Valid from 2024.HS

Module description: Bachelor Thesis: Electrical Engineering

Module Code	t.BA.ET.BA.19HS
ECTS Credits	12
Language of Instruction/Examination	German
Organizational Unit	IEM Ltg.
Module Coordinator	Martin Loeser
Legal Framework	The module description is part of the legal basis in addition to the general academic regulations. It is binding. During the first week of the semester a written and communicated supplement can specify the module description in more detail.
Module Characteristic	Type 7 Bachelor's thesis
Module Description	The bachelor thesis takes place in the last academic year. It answers a scientific question from an electrical engineering discipline. As a rule, students carry out this work in teams of two. While working on the thesis the students provide regular information on the progress of their work. In the written final report, the problem, the work order, the project implementation and the work results are documented.
Module Content	• The bachelor thesis is about working on a concrete, practice-relevant, scientific question using engineering methods. The students should apply the knowledge acquired during their studies in order to demonstrate their ability to solve engineering problems. • The work typically consists of a conceptual part, in which the question is thoroughly analyzed and concretized, and an implementation part, in the course of which hardware and / or software is developed. • The main supervision of bachelor theses is usually carried out by lecturers who give classes in the Electrical Engineering program. Any co-supervision can be provided by other specialists. • The supervisors offer professional support to achieve the goals according to the task. While working on the bachelor thesis, the students regularly report the progress of their work and discuss the further process with their supervisor. • The results of the bachelor thesis are documented in writing in a scientific-technical report and presented in a colloquium.
Prerequisite Knowledge	https://gpmpublic.zhaw.ch/GPMDocProdDPublic/2_Studium/2_02_Grundlagen_Studium/T_CL_Modulauspraegungen_SM2025.pdf

Learning Objectives (Competences)

Students...	Competencies	Taxonomies
Ability to reasonably justify and defend one's own decisions and conclusions.	SE, M, F	K3, K4, K5, K6
Ability to understand a topic well and to narrow it down in an appropriate way with a view to one's own work.	M, F, SE	K3, K4, K5, K6
Ability to independently acquire scientific knowledge from literature and specialist articles.	SE, M, F	K3, K4, K5, K6
Ability to critically examine one's own results with regard to correctness and relevance.	F, SE, M	K3, K4, K5, K6
Ability to document the task, the procedure and the work results achieved in a scientific report and to represent it in a colloquium.	M, F, SO, SE	K5
Ability to independently work on a scientific question from a field of electrical engineering.	F, M	K3, K4, K5, K6
Ability to prioritize tasks under time pressure.	F, M, SE, SO	K3, K4, K5, K6

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Performance Assessment

End-of-module exam	Assessment	Length (min.)	Weighting	Form
other			100	

Performance assessment during the semester	Assessment	Length (min.)	Weighting	Form
-	-	-	-	-

Classroom Attendance Requirement

None

Learning material

Comments

The progress of the work is documented and nonitored during the semester through regular meetings with the supervisors. The "end-of-semester examination" includes at least the submission of an academic report and the presentation of the work to the supervisor and an external expert. As a rule, at the end of the bachelor thesis self-developed hardware or software is shown, documented and handed in in a suitable form.The exact evaluation criteria and weights are set in writing together with the supervisor before the start of the work.