TT: Textile Technology (See also TS)

TT 055 — Total Quality Management for Textile Products Laboratory

1.5 credits; 3 lab hours

This lab experience accompanies TT455 and applies the concepts addressed in this course. Fabric testing is completed utilizing methodologies approved by relevant national associations and addresses why failures occur and how they can be corrected.

Prerequisite(s): TS 015/155 or TS 111 or TS 122 or TS 132 or approval of chairperson;
Corequisite(s): TT 425.

TT 161 — Sweater Knitting Technology I

3 credits; 2 lecture and 2 lab hours

Principles of design and development of fashioned and full-fashioned knit garments, and capabilities and limitations of flat knitting machines. Students analyze samples, design and lay out samples for various types of flat knitting equipment, and knit fabrics on the laboratory knitting machines.

Prerequisite(s): TS 116 or TS 367 or TT 335 or TS 332 or approval of chairperson.

TT 174 — Fabric Development

3 credits; 2 lecture and 2 lab hours

This course provides a comprehensive study of the composition and functions of knit and woven fabrics used in the apparel and finished textile industries. Knowledge of structural and performance characteristics for knit and woven fabrics is acquired through examination of market samples, and the creation of swatches on hand looms and knitting machines.

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

TT 201 — Fabrics for Private Label/Vertical Retailer

3 credits; 2 lecture and 2 lab hours

This course examines the profitability, serviceability, and produceability of textile products, and their ability to satisfy a target market. Students take on the role of a merchandising adoption committee member, accepting or rejecting fabric and/or finished textile products.

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

TT 247 — Color Creation and Sustainable Applications

3 credits; 2 lecture and 2 lab hours

Students learn to utilize specialized color matching and formulation software for shade matching. They learn to source colorants while working with data provided by colorant producers, and compare traditional and low-impact Ecuadorian dyestuffs.

TT 261 — Performance Textiles

3 credits; 2 lecture and 2 lab hours

This course provides students with a broad overview of performance textiles and their varied applications. The fundamental principles of performance textiles and functional finishes are introduced, and the latest developments and relevant technologies are emphasized. Sustainability and emerging regulatory issues are also discussed.

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

TT 275 — Textile Marketing

3 credits; 3 lecture hours

Studies the textile industry and how its various products are marketed. Case studies involving both fiber producers and textile mills are analyzed. Students examine both the domestic and international textile marketplaces.

TT 276 — Fabrics for Interiors

2 credits; 2 lecture hours

This course introduces students to the market segments and fabrication methods of textile products designed for use in residential and commercial interiors.

TT 299 — Independent Study in Textile Development and Marketing

1-3 credit

Prerequisite(s): a minimum 3.5 GPA and approval of instructor, chairperson, and dean for Business and Technology.

TT 313 — Textile Fibers

3 credits; 2 lecture and 2 lab hours

Studies the role of textile fibers in the design, styling, and marketing of textile products. Aesthetics, performance, and cost/price relationships are emphasized.

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

TT 325 — Product Development and Market Applications: Wovens I

3 credits; 2 lecture and 2 lab hours

Students learn to identify and analyze standard woven fabrics and the yarns used to weave them. Standard industry procedures and textile production software are used to construct woven fabric simulations suitable for industrial production. Emphasis is on the application of woven structures in current markets.

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

TT 326 — Product Development and Market Applications: Wovens II

3 credits; 2 lecture and 2 lab hours

Advanced principles of woven textile development for dobby and jacquard production. This course builds on knowledge gained in TS 325 to analyze complex color and structure in woven fabrics. Students use professional CAD software and electronic dobby looms in class for woven samples and color simulations.

Prerequisite(s): TT 325.

TT 327 — Woven Product Development I

2.5 credits; 1 lecture and 3 lab hours

This course introduces students to the essentials of manufacturing, specifying, and styling woven textiles. Emphasis is placed on fabric formation principles, and the practical application of woven structures in apparel and home textile markets.

Prerequisite(s): TS 111 or TT 171 or TS 132 or TS 131 or TS 115-015 or TS 122 or TS 114/214.

TT 328 — Woven Product Development II

2.5 credits; 1 lecture and 3 lab hours

This course introduces students to the advanced technical principles of woven fabric production. They analyze, identify, and document a wide range of increasingly complex woven fabric structures using industry-standard techniques and technical software. In laboratory sessions, students develop advanced woven structures for both powerloom, and multi-shaft dobby handlooms.

Prerequisite(s): TT 327.

TT 335 — Product Development and Market Applications: Knits I

3 credits; 2 lecture and 2 lab hours

Students learn basic technical principles of weft- and warp-knit structures: the relationships between stitch formation, fabric construction, yarn selection and knitting machinery. Design parameters that affect aesthetics, performance, and cost are studied. Emphasis is placed on the practical application of knitted structures in current markets.

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

TT 336 — Product Development and Market Applications: Knits II

3 credits; 2 lecture and 2 lab hours

This course focuses on advanced technical principles of weft- and warp-knit structures. Design parameters that affect aesthetics, performance, and cost are studied, and emphasis is placed on the practical application of knitted structures in current markets. Students develop and program advanced textured weft structures on industrial CAD workstations.

Prerequisite(s): TT 335.

