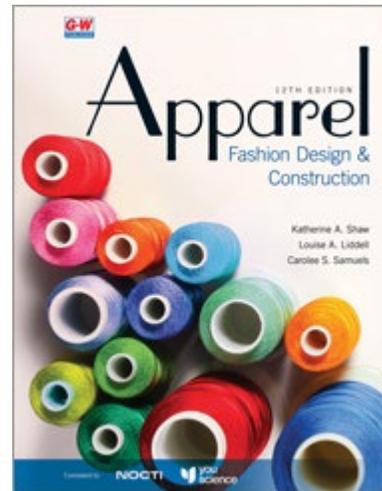


Correlation of
Apparel: Fashion Design & Construction, Katherine Shaw, Louise Liddell, and Carolee Samuels
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to
Precision Exams by YouScience

Goodheart-Willcox is pleased to partner with Precision Exams by YouScience by correlating *Apparel: Fashion Design & Construction* to their standards for Sewing Construction & Textiles I. Precision Exams standards and Career Skills Exams were created in concert with industry and subject matter experts to match real-world job skills and marketplace demands. Students that pass the exam and performance portion of the exam can earn a Career Skills Certification.

The correlation chart below lists the standards, objectives, and indicators for the Sewing Construction & Textiles I exam in the left column. Corresponding content from *Apparel: Fashion Design & Construction* that can be used by a student to help achieve the standard, objective, or indicator is listed in the right column.

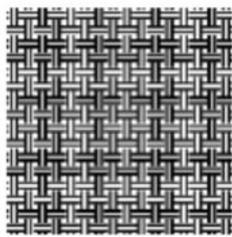
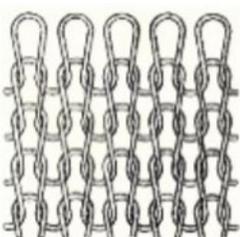
For more information on Precision Exams by YouScience, including a complete listing of their 150+ Career Skills Exams and Certificates, please visit <https://www.youscience.com/certifications/career-clusters/>.

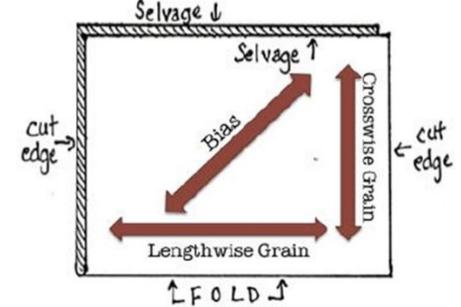


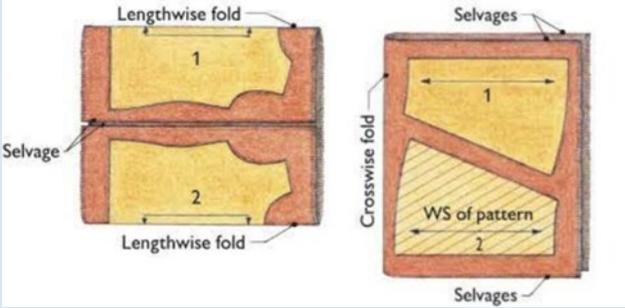
Standards / Objectives / Indicators	Textbook Pages
Standard 1: Students will identify careers and products in the apparel design and production industry.	
Objective 1. Identify soft goods (i.e., products made with textile and fabrics) in the apparel design and production industry. Examples: Clothing, bags, linens, home furnishings.	27-41, 42-59, 100-107, 148-195, 197-207, 345-349, 384-393
Objective 2 Discuss design and career opportunities in the apparel design and production industry (e.g., sewer, apparel designer, gear designer, textile designing, product developer, pattern drafting).	17, 22, 36, 45-51, 55-57, 60-74, 79-80, 83-84, 89-90-93, 101-102, 104-110, 112-115, 125, 145, 161, 166, 173, 195, 207, 227, 245, 438-445, 460-461. 478-493
Standard 2: Students will be able to recognize basic sewing equipment and its function.	
Objective 1. Identify sewing machine parts and their function, safety, and maintenance.	239-245

