

TS: Textile Science (See also TT)

TS 000 — TEXTILE SCIENCE

1-3 credit; 1 lab hour

TS 015 — Textiles for Production Management Laboratory

1.5 credits; 3 lab hours

For Production Management: Fashion and Related Industries students. Provides laboratory study in conjunction with the textile principles learned in TS 115. Physical, chemical, and optical procedures are used to evaluate the properties of a wide range of fabrics.

Co-requisite(s): TS 115.

TS 025 — Denim: Development & Design Studio

1 credit; 2 lab hours

In this course, students are introduced to denim by analyzing different types of denim. Student will learn about the history of denim, quality and costing parameters that affect manufacturing. Washing techniques, testing and sourcing, are studied. Emphasis is placed on the sustainable manufacturing of the fabric and the design. The students will develop their own designs and conduct fit sessions on their own denim product. Students learn which body types present a challenge when developing styles.

Prerequisite(s): TS 111 or TS 131 or TS 110 or approval of chairperson.

Corequisite(s): TS 225.

TS 110 — Product Elements and Principles Laboratory

2 credits; 1 lecture and 2 lab hours

This course is the lab component for FM 110. This course focuses on the understanding of textiles (knit and woven), and the details to consider when building a product in the Men's, Women's and Children's apparel businesses.

Corequisite(s): FM 110.

TS 111 — Fundamentals of Textiles

3 credits; 2 lecture and 2 lab hours

General study of textile materials with an emphasis on the factors that produce successful fabrics in the marketplace, including fibers, yarns, construction, color, and finish. Characteristics of a wide range of market fabrics are examined.

TS 115 — Textiles for Production Management

3 credits; 3 lecture hours

For Production Management: Fashion and Related Industries students. Study of textile materials with emphasis on factors of concern to the manufacturer of apparel, including fiber types, construction, and finishes.

Co-requisite(s): TS 015.

TS 116 — Knit Design Principles and Technology

2 credits; 1 lecture and 2 lab hours

In this introductory course, students learn to identify, analyze, design, and document weft-knitted fabrics. The class covers the relationships between knit fabric structures and the technology used to create them. Students create original designs on industrial machinery and on computer patterning workstations.

TS 131 — Textile Principles for the Fashion Designer

3 credits; 2 lecture and 2 lab hours

A survey course in textile principles specifically structured for students majoring in fashion design. The course of study defines basic elements of textile development from fibers through yarn, fabric formation, color, prints, and finished goods. The course introduces students to the concepts of sourcing textiles globally. The laboratory portion introduces methods for the basic identification of textile materials and fundamental analysis.

TS 215 — The History of Textile Trade and Technology

2 credits; 2 lecture hours

This course surveys historical events and developments that have shaped today's textile industry. Aspects of the textile trade from the Bronze Age through the early 21st century are introduced and the evolution of industrial textile technologies addressed.

TS 225 — Denim: Development & Design

2 credits; 2 lecture hours

In this course, students are introduced to denim by analyzing different types of denim. Student will learn about the history of denim, quality and costing parameters that affect manufacturing. Washing techniques, testing and sourcing, are studied. Emphasis is placed on the sustainable manufacturing of the fabric and the design. The students will develop their own designs and conduct fit sessions on their own denim product.

Students learn which body types present a challenge when developing styles.

Prerequisite(s): TS 111 or TS 131 or TS 110 or approval of chairperson.

Corequisite(s): TS 025.

TS 230 — Sustainability and Circularity in the Textile Industry

2 credits; 1 lecture and 2 lab hours

This course examines sustainability and circularity in the textile and fashion industries from fiber production to consumer disposal. Through hands-on lectures and projects, students explore eco-friendly textile fibers, sustainable dyeing and finishing techniques, textile recycling, and other circular production technologies being currently adopted by the textile and fashion industries.

