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Erasmus+ Programme
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Engineering Literacy Online

NEWSLETTER

THE ELIC PROJECT

- Erasmus+ Strategic Partnership for School Education
- MOOC (massive open online course) for natural sciences teachers¹ to improve engineering literacy among secondary school pupils
- Project duration: October 2017 – September 2019

ELIC aims to provide a didactical and content toolbox for teachers to increase engineering skills among secondary school pupils to enlarge their interest in technical occupations. *ENGINEERING LITERACY* in ELIC stands for interdisciplinary teaching using practical examples that combines natural sciences subjects AND technical sciences input. By applying consequently knowledge to solve technical challenges in different fields will increase the interest in engineering among secondary school pupils.

THE MAIN OUTPUT – ELIC MOOC

The **ELIC MOOC** is an open educational resource (OER) aimed at secondary school teachers of science, technology, engineering and mathematics (STEM) subjects. This MOOC provides a didactical and content toolbox for teachers which should help them to develop an engineering mind set amongst pupils aged 15-18 and increase their interest in engineering professions.

Examples and experiments taken from automotive engineering are linked to content from different STEM subjects to show how knowledge of natural and technical sciences can be applied to real-world engineering problems. The MOOC consists of *6 modules* and will run over a 6-week period starting with the 3rd of February 2019. Each week, the facilitators will provide learning materials and tasks (e-tivities) to different topics and the moderators or conveners will monitor the online learning process and actively support learners.

THE PROJECT PARTNERS

FH JOANNEUM
Fahrzeugtechnik /
Automotive Engineering

Hochschule Daxlanden
HSD
University of Applied Sciences

ISCN
International Software Consulting Network

VSB TECHNICAL UNIVERSITY OF OSTRAVA | FACULTY OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

 **Pascal-Gymnasium**
GREVENBROICH

 **crewai2**
TEACHING/GUIDING/SEARCHING

 **brgkepler**

 **FERMO SOLARI**

THE TOPICS OF EACH WEEK IN A NUTSHELL

Schedule: 3rd of February – 16th of March 2019

Week 1: Introduction to the MOOC and Engineering Literacy	The first module aims at giving a general introduction to the MOOC methodology, structure and requirements to get used to this online learning space and to understand how the ELIC MOOC is structured.
Week 2: E-Motor – the future of the automotive industry?	The goal of week two is to introduce the MOOC participants to electric motors in general and to show how electric motors are used in cars.
Week 3: Combustion Engine at a Glance	Within this week an introduction to the operation of internal combustion engines and to the impact on society and environment are given from various perspectives.
Week 4: Battery & Light Systems	The main aim of the fourth week is to give an introduction on how headlamps and rear lamps are used in cars and to provide a system engineering understanding which allows teachers to assign experiments at school. Further, battery systems are explained in general and how they are implemented into modern vehicles.
Week 5: Hot topics in Engineering – What is new and challenging for the industry?	Week five focuses on “Hot Topics in Engineering” and is going to discuss current issues in engineering which include energy management, autonomous driving and cyber security in engineering.
Week 6: Recap and certification – was it worth participating in the ELIC MOOC?	During this week the participants recap and summarize the highlight topics that have been discussed during the last five weeks and have the chance to do an ECQA certification about the acquired knowledge.

HOW TO TAKE PART IN THE ELIC MOOC?

The ELIC MOOC offers free of charge participation including an ECQA certificate (www.ecqa.org). The registration needs to be done through the ELIC MOOC platform at www.elic-mooc.com. The registration phase starts on the 1st of January 2019. The registration process should be finished by all interested participant at the 2nd of February 2019 to be ready to start the MOOC on the 3rd of February 2019.

Register NOW
www.elic-mooc.com
Registration open from the
1st of January 2019

Join the ELIC MOOC and experience different aspects of engineering in an exciting environment.



www.elic-mooc.com



www.elic.fh-joanneum.at



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