

## The benefit of the jacket sewing technology in implementing double faced jacket

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### Abstract:

This study aims to benefit from the study of the lining sewing technology in design and innovation double face jacket to save time and efforts required to make two designs from lining jacket through designing one jacket from normal fabrics which help to keep warm property instead of using different interlining that founded between the outer fabric shell and the lining which is produced from normal fabric usually used in jackets. also, it is difficult for these fabrics to achieve the property of increasing the life time of the jacket. Since the jacket is one of the most important pieces of clothing and the most complex in manufacturing processes, as a result of the large number of production steps for the jacket, attention must be paid to studying the special processes that are based on manufacturing the jacket lining. Through the interest in studying the traditional fabrics used in regular linings, the most common types in the market, the difference between their types, studying the work method of the patterns for linings and the method of sewing such linings in the jacket. Where students of the fourth year of the ready-made-garments department were directed to make some appropriate designs for a two-faced jacket, so that each face was completely different in design and material from the other face. To achieve the aesthetic side in terms of a different distinctive design and achieve the functional side through the use of more durable and strong materials to achieve the property of warmth and durability.

then, two groups of designs were made, the first group contains three designs for women's jacket, and the second group contains three designs for men's jacket, these designs varied in their cuts and the use of collars with different shapes of collars that fit the idea of double face design, where there was variety in fabrics used in the second face of the design as a replacement of the common lining and interlining used in jacket, for example jeans, chamois, wool, non-woven fabric "cottage" and leather are used.

### Keywords:

Lining, double faced jacket, sewing technology

### 1-Introduction:

A jacket is a distinctive piece of clothing in the winter season due to the aesthetic and functional aspects of this piece of clothing by achieving the required warmth. The technology of a jacket lining is one of the most accurate and difficult technologies in the readymade garment field, furthermore a jacket is one of the most important pieces of clothing especially in winter.

The visible fashion fabric, facings, and lining of an exquisitely tailored jacket can make a strong fashion statement (Daryl Lancaster:2017). Linings are the functional parts of the garment, being used to maintain the shape of the garment, to improve the hang and comfort by allowing it to slide over other garments, to add insulation and to cover the inside of the garment of complex

construction, to make it neat. They are usually made from polyester, polyamide, acetate, and viscose. Linings are used in suits, blazers, trousers, vests, skirts, and dresses. For the garments where decoration or warm handle cotton is required, or polyester/cotton, wool and, wool mixtures can also be used (Kalaoğlu, F. and Meriç, B.:2005). While many studies have been focusing on jacket developments, there has been little attention given specifically to jacket lining manufacturing and to lining patternmaking. Along with the jacket, manufacturing is important because this garment is an important business wear item for men and women. Therefore, this study aimed to research jacket lining manufacturing and developing the concept of jacket lining and its use.

## 2-Conceptual framework.

**The jacket:** refers to a part of the outerwear, such as the short petticoat for the upper part of the body, and is worn by both sexes, and it is taken from the French word. (Yan Woad, Yarwood, D.: 1983), also called "sakko" in German, it is a bouffant robe for men, and its popularity was spread in England in the nineteenth century due to the origin of the jacket, which is the jerken "Jerkin," and the overcoat that the countrymen wore in the seventeenth century, and athletes after them, it was made of leather (KyBalova, L., Herbenova, O.:1972).

**Lining:** a lining is a separate but attached inner layer of fabric construction which conceals or covers the inside garment construction (Spike, Kathleen:1993), a lining adds to the comfort of the wearer; preserve the shape of a garment or add body to it; and conceal construction details and raw edges of fabric, thus giving a finished appearance to the inside of the garment. A neatly applied lining usually adds to the garment's quality (Rose Marie Tondl:1993), also a garment lining is generally referred to and treated as a "supportive" fabric. As a rule, a lining eliminates the need for time-consuming seam finishes while lengthening the life and durability of the fashion garment. According to Kathleen Spike, the famous clothing writer, "Nothing places a garment in the 'custom' or 'couture' category as distinctly as a professionally applied lining (Spike, Kathleen:1993).

