



Nonwoven

Nonwoven

7.5 credits

7.5 högskolepoäng

Ladok Code: AT1NW1

Version: 1.0

Established by: Utskottet för utbildningar inom teknik 2020-05-15

Valid from: Autumn 2020

Education Cycle: First cycle

Main Field of Study (Progressive Specialisation): Textile Engineering (G1F)

Disciplinary Domain: Technology

Prerequisites: Admitted to the Textile engineering programme

Subject Area: Textile Technology

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

Content

The course aims to provide the student with basic knowledge about different processes for nonwoven production as well as how fiber properties and production methods affect the properties and use of a nonwoven fabric. Students will learn to identify the best process for nonwoven production as well as technical requirements and characteristics. During the course, students will produce and evaluate nonwoven material samples.

Learning Outcomes

Upon completion of the course, the student should be able to, with regard to,

Knowledge and understanding

- 1.1 Describe the characterisation and properties of nonwoven fibres.
- 1.2 Describe the different process steps for producing nonwoven.
- 1.3 Describe and explain the relationship between fibres parameters and production methods.
- 1.4 Describe and explain the relationship between production methods and the properties of nonwoven fabrics.
- 1.5 Describe the development and manufacturing process from a sustainability perspective for nonwoven and recycled products.

Skills and Abilities

- 2.1 Identify suitable production methods for nonwoven based on the properties of the material.
- 2.2 Identify nonwoven structures.
- 2.3 Search information in scientific articles and explain them.

Critical judgement and evaluation

- 3.1 Critically analyse and argue for nonwoven in terms of environmental impact and technology;
- 3.2 Select and argue for the chosen production method in relation to fibre properties and nonwoven fabrics;
- 3.3 Analyse how production methods can affect the nonwoven fabric properties.
- 3.4 Evaluate nonwoven structure in terms of technical performance, environmental impact and raw material requirements.

Forms of Teaching

Lectures, seminars, study visits, laboratory work
The languages of instruction are English

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Forms of Examination

The course is examined through the following exams:

- Written examination

Learning Objectives 1.1-1.5, 2.1-2.2, 3.1-3.4

Higher education credits 5

Grading scale: ECTS

- Assignment

Learning Objectives 1.1-1.2, 1.5, 2.3

Higher education credits 2

Grading scale Fail/Pass

Laboratory

Learning Objectives 1.3-1.4, 2.1-2.2

Higher education credits 0.5

Grading scale: Fail/Pass

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

Re-examination of laboratory work can only take place during a ongoing course

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 Methods

Albrecht, Wilhelm; Fuchs, Hilmar; Kittelmann, Walter; (2003). Nonwoven fabric. Weinheim : Wiley-VCH

Russell, S. (2006). Handbook of Nonwovens [Elektronisk resurs] Burlington : Elsevier Science

Horrocks, A. Richard; Anand, Subhash C. (2015) Handbook of Technical Textiles: Technical Textile Processes. [Elektronisk resurs]. Cambridge: Elsevier Science & Technology.

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 given to textile engineering students.