UNIVERSITY OF APPLIED SCIENCES, ESSLINGEN

WINTER BLOCK SEMINAR 2020
AT THE FACULTY OF MANAGEMENT

TECHNICAL BASICS

A 2 WEEK CREDIT BEARING PROGRAM

FEBRUARY 2020
WINTER BLOCK SEMINAR IN

TECHNICAL BASICS

ALL COURSES ARE AT BACHELOR’S LEVEL, FULL-TIME AND WORTH 6 ECTS

Content:
- Fundamentals of Statics and Strength Theory and their application in Vehicle and Mechanical engineering.
COURSE DESCRIPTION

MATERIAL SCIENCE

LEARNING TARGETS:

- Students will understand important materials and their construction, properties, meaning and applicability
- Students will understand the relationship between internal structure and functional properties of materials
- Students can assess opportunities to further process materials
- Students will understand the possibilities and limitations of different material groups
- Students will have in-depth knowledge of ferrous metals
COURSE DESCRIPTION

MATERIALS PROCESSING

LEARNING TARGETS:

- Students will learn the six main groups of manufacturing processes (casting, forming, separating, joining, coating and modifying material properties)
- Students will get to know the subcategories of the first three main groups of manufacturing processes
- Students will learn both traditional and innovative processes and their respective characteristics
- Students will identify boundary conditions for the technical and economical use of processes
- Students will assemble several manufacturing processes to process chains for typical automotive components
- Students will understand the relationship of Manufacturing Technology to Material Science and Statics and Strength
COURSE DESCRIPTION

STATICS AND STRENGTH OF MATERIALS:

LEARNING TARGETS:

- Students will analyze systems of forces (decomposition and assembly of forces)
- Students will recognize and calculate the resulting effect of multiple forces and torques
- Students will mathematically and graphically determine unknown forces in even central force systems
- Students will determine unknown forces in even general force systems
- Students will calculate internal stresses in components for the base load cases
- Students will understand and assess component’s failure mechanisms
APPLICATION

UNTIL 12TH OF FEBRUARY 2020

SEND AN E-MAIL TO:

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