

# **KUMARAGURU COLLEGE OF TECHNOLOGY,**

An autonomous Institution affiliated to Anna University, Chennai

**COIMBATORE – 641 049.**

**M. Tech - TECHNICAL TEXTILE**

**REGULATION 2024**



**I to IV Semesters**

**Textile Technology**

## VISION

To be a Centre of Excellence in textile technology and management with basic and applied research for the fulfilment of societal needs.

## MISSION

- Develop industry relevant curriculum, innovative teaching and project-based learning methods that enable students to be efficient professionals.
- Motivate Faculty to update their knowledge and skills through continuous learning.
- Provide holistic student development by creating opportunities for lifelong learning and to develop entrepreneurship skills.
- Undertake inter-disciplinary research and development/Internship/Consultancy in the field of Textile Technology to support the industry and society.

## PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

Graduates of the M. Tech - Technical Textile Programme will be able to:

**PEO: 1.** Acquire comprehensive knowledge and technical skills in advanced textile materials, manufacturing processes, and applications, enabling them to innovate and solve complex problems in the technical textile industry.

**PEO: 2.** Demonstrate leadership and professional excellence in their careers, contributing to the growth and development of the textile industry through ethical practices, effective communication, and continuous learning.

**PEO: 3.** Engage in research and development activities to advance the field of technical textiles, leveraging cutting-edge technologies and methodologies to contribute to academic, industrial, and societal advancements.

## PROGRAM OUTCOMES (POs)

Graduates of the M.Tech-Technical Textile Postgraduate Program should have the ability to:

**PO1:** Demonstrate comprehensive understanding and application of advanced concepts in technical textiles.



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**PO2;** Conduct high-quality research and development activities in technical textiles, contributing to scientific and industrial advancements.

**PO3:** Develop innovative and sustainable solutions for complex problems in technical textiles.

**PO4:** Exhibit proficiency in the use of modern tools, techniques, and equipment relevant to technical textiles engineering and research.

**PO5:** Uphold professional and ethical responsibilities in research, industry, and academia, ensuring sustainable and responsible practices.

**PO6:** Communicate effectively and demonstrate leadership in multidisciplinary teams, fostering collaboration and knowledge dissemination in the technical textile industry.

### **PROGRAM SPECIFIC OUTCOMES (PSO'S)**

Graduates of the M.Tech-Technical Textile Postgraduate Program will have the ability to:

**PSO1:** Design and create innovative textiles for protective, defense, automobile, medical, and industrial applications, utilizing advanced materials and technologies to meet specific industry needs.

**PSO2:** Perform in-depth research in technical textiles, focusing on improving performance, durability, and functionality, and contribute to advancements in protective, defense, automobile, medical, and industrial textile sectors.



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**KUMARAGURU COLLEGE OF TECHNOLOGY****TEXTILE TECHNOLOGY  
REGULATION 2024****M. Tech Technical Textile - Curriculum****Semester I**

S.No	Course code	Course Title	Course Mode	Course Type	L	T	P	J	C
1	24TXT501	Absorbable and Biodegradable Polymers	Theory	PC	3	0	0	0	3
2	24TXT502	Engineering Textiles	Theory	PC	3	0	0	0	3
3	24TXT503	Fibres and yarns for technical textile	Theory	PC	3	0	0	0	3
4	24TXT504	Theory of 3-D Fibrous Assemblies	Theory	PC	3	0	0	0	3
5	24TXT505	Protective textiles	Theory	PC	3	0	0	0	3
6	24TXT506	Research Methodology	Theory	ES	3	0	0	0	3
7	24TXP507	Technical textile laboratory I	Practical	PC	0	0	2	0	1
<b>Total Credits</b>									<b>19</b>
<b>Total Contact Hours/week</b>									<b>20</b>

**Semester II**

S.No	Course code	Course Title	Course Mode	Course Type	L	T	P	J	C
1	24TXT508	Statistical Applications in Textile Engineering	Theory	PC	3	0	0	0	3
2	24TXT509	Textile Coating and Lamination	Theory	PC	3	0	0	0	3
3	24TXT510	Textile Reinforced Composites	Theory	PC	3	0	0	0	3
4	24TXT511	Medical Textiles and Biomaterials for Health care	Theory	PC	3	0	0	0	3
5	24TXE0__	Professional Elective I	Theory	PE	3	0	0	0	3
6	24TXE0__	Professional Elective II	Theory	PE	3	0	0	0	3
7	24TXP512	Technical Textile Lab - II	Practical	PC	0	0	2	0	1
<b>Total Credits</b>									<b>19</b>
<b>Total Contact Hours/week</b>									<b>20</b>




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Semester III									
S.No	Course code	Course Title	Course Mode	Course Type	L	T	P	J	C
1	24TXE0__	Professional Elective III	Theory	PE	3	0	0	0	3
2	24TXE0__	Professional Elective IV	Theory	PE	3	0	0	0	3
3	24TXE0__	Professional Elective V	Theory	PE	3	0	0	0	3
4	24TXE0__	Professional Elective VI	Theory	PE	3	0	0	0	3
5	24TXJ613	Internship	-	PC	0	0	0	2	2
6	24TXJ614	Project Phase I	Project	PR	0	0	0	10	10
<b>Total Credits</b>									<b>24</b>
<b>Total Contact Hours/week</b>									<b>20</b>
Semester IV									
S.No	Course code	Course Title	Course Mode	Course Type	L	T	P	J	C
1	24TXJ615	Projects II /Industrial or Research Internships	Project	PR	0	0	0	20	20
<b>Total Credits</b>									<b>20</b>
<b>Total Contact Hours/week</b>									<b>20</b>

