

Proposal for the Revised UG Curriculum of Textile Department

Total Credit Requirement for B.Tech. (Textile Technology)

Category	Credits	Institute Requirement
Basic Science (BS)	22	Institute core =55
Engineering Arts and Science (EAS)	18	
Humanities and Social Sciences (HuSS)	15	
PL linked EAS	12	0-15
Departmental Core (DC)	52	DC+DE=65-80; With Minimum 10 credits as DE
Departmental Electives(DE)	16	
Open Category(OC)	10	
TOTAL	145	145-155 credits
Non Graded Core Courses	15 units	15 Non graded units

Credit Requirement for the B.Tech. Degree:

145+ Non-graded requirement of 15 units

B.Tech. Degree with Departmental Specialization:

In the new UG Curriculum, there is a provision for students to opt for “Departmental Specialization”. It is proposed to have two Specialization baskets. The interested students would be required to earn 20 Credits from the basket of courses under a specific ‘Departmental Specialization’.

For the B.Tech. Degree with Departmental Specialization:

155+ Non-graded requirement of 15 units

Eligibility criteria for opting Departmental Specialization: As per the Institute norms or CGPA of 7.5

Students who are performing reasonably well can register for more credits every semester and can add value to his/her degree depending on his/her choice. These additional credits can be used to opt for:

1. Minor Area/interdisciplinary Area specialization
2. Departmental Specialization

When a student opts for Departmental specialization and/or minor area he can use 10 OC credits towards Departmental specialization and/or minor area. He will need to do additional 10 credits in the department specialization and/or minor area to be eligible for specialization in the degree

LIST OF COURSES

(a) Basic Science (BS) Core

Course Number	Course Title	L-T-P Structure			Credits
		L	T	P	
PHL100	Electromagnetic Waves and Quantum Mechanics	3	0	0	3
CYL100	Introduction to Chemistry	3	0	0	3
MAL100	Calculus	3	1	0	4
MAL101	Linear Algebra & Differential Equations	3	1	0	4
SBL100	Introductory Biology for Engineers	3	0	2	4
PHP100	Physics Laboratory	0	0	4	2
CYP100	Chemistry Laboratory	0	0	4	2
Total BS Core		15	2	10	22

(b) Engineering Arts and Science (EAS) Core

Course Number	Course Title	L-T-P Structure			Credits
		L	T	P	
AML00	Engineering Mechanics	3	1	0	4
CSL100	Introduction to Computer Science	3	0	2	4
EEL100	Introduction to Electrical Engineering	3	0	2	4
MEP100	Introduction to Engineering Visualization	0.5	0	3	2
MEP101	Product Realization by Manufacturing	0	0	4	2
CEL140	Environmental Science	2	0	0	2
Total EAS Core		11.5	1	11	18

(c) Humanities and social Sciences(HuSS): 15 credits **As per the students choice**

(d) Program Linked (PL) Courses

Course Number	Course Title	L-T-P Structure			Credits
		L	T	P	
AML120	Introduction to Materials Sci. And Engineering	3	0	2	4
AML130	Experimental Methods	3	0	2	4
AML150	Solid And Fluid Mechanics	3	1	0	4
Total PL Core		9	1	4	12

(e) **Departmental Core**

Sl. No.	Course Number	Course Title	L-T-P Structure			Credits
			L	T	P	
1	TTL210	Textile Fibres	2	0	2	3
2	TTL211	Structure and Physical Prop. of Fibres	3	0	0	3
3	TTI212	Manufactured Fibre Technology	3	0	0	3
4	TTL221	Yarn Manufacture – I	3	0	0	3
5	TTL222	Yarn Manufacture – II	3	0	0	3
6	TTL230	Polymer Chemistry	3	0	0	3
7	TTL231	Fabric Manufacture – I	3	0	0	3
8	TTL232	Fabric Manufacture – II	3	0	0	3
9	TTL241	Tech of Textile Preparation & Finishing	3	0	0	3
10	TTL242	Technology of Textile Coloration	3	0	0	3
11	TTL361	Evaluation of Textile Materials	3	0	0	3
12	TTL362	Theory of Textile Structures	3	1	0	4
13	TTL363	Speciality Yarns and Fabrics	2	0	0	2
14	TTP212	Manufactured Fibre Technology Lab	0	0	2	1
15	TTP221	Yarn Manufacture Laboratory – I	0	0	2	1
16	TTP222	Yarn Manufacture Laboratory – II	0	0	2	1
17	TTP231	Fabric Manufacture Laboratory – I	0	0	2	1
18	TTP232	Fabric Manufacture Laboratory – II	0	0	2	1
19	TTP241	Tech. of Text. Preparation & Finishing Lab	0	0	3	1.5
20	TTP242	Technology of Textile Coloration Lab	0	0	3	1.5
21	TTP361	Evaluation of Textiles lab	0	0	2	1
22	TTD411	Major Project Part I	0	0	8	4
Total Departmental Core			37	1	28	52