Standards / Objectives / Indicators	Textbook Pages
Indicator 1: Identify the stitch plate, feed dogs, presser foot, presser foot lever/lifter, bobbin case, spool pin, upper thread tension, thread take-up lever, foot pedal, hand wheel, stitch length control, and stitch width control.	239-241
Indicator 2: Demonstrate how to thread the sewing machine, how to replace a needle, and how to turn the hand wheel toward you when sewing.	241-242, 264
Indicator 3: Identify what a correct stitch looks like and how it is formed (i.e. sewing machine forms a stitch when the upper and bobbin threads interlock).	264
Indicator 4: Identify basic machine problems and their solutions.	242
a. Thread jam, Tension issues - Rethread machine, make sure thread is through the tension discs, and take up lever, needle is threaded in the correct direction.	242
b. Correctly rethread bobbin, recognize that most sewing machine problems result from improper threading, incorrect thread choice and poor-quality thread.	242
c. Dull/broken needle - Replace needle, check needle position.	242
d. Incorrect stitch formation - Check tension, check stitch selection. i. Skipped stitches (threaded wrong, bad needle, wrong needle being used) ii. Puckered seams (check tension, threading) iii. Snagged fabric (tension and needle)	242
Indicator 5: Noisy sewing machine. (bad needle, needs to be oiled, threaded problems)	242
Indicator 6: Identify needle types and sizes (e.g. universal, sharp, stretch/ballpoint). a. The bigger the number the bigger the hole in fabric.	232-233, 306
Indicator 7: Use machine manual to demonstrate correct machine maintenance. a. Cleaning and lint removal b. Oil machine c. Replace needle	233, 241, 243
Indicator 8: Identify safe sewing procedures (e.g. keep fingers away from needle, avoid distraction, secure loose items).	243, 265

Standards / Objectives / Indicators	Textbook Pages
Objective 2: Identify sewing tools, their function, maintenance, and safety procedures.	228-245
1. Seam ripper – to remove stitches and open buttonholes.	231
2. Straight pins – hold layer of fabric together and attach patterns.	233, 255, 257, 265, 280
3. Shears – to cut fabric.	230-231
4. Scissors – to cut paper.	230-231
5. Rotary cutter – to cut straight lines.	230-231
6. Cutting mat – to protect surface when using rotary cutter.	231
7. Cutting ruler – to provide a straight edge, protect fingers when using a rotary cutter and to measure.	231
8. Seam gauge – a six-inch ruler with an adjustable guide for transferring and repeating measurements.	231, 257
9. Tape measure – a flexible ruler made of fabric or plastic.	231
10. Iron – a electrical heated appliance for flattening, creasing, and shaping fabric.	231, 288-289, 407-408
11. Pressing cloth – Muslin, Organza, or silicone cloth placed over fabric to prevent marking or scorching when pressing.	238, 268
12. Marking tools – used to transfer markings from pattern to fabric.	232, 257, 259
Standard 3. Students will differentiate the characteristics of specific textiles.	
Objective 1. Identify the basic fibers and characteristics of manufactured and natural textiles. Recognize that fiber content establishes many of the characteristics of a specific fabric.	148-161
Indicator 1: Identify natural fibers (e.g. cotton, linen, silk, wool) and their characteristics. a. General characteristics: come from plants and animals, moisture absorbent.	47, 62-64, 78, 87-88, 95, 148-161, 357-359, 378, 435,
i. Cotton: plant source 1. Pros - absorbent, comfortable, durable, easy to launder, stronger wet than dry. 2. Cons - wrinkles, shrinks, mildews.	151-152
ii. Linen: plant source (flax) 1. Pros - absorbent, natural luster, quick drying. 2. Cons - wrinkles, frays, little stretch, mildews.	152-154
iii. Silk: animal source (silkworm cocoon), 1. Pros - absorbent, natural luster, insulating, strong, resilient. 2. Cons - degrades and yellows from age and sunlight weaker wet than dry, water marks.	49, 156-157
iv. Wool: animal source (fur) 1. Pros - absorbent, strong, elastic, flame resistant, insulating, wrinkle resistant. 2. Cons - shrinks when laundered improperly, bleaches with sunlight, damaged by moths.	154-156

