

t.ET1 - Elektrotechnik 1

Person responsible for the course: Jakob Lattmann, latj

Credits: 3

Valid for: 2011/2012

Last saved: 28.03.2012 17:37

Learning objectives:

- Knowing the properties of passive elements in the time and frequency behavior
- Being able to apply a network description with complex phasors
- Knowing the properties and the selection of DC motors being are able to select it
- Knowing semiconductors and its coherence with DC motors
- Application and operation of electric analyzers and instruments

Course content:

- Basics: Laws, sources, measurements of DC- and AC-quantities
- Passive elements: R, L, C: behavior in switching operations, in harmonic voltages, combinations of impedances, phasor representation, complex calculations
- DC machines. Laws, characteristics, operation modes, applications, selection of a suitable drive
- Power semiconductors: properties and applications in power converters
- Power converters: overview, AC-input, DC-input, applications in coherence wit DC drives, selections according to various criterias

Previous knowledge:

-

Teaching method:

| Type of lesson: | Number of lessons per week: |
|--------------------|-----------------------------|
| Lecture | 14x2L |
| Tutorial/Practicum | 4x3.5L |
| Group teaching | |
| Block instruction | |
| Seminar | |

Assessment:

According to the table or as specified in writing by the lecture at the beginning of the semester!

| Number | Type | Weighting |
|--------|--------------------------|-----------|
| 1 | End of term exam | 80% |
| 1 | Exam during the semester | 20% |
| | Further assessments | |

Language of instruction:

-

Instruction material:

Gemäss Vorgabe des Dozierenden (z.B. Vorlesungsscript oder Buch)
Aktuelle Bücher (Bekanntmachung während der Lehrveranstaltung)

Comments:

-