



## Hands-on Laboratory Course on Advanced Textile Technology Praktisk laboratoriekurs i avancerad textilteknik

3 credits

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**Ladok Code:** AT2PK1

**Version:** 1.0

**Established by:** Committee for Education in Technology 2024-05-17

**Valid from:** Autumn 2024

**Education Cycle:** Second cycle

**Main Field of Study (Progressive Specialisation):** Textile Technology (A1N)

**Disciplinary Domain:** Technology

**Prerequisites:** Bachelor's degree in textile technology

**Subject Area:** Textile Technology

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

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### Content

The course aims to deliver education that connects theoretical knowledge with hands-on training in the field of advanced textile technology. The course is designed to provide students with practical lab-oriented learning opportunities, enabling them to explore and work with cutting-edge textile equipment in the area of dyeing, printing, and finishing to develop conventional as well as functional textiles. This course will provide students with a comprehensive understanding of complex textile technologies by bridging theoretical knowledge with hands-on laboratory work, which is essential for tackling practical challenges encountered in industrial settings.

The course will involve introductory sessions focusing on the theoretical aspects of textile equipment in the area of dyeing, printing, and finishing. After the introductory sessions, students will participate in hands-on laboratory sessions, where they collect, and analyze data generated from laboratory experiments using appropriate equipments. They will interpret experimental results to draw logical conclusions and make informed decisions. Particular emphasis will be placed on resource-efficient processes and addressing sustainability concerns within textile processes

### Learning Outcomes

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

#### Knowledge and Understanding

- 1.1. explain the fundamental principles of textile technology equipment in the area of dyeing, printing, and finishing by bridging theoretical knowledge with hands-on laboratory work.
- 1.2. describe textile technology equipments based on industrial processes in a laboratory set-up.

#### Skills and Abilities

- 2.1. operate textile laboratory machineries and conduct experiments in a laboratory set-up.
- 2.2. collect and interpret data from textile laboratory equipment and draw logical conclusions.
- 2.3. formulate and communicate technical information in verbal and written form.

#### Judgement and Approach

- 3.1. reflect upon practical challenges of textile processes encountered in industrial production related to sustainability aspects.

### Forms of Teaching

- Lectures
- Lab works
- Seminar

The language of instruction is English.

## **Forms of Examination**

The course will be examined through the following examination elements:

### *Laboratory work including lab report*

Learning outcomes: 1.1, 1.2, 2.1-2.3

Credits: 2

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

### *Seminars*

Learning outcomes: 1.1, 1.2, 2.3, 3.1

Credits: 1

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

Laboratories are given during regular course sessions.

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**

All the teaching material will be available via 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**

This syllabus is a translation from the Swedish original.

This is a stand-alone course and is included in WE-TEAM