Standards / Objectives / Indicators	Textbook Pages
Indicator 2: Identify manufactured fibers and their characteristics.	162-173
a. General characteristics: made from chemical processes (some made from natural elements mixed with chemicals while other are made completely from non-natural substances)	162-173
i. Nylon: Chemical source 1. Pros - strong, water repellent, colorfast, abrasion resistant. 2. Cons - frays easily, non-recyclable.	55, 167
ii. Polyester: Chemical source 1. Pros - good shape retention, easy to launder, wrinkle resistant, colorfast. blends well with other fibers. 2. Cons - retains oily stains, pills, builds static.	55, 167-168
iii. Rayon: Cellulose source 1. Pros - soft and comfortable, drapes well, blends well with other fibers, dyes well. 2. Cons - shrinks, poor shape retention, wrinkles. dry clean only.	55, 165-166
iv. Spandex: Chemical source 1. Pros - very elastic, adds stretch when blended with other fibers, resistant to oils and outdoor elements. (sun, sea and sand) 2. Cons - shrinks, damaged by heat, can be difficult to sew.	55, 169
v. Bamboo: Cellulose source 1. Pros - soft, strong, water absorbent, renewable. 2. Cons - wrinkles, takes longer to dry and yellow with time.	165-166
Indicator 3: Identify advantages of blended fibers used in fabrics. a. They combine the best characteristics of two or more fibers.	148-161, 162-173, 192-193, 435
Objective 2: Examine the construction of fabric.	175-185
Indicator 1: Identify the characteristics of woven, knit and non-woven/felted fabrics.	175-185
<p>a. Woven: warp and weft yarns are interlaced at a 90-degree angle, zero to limited elasticity.</p> <p>b. Knit: made by looping yarns together, medium to high elasticity.</p> <p>c. Non-woven/felted: fibers are pressed together with heat, moisture, pressure.</p> <p>d. Identify the correct fabric for a project.</p> <div data-bbox="212 1598 444 1835" style="display: inline-block; vertical-align: middle;">  </div> <div data-bbox="565 1598 805 1835" style="display: inline-block; vertical-align: middle; margin-left: 20px;">  </div> <div data-bbox="911 1598 1133 1835" style="display: inline-block; vertical-align: middle; margin-left: 20px;">  </div>	175-185
Standard 4: Students will implement pre-construction skills at the introductory level.	
Objective 1: Identify the information found on a commercial pattern envelope.	211- 227, 325-326.

Standards / Objectives / Indicators	Textbook Pages								
a. body measurements & corresponding pattern size	212-216, 344,								
b. suggested fabrics	217, 219								
c. notions (refers to all the supplies that will be needed to complete a project (i.e. elastic, thread, buttons, bias tape, zippers, trims)	234-239								
d. yardage requirements, differentiate 45 and 60" width	217, 219								
e. finished garment measurements	213-215								
f. technical facts – black and white sketch of front, back and detailed views	218-222								
Objective 2: Identify information found on the guide sheet.	219-222								
Indicator 1: Pattern pieces (i.e. line sketches of each pattern piece used in the garment are arranged and numbered for easier reference)	221-222								
Indicator 2: Layout diagrams (diagrams suggesting placement of pattern pieces on fabric)	220-221								
Indicator 3: Sewing instructions	219-221								
Indicator 4: Glossary terms and symbols legends	220-221								
Indicator 5: Seam allowances	256, 264								
Objective 3: Identify the terminology of fabrics.	175-195								
Indicator 1: Selvage: tightly woven finished edge of fabric formed by the crosswise yarns.	178								
Indicator 2: Warp/lengthwise grain: grainline that is parallel to the selvage commonly referred to as straight of grain.	178								
Indicator 3: Weft/crosswise grain: grainline that runs; perpendicular to the selvage typically the cut/raw edge.	178								
<p>Indicator 4: Bias: 45-degree angle to the selvage; has stretch.</p>  <p>The diagram shows a rectangular piece of fabric. The top and bottom edges are labeled 'Selvage' with arrows pointing down and up respectively. The left and right edges are labeled 'cut edge' with arrows pointing outwards. A horizontal arrow at the bottom is labeled 'Lengthwise Grain'. A vertical arrow on the right is labeled 'Crosswise Grain'. A diagonal arrow from the top-left to the bottom-right is labeled 'Bias'. At the bottom center, there is a double-headed arrow labeled 'FOLD'.</p>	249								
Objective 4: Prepare a pattern for layout and cutting.	247-261								
<p>Indicator 1: Identify pattern tissue terminology/symbols.</p> <table border="1" data-bbox="212 1696 976 1860"> <thead> <tr> <th>Symbol</th> <th>Description</th> <th>Purpose</th> <th>Where Located</th> </tr> </thead> <tbody> <tr> <td data-bbox="212 1717 423 1860">  </td> <td data-bbox="423 1717 610 1860">Solid line with an arrow point at one or both ends</td> <td data-bbox="610 1717 797 1860">To orient the pattern on the fabric for cutting; usually indicates the lengthwise grainline, parallel to the selvage</td> <td data-bbox="797 1717 976 1860">On all pattern pieces</td> </tr> </tbody> </table>	Symbol	Description	Purpose	Where Located		Solid line with an arrow point at one or both ends	To orient the pattern on the fabric for cutting; usually indicates the lengthwise grainline, parallel to the selvage	On all pattern pieces	221-222, 255
Symbol	Description	Purpose	Where Located						
	Solid line with an arrow point at one or both ends	To orient the pattern on the fabric for cutting; usually indicates the lengthwise grainline, parallel to the selvage	On all pattern pieces						
Objective 5: Demonstrate correct placement of pattern pieces on the fabric.	253-256								

