

Department of Textile Engineering

Chairman

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Assistant Professors

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Course Offered: BSc Textile Engineering (Approved from PEC)

Introduction

The textile sector in Pakistan has an overwhelming impact on the economy, contributing 60% to the country's exports and 46% of the total industrial production. This sector also provides employment opportunities to 45% of country's workforce, which is one of the highest. In today's highly competitive global environment, the textile sector needs to upgrade its processes, machinery, supply chain, improve productivity, sustainability and maximize the value-addition to be able to survive. It cannot be thought of without competent professionals in the relative field. Faisalabad campus is privileged over other campuses of UET for holding a degree awarding department in Textile Engineering field.

The course of study is the composite one and cover all four section of textile which include;

- Spinning (Yarn Manufacturing)
- Weaving (Fabric Manufacturing)
- Wet Processing (Pre-treatment, Dyeing & Finishing)
- Garment Manufacturing

The department started functioning in 2013 with highly qualified faculty and well equipped laboratories. There are more than 75 lab scale equipment installed in the department of textile engineering in the following labs. Experienced lab staff is also supporting the textile department labs.

Laboratories

- Mini Spinning Lab-complete range (Pakistan's first and only such lab)
- Pilot Spinning Lab
- Weaving Lab
- Knitting Lab
- Pre-treatment, Dyeing & Finishing Lab
- Wet Processing Research Lab
- Textile Chemical Synthesis and Polymerization Lab
- Testing Lab (Physical & Chemical)
- Scanning Electron Microscope Lab
- Garment Manufacturing Lab
- Pattern Cutting Lab

The mission of the department of textile engineering is to prepare engineers capable of solving complex textile engineering problems, using strong fundamental knowledge and modern ideas, thus serving the national industry while maintaining the international standards. BS Textile Engineering course is based on Outcome Based Education (OBE) system. The Textile Engineering course covers all the 12 Program Learning Outcomes (PLOs) of the Washington accord.

Scheme of Studies for B.Sc. Textile Engineering

Semester 1

No.	Code	Course title	Credit Hrs.		Contact Hrs.	
			Th.	Pr.	Th.	Pr.
1	TEX-101	Textile Engineering Fundamentals	2	1	2	3
2	CY-105	Applied Chemistry- I	2	1	2	3
3	ME-102	Mechanical Engineering Fundamentals	3	0	3	0
4	CS-103	Computing Fundamentals	2	1	2	3
5	HU-104	Communication Skills	2	0	2	0
6	MA-105	Applied Mathematics-I	3	0	3	0
Total			14	3	14	9
Grand Total			17		23	

Semester 2

No.	Code	Course title	Credit Hrs.		Contact Hrs.	
			Th.	Pr.	Th.	Pr.
1	IS-101	Islamic and Pakistan Studies-I	3	0	3	0
2	PHY-103	Applied Physics	2	1	2	3
3	EE-104	Basic Electrical and Electronics Engineering	2	1	2	3
4	MA-106	Applied Mathematics-II	3	0	3	0
5	CY-106	Applied Chemistry- II	2	1	2	3
6	ME-100L	Workshop Practice	0	1	0	3
Total			12	4	12	12
Grand Total			16		24	

Semester 3

No.	Code	Course title	Credit Hrs.		Contact Hrs.	
			Th.	Pr.	Th.	Pr.
1	TEX-201	Textile Raw Materials and Science	2	1	2	3
2	TEX-202	Yarn Preparatory Processes	2	1	2	3
3	TEX-203	Weaving Preparatory Processes	2	1	2	3
4	TEX-204	Pre-treatment of Textiles	2	1	2	3
5	IS-201	Islamic and Pakistan Studies-II	3	0	3	0
6	HU-205	Technical Writing	3	0	3	0
Total			14	4	14	12
Grand Total			18		26	

Semester 4

No.	Code	Course title	Credit Hrs.		Contact Hrs.	
			Th.	Pr.	Th.	Pr.
1	TEX-205	Yarn Production Engineering	3	1	3	3
2	TEX-206	Dyestuff and Color Science	3	1	3	3
3	TEX-207	Clothing Anthropometry and Pattern Construction	2	1	2	3
4	MA-205	Applied Statistics and Probability	3	0	3	0
5	CS-208	Computer Application in Textile	3	1	3	3
Total			14	4	14	12
Grand Total			18		26	

Semester 5

No.	Code	Course title	Credit Hrs.		Contact Hrs.	
			Th.	Pr.	Th.	Pr.
1	TEX-301	Textile Testing and Quality Control	2	1	2	3
2	TEX-302	Weaving Mechanisms and Advancements	3	1	3	3

