

## Department of Textile Engineering

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### UNDERGRADUATE COURSES

### Curriculum for the Degree of Bachelor of Engineering in Textile: Textile Chemistry and Fiber Science

Semester	COURSE CODE	COURSE TITLE	CREDITS	Prerequisite (concurrent)
<b>I (fall)</b>	19-14-101	Calculus 1	4	(Calculus 1)  (Engineering General Chemistry)
		Problem Solving in Calculus 1	0	
	20-10-115	Physics 1	3	
	21-10-103	General Chemistry for Engineering	3	
	21-10-104	General Chemistry Lab I	1	
	25-10-111	English For Engineering Students	3	
		General Courses	2	
	27-10-101	Physical Education I for Boys	1	
27-10-104	Physical Education I for Girls	1		
Total credits			17	

Semester	COURSE CODE	COURSE TITLE	CREDITS	Prerequisite (concurrent)
<b>II (Spring)</b>	21-12-125	Organic Chemistry I	3	Engineering General Chemistry Calculus 1
	19-14-102	Calculus II	4	
		Problem Solving in Calculus II	0	Physics 1 + (Calculus II) (Physics 1)
	20-10-125	Physics II	3	
	20-10-116	Physics Lab. I	1	
	17-30-150	Computer Programming	3	
		General Courses	3	
	20-10-126	Electricity Physics Lab.	1	
Total credits			18	

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Semester	COURSE CODE	COURSE TITLE	CREDITS	Prerequisite (concurrent)
<b>III (Fall)</b>	21-12-231	Organic Chemistry II	3	Organic Chemistry I
	21-18-295	Analytical Chemistry For Textile	3	Engineering General Chemistry
	21-12-230	Organic Chemistry Lab. I	1	Organic Chemistry I
	21-14-263	Physical Chemistry For Textile	3	Engineering General Chemistry
	15-10-157	Engineering Drawing I	2	
	24-10-150	Welding & Metal Forming workshop	1	
	19-14-251	Differential Equations Problem Solving in Differential Equations	3 0	(Calculus II)+ Calculus 1
		General Courses	2	
	Total credits			18

Semester	COURSE CODE	COURSE TITLE	CREDITS	Prerequisite (concurrent)
<b>IV (Spring)</b>	34-12-226	Polymer Chemistry	3	Organic Chemistry II
	34-12-228	Fiber Science	2	Organic Chemistry II+ (Polymer Chemistry)
	34-12-230	Textile Technology I	2	(Fiber Science)
	34-12-231	Textile Technology Lab. I	1	(Textile Technology I)
	21-18-298	Analytical Chemistry Lab	1	Analytical Chemistry+ Engineering General Chemistry Lab.
	16-10-216	Strength of Materials	3	Calculus 1
	19-12-291	Probability & Statistics For Engineering	3	Calculus II
		Problem Solving in Probability & Statistics	0	
		General Courses	3	
Total credits			18	

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Semester	COURSE CODE	COURSE TITLE	CREDITS	Prerequisite (concurrent)
<b>V (Fall)</b>	34-12-227	Polymer Chemistry Lab.	1	Polymer Chemistry
	34-12-300	Dyeing Of Natural Fibers I	2	Fiber Science
	34-12-302	Fiber Structure	2	Fiber Science
	34-12-304	Textile Finishing I	2	Fiber Science+( Textile Technology II)
	34-12-306	Textile Technology II	2	Textile Technology I
	34-12-307	Textile Technology Lab. II	1	(Textile Technology II)
	21-14-264	Physical Chemistry Lab.	1	Physical Chemistry For Textile+ Engineering General Chemistry Lab.
	34-12-308	Applied Thermodynamics	3	Calculus II+ Physics \
	17-10-250	Fundamentals of Electrical Eng.	3	Physics II
	24-10-102	Machine Tools Workshop	1	Welding and sheeting workshop
Total credits			18	

Semester	COURSE CODE	COURSE TITLE	CREDITS	Prerequisite (concurrent)
<b>VI (Spring)</b>	34-12-326	Dyeing of Man-Made Fibers II	2	Dyeing Of Natural Fibers I
	34-12-301	Dyeing of Natural Fibers Lab. I	2	Dyeing Of Natural Fibers I
	34-12-328	Textile Finishing II	2	Textile Finishing I+( Textile Technology II)
	34-12-330	Fiber Physics	2	Fiber Structure+( Textile Technology I)
	34-12-331	Fiber Physics Lab.	1	(Fiber Physics)
	34-12-332	Fluid Mechanics	3	Calculus II+ Physics I
	34-12-334	Chemical of Natural Fibers	2	Organic Chemistry II
	34-12-336	Principles of Chemical Engineering	3	Calculus II
	27-10-102	Physical Education II for Boys	1	physical education 1(boys)
	27-10-103	Physical Education II for Girls		physical education 1(girls)
Total credits			18	