Standards / Objectives / Indicators	Textbook Pages
Indicator 1: A project does not hang properly if the fabric is of grain.	248-250
Indicator 2: Check for directional print and nap (has a definite top and bottom). A fabric with a nap, pile, or directional print needs a one-way layout.	254-255
Indicator 3: Follow suggested layout. a. The fabric is usually folded lengthwise for cutting.	253
Indicator 4: Fabrics with asymmetrical prints or weaves need to be cut out in a single layer.	254-255
Indicator 5: When cutting individual layers. Flip over some pattern pieces for their second cutting to create mirror images.	254
Indicator 6: A crosswise layout is often needed for wide pieces and sometimes a layout shows a double fold, in which both selvages are brought to the center.	253-254
Objective 6: Correctly position, secure, and cut out the fabric pieces.	219-221, 230-231, 256, 306
Indicator 1: Place pattern pieces according to grainline and place-on-fold pattern symbols.	255
Indicator 2: If using pins or weights, space and position pins inside cutting line. Place pins closer together on curves to secure the fabric.	255-256
Indicator 3: Select and use appropriate cutting tools. Use shears to cut out fabric. Hold shears perpendicular and in contact with the cutting surface.	230-231, 256
Indicator 4: Mark notches.	221, 255-256
Indicator 5: Keep pattern pieces as flat as possible, cutting around the pattern piece rather than moving it.	256,
Objective 7. Transfer pattern markings after cutting and before removing pattern pieces from fabric.	256-261
Indicator 1: Select and use appropriate marking tool for fabric. Mark on the wrong side of the fabric.	232, 256-257
Indicator 2: Air soluble pens disappear with exposure to air within a few days.	257, 259
Indicator 3: Water soluble pen markings disappear by applying a damp cloth to the fabric.	257, 259
Indicator 4: Chalk makes a nice straight line and is easily removed.	257
Indicator 5: For tracing wheel and paper, choose the lightest color paper that is visible on the fabric. Position colored side of paper on wrong side of fabric or between two fabric layers. Roll tracing wheel over pattern marking, use a ruler for long straight lines. Insert straight pins vertically through the pattern tissue and fabric at the markings and the mark the fabric on the wrong side at the pin location.	232, 257
	

