

**BERGEN COMMUNITY COLLEGE
BUSINESS, ARTS & SOCIAL SCIENCES
Fashion Apparel Design (FAB)**

Departmental Policy Syllabus

FAB-102 Textile Science & Construction

Course & Section:

Credits: 3 | Lecture [3.00]

Prerequisites: FAB-101

Co-requisites: None

Instructor:

Email:

Office Hours:

Classroom:

COURSE DESCRIPTION

This course is an introduction to textile science, including natural and synthetic fiber sourcing, and the variety of construction techniques. Emphasis is placed on identifying and evaluating fiber and fabric construction characteristics, correct use of terminology and determining appropriate uses in the design and construction of garments.

STUDENT LEARNING OUTCOMES

After successfully completing all course activities, the student will be able to:

- 1) Recognize and understand differences between a variety of natural and synthetic fibers.
- 2) Describe the processes of yarn development.
- 3) Recognize and understand differences between various textile construction methods, including woven, knitted, non-woven etc.
- 4) Utilize the appropriate textile terminologies and understand the definitions related to each.
- 5) Recognize a variety of textile finishes, and understand basic dyeing and printing techniques.
- 6) Outline the variety of smart and responsive textiles currently available in the industry.

MEANS OF ASSESSMENT

Students will be assessed through a variety of methods, including:

- 1) Assignments
- 2) Tests
- 3) Final Project & Presentation

REQUIRED TEXTBOOK & RESOURCES

Kadolph, Sara. Textiles 11th ed. New Jersey: Pearson Prentice Hall, 2010.
ISBN-13: 978-0135007594

STUDENT SUPPLIES

Swatch Kit for Kadolph's Textiles 11th ed. New Jersey: Pearson Prentice Hall, 2011.
ISBN-13: 0-13-235869-7

SUGGESTED RESOURCES

Superhuman Performance, Museo del Tessuto

Quinn, Bradley; Textile Designer at the Cutting Edge, Laurence King Publishing, 2009.
ISBN-13: 978 1 85669 581 7

Black, Sandy, ed. Fashioning Fabrics: Contemporary Textiles in Fashion, London, Black Dog, 2006.

Braddock, Sarah and Marie O'Mahony. Techno Textiles 2, rev. ed. London: Thames & Hudson, 2005.

Elsasser, Virginia H. Textiles: Concepts and Principles, 2nd ed. New York: Fairchild, 2005.

Gale, Colin. Fashion and Textiles: An Overview. New York: Berg, 2004.

Hiney, Mary Jo. Fabulous Fabrics: Elegant & Innovative Techniques to Embellish Textiles. New York: Sterling, 2000.

McQuaid, Matilda. Extreme Textiles: Designing for High Performance. New York: Princeton Architectural Press, 2005.

Tortora, Phyllis G. Understanding Textiles, 6th ed. Upper Saddle River, NJ: Prentice Hall, 2000.

Yeager, Jan. Textiles for Residential and Commercial Interiors, 2nd ed. New York: Fairchild, 2000.

<http://fibersource.com>

<http://www2.dupont.com>

<http://www.source4style.com>

<http://www.woolmark.com>

<http://www.emergingtextiles.com>

<http://cottoninc.com>

<http://www.textilequarterly.com>

<http://www.ecotextile.com/>

Tutoring Center

The tutoring center is located in L-125. Telephone: (201) 447-7489 and online at:

<http://www.bergen.edu/tutoring/>

Writing Center

Available in person room L-125 and online: <http://www.bergen.edu/owl/>

Library

The library has a number of textbooks, databases, multimedia and aids in its regular and reserve holdings, which may be used as a reference. In addition to the resources mentioned above students should be encouraged to make full use of the Sidney Silverman Library (in person and online at <http://www.bergen.edu/library/>).

RESEARCH, WRITING & EXAMINATION REQUIREMENTS

Exams

Students will be tested on the terminologies and basic principles of each unit of study presented in class.

Assignments (Swatch Kit Analyses)

Students will study and analyze the properties of the textile swatches in their swatch kit and provide a report on their findings, related to the lectures and their personal research.

