Our mission is to serve as a valuable resource for textile industry & through excellence in scientific and technical education and innovative research. We believe in deep collaboration and cross-pollination of our groups, which allow us to innovate in a way that others cannot. And frankly, we don’t settle for anything less than excellence in every group in our department, and we have the self-honesty to admit when we are wrong and the courage to innovate. We are constantly focusing on innovating and significantly contributing to the industries. We put on an extra effort to focus on environmental stewardship, activities to benefit society and a commitment to performance with purpose. Our goal is to provide best in class solutions to realistic problems.

Our vision will be to strive towards a innovative, technical and professionals skills with ethical value for betterment of social, industrial and economic environment. Our commitment is to deliver man power who are intellectual, well-mannered and act as facilitator as well as catalyst for Industry.
ABOUT US

The Department of Textile Technology has had a rather interesting history as compared to other Departments of IIT Delhi. It has it’s roots in the pre-independence days, going back to the year 1942 when the Delhi Polytechnic (now the Delhi College of Engineering) was founded to provide diploma level education.
CAMPUS LIFE

Apart from department courses we are open to take management and R analytics courses of IIT curriculum. We organize various conferences like ICTN, YRS, PSW, Institute lectures and Panel Discussions on latest development in textile and related issues of textile Industries.

ACADEMICS

EXTRA CURRICULAR

From sports to various fun events like tie & dye, face painting plus cultural events and happening things are a part. These activities provide teaching yet related to student learning.
COURSES OFFERED

+ BACHELOR OF TECHNOLOGY
+ MASTER OF TECHNOLOGY
+ Ph.D.

M.TECH. BRANCHES

+ FIBRE SCIENCE AND TECHNOLOGY
+ TEXTILE ENGINEERING
+ TEXTILE CHEMICAL PROCESSING

BRANCHES AND COURSES OFFERED
ABOUT

The bachelor program in Textile Technology primarily covers development and characterization of the polymeric raw materials and methods of conversion of the same into textile materials followed by further value addition and appropriate engineering into niche products. Issues related to the management of the production facilities and marketing the products are also covered adequately. They also undergo practical training in an industrial establishment as part of their overall engineering education.

KEY COURSES

❖ Textile Fibres
❖ Polymer Chemistry
❖ Manufactured Fibre Technology
❖ Yarn Manufacture
❖ Fabric Manufacture
❖ Technology of Textile Preparation & Finishing
❖ Technology of Textile Coloration
❖ Woven Textile Design
❖ Colour Science
❖ Evaluation of Textile Materials
❖ Speciality Yarns and Fabrics
❖ Costing and its Application in Textiles
ABOUT

Fibre Science and Technology deals with the study of all types of natural and Synthetic fibres and design of textiles, fabrics and other materials aided through the study of chemistry, physics and basic textile management studies. With this study of fibrous materials and their use in an exceedingly form of standard and non-conventional applications like polymer composite, fibre-reinforced composites, geotechnical and medicine applications, polymers for physical science, and textile dye chemistry are at the tip of the students.
M.TECH. [ TEXTILE CHEMICAL PROCESSING ]

ABOUT

Though there are not much institutes running masters programme in textile Chemistry in India so IIT Delhi took an initiative to start an MTech. programme named Textile Chemical Processing with suggestions from Industry delegates’. The programme is designed to facilitate students with knowledge of chemicals and wet processes, considering the need of sustainability in the chemical processing methods.

KEY COURSES

❖ Theory And Practice of Dyeing
❖ Textile Printing
❖ Characterization of Chemicals & Finished Textiles
❖ Computer Colour Matching
❖ Advances in Finishing in Textiles
❖ Textile Auxiliaries
❖ Technical Textile
❖ Polymer And Fibre Physics
❖ Sustainable Chemical Processing Of Textiles
❖ Science Of Clothing Comfort
❖ Textile Machines : Automation & Control
ABOUT

This course provides specialization in mechanics of yarn spinning process and machines, and Fabric manufacturing of all forms (including weaving, knitting, non-woven, braiding, 3d weaving), Technical textiles and design of composites. Students are capable to engineer the desirable yarns and fabrics not only for clothing and also high-performance applications. 3D composites, Personal Protective clothing (extreme cold and hot weather, ballistic, radiation etc.), air and water filters, Biodegradable composites are few areas of research.

M.TECH. [ TEXTILE ENGINEERING ]

KEY COURSES

❖ Advanced Fabric Manufacturing Systems (3D Weaving)
❖ Design and Manuf. of Textile Structural Composites
❖ Nonwoven Processes and Products
❖ Textured Yarn Technology
❖ Theory of Yarn & fabric Structure
❖ Mechanics of Spinning Process & Machines
❖ Technical Textiles
❖ Design of Experiments and Statistical Techniques
❖ Functional and Smart Textiles
LABORATORY FACILITIES

FIBRE SCIENCE AND FIBRE PRODUCTION LABORATORY:

This laboratory houses facilities starting from fibre Production to fibre Characterization. It hosts a complete range of characterization equipment such as DSC, TGA, and TMA, Brookfield Rheometer, FTIR, Wide angle X-ray diffractometer, sonic modulus analyser and all other advance characterization instruments. It also houses facilities for polymerization from small to pilot scale. Recently bicomponent fibre production facility has also been installed.