Standards / Objectives / Indicators	Textbook Pages
Standard 5. Students will utilize construction techniques at the introductory level.	
Objective 1. Define and demonstrate the following construction terms:	263-311
Indicator 1: Basting stitch: Long, temporary stitch. Set the machine for the longest stitch possible; no backstitching, baste within the seam allowance, close to but not on the seamline.	259, 265-266
Indicator 2: Back stitch: Stitching a short distance to reinforce stitching in a seam. If available, you may use your machine’s “fx” function to lock the stitches at the beginning and end of the seam.	265
Indicator 3: Pivot: Technique to stitch a corner. Stitch to the corner marking. Leave the needle in the fabric and lift the presser foot. Turn the fabric. Lower the presser foot and continue stitching.	264-265, 277-278,
Indicator 4: Trimming: Trimming means to cut of part of the seam allowance evenly to reduce bulk. Trim away 3/8 of an inch of fabric along the full length of the seam. This will leave a ¼-inch seam allowance. Corners of garment pieces are trimmed by cutting diagonally across the corner. Be careful not to cut through the stitching.	272
Indicator 5: Clipping and notching a seam allowance makes them more flexible. a. Clip a concave (inside) curve within 1/8” of the stitching so the seam allowance outer edge can spread when turned back to release tension of the seam. b. Notch a convex (outside) curve by cutting away V-shaped wedges from the seam allowance to remove bulk.	272-273
Indicator 6: Grading/Layering is done on enclosed seams where the layered seam allowances create excess bulk. To grade a seam allowance, trim the side closest to the outer portion of the garment to 1/8”-3/16”, then trim the other allowance 1/4”-3/8”.	272-273
Indicator 7: Reinforce stitch: Smaller length stitching that make a seam stronger (12-14) stitches per inch). Reinforcement stitching is used in places like crotches and corners. A second row of stitching to make a seam stronger. This type of reinforcement stitching is used in places like armholes.	295, 296-297, 325
Indicator 8: Top stitch: Topstitching is a row of evenly spaced straight stitches visible on the right side of a garment, typically aligned parallel to an edge or a seam. Two functions are to anchor layers of fabric together, and to accent an edge as a finishing detail.	268-269, 273, 298, 301, 306
Indicator 9: Right sides together (RST): Fabrics are placed right sides together when sewing a seam allowance.	253, 266, 268-269, 308, 325
Objective 2: Examine and select correct thread for apparel design and accessory projects.	234-235, 306
Indicator 1: Standard thread is “all purpose.”	234
Indicator 2: Quality thread prevents stitching problems.	234
Objective 3: Identify and construct standard seam allowances and seam finishes.	264-272
Indicator 1: Seam allowance is the area between the cut edge of the fabric to the stitching line.	264
Indicator 2: Standard seam allowance for commercial pattern is 5/8 inch.	264, 306, 324-325

Standards / Objectives / Indicators	Textbook Pages
Indicator 3: Identify 1/4 (approx. the edge of the presser foot), 3/8, 1/2, 5/8, and 3/4-inch seam allowance guidelines on the needle stitch plate.	241, 264
<p>Indicator 4: A seam finish is applied to the raw fabric edges, used to prevent raveling/fraying, improves product quality and durability.</p> <p>a. Identify terms: pinked, zigzagged, and clean finished.</p> <p>i. Pinked - Trim seam allowance using pinking shears.</p> <p>ii. Zigzagged - zigzag stitch on the outer edge of the seam allowance.</p> <p>iii. Clean Finish - turn under 1/4" toward the wrong side of fabric then stitch near the fold.</p>	270-271
Objective 4: Press garment correctly.	238-239, 288-289
<p>Indicators:</p> <ol style="list-style-type: none"> 1. Press as you sew (never sew over a seam that has not been pressed). 2. Pressing is an up-and-down motion; ironing is a sliding motion. 3. Use correct temperature for fabric/fiber content. 4. Use steam/moisture if appropriate. 5. Use pressing cloth to prevent scorching and/or shine marks. 	238-239, 288-289
Standard 5. Students will develop professional and interpersonal skills needed for success in the fashion industry.	
Objective 1: Determine the difference between hard skills and soft skills.	444-445,
Indicator 1: Hard Skills: Hard skills are specific, teachable abilities that can be defined and measured.	60-73, 104-108, 262–291, 292–311, 444-445,
Indicator 2: Soft Skills: Personal attributes that enable someone to interact effectively and harmoniously with other people.	444-445, 469-470
Objective 2: Identify soft skills needed in the workplace.	61-75, 442-445, 448, 456-457, 464-479, 481-485, 487-489, 491, 492
Indicator 1: Professionalism	464-466, 469-470, 476,
Indicator 2: Respect Legal requirements/expectations	84-85, 88-89
Indicator 3: Good communication skills	469-472, 473-474
Indicator 4: Resourcefulness & creativity	17, 63-64, 285, 484, 490,
Indicator 5: Work Ethic	473, 476