Semester-wise Credits	
Semester - I	19
Semester - II	19
Semester - III	24
Semester - IV	20
<b>Total Credits</b>	<b>82</b>

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Course types	Credits
Basic Science	-
Engineering Science	02
Professional Core	32
Professional Electives	18
Project/Internship	30
Seminar	-
<b>Total Credits</b>	<b>82</b>

Professional Electives									
S.No	Course code	Course Title	Course Mode	CT	L	T	P	J	C
1.	24TXE001	Specialty fibres for technical textiles	Theory	PE	3	0	0	0	3
2.	24TXE002	Yarns for technical textiles	Theory	PE	3	0	0	0	3
3.	24TXE003	Technical fabric manufacturing	Theory	PE	3	0	0	0	3
4.	24TXE004	Nonwovens in technical textiles	Theory	PE	3	0	0	0	3
5.	24TXE005	Advanced knitting technology	Theory	PE	3	0	0	0	3
6.	24TXE006	Automation in Textile Engineering	Theory	PE	3	0	0	0	3
7.	24TXE007	Theory of absorbent materials	Theory	PE	3	0	0	0	3
8.	24TXE008	Smart textiles	Theory	PE	3	0	0	0	3
9.	24TXE009	Automobile textile	Theory	PE	3	0	0	0	3
10.	24TXE010	Military textiles	Theory	PE	3	0	0	0	3
11.	24TXE011	Home textiles	Theory	PE	3	0	0	0	3
12.	24TXE012	Nano textiles	Theory	PE	3	0	0	0	3
13.	24TXE013	Auxetic textiles	Theory	PE	3	0	0	0	3
14.	24TXE014	Advances in textile bioprocessing	Theory	PE	3	0	0	0	3
15.	24TXE015	Smart Textiles for Wound Care	Theory	PE	3	0	0	0	3
16.	24TXE016	Textile preforms and prepregs	Theory	PE	3	0	0	0	3
17.	24TXE017	Laminar composites	Theory	PE	3	0	0	0	3
18.	24TXE018	3-D textile reinforcements in composite materials	Theory	PE	3	0	0	0	3
19.	24TXE019	Sustainable technical textiles	Theory	PE	3	0	0	0	3
20.	24TXE020	Filtration textiles	Theory	PE	3	0	0	0	3



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21.	24TXE021	Geo textile	Theory	PE	3	0	0	0	3
22.	24TXE022	Agro textile	Theory	PE	3	0	0	0	3
23.	24TXE023	Management of Textile Production	Theory	PE	3	0	0	0	3
24.	24TXE024	Apparel Production	Theory	PE	3	0	0	0	3
25.	24TXE025	Apparel Technology Management	Theory	PE	3	0	0	0	3
26.	24TXE026	Strategic Technology Management in the Textile Complex	Theory	PE	3	0	0	0	3
27.	24TXE027	Global Perspectives in Textiles Supply Chain Management	Theory	PE	3	0	0	0	3
28.	24TXE028	Clothing Science and Comfort	Theory	PE	3	0	0	0	3
29.	24TXE029	Fancy Yarn Technology	Theory	PE	3	0	0	0	3
30.	24TXE030	Structural Mechanics of Yarns and Fabrics	Theory	PE	3	0	0	0	3
31.	24TXE031	Theory of Drafting and Twisting	Theory	PE	3	0	0	0	3
32.	24TXE032	Engineering of Functional Clothing and Finishes	Theory	PE	3	0	0	0	3
33.	24TXE033	Yarn Quality Analysis	Theory	PE	3	0	0	0	3
34.	24TXE034	Fabric Quality Analysis	Theory	PE	3	0	0	0	3
35.	24TXE035	Advances in Textile Finishing	Theory	PE	3	0	0	0	3
36.	24TXE036	Advanced knitwear Technology	Theory	PE	3	0	0	0	3
37.	24TXE037	Textile Reinforced Composites	Theory	PE	3	0	0	0	3
38.	24TXE038	Theory of Yarn Structures	Theory	PE	3	0	0	0	3
39.	24TXE039	Textiles In Civil Construction And Transportation	Theory	PE	3	0	0	0	3
40.	24TXE040	Structural Mechanics of Fabrics	Theory	PE	3	0	0	0	3
41.	24TXE041	Characterization of Textile Polymers		PE	3	0	0	0	3
42.	24TXE042	Polymer Rheology	Theory	PE	3	0	0	0	3
43.	24TXE043	Surface Modification of Textiles	Theory	PE	3	0	0	0	3
44.	24TXE044	Smart Textiles for Wound Care	Theory	PE	3	0	0	0	3
45.	24TXE045	Advances in Functional Finishing of Textiles	Theory	PE	3	0	0	0	3



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