

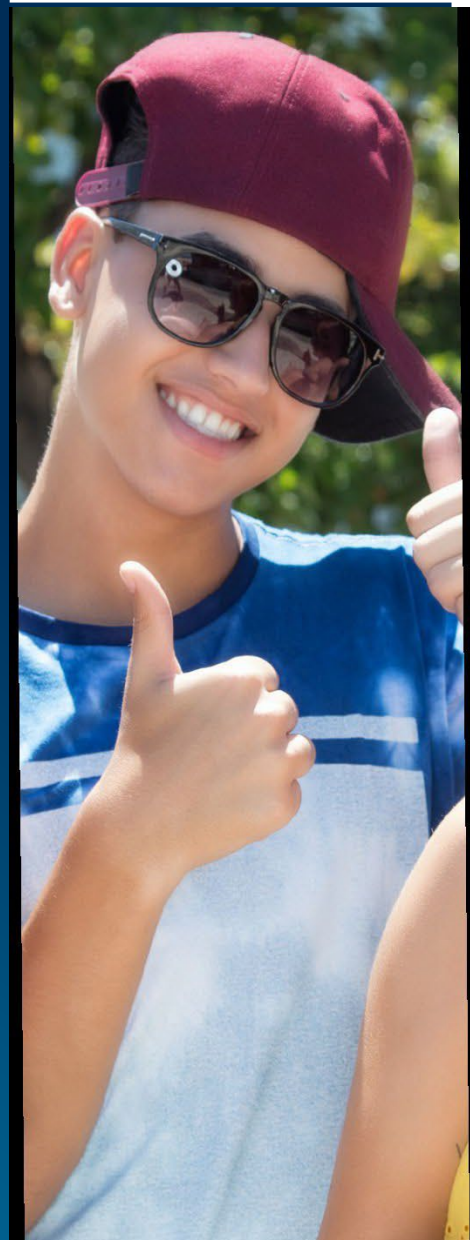
INTENSIVE TECHNICAL KNOWLEDGE FOR INTERNATIONAL MANAGEMENT STUDENTS

SUMMER BLOCK SEMINAR 2025

14TH OF JULY – 1st OF AUGUST 2025

AT THE FACULTY OF MANAGEMENT AND
TECHNOLOGY

UNIVERSITY OF APPLIED SCIENCES, ESSLINGEN,
GERMANY



SUMMER BLOCK SEMINAR

INTENSIVE TECHNICAL KNOWLEDGE FOR INTERNATIONAL MANAGEMENT STUDENTS

Three courses:

- Fundamentals of Material Science and their application in industry with a focus on steel on Vehicle Engineering
- Manufacturing Technology and its application in Vehicle and Mechanical Engineering
- Fundamentals of Statics and Strength Theory and their application in Vehicle and Mechanical Engineering

All courses are at Bachelor's level, full-time and worth 6 ECTS

TIMETABLE

THEORETICAL LESSONS WILL BE AVAILABLE THROUGH VIDEO DOWNLOADS. THE VIDEOS WILL BE PROVIDED ONLINE 2 WEEKS BEFORE THE SEMINAR STARTS

VIDEOS HAVE TO BE WATCHED BEFORE AN EXERCISE.

Schedule Summer Block Seminar in Intensive Technical Knowledge 2025

Week 1	Monday, 14th of July	Tuesday, 15th of July	Wednesday, 16th of July	Thursday, 17th of July	Friday, 18th of July
08:00 - 11:00 (US-time), 14:00 - 17:00 (European time)	Static & Strengths Exercise	Static & Strengths Exercise	Static & Strengths Exercise	Static & Strengths Exercise	Static & Strengths Exam
	Hoover	Hoover	Hoover	Hoover	Hoover
Week 2	Monday, 21th of July	Tuesday, 22 th of July	Wednesday, 23th of July	Thursday, 24th of July	Friday, 25th of July
08:00 - 11:00 (US-time), 14:00 - 17:00 (European time)	Manufacturing Technology Exercise	Manufacturing Technology Exercise	Manufacturing Technology Exercise	Manufacturing Technology Exercise	Manufacturing Technology Exam
	Bot-Schulz	Bot-Schulz	Bot-Schulz	Bot-Schulz	Bot-Schulz
Week 3	Monday, 28th of July	Tuesday, 29th of July	Wednesday, 30st of July	Thursday, 31st of July	Friday, 1st of August
08:00 - 11:00 (US-time), 14:00 - 17:00 (European time)	Material Science Exercise	Material Science Exercise	Material Science Exercise	Material Science Exercise	Material Science Exam
	Bot-Schulz	Bot-Schulz	Bot-Schulz	Bot-Schulz	Bot-Schulz

