



## Programme Report

<b>Programmets namn:</b> Master Programme (Two Year) in Textile Engineering	<b>Ladok Code:</b> TAMSC
<b>Extension:</b> 120 credits	<b>Admission round</b> 2018
<b>Programme Coordinator:</b> Anders Persson	

### *Contents, input and attachments*

This programme report, based on “Riktlinjer för löpande utvärderingar av kurser och utbildningsprogram vid Högskolan i Borås”, Dnr 589-17, compiled by the programme coordinator is based on available course reports, Programme council meeting notes, Programme assessment meeting notes and study performance statistics. They are all attached to this report. Observe that the Programme council is a discussion forum with a forward looking perspective where industrial representatives, programme management and students meet whereas the Programme assessment meeting consisted of second year MSc students and the programme coordinator with a retrospective perspective.

### *Analysis of:*

#### **Student Authority and Involvement**

Course evaluation protocols do not cover these aspects. Hence, only the recent programme assessment meeting covered them.

The students wished for more formative course follow ups that would take place during the course to give opportunity for real-time alterations of the courses. Discussions based on anonymous short written surveys in the middle of the courses was the preferred set-up.

In general, only the project based courses, Textile Product Development and the year two courses empowered the students in terms of involvement and authority. Both in Polymer Technology and Fibre Technology the students are involved in teaching where they are given well contained subjects to lecture on.

## Content, Forms of Teaching, Examinations and Progression

### MSc, Textile Engineering, Sequence Schedule

	1st semester												2nd semester																											
Week	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1st Year	Polymer Technology						Textile Chemistry I						Textile Chemistry II																											
	Fibre Technology						Composite Technology						Textile Product Development					Textile Electronics																						
2nd Year	Smart Textiles						Thesis Project																																	
	Advanced Finishing & Printing						Scientific Methodology for Engineering and Natural Science																																	

The schedule above illustrates the programme content and the programme course's order. In general their area represents their extension except the Polymer and Fibre Technology courses that are 9 and 6 credits respectively. All courses are compulsory.

The programme with a focus on chemistry, material science and functional textiles to a large extent reflect current research at the department. There are a number of pedagogic streaks where students improve their hands-on skills in the labs through frequent practical assignments that together with projects are communicated both orally and in writing to prepare the students for their thesis projects. The courses and research at the department has sustainable development as a starting point. Hence, sustainability is inherently discussed in the courses.

From the programme assessment meeting it became clear that the students perceived that there was an overflow of examination steps, in particular of lab reports where the outcome was trivial. In those courses student attention during lectures was less than expected. Some practicals were way too fundamental – high-school level. When the practical's and their reports involved reflection upon the outcomes they offered great learning opportunities even if they caused hectic periods. Composite technology practicals were appreciated and the Fibre Technology – Polymer Technology melt spinning practical was highly appreciated with the reports.

The methodology – thesis course coordination was perceived very valuable by the students. In particular the review paper and the data analysis parts. They both facilitated the thesis project and readiness for R&D positions.

Students wished for more general knowledge about sustainability in the courses.

The streaks of scientific communication, hands on lab experience as well as project experience prepared the students for their thesis projects.

### **Links to Research**

As mentioned above the programme is very much based on research at the department. This was a clear ambition when it was designed and it enables interaction and learning opportunities both for students, PhD students and staff.

The advanced finishing and printing course together with the parallel smart textiles course created awareness of current research at the department, what's cooking in the labs and what the research groups of Textile Materials Technology, Advanced Textile Structures, Smart Textiles and Polymeric E-textiles are up to. Also research groups at resource recovery occasionally host thesis projects from Textile Engineering MSc students.

The thesis projects do touch the research frontier, which is manifested by a number of peer review paper manuscripts in pipe-line.

The programme council expressed deep concerns about paused admissions to the master programme. The research environment must not be put at risk.

### **Resources**

A total of eight course managers are enrolled on the programme supported by lecturing staff including professors, technicians (minor extent) and PhD students. In order to act as examiner one should hold a PhD and in order to assess and grade the thesis projects an associate professorship is required.

As highlighted in the Programme council notes the programme is costly both in terms of man hours and lab facilities costs. It is an exclusive programme.

From the Programme assessment meeting the students addressed the following aspects of resource utilization:

They suggested that each lab session/assignment is put on the table for review in terms of need, progression and utility.

Students asked for more training on how to convey scientific messages graphically and how to utilize Matlab and Minitab. The latter softwares could potentially be embedded in the chemistry practicals.

Professor enrolment was limited during the programme.

Students appreciated the textile technology lab environments, safety procedures and possibilities to work independently in them, whereas the availability of the weaving and knitting workshops was limited in time.

### **Utility and Readiness for Professions**

Out of 34 who have graduated so far since the 2011 admission, when the programme became Bologna harmonized, nine have stayed in academia, 23 work in industry, mainly R&D positions and two are unknown. The data is based on the programme coordinators own alumni records. Five of the 34 graduated with a one year MSc.

The students felt much better prepared for a professional life compared to the situation after the BSc. They particularly appreciated the critical perspective augmentation and thought it would be a valuable asset for industry.

Students wished for more industrial connections/enrolment during the courses and thesis.

The students that had graduated from our BSc programme considered the MSc programme very well suited for their needs.

### *Miscellaneous*

The 2020 fall admission was cancelled. Academy management are contemplating to cancel also the 2021 admission.

At the Programme assessment meeting the students stressed the urgency to limit the pause decision to the 2020 fall admission.

### *Prospective Alteration Initiatives*

The Academy of Textiles, Engineering and Business have started a process to develop what programmes and stand-alone courses, which involves also the Textile Engineering MSc Programme.