MSE | MASTER OF SCIENCE IN ENGINEERING

Zürcher Hochschule für Angewandte Wissenschaften
zh aw School of Engineering

Supplementary Course (EVA) at ZHAW School of Engineering

Title: Computer Systems Performance
Short Code: rEVA_SysPerf

ECTS Credits	3
Profile	Computer Science (CS)
Responsible Institute /Centre	Institute of Applied Information Technology (InIT)
Responsible lecturer and contact informtion	Prof. Dr. Thomas M. Bohnert, bohe@zhaw.ch
Type and duration of examinations	Oral presentations
Start date and duration	Semester: Autumn/Spring Detail: Start of semester or by agreement
Location	Winterthur
Course type	Weekly semester rhythm, 14 x 3L Seminar and Lecture • Contact hours: 42 (hrs) • Guided self-study: 20 (hrs) • Independent self-study: 28 (hrs)
Language of instruction	English/ German
Short description (max. 300 characters)	Computer System Performance Evaluation is a very important skill set required in today's evermore complex computer and system environment. Starting from personal PCs and even handhelds, this ranges further over small home deployments up to cloud scale data centers and anything in between. Methodologically correct application of hypothesis establishment, parameters choices, instrumentation, observation, evaluation, and interpretation is essential, not only for identifying root cause of malfunctioning systems but also to optimize return of investments and after all to operate systems with ideal performance and least environmental impact.
Contents and Learning Objectives	Learning objectives: - You learn the foundation of performance evaluation (definitions, terminology, concepts) - You will understand performance criteria for individual components and complete systems - You will be able to systematically define performance evaluation objectives - You know different methods that allow to track and trace performance objectives - You will learn how to select/develop/apply performance evaluation instrumentation

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	- You will learn how to design experimental setups and conduct performance evaluation experiments - You will learn how to collect, statistically correctly analyze, visualize, and interpret performance evaluation data. - You will learn how to identify root causes, bottlenecks, and similar limiting elements and how to propose performance improvements. Module Content: - Concepts, Terminology, Methods - Performance Objectives and Parameters			
Prerequisites	Knowledge in Operating Systems/Linux and Cloud Computing			
Literature	-			
Special requirements	-			
Offer for profiles	Aviation (Avi)	☐	Business Engineering (BE)	☐
	Computer Science (CS)	☒	Data Science (DS)	☐
	Electrical Engineering (ElE)	☐	Energy & Environment (EnEn)	☐
	Mechanical Engineering (ME)	☐	Mechatronics & Automation (MA)	☐
	Medical Engineering (Med)	☐	Photonics and Laser Engineering (Pho)	☐
	Information and Cyber Security (ICS)	☒	Civil Engineering (CE)	☐