COURSE DESCRIPTION

MATERIAL SCIENCE

LEARNING TARGETS:

- Understand the structure of atoms and how the major crystal structures are built.
- Introduction to important materials and their construction, properties, meaning and applicability with a focus on ferrous metals.
- Understand the relationship between internal structure and their effect on functional properties of materials.
- Learn to assess opportunities to further process materials.
- Understand the possibilities and limitations of different material groups.

COURSE DESCRIPTION

MANUFACTURING TECHNOLOGY

LEARNING TARGETS:

- Learn the six main groups of Manufacturing Processes (casting, forming, separating, joining, coating and modifying material properties).
- Get to know the subcategories of the first three main groups of Manufacturing Processes (casting, forming, separating).
- Learn both traditional and innovative processes and their respective characteristics.
- Identify boundary conditions for the technical and economical use of processes.
- Assemble several Manufacturing Processes to process chains for typical automotive components in tasks.
- Understand the relationship of Manufacturing Technology to Material Science and Statics and Strength.

COURSE DESCRIPTION

STATICS AND STRENGTH OF MATERIALS

LEARNING TARGETS:

- Analyze systems of forces (decomposition and assembly of forces)
- Recognize and calculate the resulting effect of multiple forces and torques
- Mathematically and graphically determine unknown forces in even central force systems
- Determine unknown forces in even general force systems
- Calculate internal stresses in components for the base load cases
- Understand and assess component's failure mechanisms

FAQs

HOW ARE THE COURSES TAUGHT?

All courses have a self-learning part with the videos and additionally a live part for the exercises which is taught online via Webex Meetings. We use Moodle as Learning Management System.

1. Introduction session : 30th of June (via webex)
2. Self learning time: starting 1st of July
3. Live online exercises: starting 14th of July
4. Online exam: 18th of July, 25th of July and 1st of August

I AM AN INTERNATIONAL STUDENT – HOW DOES THE EXAM TAKE PLACE?

The exam takes place in an online format. You need a printer and a webex camera. Written exams are uploaded in Moodle and sent to the correcting lecturers.

WHAT ARE THE PREREQUISITES?

Videos have to be watched before an exercise. The videos are available 2 weeks before the course starts. Good English language knowledge and mathematical knowledge are requested.

DO I HAVE TO FINISH THE WHOLE SEMINAR INCLUDING ALL THREE COURSES?

You can achieve maximum of 6 ECTS by passing all 3 exams – it is also possible to do partial exams in one or two subjects.

Certificates will be given after the courses have been successfully passed (2, 4 or 6 ECTS and mark).

REGISTRATION

OPEN FROM MAY 1ST UNTIL MAY 31ST 2025

REGISTER ONLINE (currently in process of being updated):

[WWW.HS-ESSLINGEN.DE/EN/MANAGEMENT-AND-TECHNOLOGY/
DEGREE-PROGRAMMES/ORIENTATION-OPPORTUNITIES/BLOCK-SEMINARS/](http://WWW.HS-ESSLINGEN.DE/EN/MANAGEMENT-AND-TECHNOLOGY/DEGREE-PROGRAMMES/ORIENTATION-OPPORTUNITIES/BLOCK-SEMINARS/)

FOR QUESTIONS YOU CAN CONTACT:

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INTERNATIONAL COORDINATION OUTGOINGS AND INCOMINGS

FACULTY OF MANAGEMENT AND TECHNOLOGY

UNIVERSITY OF APPLIED SCIENCES

HS-ESSLINGEN.WEBEX.COM/MEET/CHRISTIANE.HOEGER-RIEDEL