

TECHNOLOGY I: TEXTILE THEORY (1 US Credit)

Subject Area: Textile Theory

Module Aims:

This module aims to:

- Provide a general overview of fashion industry materials such as yarns and basic textiles.
- Introduce fiber theory and fiber classification systems.
- Differentiate between natural and man-made fibers and fabrics.
- Identify the basic principles of yarn construction and yarn processing.
- Identify and understand basic fabric constructions.
- Outline the processes for fabric construction, processing and finishing.
- Understand fabric performance and testing methods and procedures.

Indicative Module Content:

- **Introduction to Textiles, Fibre Theory and Classification:** historical background; textile components; natural fibres; man-made fibres; fibre forming and spinning; fibre properties; fibre morphology; molecular structures and arrangements; tests for fibre identification.
 - **Natural Fibres:** Protein fibre properties, processing and, uses and care of wool, speciality and fur fibres (mohair, cashmere, alpaca, llama) and silk.; Cellulosic fibre properties, processing, and uses and care of cotton, flax, jute, ramie and hemp.
 - **Man Made Fibres:** Modified cellulosic fibre properties, manufacturing processes, uses and care of Rayon, acetate and triacetate; Polyamide & Polyester Fibre manufacture and molecular structure; fibre properties, uses and care.
 - **Speciality Fibres:** olefin fibres; elastomeric fibres; man-made non-cellulosic fibres; experimental fibres; mineral and miscellaneous inorganic fibres and yarns – their fibre properties, molecular structure, production, uses and care.
 - **Yarn Construction:** basic principles of yarn construction; yarn processing; contemporary methods of yarn production.
 - **Fabric Construction:** Woven fabrics – fabric looms, weaving processes; Knitted fabrics – weft knitting, warp knitting, uses of knitted fabrics; Non-woven fabrics – felts, bonded fabrics.
 - **Fabric Finishing, Processing & Applications:** finishing processes, specialised finishes, functional finishes; Fabric dyeing and application of colour; Applications to fabric.
 - **Fabric:** fabric geometry; textile legislation; labelling regulations; consumer responsibility; fabric performance and testing standards; health & safety requirements.
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