

Lehrveranstaltung		LV-Kurzbezeichnung
DSYC: SystemC		DSYC
Verantwortliche/r	Fakultät	
Prof. Dr. Daniel Münch	Informatik und Mathematik	
Lehrende/Dozierende	Angebotsfrequenz	
Prof. Dr. Daniel Münch		
Lehrform		
Seminaristischer Unterricht mit Übungen		

Studiensemester gemäß Studienplan	Lehrumfang [SWS oder UE]	Lehrsprache	Arbeitsaufwand [ECTS-Credits]
6. oder 7.	4 SWS	englisch	5

Zeitaufwand:

Präsenzstudium	Eigenstudium
60h	90h

Studien- und Prüfungsleistung
Written test 90-120min and/or project work/seminar paper and/or oral exam

Inhalte
<ul style="list-style-type: none"> • Motivation for applying SystemC • SystemC fundamentals (Extension to C++) • Register Transfer Level Modeling with SystemC (hardware description / hardware simulation) • Transaction Level Modeling with SystemC (System Level Simulation)
Lernziele/Lernergebnisse/Kompetenzen
<ul style="list-style-type: none"> • The development process of (embedded) systems gets more and more complex. The demanded shorter time-to-market requires a more abstract design to increase efficiency. One application is the simulation-based exploration of possible realization approaches regarding latency / execution time or realization approaches regarding communication needs. • The students have an overview of SystemC and know the possibilities, benefits, applicability and challenges of the simulation-based development on different abstraction layers. • The students are capable to choose, implement and apply appropriate principles and methods for specific problems.
Lehrmedien
Projector, slides, lecture notes, notebook, whiteboard / backboard
Literatur
<ul style="list-style-type: none"> • Own slides / lecture notes in PDF • David C. Black et al., SystemC: From the Ground Up, Springer, 2010

Weitere Informationen zur Lehrveranstaltung

- Essential requirements: C programming and skills in object-oriented programming
- Recommended requirements: Skills in C++, hardware fundamentals or knowledge in digital design
- Slides / lecture notes in English
- Teaching language and examination language in English
- Eligible as elective subject in the course of studies Technical Computer Science, Computer Science and Medical Information Technology
- Lecture in form of seminar with exercises / practical training (4SWS)