



Masters Degree in Textile Technology

Magisterutbildning i textilt teknologi

60 credits

Ladok Code: DMATE

Version: 5.0

Level: Second cycle

Approved by: Research Board 2010-03-17

Valid from: Autumn 2010

Valid for:

General Objectives

Second level education shall essentially build on the knowledge that students acquire in first level education or corresponding knowledge. Second level education shall involve a deepening of knowledge, skills and abilities relative to first level education and, in addition to what applies to first level education, shall

- further develop the students' ability to independently integrate and use knowledge,
- develop the students' ability to deal with complex phenomena, issues and situations, and
- develop the students' potential for professional activities that demand considerable independence or for research and development work.

(The Higher Education Act, Chapter 1, Section 9)

Objectives

After completed education the student will have complementary and deepened knowledge within the field of Textile Technology with specialisation in technical textile fibers and fabrics. The student shall also have knowledge about the use of principles for sustainable development within the field of fiber- and textile technology.

The student shall have good competence for qualified tasks within the field of textile technology where there is a strong and expansive development. The education is thereby qualifying the master student for positions within e.g. qualified textile product- and process development.

Content

The programme consists of the following courses

- Sustainable Materials, 7,5 ECTS
- Applied Surface Chemistry, 9 ECTS
- Polymer Technology Applied for Fibers, 7,5 ECTS
- Textile Chemistry, Advanced Course, 7,5 ECTS
- Textile Fibers and Textile Materials, Advanced Course, 6 ECTS
- Eligible Course, 7,5 ECTS
- Final Thesis, 15 ECTS

Sustainable Materials, 7,5 ECTS

Upon completion of the course, the student is expected to be able to analyze a material, a product or a process and be able to suggest changes to achieve environmental sustainability. The course also increases the knowledge about economical and technical connections when choosing sustainable raw material, methods for reuse and recycling of material and also about material flow models, dematerialisation and detoxification.

Applied Surface Chemistry, 9 ECTS

Upon completion of the course the students must be able to describe concepts that are relevant to surface and colloid

chemistry, describe structures and properties of interfaces and of dispersed systems, describe the importance of surface and colloid chemistry in industrial processes.

Content: production and purification of dispersed systems, surface charge and double layer, DLVO theory, steric stabilisation, electrophoretic phenomena, surface tension, applications of surfactants, water soluble surfactants.

Polymer Technology Applied for Fibers, 7,5 ECTS

The course focuses on new polymer materials within the field of textiles. Content: Measuring methods for physical and mechanical properties at polymer materials, polymerisation processes and how they affect the qualities of the polymer material, reology and how meltspinning affects the fibres, polymer mixes, multiblock co-polymer, liquid crystallization polymer, biological degradable polymer and biologically produced polymer.

Textile Chemistry, Advanced Course, 7,5 ECTS

Upon completion of the course, the student is expected to have deepened knowledge about textile fibres chemical foundation and qualities, the chemistry of textil processes and textile aids and textile dyes chemical structure and qualities. The course also gives deepened knowledge about the environmental impact of textile processes and products.

Textile Fibres and Textile Material, Advanced Course, 7,5 ECTS

The course gives the student deepened knowledge about textile fibres and textile material with a focus on technical applications.

Contents: Advanced fiber spinning methods, high performance fibres and materials and nano textiles.

Eligible course, 7,5 ECTS

Eligible course to give the student complementary and/or deepened knowledge with relevance for chosen thesis. The course shall be approved by the programme leader who evaluates the course relevance and level.

Final Thesis, 15 ECTS

The final thesis shall develop the student's ability to use and integrate the knowledge gathered during the education and deepen the knowledge within the field of the thesis. The student shall develop his/her ability to independently define, plan and carry out a research assignment.

Admission Requirements

Bachelor degree in textile technology, 180 credits. Verified knowledge of English corresponding to the course *English B* in the Swedish Upper Secondary School.

For further information about English language proficiency, please view: <http://www.hb.se/wps/portal/engtest>

Degree

Master of Science (One Year) with a major in Mechanical Engineering with specialisation in Textile Technology

Degree certificates are issued upon application on a special form. More information is available at www.hb.se.

Student Influence and Evaluation

Heads of the education are responsible for obtaining the students' opinions of the education. The results of the evaluation lay the groundwork for the design of the education. Once a year the whole education is evaluated and the students' results and opinions, along with the composition/realization of the education are thoroughly examined in order to constantly improve the education and retain its modernity.

For single subject courses the head of each respective course is responsible for collecting the students' opinions of the course. The results of these evaluations lay the groundwork for the design of the course. Once per term, the courses are evaluated by the head of the education along with the director of studies and student representatives in order to continually improve the courses.

Through the educational councils, where student representatives along with the representatives of the teachers and the representative of the business world discuss, among other things, questions concerning current and future educational plans, the students are given the possibility of exercising influence over their education.

For other matters, a reference is made to the University College's policy for course evaluation and documents issued by the director of studies, the head of the course and the institutional board.

Miscellaneous

This programme is conducted in English.

It is specialised in the Swedish School of Textiles' research areas in Textile Technology: technical textiles, fiber technology, and environmental sciences with application to the textile field.

The language of instruction is English.