

Module Handbook

TUK MODHB Homepage

Module INF-30-02-M-5

Foundations of Software Engineering (M, 4.0 LP)

Module Identification

Module Number	Module Name	CP (Effort)
INF-30-02-M-5	<i>Foundations of Software Engineering</i>	4.0 CP (120 h)

Basedata

CP, Effort	4.0 CP = 120 h
Position of the semester	1 Sem. in SuSe
Level	[5] Master (Entry Level)
Language	[EN] English
Module Manager	Liggesmeyer, Peter, Prof. Dr. (PROF DEPT: INF, GS)
Lecturers	Liggesmeyer, Peter, Prof. Dr. (PROF DEPT: INF, GS)
Area of study	[INF-SE] Software-Engineering
Reference course of study	[INF-88.79-SG] M.Sc. Computer Science
Lifecycle-State	[NORM] Active

Courses

Type/SWS	Course Number	Choice in Module-Part	SL	PL	CP	Sem.
2V+1U	INF-30-02-K-5	P	U-Schein	PL1	4.0	SuSe

- About [INF-30-02-K-5]: Title: "Foundations of Software Engineering"; Presence-Time: 42 h; Self-Study: 78 h
- About [INF-30-02-K-5]: The study achievement "[U-Schein] proof of successful participation in the exercise classes (ungraded)" must be obtained.
 - It is a [prerequisite for the examination](#) for PL1.

Examination achievement PL1

- Form of examination: **written exam (Klausur) (60-90 Min.)**
- Examination Frequency: each summer semester
- Examination number: 63002 ("Foundations of Software Engineering")

Evaluation of grades

The grade of the module examination is also the module grade.

Contents

From [INF-30-02-K-5] Foundations of Software Engineering:

- Software engineering principles
- Existing empirical observations and laws
- Base knowledge (specification, architecture, verification, testing, process modelling, measurement, experimentation)
- Process integration / traceability (UML, Java)
 - Component engineering
 - Development of large systems
 - Application engineering
- Project management

Competencies / intended learning achievements

- Knowledge about principles, and reference models, techniques, methods, and tools for the development of large-scale software systems.
- The focus is on quality software engineering.

Literature

From [INF-30-02-K-5] Foundations of Software Engineering:

- Sommerville: "Software Engineering", 9th Edition, Person Studium, 2010.
- H. Balzert: Lehrbuch der Software-Technik 1/2. Spektrum Akademischer Verlag, 2000.
- P. Jalote: "A Concise Introduction to Software Engineering", Springer, 2008.
- W. Zuser, T. Grechenig, M. Köhle: Software Engineering mit UML und dem Unified Process, Pearson Studium, 2004.
- Peter Rösler, Maud Schlich, Ralf Kneuper: Reviews in der System- und Softwareentwicklung, dpunkt Verlag, 2013.
- M. Jeckle, C. Rupp, J. Hahn, B. Zengler, S. Queins: UML 2 Glasklar; Carl Hanser Verlag; 2003.
- Peter Liggesmeyer: Software-Qualität; Spektrum Akademischer Verlag, 2002.
- further literature will be announced in the lecture.

Requirements for attendance of the module (informal)

None

Requirements for attendance of the module (formal)

None

References to Module / Module Number [INF-30-02-M-5]

Course of Study	Section	Choice/Obligation
[WIW-82.176-SG#2009] B.Sc. Business Administration and Engineering specialising in Computer Science (2009) [2009]	[Fundamentals] Field of study: Computer Science	[WP] Compulsory Elective
[INF-88.79-SG] M.Sc. Computer Science	[Specialisation] Specialization 1	[WP] Compulsory Elective
[MV-88.659-SG] M.Sc. Mechanical Engineering with a minor in Applied Computer Science	[Compulsory Modules] Pflichtmodule	[P] Compulsory
[INF-88.B16-SG] M.Sc. Socioinformatics	[Compulsory Modules] Computer Science	[P] Compulsory
[GS-88.844-SG] M.Sc. Commercial Vehicle Technology	[Compulsory Modules] Mandatory modules	[P] Compulsory
[GS-88.844-SG#2022] M.Sc. Commercial Vehicle Technology 2022 [2022]	[Compulsory Modules] Mandatory modules	[P] Compulsory
[MV-88.?-SG#2022] M.Sc. Maschinenbau mit angewandter Informatik 2022 [2022]	[Compulsory Modules] Pflichtmodule	[P] Compulsory
Module-Pool	Name	
[INF-SE_Ba_V-MPOOL-4]	Specialization Bachelor TA Software Engineering	
[INF-SIAK-DT-CS-MPOOL-6]	SIAK Certificate "Digital Transformation" - Modules INF "Computer Science"	