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Semester	COURSE CODE	COURSE TITLE	CREDITS	requisite (concurrent)
<b>VII (Fall)</b>	34-12-327	Dyeing of Man-Made Fibers Lab.	1	Dyeing of Man-Made Fibers II
	34-12-400	Dyeing, Printing and Finishing Techniques	2	(Dyeing of Man-Made Fibers II)
	34-12-329	Textile Finishing Lab.	1	Textile Finishing II+ Analytical Chemistry Lab
	34-12-402	Chemistry of Textile Auxiliaries	2	Organic Chemistry II
	34-12-404	Technology of Fiber Production	3	Fiber Science
	34-12-335	Chemistry of Natural Fibers Lab.	1	Chemical of Natural Fibers
		Elective Courses I	2	
	34-12-450	Project	3	Over 99 credits
	General Courses	3		
Total credits			18	

COURSE CODE	Semester	COURSE TITLE	CREDITS	Prerequisite (concurrent)
34-12-426		Texturizing	2	Fiber Physics
34-12-401		Dyeing, Printing and Finishing Techniques Lab.	1	Dyeing, Printing and Finishing Techniques
34-12-428		Principles of Color Technology	2	(Dyeing of Man-Made Fibers II)
34-12-429		Fiber Identification Lab.	1	(Technology of Fiber Production)
		Elective Courses I	2	
		Elective Courses  II	2	
		General Courses	2	
34-12-451		Project Continued I	0	Project
34-12-430		Chemistry of Dyes & Intermediates	2	Organic Chemistry II
Total credits			14	

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COURSE CODE	Prerequisite (concurrent)	CREDITS	COURSE TITLE
34-12-460	General Apprenticeship	2	Over 99 credits

	COURSE CODE	COURSE TITLE	CREDITS	Prerequisite (concurrent)
<b>Elective Courses</b>	34-12-372	Production Management	2	Probability & Statistics For Engineering
	34-12-370	Non-Woven Textile	2	Fiber Physics
	34-12-472	Spinning of Long Staple Fibers	2	Textile Technology 1
	34-12-476	Polymers Rheology	2	Fluid Mechanics

	COURSE CODE	COURSE TITLE	CREDITS	
<b>Elective Courses</b>	34-12-374	Technology of Dyeing & Finishing Machinery	2	These courses could be taught if students select them as their optional courses
	34-12-376	Special application of dyes	2	
	34-12-477	Knitting lab.	1	
	34-12-478	Knitting	2	
	34-12-376	Design & Analysis of Woven Fabrics	2	
	34-12-470	Dyeing, Printing and Finishing Techniques2	2	
	34-12-473	Quality control of finished textiles lab.	1	
	34-12-482	Dye and dying theories	2	
	34-12-484	wastewater	2	

**Curriculum for the Degree of Bachelor of Engineering in Textile:  
Textile Technology**

Semester	COURSE CODE	COURSE TITLE	CREDITS	Prerequisite (concurrent)
<b>I (fall)</b>	19-14-101	Calculus 1	4	(Calculus 1)  (Engineering General Chemistry)
		Problem Solving in Calculus 1	0	
	20-10-115	Physics 1	3	
	21-10-103	General Chemistry for Engineering	3	
	21-10-104	General Chemistry Lab I	1	
	25-10-111	English For Engineering Students	3	
		General Courses	2	
	27-10-101	Physical Education I for Boys	1	
27-10-104	Physical Education I for Girls	1		
Total credits			17	

Semester	COURSE CODE	COURSE TITLE	CREDITS	Prerequisite (concurrent)	
<b>II (Spring)</b>	19-14-102	Calculus II	4	Calculus 1	
		Problem Solving in Calculus II	0		
	16-10-104	Statics	3	Physics 1 + ( Calculus II) (Physics 1)	
	20-10-125	Physics II	3		
	20-10-116	Physics Lab. I	1		
	15-10-157	Engineering Drawing I	2		
	24-10-150	Welding & Metal Forming workshop	1		
		General Courses	3		
Total credits			17		

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Semester	COURSE CODE	COURSE TITLE	CREDITS	Prerequisite (concurrent)
<b>III (Fall)</b>	34-14-200	Principles of Polymer Structure	2	General Chemistry for Engineering Static's
	16-12-212	Strength of Materials	3	(Physics II)
	20-10-126	Electricity Physics Lab.	1	(Calculus II)+ Calculus 1
	19-14-251	Differential Equations	3	
		Problem Solving in Differential Equations	0	
	24-10-102	Machine Tools Workshop	1	Welding & Metal Forming workshop
	17-30-150	Computer Programming	3	
		General Courses	4	
	Physical Education II for Boys		Physical Education I for Boys	
	Physical Education II for Girls	1	Physical Education I for Girls	
Total credits			18	