TS 275 — Farm to Fabric: South Africa

3 credits; 3 lecture hours

This transformative experience empowers students to be changemakers in the fashion/textile industry, helping to create a more sustainable and ethical future for fashion, while also respecting the unique culture and heritage of South Africa.

Prerequisite(s): TS 110 or TS 111 or TS 015/115 and or TS 131 or approval of Chairperson.

TS 301 — Advanced Textiles for Technical Design

2.5 credits; 2 lecture and 1 lab hours

Through readings and lab work, students learn to recognize and differentiate textiles according to structure and style. Course emphasizes commercial methods and applications that enhance textile appearance and performance. Students study issues and requirements related to textile structural design, coloration, function, and expectations.

Prerequisite(s): TS 110 or TS 111 or TS 115 and TS 015 or TS 131 or approval of TDM chair.

TS 313 — International Textile Product Development: Italy

3 credits; 3 lecture hours

This course consists of field studies in the Italian textile regions of Biella, Florence, and Como. Students learn the ways in which high-quality fabrics are designed, produced, and marketed globally for use in apparel. Winter and summer in Italy.

Prerequisite(s): TS 111 or TS 131 or TS 132 or TS 115 or TS 122 or approval of chairperson.

TS 332 — Technical Design for Sweater Knits

3 credits; 2 lecture and 2 lab hours

Students learn the technical principles of weft knitting and sweater knit construction. Emphasis is placed on knitted fabric structures, sweater construction and production procedures, and specifying and fitting of garments.

Prerequisite(s): TS 110 or TS 111 or TS 115 and TS 015 or TS 131 or approval of TDM chair.

TS 341 — Survey of Textile Printing Technology

2.5 credits; 2 lecture and 1 lab hours

Survey of the rudiments of commercial textile printing to establish a basic common communications link between designer/stylist and production. Students use their own original design concepts for case study lessons in feasibility.

Prerequisite(s): TS 111.

TS 367 — Knit Fabrics and Machinery

3 credits; 2 lecture and 2 lab hours

For Production Management: Fashion and Related Industries students. Students analyze, identify, and document a range of knit fabric structures using industry-standard techniques and communication practices. Emphasis is placed on the relationships between fabric structures, machine capabilities, costing, sourcing, and quality control. Students knit basic weft structures on industrial hand machines and program fabrics on computer patterning workstations.

Prerequisite(s): TS 111 or TS 015/TS 115 or TS 122 or TS 132 or approval of chairperson.

TS 368 — Weft Knitting Principles

2.5 credits; 1 lecture and 3 lab hours

This course presents students with the basic principles of weft knit structures; the relationships between stitch formation, fabric construction, yarn selection, and knitting machinery. Students learn techniques for knit fabric identification and analysis. Emphasis is placed on the application of these principles for the creative development of weft knitted fabrics.

Prerequisite(s): TS 111 or TS 132 or TS 131 or TS 015/TS 115 or TS 122 or approval of chair.

TS 461 — Weft Knit Fabrication and Finishing Techniques

2.5 credits; 1 lecture and 3 lab hours

This course presents Fashion Design BFA students (Knitwear track) with introductory concepts in weft knit fabrication and finishing techniques. In coordination with a supporting FD 356 course, students develop and knit fabrics utilizing a wide range of stitch constructions. They master a variety of methods for seaming and finishing garments.

Prerequisite(s): TS 111 or TS 132 or TS 131 or TS 015/TS 115 or TS 122 or approval of chair.

Corequisite(s): FD 356.

TS 491 — Senior Thesis Planning and Execution

1.5 credits; 3 lab hours

Students continue to experiment with increasingly complex weft knit fabrics, and learn advanced techniques for creating specialized shapes and trims. Their skills are showcased in the garments designed, knit and finished in tandem with FD 489.

Prerequisite(s): TS 461.

Corequisite(s): FD 489.

TS 499 — Independent Study in Textile Development and Marketing

1-3 credit