Technology
Arts Sciences
TH Köln

Course
SIGA - Signal Theory and Applied Mathematics

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˄ General information

Long name	Signal Theory and Applied Mathematics
Approving CModule	SIGA_BaMT
Responsible	Prof. Dr. Jan Salmen Professor Fakultät IME
Level	Bachelor
Semester in the year	winter semester
Duration	Semester
Hours in self-study	102
ECTS	7
Professors	Prof. Dr. Jan Salmen Professor Fakultät IME
Requirements	tangible school knowledge Mathematics 1 Mathematics 2
Language	German
Separate final exam	Yes

Final exam

Details

In the written exam problems are given with respect to the subjects of th lecture. The problems are intended to be real-world as much as possible.

Thus the student should show that he or she is able to transfer the real-word problem into the mathematical framework.

Minimum standard

All important steps are result in points. For passing the exam, 50% of the maximum number of points is sufficient.

Exam Type

In the written exam problems are given with respect to the subjects of th lecture. The problems are intended to be real-world as much as possible. Thus the student should show that he or she is able to transfer the real-word problem into the mathematical framework.

^ Lecture

Learning goals

Knowledge

description of signals and LTI-systems using the Fourier-transform
analog non-periodic signals and systems
analog periodic signals and systems
discrete non-periodic signals and systems
discrete periodic signals and systems
description of discrete signals and systems using the z-transform

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ranom variables and their characterization
fundamentals of mathematical statistcs
estimators
tests
random signals and noise

Expenditure classroom teaching

Type	Attendance (h/Wk.)
Lecture	4
Tutorial (voluntary)	0

Separate exam

^ Exercises

Learning goals

Skills

Solve exercises to the subjects at hand.

Expenditure classroom teaching

Type	Attendance (h/Wk.)
Exercises (whole course)	2
Exercises (shared course)	0
Tutorial (voluntary)	2

Separate exam

Exam Type

solving exercises within limited functional / methodical scope

Details

Active participation in exercise lessons, adequate processing of given exercise problems.

Minimum standard

Active participation in 80 % of the exercise lessons.