

Course instructors

Dr. ir. Laurent Warnet

Assistant professor at the University of Twente, over 15 years of lecturing and research experience on composite materials.

Dr. ir. Wouter Grouve

Chief researcher at ThermoPlastic composite Research Center (TPRC), specialist in tape laying and other thermoplastic manufacturing and testing methods.

Dr. Irene Fernandez Villegas

Assistant professor at University of Delft, expert in thermoplastic composite joining techniques.

Dr. ir. Ferrie van Hattum

Professor of lightweight structures at Saxion University of Applied Sciences, over 15 years of lecturing and research experience on thermoplastic composite materials.



More information about TPRC

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Aerospace is a key driving force for new technologies. Many trend-setting innovations were developed in enterprises and research institutions belonging to the aerospace industry. Products must fulfil severe quality requirements and work reliable under extreme conditions. High-qualified employees are the base for success.

The ASA is an institute of Steinbeis University Berlin and provides a variety of specialized courses and professional trainings to allow companies to hone the skills of their employees and continuously build on their capabilities. Working with leading international experts, we provide in-sight into the very latest research and technological advances.

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Steinbeis University Berlin (SHB)

Founded in 1998, Steinbeis University Berlin (SHB) is a state-approved private university that offers students and companies practice-oriented, extra-occupational higher education based on the project competence concept, leading to nationally recognized qualifications. The research carried out by SHB focuses on issues with practical applications. The SHB portfolio of courses ranges from certification courses to degrees and doctoral programs. SHB is an enterprise in the Steinbeis Network, an international service provider in entrepreneurial knowledge and technology transfer.

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in cooperation with:



CERTIFICATE COURSE Polymer Composites for Aerospace Industry



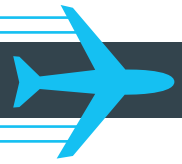
Investing in Opportunities



This project has received
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INTERREG IV B



Target Audience

The course is intended for technicians and/or engineers, with a technical background at Bachelor's degree level or equivalent relevant experience. No specific pre-existing polymer composite know-how is required, though affinity with the course material and related industry will largely benefit the learning outcome.

Course objectives

Become a practical expert in

- selection of suitable materials and manufacturing processes for composite applications
- relevant aspects for composite applications, in terms of design and performance evaluation
- existing and future composite applications in aerospace industry
- judging the relevance of composite materials for potential applications

Benefits for the participant

After this course, the participant will be capable of making a preliminary selection of suitable materials and manufacturing processes for composite applications. He/she will have a general idea on the relevant aspects for composite applications, in terms of design and performance evaluation.

Benefits for the company

The company will get a variety of opportunities to run new product developments by well trained employees with a broad overview of existing and future composite applications in aerospace industry, that are capable of judging the relevance of composite materials for potential applications.

Module 1: Composite Introduction and Mechanics (1 day)

- Current Ins and Outs of composite material, design and manufacturing.
- Basic Composite Mechanics, micromechanics and lamination theory

Module 2: Composite Mechanics Practical and Manufacturing (1 day)

- Application of the basic composite mechanics: examples and exercises
- Structured overview of the current composite manufacturing technology

Module 3: Composite Manufacturing Practical and Design (1 day)

- Lab practical on thermoplastic composite materials and manufacturing
- Introduction into ThermoPlastic composite Research Center (TPRC) facilities
- Composite specific design guidelines

Module 4: Composite Fracture and Assembly (1 day)

- Composites failure behaviour and basic mechanics
- Design guidelines for assembly

Module 5: Composite Testing and Inspection and Case Studies (1 day)

- Thermo-mechanical testing and composite specific inspection techniques
- Case studies of aerospace composites in industry

Knowledge Transfer Project

Following to the course each participant works on a knowledge transfer project in his or her company to apply the knowledge gained in the seminars. The content of the project shall be an actual task from the daily work of the participant. One of the course instructors is a supervisor for the project. The knowledge transfer project is documented in a short written report and to be sent to the instructors for evaluation.

Course Procedure

The certificate course includes 5 days of seminars, in the training rooms of ThermoPlastic Composite Research Center in Enschede, Netherlands. A one-hour written test will be administered a few weeks after the seminar. Seminars contain lecture, group and single exercises as well as case studies with high practical relevance.

Certificate

Upon successful completion of the transfer project and passing of the test, participants are awarded a certificate by the Steinbeis University Berlin. In addition, 5 internationally accepted ECTS credit points are awarded. Grading is based on the written test and the knowledge transfer project.

Admission Requirements

Bachelor's degree in engineering or equivalent degree.

Seminar Only

This course is also open to participants who will not go for a certificate. These participants neither have to do the exam nor the transfer project and will get a confirmation of participation in the end.