(f) Departmental Electives: minimum 16 credits

Sl. No	Course Number	Course Title	L-T-P Structure			Credits
			L	T	P	
1	TTL324	Multi and Long Fibre Spinning	3	0	0	3
2	TTL331	Woven Textile Design	3	0	0	3
3	TTL342	Colour Science	2	0	0	2
4	TTL365	Costing and its Application in Textiles	3	1	0	4
5	TTL700	Modelling and Simulation in Fibrous Assemblies	2	0	2	3
6	TTL710	High Performance and Specialty Fibres	3	0	0	3
7	TTL719	Functional and Smart Textiles	3	0	0	3
8	TTL722	Mechanics of Spinning Processes	3	0	0	3
9	TTL724	Textured Yarn Technology	3	0	0	3
10	TTL725	Mechanics of Spinning Machines	3	0	0	3
11	TTL740	Science & App. of Nanotechn. in Textiles	3	0	0	3
12	TTL744	Env. Manag. in Textile and Allied Industries	3	0	0	3
13	TTL746	Medical Textiles	3	0	0	3
14	TTL750	Science of Clothing Comfort	3	0	0	3
15	TTL752	Design of Functional Clothing	3	0	0	3
16	TTL 761	Costing and Project Management	3	1	0	3
17	TTL762	Prod & Oper. Manag. in Textile industry	3	0	0	3
18	TTL763	Technical Textiles	3	0	0	3
19	TTL764	Process Control in Yarn & Fabric Manuf.	3	0	0	3
20	TTL766	Design & Manu. of Textile Structural Composites	3	0	0	3
21	TTL773	Design of Exp. and Statistical Techniques	3	0	0	3
22	TTL782	Nonwoven Science and Engineering	3	0	0	3
23	TTD310	Mini Project	0	0	6	3
24	TTD412	Major Project Part II template	0	0	16	8
25	TTS310	Independent Study	0	0	6	3
26	TTV701	Process Cont. and Econ. in manmade Fibre Prod.	1	0	0	1
27	TTV702	Management of Textile Business	1	0	0	1
28	TTV703	Special Module in Textile Technology	1	0	0	1
29	TTV704	Special Module in Yarn Manufacture	1	0	0	1
30	TTV705	Special Module in Fabric Manufacture	1	0	0	1
31	TTV706	Special Module in Fibre Science	1	0	0	1
32	TTV707	Special Module in Textile Chem. Proc.	1	0	0	1

DEPARTMENT SPECIALIZATION BASKETS

Students who are performing reasonably well can register for more credits every semester and can add value to his/her degree depending on his/her choice. For B.Tech Textile with Departmental Specialization, the credit requirements for the degree are :

155+ Non-graded requirement of 15 units

The student opting for Department specialization can use 10 OC credits towards Departmental specialization. He will need to do additional 10 credits in the department specialization to be eligible for specialization in the degree

Specialization 1. Technical and Innovative Textiles

Students opting for this specialization must do 20 credits from following basket.

SN	Course Number	Course Title	L-T-P Structure			Credits
			L	T	P	
1	TTL710	High Performance and Specialty Fibres	3	0	0	3
2	TTL719	Functional and Smart Textiles	3	0	0	3
3	TTL740	Science & App. of Nano techn. in Textiles	3	0	0	3
4	TTL746	Medical Textiles	3	0	0	3
5	TTL752	Design of Functional Clothing	3	0	0	3
6	TTL763	Technical Textiles	3	0	0	3
7	TTL766	Design & Manu. of Text. Structural Composites	3	0	0	3
8	TTL782	Nonwoven Science and Engineering	3	0	0	3
9	TTD412	Major Project Part II	0	0	16	8

Specialization 2 Textile Business Management

Students opting for this specialization must do at least 8 credits from each of the baskets (A and B) and balance from either A or B to complete the requirement of 20 credits.