YARN MANUFACTURING LABORATORY:

Yarn Manufacturing Laboratory has equipment and machinery for producing yarns with different technologies at research as well as production scale. Staple fibre yarns using ring and friction spinning technologies and air texturized yarns can be produced. For small-scale sample production, Miniature spinning plant is also available. New additions include miniature spinning line and unit for twisting and wrapping.
LABORATORY FACILITIES

FABRIC MANUFACTURING LABORATORY:
The Weaving section is equipped with modern preparatory machines and looms. Preparatory section includes latest Schlathorst 332 model winding machine, Savio lab model Orion winding machine and sectional warping machine with all controls. In weaving section- projectile, rapier, and air jet looms as also a sample loom along with single end sizing and warping machine are installed. Apart from these, the lab is equipped with needle loom for tape and label, Staubly electronic dobbay and Bonas electronic jacquard. Weaving section is also equipped with a CAD station system for both woven and printed design. Knitting section includes flat knitting machines. Nonwovens Research laboratory is part of this lab. Industrial sewing machines constitute the garment technology facility.

TEXTILE TESTING LABORATORIES:
Textile Testing Laboratories of the department has modern instruments for testing various types of fibers, films, yarns, fabrics and carpets. Fibers can be tested for single fibre and bundle strengths, breaking extensions and yarn can be tested for mass irregularity (U% or C.V %) imperfections, spectrogram, hairiness, twist, yarn to yarn friction and abrasion resistance. Fabrics can be tested for practically all the normal specifications such as warp and weft count, fabric mass per unit area (gsm), tensile and tear strength, flat and flex abrasion resistance, crease recovery, compression recovery, creep, thermal insulation, pilling, air permeability, water permeability, bending rigidity, compressibility, thickness etc.
TEXTILE CHEMICAL PROCESSING:

Housed in this laboratory are lab-scale versatile equipment for chemical processing of textile fabrics, yarns and fibres. In addition, the laboratory contains relevant analytical / testing equipment for assessing performance of the treatments imparted to the textiles including computer colour matching systems, spectrophotometers, fastness testers, flame retardancy testers and a full fledged anti microbial testing facility. Textile Chemistry laboratories are equipped with a wide range of dyeing, printing and finishing machines including Rota dyer, HTHP dyeing machine, winch, pressure jig, and package dyeing machine. New additions include colour dispensing systems and vortex dyeing machine.

OTHER FACILITIES

The newly created facilities include SMITA (Smart and Innovative textile materials), Bio textile, Medical textile and Protective textile laboratories.
• Studies on Polyethylene Clay Nanocomposites with Antimicrobial property

• Nanostructures Reinforced Textile Fibers

• Coir Based Hybrid Composites

• Bending and Shear Behavior of Woven Fabrics

• Studies on Biodegradable Nonwovens and Composites

• Designing Green Textile Supply Chain

• A Study on Firefighters' Protective Clothing

• Study on Natural Fiber Oil Sorbents for Separation of Oil from Oil-Water Waste
- Stimuli Sensitive Textile Materials
- Nano & Bio Materials, Simulation & Modeling
- Plasma Functionalization of polymers
- Medical Textiles
- Intelligent Polymers & Fibres
- Microencapsulation
- Conductive fibres
- Special Finishes
- Environmental and Ecological issues in Textiles
- Dyeing with natural dyes
- Enzymatic processing
- Electrospinning
- Electro-active Polymers and Textiles
- Sustainable chemical processing of textiles
- Application of Bio-Nanotechnology in Textiles
- Extreme cold weather clothing
DMSRDE, DEPARTMENT OF SCIENCE & TECHNOLOGY(DST), KVIC, DSIR, AICTE, ICFRE, DRDO, NITRA, MINISTRY OF TEXTILES, RELIANCE INDUSTRIES Ltd. CSIR, INSA, FIST, MCIT, MHRD, IDP, SERB, ISI KOLKATA, TBRL, UGC, HONG KONG, USIEF
FACULTY COORDINATOR
PROF. R. S. RENGASAMY
CONTACT : +91-11-2659 1418
MAIL : rsrengasamy@gmail.com
rsr@iitd.ac.in

STUDENT COORDINATOR
SUMIT KR. SINGH
CONTACT : 8176034648
MAIL: sk04singh@gmail.com
EASHAN BAJAJ
CONTACT : 9650441934
MAIL : eashanb13@gmail.com

Link to the departmental website
http://textile.iitd.ac.in/index.html