

Course Manual RST

Recipe Control

Version: 1 | Last Change: 29.09.2019 10:19 | Draft: 0 | Status: vom verantwortlichen Dozent freigegeben

– General information

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|-----------------------------|---|
| Long name | Recipe Control |
| Approving CModule | RST_BaET |
| Responsible | Prof. Dr. Norbert Große <small>Professor Fakultät IME</small> |
| Valid from | winter semester 2022/23 |
| Level | Bachelor |
| Semester in the year | winter semester |
| Duration | Semester |
| Hours in self-study | 78 |
| ECTS | 5 |
| Professors | Prof. Dr. Norbert Große <small>Professor Fakultät IME</small> |
| Requirements | Process Control Engineering, Planning Process Control Engineering, Systems |
| Language | German |
| Separate final exam | Yes |

Literature

eigenes Skript

Taschenbuch der Automatisierungstechnik, Große,
Schorn, Hanser Verlag

Final exam

Details Exam with
programming exercises,
comprehension
questions, pictures of
production plants and
controls

Minimum standard Achieve half of the
possible score

Exam Type EN Klausur

– Lecture / Exercises

Learning goals

| Goal type | Description |
|-----------|---|
| Knowledge | Present control processes with GRAFCET |
| Knowledge | Mapping production processes to recipes |
| Knowledge | Mapping production processes to production plants |
| Knowledge | Process Control Tasks (PFK.4) Describe structuring of process engineering processes (PKF.1) Describe structuring of process plants (PFK.1) Understand Production Methods and Plant Concepts (PFK.1) Defining Requirements for Process Control Engineering (PFK.1) |
| Knowledge | Capture concepts of recipe control according to DIN EN 61512-1 (PFK.1) |
| Knowledge | Describe recipe characteristics and structures (PFK.1) |
| Knowledge | Describe control components (PFK.1) |
| Knowledge | Represent basic and control recipes (PFK.1) |
| Knowledge | Capture procedure function diagrams according to DIN EN 61512-2 (PFK.1) |
| Skills | Create procedure function plans (PFK.1) |
| Skills | Display control processes with GRAFCET (PFK.1) |

Special requirements

no

Accompanying material

Script for the lecture, Exercise Collection, Development tools for programming of controllers (Codesys)

Separate exam

Yes

Separate exam

Exam Type

EN Übungsaufgabe mit fachlich / methodisch eingeschränktem Fokus unter Klausurbedingungen lösen

Details

Exam with tasks to control technology, which are graphically represent, comprehension questions.

Minimum standard

Achieving half of the possible points

Expenditure classroom teaching

| Type | Attendance (h/Wk.) |
|--------------------------|--------------------|
| Lecture | 2 |
| Exercises (whole course) | 1 |

| | |
|---------------------------|---|
| Exercises (shared course) | 0 |
|---------------------------|---|

| | |
|----------------------|---|
| Tutorial (voluntary) | 0 |
|----------------------|---|

– Practical training

Learning goals

| Goal type | Description |
|-----------|--|
| Skills | Handling program package CODESYS as vendor-neutral programming of controllers |
| Skills | Programming of control function elements, of control functions, of unit control systems; configuration of recipe control systems |
| Skills | Programming of basic automation |
| Skills | Presentation of basic and control recipes; procedure function plans |

Expenditure classroom teaching

| Type | Attendance (h/Wk.) |
|----------------------|--------------------|
| Practical training | 1 |
| Tutorial (voluntary) | 0 |

Special requirements

no

Accompanying material

Script to the lesson, Exercise Collection, Development tools for programming of controllers (Codesys)

Separate exam

Yes

Separate exam

Exam Type

EN praxisnahes Szenario bearbeiten (z.B. im Praktikum)

Details

Presence exercises and self-learning exercises

Minimum standard

Attendance in the internship, achieve the required tasks