Basket A

SN	Course Number	Course Title	L-T-P Structure			Credits
			L	T	P	
1	TTL365	Costing and its Application in Textiles	3	1	0	4
2	TTL 761	Costing and Project Management	3	1	0	4
3	TTL762	Prod & Oper. Manag. in Textile Industry	3	0	0	3
4	TTL773	Design of Exp. and Statistical Techniques	3	0	0	3
5	TTV702	Management of Textile Business	1	0	0	1
6	TTD412	Major Project Part II	0	0	16	8

Basket B

SN	Course Number	Course Title	L-T-P Structure			Credits
			L	T	P	
1	SML304	Introduction to Marketing Management*	3	1	0	4
2	SML760	Marketing Management*	2	0	2	3
3	SML780	Managerial Economics	2	0	2	3
4	MEL420	Total Quality Management	3	0	2	4
5	MEL661	Materials Management	2	0	2	3
6	MEL751	Industrial Engineering and Systems	3	0	2	4
7	MEL754	Operations Planning & Control	3	0	2	4
8	MEL756	Supply Chain Management	3	0	2	4
9	MEL760	Project Management	2	0	2	3
10	MEL765	Operations Research	3	0	2	4

* Either SML304 or SML760

Non-graded Core requirement for the degree : Total 15 units

- ☐ Introduction to the Engineering & Programme: 02
- ☐ Language and Writing Skill: 02
- ☐ NCC/NSO/NSS: 02
- ☐ Professional ethics & Social Responsibilities: 02
- ☐ Communication skill/seminar: 02
- ☐ Design/Practical experience: 05

TENTATIVE COURSE PLACEMENT GRID

Sem	Lecture 1	Lecture 2	Lecture 3	Lecture 4	Lecture 5	Lecture 6	Other	Other	Other	L	T	P	Weekly contact	Total credits
I	Maths-1 / 2 (3-1-0)4	EE / CS (3-0-2)4	PH / CY (3-0-4)5	Mechanics / NONE (3-0-2)4	Intro. to Engg (0-0-2)		Graphics / Prod. Real. (0-0-4)2	Language / None (0-0-4)2	PESR (0-0-2)	12 / 9	1	12 / 10	25 / 20	19/15
II	Maths-2 / 1 (3-1-0)4	CS / EE (3-0-2)4	CY / PH (3-0-4)5	NONE / Mechanics (3-0-2)4			Prod Real./ Graphics (0-0-4)2	Language / None (0-0-4)2	PESR (0-0-2)	9 / 12	1	10 / 12	20 / 25	15/19 Cum (34)
III	PL EA/EA AML120 (3-0-2)4	Text. fibres (2-0-2)3	Poly chem (3-0-0)3	Biology (3-0-2)4	Env (2-0-0)2	HUL 1 4 credits		Intro to Dept/product design (0-0-2)		17	0	6	23	20 Cum (54)
IV	Structure property (3-0-0)3	Fabric Manf. I (3-0-0)3	Tech TP &F (3-0-0)3	PL EA/ES AML130 / (3-0-2)4	PL EA/ES AML150 / (3-1-0)4	Yarn Manf.-I (3-0-0)3	Fabric Manf. Lab I (0-0-2)1	Yarn Manf. Lab -I (0-0-2)1	Lab Prep & finishing (0-0-3)1.5	18	1	9	28	22.5 Cum 76.5)
V	Yarn Manf.-II (3-0-0)3	Fabric Manf. II (3-0-0)3	Tech. Tex Col (3-0-0)3	DE 1 (3-0-0)3	Mfd Fibre Tech (3-0-0)3	HUL 3 3 / 4 credits	Yarn Manf. Lab -II (0-0-2)1	Fabric Manf. Lab II (0-0-2)1	Tech. Tex. Col. Lab (0-0-3)1.5	18 / 19	0	7	25 / 26	21.5 or 22.5 Cum (97/98)
VI	Eval. of Text (3-0-0)3	Theory of textile structures (3-1-0)4	Spl. Yarns & Fabric (2-0-0)2	DE 2 (3-0-0)3	DE/OC (3-0-0)3/4	HUL4 3 / 4 credits	Mfd Fibre Tech Lab (0-0-2)1	Evaluation of textile lab (0-0-2)1		17 / 18	1	4	22 / 23	20-22 Cum (117-119)
VII	DE3 (3-0-0)3			DE4 (3-0-0)3	DE/OC (3-0-0)3/4	HUL 5 3 / 4 credits	Project part 1 (0-0-8) 4			12 / 13	0	8	20 / 21	16-18 Cum (133-136)
VIII	DE5 (3-0-0)3			DE6 (3-0-0)3	DE/OC (3-0-0)3/4		Project Part II (0-0-16)8			10-12 / 4	0	0 / 16		10-12 Cum (145)