

Textile Overview – Fibre and yarn technology

Textil översiktskurs – Fiber- och garnteknologi

3 credits

3 högskolepoäng

Ladok Code: AT1GT1

Version: 2.0

Established by: Committee for Education in Technology 2022-01-28

Valid from: Autumn 2022

Education Cycle: First cycle

Main Field of Study (Progressive Specialisation): Textile Technology (G1N)

Disciplinary Domain: Technology

Prerequisites: General entry requirements for university studies.

Subject Area: Textile Technology

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

Content

The course aims to give the student basic knowledge about different fiber and yarn processes and how different fiber and yarn types affect a textile product's properties and areas of use. The introductory lectures deal with the production of various natural and artificial fibers as well as the structure, properties and areas of use of the fibers. Then the course goes into the most common yarn spinning and texturing methods as well as properties of different yarn types and fiber mixtures. The course also addresses environmental sustainability aspects in the manufacture of fiber and yarn based on different areas of use.

Learning Outcomes

After completing the course students will be able, with respect to:

Knowledge and understanding

- 1.1 describe basic concepts and processes for fiber production,
- 1.2 describe the textile fibers' classifications, names and properties,
- 1.3 describe the fiber morphology of the most common fiber types,
- 1.4 describe the basic processes for yarn spinning and texturizing,
- 1.5 describe yarn classifications, names and properties,
- 1.6 explain how the choice of textile materials, chemicals and processes affects quality, aesthetics and functional properties.

Skills and Abilities

- 2.1 show how different levels in the fiber morphology affect the properties of the fibers,
- 2.2 based on the given use make assessments of the appropriate material choice with regard to fiber and yarn structure,
- 2.3 interpret and use data from tables and diagrams that describe material properties.

Evaluation ability and approach

- 3.1 evaluate and assess environmental aspects in the manufacture of fibers and yarns based on different areas of use.

Forms of Teaching

The teaching is given completely at distance through digital lectures.

The language of instruction is English.

Forms of Examination

Course is examined through the following examination parts:

- Written test
Learning objectives: 1.1-1.4, 2.1-2.3, 3.1 (all)
Credits: 3,0
Grading Scale: Seven-degree grading scale (A-F)

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

The course literature is in English.

Mather, Robert R. & Wardman, Roger H. The chemistry of textile fibres. (latest edition). Cambridge: RSC Publishing, (may be available as an E-book via the university library)

Additional course literature will be informed about at the start of this course and will be available through HB'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 programs. Course coordinators are responsible for ensuring that the evaluations are conducted as described above.

Miscellaneous

The course is an independent overview course and is given at a distance, with the aim of giving the student a basic orientation in the subject. The course is part of a group of courses with the aim of contributing to the fulfillment of the prerequisites for applying to the university's master's program with a major in textile technology and is therefore primarily aimed at students studying for or holding a master's program with a major in technology.