbook of Agile Software Craftsmanship , 1. Aufl. Upper Saddle River, NJ: Prentice Hall, 2008.
- S. McConnell, Code Complete: A Practical Handbook of Software Construction, Second Edition , 2nd edition. Redmond, Wash: Microsoft Press, 2004.
- Naftalin, Maurice, and Philip Wadler. Java generics and collections . " O'Reilly Media, Inc.", 2007.
- R. Sedgewick, K. Wayne, Algorithms, Addison-Wesley Professional; 4th edition, 2011
- Sestoft, Peter. Java precisely. Mit Press, 2016.

Requirements for attendance of the module (informal)

None

- Notice: Some Courses have informal requirements for attendance:
  - #A: [INF-02-21-K-2] Programming Lab (2L, 4.0 LP) (P: Obligatory)

Requirements for attendance of the module (formal)

None

References to Module / Module Number [INF-02-21-M-2]

Course of Study	Section	Choice/Obligation
[INF-82.79-SG] B.Sc. Computer Science	[Compulsory Modules] Software Development	[P] Compulsory
[WIW-82.176-SG#2009] B.Sc. Business Administration and Engineering specialising in Computer Science (2009) [2009]	[Fundamentals] Field of study: Computer Science	[P] Compulsory
[WIW-82.789-SG#2009] B.Sc. Business Studies with Technical Qualifications (2009) [2009]	[Fundamentals] Field of study: Computer Science	[P] Compulsory
[WIW-82.?-SG#2021] B.Sc. Business Studies with Technical Qualifications (2021) [2021]	[Core Modules (non specialised)] Technical Profile Area	[P] Compulsory