3	TEX-303	Textile Dyeing and Printing	3	1	3	3
4	TEX-304	Sewn Product Engineering	3	1	3	3
5	TEX-305	Technical Textiles and Non-wovens	3	0	3	0
Total			14	4	14	12
Grand Total			18		26	

Semester 6

No.	Code	Course title	Credit Hrs.		Contact Hrs.	
			Th.	Pr.	Th.	Pr.
1	TEX-306	Advance Spinning techniques	3	1	3	3
2	TEX-307	Knitting Operations	3	1	3	3
3	TEX-308	Textile Finishing	3	1	3	3
4	TEX-309	Clothing Quality Control	3	1	3	3
5	MGT-318	Entrepreneurship and Management	2	0	2	0
Total			14	4	14	12
Grand Total			18		26	

Semester 7

No.	Code	Course title	Credit Hrs.		Contact Hrs.	
			Th.	Pr.	Th.	Pr.
1	TEX-401	Specialty Yarns	2	1	2	3
2	TEX-402	Fabric Structure and Design	3	1	3	3
3	TEX-403	Senior Design Project I	0	3	0	9
4	HU-404	Professional Ethics and Procurement	3	0	3	0
Total			8	5	8	15
Grand Total			13		23	

Semester 8

No.	Course code	Course title	Credit Hrs.		Weekly Contact Hrs.	
			Th.	Pr.	Th.	Pr.
1	TEX-404	Senior Design Project II	0	3	0	9
2	TEX-405	Industrial Engineering in the Clothing Industry	3	1	3	3
3	MGT-414	Engineering Management	3	0	3	0
4	MGT-415	Environment, Health and Safety	3	0	3	0
Total			9	4	9	12
Grand Total			13		21	

Department has following textile testing facilities; Fabric Tensile Strength, Fabric Tear Strength, Colorfastness to Washing, Air Permeability, Viscosity Testing, Scanning Electron microscope Analysis, Flame Retardency (LOI), Pilling & Abrasion Resistance (Martindale), Flame Retardency (Vertical/Horizontal), Antimicrobial Testing, Oil Repellency Test, Water Repellency Test, Pilling Resistance (ICI), Colorfastness to Crocking, Colorfastness to Staining, Light Fastness Testing, Dimensional Stability, Crease Recovery Angle, Absorbency Test, Microscopic analysis, GMS, Fabric Burst Strength, Video Analyzer, Thickness Test, Water Quality Testing (TDS, pH, Conductivity etc), Chemical Composition, Fabric Thickness, Fabric Appearance after Repeated Home Laundering, Cotton Trash Content, Cotton Fineness, Yarn Examination, Single Yarn Strength, Lea Breaking Strength, Perspiration Fastness, Yarn Twist and Color Difference Delta E.

Department is working in close collaboration with the top Pakistani textile industry. Department offer regular industrial tours and training to its textile students as well as industrial expert lectures for the students at the department. Certain ongoing projects with the industry and research institutes are; Development of water less dyeing and finishing machinery and process, development of energy and water efficient textile bleaching system, ecofriendly, sustainable & halogen free fire retardants, water and energy efficient foam processing (Dyeing & Finishing), sustainable, water and energy efficient nano bubble dyeing and finishing (Liquor ratio 1:1), sustainable and durable oil & water repellent, sustainable natural dyeing without toxic mordant, ecofriendly mosquito repellent

finishing for textile, environment friendly digital printing, waste water treatment by sustainable wet land method, development of bio resin, development of novel dyeing process, textile recycling, high performance carbon fiber, nano fluorescent materials and textile supply chain management.

There are lot of research going on in the department and department faculty have published over 100 papers in last five years including 62 impact factor papers. Total four PhD students are being co-supervised in the textile dyeing and finishing area at the department. In addition, department actively involved in signing of the MOU between UET & Society of Dyers and Colourists, UK, Archroma and Masood Textile Mills for future collaboration. Department also won the only prize for Textile Processing Technologies at the 6th, 7th, 8th Invention to Innovation Summit 2017, 2018 and 2019.

There is 100% job placement for the graduates of the textile department. Graduates of the textile department are currently working in some of the top mills of the country like Nishat, Kamal, Master, Artistic, US Apparel, TTI, US denim and Masood textile. In 2019 department of textile engineering organized three mega events of textile (2nd UET-ARCHROMA-SDC International Conference on Sustainable Textile, Pakistan region SDC-UK textile design competition for students & Top Pakistani Textile Brands Tribute) for the second consecutive year. Three mega events of 2019 were attended by around 1000 participants from textile industry and universities. MS Textile and Materials Engineering has been approved by Academic council and will be started this year. For further details please visit http://www.uet.edu.pk/faculties/facultiesinfo/fsd_dep?RID=introduction&id=39.