Final Project & Presentation

Students will work together in groups to find the appropriate fabrics to complete a collection of four women's garments. They will provide an analysis of their chosen fabrics and how they relate to the design of their garments, including finishes and care. Their findings will be presented to the class using swatches, sketches and other presentation tools.

COURSE CONTENT

This course will cover the following units of study:

UNIT 1: Students will learn the basics of fiber properties, textile types and production, including mills.

UNIT 2: Students will learn about natural and organic fibers from growth through spinning, weaving/knitting and finishing, in addition to usage and marketing.

UNIT 3: Students will learn about synthetic fibers, how they are made and from what source through spinning, weaving/knitting and finishing and including usage and marketing. Special emphasis is placed on new developments in high-tech fabrics.

UNIT 4: Students will learn about spun and filament yarns, yarn twist, carded and combed cotton, worsted and woolen, and single and ply yarns.

UNIT 5: Students will learn the differences between woven and non-woven fabrics, focusing on the process and qualities, as well as their appropriate use in design.

UNIT 6: Students will learn about knits, crochets and other knotting techniques, the process and qualities, as well as their appropriate use in design.

UNIT 7: Students will learn about textile finishing, their functionality and aesthetic qualities. In addition, they will study dyeing and print techniques, as well as learn the basics of textile testing and care.

UNIT 8: Students will learn the basics of sourcing fibers, textiles and other design materials, with a focus on global supply chain issues related to politics, sustainability and environmental impact.

GRADING POLICY

Quizzes 20%
Assignments 30%
Journal 20%
Final Project 30%

GRADING SCALE

90-100%	A	70-75%	C
86-89%	B+	60-69%	D
80-85%	B	0-59%	F
76-79%	C+		

BCC ATTENDANCE POLICY

All students are expected to attend punctually every scheduled meeting of each course in which they are registered. Attendance and lateness policies and sanctions are to be determined by the instructor for each section of each course. These will be established in writing on the

individual course outline. Attendance will be kept by the instructor for administrative and counseling purposes.

FAB ATTENDANCE POLICY

Class participation and in-class work are key to succeeding in fashion apparel design. Three or more absences will result in a full letter grade drop for this course. Six or more absences will result in an automatic failing grade.

COURSE OUTLINE

Week 1: *[add class dates]*

Introduction to Class, Introduction to textiles, fabric types and basic production including mills.

Week 2:

Natural and organic fibers, development, usage and marketing.

Week 3:

Test 1: Natural fibers.

Synthetic and man-made fibers, research and development, usage and marketing.

Week 4:

Test 2: Fiber types.

Spun and filament yarns, yarn twist, carded and combed cotton, worsted and woolen, and single and ply yarns.

Week 5:

Students will learn about the variety of different woven materials, as well as weaving methods, including twill, jacquard, double face, handloom, etc.

Week 6:

Students will learn about the variety of different non-woven fabrics and methods, including felting, bonding, etc.

Week 7:

Students will learn about the variety of different techniques to produce fabric, including knitting, crochet, macramé, etc.

Week 8:

Test 3: Wovens, knits and non-wovens.

Students will learn the variety of different fabric finishes and coatings, their use and aesthetic qualities.

Week 9:

Students will overview various different printing techniques, the process, the dyes and the aesthetic and technical qualities of each, including rotary printing, screen printing, block printing etc.

Week 10:

Students will overview the various different types of dyes and techniques, including AZO free, natural, mineral etc.

Week 11:

Students will overview a variety of cutting edge printing techniques and related technologies, including digital printing, and 3D printing.

Week 12:

Students will learn basic textile testing for color and quality, as well as acceptable margins of error, as well as care instructions and labeling requirements.

Week 13:

Test 4: Finishing, dyeing and printing.

Introduction to sustainable textiles, including recycled fibers, and the environmental impact of not sustainable textiles; and the political and trade issues related to sourcing fibers from around the world.

Week 14:

Work on Group Projects.

Week 15:

Complete Final Group Project. Presentations.

Note to Students: This Course Outline and Calendar is tentative and subject to change, depending upon the progress of the class.