TT 338 — Product Development and Market Appeal: Weft Knit

2 credits; 2 lecture hours

Through analysis techniques and market research, students identify the physical and aesthetic characteristics of weft-knitted fabrics. Design parameters that affect aesthetics, performance, and cost are studied.

TT 342 — Dyeing and Color Technology

3 credits; 2 lecture and 2 lab hours

Studies the enhancement of textile products through the application of color. Primary emphasis is on commercial textile dyeing and its relationship to fashion colors, application procedures, quality, and marketing principles.

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

TT 343 — Textile Coloration: Principles and Processes

3 credits; 2 lecture and 2 lab hours

This course emphasizes methods for preparation of fabrics prior to coloration, coloration auxiliaries, dye classification and sourcing, coloration theory, coloration of natural and manufactured textiles, modern coloration processes and equipment, color formulation, measurement and matching and sustainable textile coloration. The laboratory part of this course reinforces concepts discussed in lectures.

Prerequisite(s): TS 111, TS 122, TS 132, or TS015/115 or approval of chair.

TT 362 — Textile Finishing - Principles, Practices and Advancements

2 credits; 1 lecture and 2 lab hours

This course provides students with a comprehensive study of the principles and practices of textile finishing technologies, allowing them to evaluate the functionalities and principles of finishes applied to textiles. Both conventional and emerging technologies are discussed. Sustainable textile finishing including reglatory and social compliance are also emphasized.

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

TT 381 — Knit Product Development I

2.5 credits; 1 lecture and 3 lab hours

This course presents students with basic technical principles of weft and warp knit structures, including the relationships between stitch formation, fabric construction, yarn selection, and knitting machinery. Parameters that affect aesthetics, performance and cost are studied. Emphasis is placed on the practical application of knitted structures in current markets.

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

TT 382 — Knit Product Development II

2.5 credits; 1 lecture and 3 lab hours

This course presents students with advanced technical principles of weft and warp knit structures, including the relationships between stitch formation, fabric construction, yarn selection, and knitting machinery. Parameters that affect aesthetics, performance and cost are studied. Emphasis is placed on the practical application of knitted structures in current markets.

Prerequisite(s): TT 381.

TT 446 — Textile Finishing Technology

2 credits; 1 lecture and 2 lab hours

Presents the aesthetic and functional values of textile finishing. Finishing methods and their feasibility with respect to appearance, performance expectations, quality, and effect on hand are covered. Emphasis is placed on finish practicality, quality, and longevity.

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

TT 455 — Total Quality Management for Textile Products

1 credit; 1 lecture hour

This course examines the processes required in implementing a TQM plan in a global environment. It addresses the major factors relating to customer satisfaction, including fit and functionality, and the ways in which quality managers interact within the TQM process.
Prerequisite(s): TS 015/115 or TS 111 or TS 122 or TS 132 or approval of chairperson
Co-requisite(s): TT 055.

TT 471 — Technology and Marketing of Printed Textiles

2 credits; 2 lecture hours

Students study the marketing practices as well as the technical considerations of commercially accepted print processes and products. Color palettes, design repeat limitations, and marketing strategies for end-use applications in the apparel and home furnishings industries are emphasized.
Prerequisite(s): TS 015/115 or TS 111 or TS 122 or TS 132 or approval of chairperson.

TT 472 — Hi-Tech Textiles

2 credits; 2 lecture hours

Examines the marketing of hi-tech fabrics. Product applications, major suppliers, technological trends, distribution channels, and industry/government standards are studied. Product development is discussed.
Prerequisite(s): TS 015/115 or TS 111 or TS 122 or TS 132 or approval of chairperson.

TT 474 — Textiles: Domestic and International Markets

3 credits; 3 lecture hours

The American textile complex is examined as an interactive player in a global network of suppliers, production centers, and distribution markets. Primary emphasis is on a study of the international market forces that affect both domestic and off-shore textile product development.
Prerequisite(s): TS 015/115 or TS 111 or TS 122 or TS 132 or approval of chairperson.

TT 476 — Textile Project Development

3 credits; 3 lecture hours

Provides students with a realistic view of the production of a commercially marketable fabric line. Understanding of artistic inspiration, timing, manufacturing, and costing decisions are necessary for successful completion of the final project.
Prerequisite(s): TT 342 and TT 477.

TT 477 — Textile Converting and Costing

3 credits; 2 lecture and 2 lab hours

Studies the principles and practices in purchasing yarn and greige goods for conversion to fashion fabrics. Domestic and global sourcing systems as well as costing procedures are examined.
Prerequisite(s): TT 326 and TT 336 or approval of chairperson.

TT 478 — Presentation and e-Portfolio

1 credit; 2 lab hours

Students are exposed to various techniques for developing digital assets and assembling them into an electronic portfolio. Emphasis is placed on organization, critical thinking, and presentation skills. For their final project, students produce and present an e-portfolio that showcases their textile development and marketing skills.
Prerequisite(s): TT 326 and TT 336 or approval of chairperson.

TT 499 — Independent Study in Textile Development and Marketing

1-3 credit

Prerequisite(s): a minimum 3.5 GPA and approval of instructor, chairperson, and dean for Business and Technology.