Semester	COURSE CODE	COURSE TITLE	CREDITS	Prerequisite (concurrent)
<b>IV (Spring)</b>	34-14-226	Fiber Science	2	Principles of Polymer Structure
	34-14-228	Spinning of Short-Staple Fibers I	2	Differential Equations or Strength of Materials+( Fiber Science)
	34-14-229	Spinning Lab. I	1	(Spinning of Short-Staple Fibers I)
	16-10-208	Dynamics	3	Statics
	17-10-250	Fundamentals of Electrical Eng.	3	Physics II
	11-10-373	Foundry Workshop	1	Machine Tools Workshop+ Engineering Drawing I
	19-12-291	Probability & Statistics For Engineering	3	Calculus II
		General Courses	2	
Total credits			17	

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Semester	COURSE CODE	COURSE TITLE	CREDITS	Prerequisite (concurrent)
<b>V (Fall)</b>	34-14-227	Fiber Science Lab.	1	General Chemistry Lab I +( Fiber Science)
	34-12-308	Applied Thermodynamics	3	Calculus II+ Physics )
	34-14-310	Spinning of Short-Staple Fibers II	3	Spinning of Short-Staple Fibers I
	34-14-311	Spinning Lab. II	1	(Spinning of Short-Staple Fibers II)
	34-14-312	Weaving Preparation	2	Spinning of Short-Staple Fibers I
	34-12-313	Weaving Preparation Lab.	1	(Weaving Preparation)
	34-12-314	Machine Design I	2	Strength of Materials+ Dynamics
	19-14-271	Numerical Calculations	2	Calculus II+ Computer Programming+( Differential Equations)
		Elective Courses	2	
Total credits			18	

Semester	COURSE CODE	COURSE TITLE	CREDITS	Prerequisite (concurrent)
<b>VI (Spring)</b>	34-14-326	Fiber Physics	2	Fiber Science+ Physics I
	34-14-327	Fiber Physics Lab.	1	Fiber Science Lab.+ ( Fiber Physics)
	34-14-328	Weaving I	2	Weaving Preparation
	34-14-329	Weaving Lab. I	1	(Weaving I)
	34-14-330	Modern Spinning	2	Spinning of Short-Staple Fibers II
	34-14-332	Weaving Techniques	3	Spinning of Short-Staple Fibers I or Textile Technology II
	34-14-334	Weft Knitting	3	Machine Design
	34-14-335	Weft Knitting Lab.	1	(Weft Knitting)
	34-14-336	Conditioning in Textile Mills	2	Applied Thermodynamics
			General Courses	
Total credits			19	



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Semester	COURSE CODE	COURSE TITLE	CREDITS	Prerequisite (concurrent)
<b>VII (Fall)</b>	34-14-402	Weaving II	2	Weaving I
	34-14-403	Weaving Lab II	1	(Weaving II)
	34-14-404	Fabric Analysis	2	Weaving Techniques
	34-14-406	Warp-Knitting	3	Weft Knitting
	34-14-407	Warp-Knitting Lab.	1	(Warp-Knitting)
	34-14-408	Statistical methods of Quality Control in Textiles	3	Probability & Statistics For Engineering+ Spinning of Short-Staple Fibers II
	34-14-409	Statistical Quality Control Lab.	1	(Statistical Quality Control in Textiles)
	34-14-410	Dyeing, Printing and Finishing	3	(Weaving I)
Elective Courses			2	
Total credits			18	

Semester	COURSE CODE	COURSE TITLE	CREDITS	Prerequisite (concurrent)	
<b>VIII (Spring)</b>	34-14-426	Mill Planning	2	Conditioning in Textile Mills+ (Weaving II)	
	34-14-400	Spinning of continues yarns	2	Fiber Physics+ Spinning of Short-Staple Fibers II	
	34-14-428	Spinning of Long Staple Fibers	2	Spinning of Short-Staple Fibers II	
	34-14-429	Long Staple Spinning Lab.	1	(Spinning of Long Staple Fibers)	
	34-14-411	Dyeing, Printing and Finishing Lab.	1	(Dyeing, Printing and Finishing)	
	Elective Courses			2	
	34-14-450	Project	2	Over 99 credits	
General Courses			2		
Total credits			15		

## Department of Textile Engineering

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COURSE CODE	Prerequisite (concurrent)	CREDITS	COURSE TITLE
34-14-460	General Apprenticeship	2	Over 90 credits

	COURSE CODE	COURSE TITLE	CREDITS	Prerequisite (concurrent)
<b>Elective Courses</b>	34-14-470	Non-Woven Textiles	2	Fiber Physics
	34-14-472	Production Operation Management	2	Statistics
	34-14-476	Clothing	2	Fabric Analysis

	COURSE CODE	COURSE TITLE	CREDITS	
<b>Elective Courses</b>	34-14-474	Measurement methods of engineering quantities	2	This course could be taught if students select it as their optional course