Hochschule
Albstadt-Sigmaringen
Albstadt Sigmaringen University

Study Abroad - Certificate in Textile Engineering – Fall semester

30 ECTS credit program

Programme Modules:

Module	ECTS
Industrial Manufacturing 1	4
Digital Construction 2b	2,5
Textile Ecology and Sustainability	3
Finish and Surface Technology	2
Quality Management 1	2
Quality Management 2	2
Circular Economy 1	2,5
Industry-related project	12

Further Information / Contact:

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Study Abroad Certificate in Textile Engineering
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(as of 02/2026)

Study Abroad Certificate in Textile Engineering - Fall

Module: Industrial Manufacturing Technology 1

Key facts

Workload		**ECTS**
120 h		4
Parts of the module	**Contact time**	**Self-study time**
	60 h	60 h
Module leader	**Assessment**	
Prof. Sven Gerhards	Lab Assignment	

Curriculum Outline

- The students learn basic sewing methods
- The students learn how to sew pockets, cuffs and collars.
- The final project will be the production of a men's shirt.

Key content

- Construction process in the clothing industry
- Basic sewing methods
- Construction of small parts, pattern variations etc for a men's shirt.

Study Abroad Certificate in Textile Engineering - Fall
Module: Digital Construction 2b

Key facts

Workload		**ECTS**
75 h		2,5
Parts of the module	**Contact time**	**Self-study time**
	35 h	40 h
Module leader	**Assessment**	
Prof. Dr. Christian Kaiser	Homework assignment	

Curriculum Outline

Students have integrated professional knowledge in the field of activity of patternmaking. This also includes in-depth specialised theoretical knowledge. They know the scope and limits of the learning areas of construction in the clothing industry, construction systems, body measurements, construction measurements, working out production patterns with seam allowances, labelling, markings and drill holes, markings and drill holes, construction of geometric bodies, complex product development on the PC, virtual sewing processes.

Key content

- Introduction to the virtual sewing process (3D software)
- Simulation of pleats
- Basics of digital fit assessment
- Basics of 3D visualisation including rendering
- Development of simulation details for photorealistic requirements
- Realisation of your own 3D work piece from pattern creation to rendering

Study Abroad Certificate in Textile Engineering - Fall
Module: Textile Ecology and Sustainability

Key facts

Workload		**ECTS**
90 h		3
Parts of the module	**Contact time**	**Self-study time**
	30 h	60 h
Module leader	**Assessment**	
Prof. Matthias Kimmerle	Written Exam (60 minutes)	

Curriculum Outline

In the lecture, we examine and elaborate possible strategies for textile and clothing companies, how to setup an efficient working CSR team. We compare certification facilities and best available technologies within the complete global textile supply chain. From the idea, through efficient product development processes of garments and textile products, social and sustainable production processes and facilities, logistics to the retail and end of use of the products, we try to leave as little as possible footprint.

Key content

- Case Studies, Eco labels, Textile Alliances, Green
- Technologies, Restricted Substance lists, EMAS, GRI,
- GOTS, Bluesign, Ökotex, Fair Wear Foundation,
- SA8000, Carbon Footprint, Textile Exchange, ….

Study Abroad Certificate in Textile Engineering - Fall
Module: Finish and Surface Technology

Key facts

Workload		**ECTS**
60 h		2
Parts of the module	**Contact time**	**Self-study time**
	30 h	30 h
Module leader	**Assessment**	
Prof. Petra Schneider	Homework Assignment + written exam	

Curriculum Outline

The students get an overview of technologies for clothing and technical textiles, coatings, functionalization, finishing and printing technology.

