



## Technical textile product development Produktutveckling av tekniska textilier

7.5 credits

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**Ladok Code:** AT1TP2

**Version:** 1.0

**Established by:** Committee for Education in Technology 2024-10-04

**Valid from:** Spring 2025

**Education Cycle:** First cycle

**Main Field of Study (Progressive Specialisation):** Textile Technology (G1F)

**Disciplinary Domain:** Technology

**Prerequisites:** 15 credits in textile technology

**Subject Area:** Textile Technology

**Grading Scale:** Seven-degree grading scale (A-F)

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### Content

This course offers an overview of the technical applications of textile materials, coupled with an introduction to product development in technical textiles. The course is an expedition into the diverse functionalities and uses of textiles in various sectors to gain foundational knowledge in creating and innovating textile products. Students will explore the specific requirements of technical textile products and learn how these materials can replace conventional alternatives. Through different examples, the stages of product development in technical textiles will be examined. The course also addresses ethical and sustainability considerations, ensuring students understand their importance in modern product development.

### Learning Outcomes

Upon completion of the course, the student should be able to:

#### Knowledge and understanding

- 1.1 describe why certain textile materials and processes are suitable for any technical textile application,
- 1.2 describe the product development process in the domain of technical textiles,
- 1.3 describe the requirements for development of technical textile products,
- 1.4 describe principles of sustainability and ethical considerations in the development of technical textile products,

#### Skills and Abilities

- 2.1 assess innovative and creative textile-based solutions for various technical applications,
- 2.2 communicate self-derived product requirements, concepts and development process in technical textiles,
- 2.3 select suitable textile materials and processes for different applications,
- 2.4 work in a group,

#### Critical judgement and evaluation

- 3.1 critically assess the advantages and limitations of using textile materials in technical applications, and
- 3.2 critically analyse the requirements and performance criteria for a technical textile product.

### Forms of Teaching

Lectures, case studies, project work

The language of instruction is English.

### Forms of Examination

The course will be examined through the following examination elements:

*Exam*

Learning outcomes: 1.1-1.4, 2.1-2.2, 3.1-3.2  
Credits: 3  
Grading scale: Seven-degree grading scale (A-F)

*Group task, presentation and opposition*

Learning outcomes:  
Credits: 3  
Grading scale: Fail (U) or Pass (G)

*Submission task*

Learning outcomes: 1.1-1.4, 2.1-2.3, 3.1-3.2  
Credits: 1.5  
Grading scale: Fail (U) or Pass (G)

The result of the exam determines the course's final grade, provided that all the other parts of the course are passed.

If the student has received a decision/recommendation regarding special pedagogical support from the University of Borås due to disability or special needs, the examiner has the right to make accommodations when it comes to examination. The examiner must, based on the objectives of the course syllabus, determine whether the examination can be adapted in accordance with the decision/recommendation.

Student rights and obligations at examination are in accordance with guidelines and rules for the University of Borås.

### **Literature and Other Teaching Materials**

Horrocks, A.R., Anand, S.C., 2000. Handbook of technical textiles. Elsevier.

Ulrich, K.T., Eppinger, S.D., 2016. Product design and development. McGraw-hill.

Additional reading material, if required, will be available through the university's learning platform.

### **Student Influence and Evaluation**

The course is evaluated in accordance with current guidelines for course evaluations at the University of Borås in which students' views are to be gathered. The course evaluation report is published and returned to participating and prospective students in accordance with the above-mentioned guidelines, and will be taken into consideration in the future development of courses and education programmes. Course coordinators are responsible for ensuring that the evaluations are conducted as described above.

### **Miscellaneous**

The course is primarily intended for students in the Textile production and innovation program. This syllabus is a translation from the Swedish original.