### Research problem:

The technology of jacket lining is one of the most accurate and difficult technologies in the readymade garment field, hence the research problem:

- Is it possible to take advantage of the jacket lining sewing technology and replacing the known lining fabric with other common fabrics?
- Is it possible to get different designs for jacket in one clothing piece? Hence, saving time for sewing two different jackets with two liners.
- Is it possible to increase the consumption age of the jacket by utilizing the jacket lining and choosing a more durable material?
- Is it possible to choose two different materials and sew them together without affecting the appearance of the jacket?

### Research's importance:

- Providing students in readymade garment department with skills of sewing jacket lining and overcome the difficulties of sewing the lining.

- Exploiting the time and effort used in sewing the regular jacket lining with other fabrics suitable for implementing a jacket with a different design.
- Achieving the principle of sustainability through the ability to increase the consumption age of the jacket by using the heavier and more durable lining fabrics which are different from regular lining fabrics.

#### **Research goals:**

- Creating innovative design ideas that save time and effort.
- Benefit from studying sewing techniques of sewing two different materials together in one clothing piece.
- Taking advantage of the different materials to get the required warmth in winter jackets.

#### **Research's Methodology:**

- Descriptive analysis methodology
- Applied methodology

#### **Research's hypotheses:**

- Techniques of regular jacket lining is considered the basis for sewing jacket lining with different fabrics.
- The possibility of obtaining two completely different design in one design of one jacket.
- Increase the consumption age by implementing the jacket lining with suitable material that is different from the conventional liner type.
- Achieve the required warmth in winter jackets by using heavy materials instead of light materials used in lining fabrics.

#### **Research's limits:**

- 1-Creating a group of designs for two-faced winter jackets for young men and women.
- 2-The experiment was applied to a 4<sup>th</sup> grade student in readymade garments (26 students) - faculty of applied arts –Damietta University.

### **3-Previous work.**

#### **The regular jacket lining**

**The necessary characteristics of a lining fabric are fig (1, 2):** lightweight and pliable (so it won't dominate the other fabric), soft and smooth to touch (for comfort), slick enough to slide easily on and off the body, and a firm weave to withstand wear. The lining fabric should be compatible in weight, feel, and care requirements to the fabric of the outer garment. (Rose Marie Tondl: 1993)

**Also, Lining** protects the fashion fabric from the body, prolongs the life of a garment as it absorbs most of the wear and tear and it helps the fashion fabric to hang better on the body. Lining shows on the inside of a garment while interfacing, interlining and underlining are hidden between the fashion fabric and the lining (<https://www.britexfabrics.com>).



<https://tissura.com/articles/lining-fabrics>



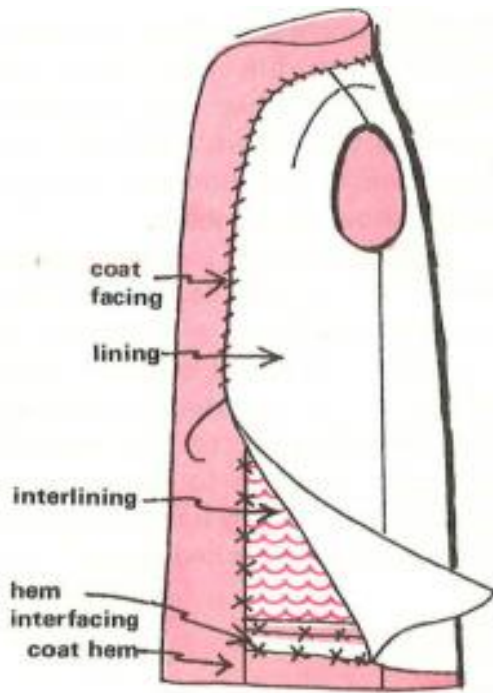
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Fig (1), (2) the lining of jacket

**There is a difference between lining and interlining:**

Interlinings are an additional layer of fabric, between the outer fabric and the lining, for warmth or as a windbreak fig (3), (4).

