Technology
Arts Sciences
TH Köln

Course
PLTP - Process Control Engineering

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General information

Long name	Process Control Engineering
Approving CModule	PLTP_BaET
Responsible	Prof. Dr. Norbert Große Professor Fakultät IME
Level	Bachelor
Semester in the year	winter semester
Duration	Semester
Hours in self-study	60
ECTS	5
Professors	Prof. Dr. Norbert Große Professor Fakultät IME
Requirements	no
Language	German
Separate final exam	Yes

Final exam

Details

Basis of cooperation in the teams and in particular the evaluation are
contributions and questions to the lecture or in the discussion,
answers to questions by the lecturer on the subject after the lecture,
protocols
mails to the client,
lectures (each at least 1 lecture)

technical requirement to the plant,
technical solution concept and the offer for sale.

Minimum standard

Each of the examination elements must be passed with at least sufficient

Exam Type

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contributions and questions to the lecture or in the discussion,
answers to questions by the lecturer on the subject after the lecture,
protocols
mails to the client,
lectures (each at least 1 lecture)
technical requirement to the plant,
technical solution concept and the offer for sale.

Lecture / Exercises

Learning goals

Knowledge

Structured control technology planning
Project handling in phases
Quality assurance in the planning
CAE planning tools
Functional safety of systems
Explosion protection
Control system structures

Understanding and analyzing process control tasks
Structuring process engineering processes
Structuring of process engineering plants
Production methods and plant concepts
Requirements for the process control technology
Perform structured planning
Assessment of plant safety
Designing control system structures

Functional safety of systems
security analysis
Classes of PLT facilities
Proper and improper use
explosion protection

Availability of equipment and components
Availability and security
Increase in availability
Backup of data

Structures of process control systems
Process-related functions and components
Display and operating functions and components
System Network
fieldbus

Expenditure classroom teaching

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

Separate exam

Exam Type

working on projects assignment with your team e.g. in a lab)

Details

Communication with a customer
Declaration of the task as specifications
Presentation of results

Minimum standard

Lecture on the task or solution concept

Project

Learning goals

Skills

Detect process control task

Describe with formal methods (ER diagram, phase model)
Understand formalized plant descriptions
Hold presentations
Create written planning documents

Process control solution concepts
Develop control system structure
Develop fieldbus structure
Develop safety and protection system
Presenting concepts in written and spoken form

Teamwork to create concepts
Create logs
Lead a safety conversation
Lead Structured interview of the customer

Prepare presentation and represent own company and own competence
Represent the state of planning
Represent results

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create written documentation
create text that is formally and scientifically
work out specifications
create offer for sale

Expenditure classroom teaching

Type	Attendance (h/Wk.)
Project	1
Tutorial (voluntary)	0

Separate exam

none