Engineering and Related Sciences

Textile Machinery and High Performance Material Technology
(Course of Study: Textile and Ready-Made Clothing Technology)

Institution	**Technische Universität Dresden** **(TU Dresden)**
Location	The Technische Universität Dresden dates back to the Technische Bildungsanstalt Dresden, founded in 1828, and thus ranks among the oldest technical-academic educational establishments in Germany. The TU Dresden has about 37,000 students and almost 4,200 permanent employees (excluding the Faculty of Medicine), including 419 professors, making it one of the largest universities in Germany today. Having been committed to sciences and engineering before the reunification of Germany, TU Dresden is now a multidisciplinary university, offering humanities and social sciences as well as medicine. There are very few universities in Germany that can match this broad scientific spectrum**.** The TU Dresden is one of only eleven German universities distinguished as an "Excellence University". The local citizens (more than 500,000 inhabitants) and visitors from all over the world have always considered Dresden a unique city. This is especially reflected in Dresden's townscape, which boasts world-renowned architecture and extensive villa-style residential districts. An endless variety of events in the arts and culture as well as a charming location in the Elbe valley are factors contributing to the excellent quality of life in Dresden. The city itself owes its standing not only to its unrivalled cultural institutions, but also to its modern industrial facilities. Moreover, the numerous fundamental and applied research institutes that work together closely with the university justify Dresden's reputation as the City of Sciences.
Course focus	The Master's course presents the possibility of an interdisciplinary education; focusing mainly on the world's leading textile machinery manufacturers in Germany and the processing of textile high performance materials for technical applications. The objective is a graduate who understands the field of expertise in its complexity, is acquainted with highly innovative fields of research, and can apply his/her acquired specialised knowledge in a future professional occupation in research, industry, teaching or international cooperation. The graduate is qualified for technical executive functions in the textile and clothing industry, especially in companies developing technical textiles and textile products (machinery and automobile construction, membrane development, architecture, medical products, etc.), as well as in research institutions and educational services. However, graduates also work in classical textile and clothing industries. The course forms an important basis for the fields of technical applications. The programme offers students a professional university degree in Mechanical Engineering, Textile Engineering, Textile Technology, Ready-Made Clothing Engineering, Ready-Made Clothing Technology, Textile Chemistry or Textile Finishing and the opportunity for an interdisciplinary university education resulting in a Master's degree, which with an excellent result qualifies them to enter a PhD programme. The course of studies is research-oriented with extremely high practical relevance. The content of teaching emphasises ongoing research projects, especially in the Master's thesis.

The modules Mathematics, Computer Applications in Mechanical Engineering, Technical Mechanics, Machine Elements/Design, and Mechanisms and Ergonomics/Management impart the mathematical, scientific, business as well as engineering-relevant basics for textile and clothing technology.

The modules Textile Materials and Testing Technology, Processes and Machines of Textile Technology, Processes and Machines of Ready-Made Clothing Technology, and Specialisation Modules I and II broaden professional knowledge, especially since the latest research results are communicated in different forms of lecturing. Experts from within the university and with practical experience are invited to give lectures on the latest information and technical developments in textile technology. In both specialisation modules the student is offered up-to-date, research-based lectures according to his/her personal interest and considering his/her potential professional orientation (textile finishing, technical textiles, non-woven technology, CAD, etc.).

For the Master's thesis, the student works independently with scientific methods on demanding, industry relevant tasks from current research of the subjects and/or their applications. The results are presented and discussed in a colloquium. With the successful completion of the programme, the graduate acquires an academic degree and is thereby qualified for PhD study worldwide.

The course is divided into modules and requires four semesters of study. It consists of 12 compulsory modules. The modules are offered during the first three semesters and the first six weeks of the fourth semester. The remainder of the fourth semester is scheduled for the Master's thesis (four months) as well as the colloquium.

The curriculum and the objectives of the course, forms of lecturing and studying, requirements, suitability, frequency, required work as well as duration of each module can be found in the module description.
The appropriate distribution of the modules over the individual semesters can be taken from the study plan. Following this plan guarantees course completion within the time limit of two years.

Credits document the average extent of students' work as well as the individual progress of their studies. One credit equals 30 hours of work. Usually there are 60 credits assigned to each year of studies, i.e., 30 per semester. Including the Master's thesis and the colloquium, 120 credits can be acquired in total. The modules add up to 100 credits. The Master's thesis is worth 19 credits, and 1 credit is awarded for the colloquium.

In principle, credits for the modules are only awarded if the module examination is passed. The module descriptions explain in detail how many credits can be earned for one module and under which conditions this is possible.

The programme is characterised by very good relations between teaching staff and students. The excellent infrastructure with modern machinery and installations as well as testing facility of the entire process chain is almost unique in Germany and worldwide in this field. Financial sponsoring for attending national and international conferences and exhibitions is offered to the students. This is supported by the affiliation of the institute with an efficient international network in the sector. Due to excellent study conditions, an extremely high success rate for students with a DAAD scholarship has been achieved thus far.

Target group

Experts in leading technical functions including the management and marketing of the textile, clothing and ready-made clothing industries;

	experts in institutions of education and research as well as in agencies and government departments of developing countries; experts cooperating in national and international organisations with at least two years of professional experience.
Course language	Considering the important and innovative position of the German textile industry and textile machinery as well as the intensive research activities in the field of highly value added textiles and technical textiles in Germany, this course is offered in **German** only. This makes it possible for graduates to study the relevant literature published mostly in German and supports intercultural cooperation in science, business and education. The module “Scientific-Methodical and Experts Seminar” about innovative fields of research is held partially in English by international guest lecturers and industry representatives in addition to the studies in German.
Entry requirements	• First vocationally qualifying international university degree (B.Sc.) in the field of Mechanical Engineering, Textile Engineering, Textile Technology, Ready-Made Clothing Engineering, Ready-Made Clothing Technology, Textile Chemistry or Textile Finishing, including related industrial experience in the field of the intended Master's degree in the last two years before applying and also during the application period/process for the DAAD scholarship. • Academic degrees of the applicant should normally not be more than six years. • German language skill to start the master’s course: minimum DSH 2 or TestDaF (level 4) for October 2017.
Degree awarded	Master of Science (M.Sc.)
Course begins	October 2017
Course duration	24 months
Duration of German language course prior to beginning of programme	6 months (for students awarded a DAAD scholarship)
Application deadline	10 October 2016 at the University.
Remarks	A six-month German course begins early April 2016. It is vital, however, that you start learning German as soon as you decide to apply for admission and/or scholarship. At the time of application, German skills at level A2 are required. In addition, German language courses at level B1 are highly recommended.
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