

Course Information Form

Title

Student

COURSE TITLE Smart Cities – The next step in city evolution

FULL NAME Zsanett Bertók
DATE OF BIRTH 12.05.2000
COUNTRY OF CITIZENSHIP Hungary
UNIVERSITY Budapest University of Technology and Economics

Organising University

EXAMINATION GRADE 80%

UNIVERSITY RWTH Aachen University
CITY Aachen
COUNTRY Germany
PROFESSOR Dirk-Uwe Sauer
BEST CONTACT Duarte Fonseca
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UNIVERSITY CONTACT Nadine Schütz
+49 241 80 96977
nadine.schuetz@isea.rwth-aachen.de
TIME PERIOD 11th – 20th of June 2022

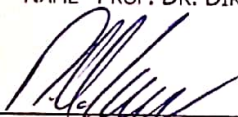
Working Hours

Lectures	9.5
Tutorials	0
Group Seminars or Workshops	3.5
Laboratory Work	0
Project or Field Work	8.5
Individual Work	0
Company Visit	3.5
Examination	2
Other Methods	0
TOTAL WORKING HOURS	27

Examination Form

- ☐ WRITTEN EXAM
☒ ORAL EXAM
☐ ESSAY
☒ PROJECT OR PRACTICAL WORK
☐ CONTINUOUS ASSESSMENT

CITY Aachen
DATE June 17th 2022
NAME PROF. DR. DIRK UWE SAUER,


LECTURER'S SIGNATURE

Prof. Dr. rer. nat. Dirk Uwe Sauer

RWTH AACHEN ISEA
Lehrstuhl für Elektrochemische Energiewandlung
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Univ.-Prof. Dr. rer. nat. Dirk Uwe Sauer
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University Stamp

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Company Representatives

FULL NAME	Louise Radüge
COMPANY	Infineon Technologies AG
TOPIC / SUBJECT	Infineon and Smart Cities
AMOUNT OF HOURS	0.5
CONTACT	-
FULL NAME	Katharina Wibberg
COMPANY	Infineon Technologies AG
TOPIC / SUBJECT	Infineon and Smart Cities
AMOUNT OF HOURS	0.5
CONTACT	Katharina.Wibberg@infineon.com
FULL NAME	Steffen Bolzenius
COMPANY	Infineon Technologies AG
TOPIC / SUBJECT	Semiconductor chips
AMOUNT OF HOURS	1
CONTACT	-
FULL NAME	Victor ter Smitten
COMPANY	S O NAH
TOPIC / SUBJECT	Urban parking solutions
AMOUNT OF HOURS	2
CONTACT	+49 170 9197432

Educators

FULL NAME	Prof. Dr. Dirk-Uwe Sauer
FACULTY / CAPACITY	Main Professor/RWTH Aachen University
AMOUNT OF HOURS	5
CONTACT	dirkuwe.sauer@isea.rwth-aachen.de
FULL NAME	Dr. Magdalena Kimm
FACULTY / CAPACITY	Institute visit/RWTH Aachen University
AMOUNT OF HOURS	1.5
CONTACT	magdalena.kimm@ita.rwth-aachen.de
FULL NAME	Johannes Nelles
FACULTY / CAPACITY	Lecturer
AMOUNT OF HOURS	2
CONTACT	-
FULL NAME	Gabriel Roget de Aysa
FACULTY / CAPACITY	Lecturer
AMOUNT OF HOURS	1.5
CONTACT	-
FULL NAME	Guillermo Almonacid Nieto
FACULTY / CAPACITY	Lecturer
AMOUNT OF HOURS	1.5
CONTACT	-
FULL NAME	Udit Agrawal
FACULTY / CAPACITY	Lecturer
AMOUNT OF HOURS	1.5
CONTACT	-

Course Description

Aims and Objectives

The aim of the course is to give the students:

- good knowledge of:
 - Upcoming technologies in smart cities
 - Energy storage and management
 - Electromobility
- Some experience of practical problem solving in the area of energy management

Description of Course and Topic

- a) Semiconductor chips and their use in everyday life.
- b) Use of Biotechnology in Smart Cities.
- c) Energy storage systems and Electromobility.
- d) Planning of Smart Cities.
- e) Parking management solutions in Smart Cities
- f) Future construction and building materials

Syllabus

Topic: Semiconductor chips

Name of activity: Company presentation by Infineon

Working hours: 2

Type: Lecture/Group Seminar

Summary of the content: Development and role of semiconductors in Smart Cities

Expected effect: Developing basic knowledge of electronic chips and their role in the future and understanding the latest developments in the field.

Topic: Biotechnology

Name of activity: Biotechnology in Smart Cities

Working hours: 1.5

Type: Lecture

Summary of the content: Role of biotechnology in Smart Cities

Expected effect: Being introduced to biotechnology and having a basic understanding of this field

Topic: Energy storage and Electromobility

Name of activity: Energy storage systems (lecture by main Professor)

Working hours: 3

Type: Lecture

Summary of the content: Energy storage systems especially for electromobility

Expected effect: To have good understanding of energy storage systems and latest trends in the area and to use this knowledge to design a system in practical project work during the course.

Topic: Parking management solutions

Name of activity: Company visit to S O NAH

Working hours: 2

Type: Company visit

Summary of the content: Smart parking solutions in cities

Expected effect: To understand one of the technologies to be used in smart cities and have first-hand knowledge by visiting a company including the manufacturing facility.

Topic: Smart building materials

Name of activity: Institute/Lab visit to Institute for Textile Engineering

Working hours: 1.5

Type: Institute visit

Summary of the content: Use of fibers as smart construction materials

Expected effect: Being familiar with the use of carbon and glass fiber in construction and building and having first-hand knowledge by visit a research facility for fibers.