

Course

SYE - Systems Engineering for Energy Efficiency

Version: 4 | Last Change: 30.09.2019 21:04 | Draft: 0 | Status: vom verantwortlichen Dozent freigegeben

^ General information

Long name	Systems Engineering for Energy Efficiency
Approving CModule	SYE_MaET
Responsible	Prof. Dr. Johanna May Professor Fakultät IME
Level	Master
Semester in the year	winter semester
Duration	Semester
Hours in self-study	78
ECTS	5
Professors	Prof. Dr. Johanna May Professor Fakultät IME
Requirements	Bachelor electrical engineering, renewable energy or comparable
Language	German, English if necessary
Separate final exam	Yes

Final exam

Details

project presentation with background documentation (50%)

oral exam (50%)

Minimum standard

project: at least 50% of tasks from project task completed

oral exam: at least 50% of questions answered correctly

Exam Type

project presentation with background documentation (50%)
oral exam (50%)

^ Lecture / Exercises

Learning goals

Knowledge

electrical power measurements and thermography (lab), analyse load profiles and simulation in python, use relevant standards for evaluation of energy payback time, economic viability and life cycle analysis, overview over most frequenz energy efficiency measures (pressurized air, lighting, heat recovery)

Skills

translate functional requirements on systems and products into technical key parameters and document knowlegde, apply measurements and critically evaluate own and data from literature, find influencing factors, use creativity methods, simulate strong influence factors in functional models and evaluate potentials for improvement quantitatively, evaluate acceptance from different viewpoints

Expenditure classroom teaching

Type	Attendance (h/Wk.)
Lecture	2
Exercises (whole course)	1
Exercises (shared course)	0
Tutorial (voluntary)	0

Separate exam

none

^ Practical training

Learning goals

Knowledge

thermography, measurement of electrical energy of more or less energy efficient consumers, measure electrical load profiles (at home), critical evaluation of measurement uncertainty

Expenditure classroom teaching

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

Separate exam

none

^ Project

Learning goals

Skills

apply methods of lecture to a specific (every semester newly conceived) project topic in the area of energy efficiency, work in a team

Expenditure classroom teaching

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

Separate exam

none