Key content

- Students learn about different application systems for functionalising textile surfaces and gaining an overview of the chemical materials used, their reactions and the physical influences of the application processes.
- Students develop a feel for which processes are ecologically and functionally appropriate for which requirements on textile products.
- Students gain relevant knowledge at interfaces with other areas of the textile and clothing industry

Study Abroad Certificate in Textile Engineering - Fall
Module: Quality Management 1

Key facts

Workload		**ECTS**
60 h		2
Parts of the module	**Contact time**	**Self-study time**
	30 h	30 h
Module leader	**Assessment**	
Prof. Sven Gerhards	Written exam	

Curriculum Outline

Students have a very broad range of methods at their disposal for dealing with complex problems in a scientific subject (corresponding to level 1 HQR), other areas of learning or a professional field of activity. They will develop new solutions and evaluate them taking into account different standards, even when requirements change frequently. The areas include the application of QM tools and the application of individual steps to ensure QM up to delivery.

Key content

- The students get an overview of the different aspects of quality and quality management.
- The students get an overview of processes in product- and quality management of clothing companies and their influence on quality
- The students learn the link between quality and sewing faults.
- The students learn different methods to find the reasons for bad quality

Study Abroad Certificate in Textile Engineering - Fall
Module: Quality Management 2

Key facts

Workload		**ECTS**
60 h		2
Parts of the module	**Contact time**	**Self-study time**
	30 h	30 h
Module leader	**Assessment**	
Prof. Sven Gerhards	Written exam	

Curriculum Outline

Students have a very broad range of methods at their disposal for dealing with complex problems in a scientific subject (corresponding to level 1 HQR), other areas of learning or a professional field of activity. In this module, they will apply ISO 9001 ff to issues relevant to the textile and clothing industry and develop examples in group work. Furthermore, they will be able to evaluate textile production processes using the functionalisation methods learned and specify the necessary investigation methods, and be able to independently assess and evaluate new innovative functionalisation methods for textile surfaces from research and other industrial sectors.

Key content

- The students learn the necessity of quality- management-systems in companies
- The students get an overview of the ISO 9000 ff family and learn to work with it
- The students can develop the philosophy of Total Quality Management out of ISO 9004

Study Abroad Certificate in Textile Engineering - Fall
Module: Circular Economy 1

Key facts

Workload		**ECTS**
75 h		2,5
Parts of the module	**Contact time**	**Self-study time**
	30 h	45 h
Module leader	**Assessment**	
Prof. Dr. Jörn Lübben	Written exam	

Curriculum Outline

Students acquire broad and integrated knowledge, including the scientific fundamentals of the circular economy in relation to political, legislative, ecological, business and social aspects. In the process, they gain a sound and practical insight into operational processes. Students have a very broad spectrum of cognitive and practical skills and methods for circular product development, taking into account economic and legislative conditions. Students are able to further develop business and development processes in the circular economy within companies, present arguments for subject-related problems and solutions in teams of experts, and lead groups or organisations responsibly.

Key content

- Present circular economy principles and history
- Challenges of the global industry
- Actors, organizations, labels and tools
- Sustainable Development Goals
- Regenerative and positive impacts, materials and cycles
- Design for circularity
- life span
- Recycling: technology and research

Study Abroad Certificate in Textile Engineering - Fall
Module: Industry-related project

Key facts

Workload		**ECTS**
360 h		12
Parts of the module	**Contact time**	**Self-study time**
	120 h	240 h
Module leader	**Assessment**	
Prof. M. Bräuning	Homework assignment + Presentation,	

Curriculum Outline

Students work independently and intensively on a problem set by a project partner (from a company or institute in the textile and clothing industry) and develop solutions that are prepared, documented and presented in a scientifically sound manner. You will familiarise yourself with the tools of project management and apply them to your project. You will develop a deep understanding of the challenges and potential of team and project work.

You will also be able to transfer experience and solutions from this completed project to other projects and tasks.

Key content

- Independent processing of a project task on topics from the areas of product development, research, quality management or a company-specific focus.
- Kick-off event with presentation of the framework conditions, important dates and expectations of the students, as well as formation of groups.
- Lecture on topics relevant to the project and project management.
- Independent planning of the project and development of a project plan with defined milestones.
- Independent work on the project (research, practical development of the project idea, creation of a product and documentation).
- The project work is documented in a scientific paper (printed and digital) and the results are presented in a final public presentation.