Typically, mount the interlining fabric to the lining for ease of insertion. Interlinings are usually omitted in the sleeves because they add bulk, any fabric that adds warmth can be used for an interlining (Daryl Lancaster: 2017)



Fig(3): the difference between lining and interlining( Speece, Jane: 1970)



Fig(4): the difference between lining and interlining (Daryl Lancaster:2017)

All of these terms refer to construction details that are usually hidden from sight when you're wearing a garment, but they serve an important function in maintaining the shape and comfort of your creation.

**Lining** is used to help hide the inner construction details of a garment, and also to help it slide off and on over other clothing with ease. Lining fabrics are usually slippery and silky, though other types may be used for effect. Lining is constructed separately from the garment and attached to facing or hem areas by hand or sewing machine. (<https://www.sewing.org>)

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**Although Interlining** is a fabric added to a garment when more warmth is needed, like in a winter coat. It may be a heavy fabric with added batting, or a lighter weight one like flannel or fleece. Interlining can be constructed separately from the actual garment (it's sometimes removable), or used as an underlining. (<https://www.sewing.org>)

### **The purpose of lining fabric**

The Encyclopedia for Apparel Engineering and Linings and Facings classifies the roles of lining as follows: (1) To improve comfort in terms of thermal or wetness properties; (2) To prevent sensory discomfort from prickliness or roughness of garment fabrics; (3) To help garments maintain good shape or silhouette; (4) To reduce wrinkling or residual deformation of the outer fabric and to provide durability; (5) To reduce friction when putting on and taking off clothing and moving; (6) To cover seams or interfacing inside lining; (7) to prevent transparency of the garment( Kataoka, N.:1994).

### **Choosing the lining fabric:**

Selecting the best lining for the project is easy once you set your priorities based on what qualities are important to your durability, wrinkle resistance, wash ability, luxuriousness, being light weight, or adding warmth. Then you can select the fabric that best meets your standards (Connie long:1998).

Good options for lining fabrics include (<http://clothes-press.net>):

- Acetate – a lightweight, soft synthetic fabric which drapes well and has a shiny, lustrous surface, can only get dry clean.
- Habutai silk – also called China silk, plain-weave, glossy silk fabric with a soft handle. Hand wash or dry clean.
- Polyester lining – lightweight, soft plain-weave synthetic fabric which is often made in the style of habutai silk. It has a shiny surface and drapes well. Generally, it is washable on a gentle cycle.

### **Lining Fabric**

Lining Fabric Weight; When determining lining fabric weight (Millett, Sandra: 2000) type and style of garment should be considered in which the lining will be used, functionality (casual/sporty vs. tailored/professional vs. dressy/evening, etc...

Lining fabrics as being arranged according the weights from lightweight, such as china silk, to heavy weight, such as flannel-backed satin. The fiber content may be rayon, polyester, acetate, nylon, cotton, or silk (Connie long:1998).

- Lightweight - usually are silk and man-made fibers. However, batiste is considered a lightweight cotton lining. They are to be teamed with other lightweight fabrics for delicate blouses and soft, fluid dresses, pants and jackets/coats. Examples: China silk, chiffon, net, batiste, polyester lining fabrics.
- Medium weight - lining fabrics are by far the most used and can be found in all fiber content categories. They are used for suits, jackets, pants, dresses as well as medium weight coats.

Examples: taffeta, broadcloth, print cloth, rayon, and polyester lining fabric. • Coat-weight - fabrics are designed for outerwear including coats. Examples: flannel, poplin, satin backed taffeta, crepe-backed satin, heavyweight satin, commercially made lining fabrics (some are wind resistant).

• Heavyweight - usually consists of multiple fabrics combined for warmth and protection from the elements. They are bulky, but functional. Examples: Quilted fabrics, flannel-backed quilted fabrics, satin-backed quilted fabrics, pile fabrics (Millett, Sandra: 2000).

### The lining pattern making

Depending on the area of the garment, the lining should be larger and longer than the outer shell, so that the lining has sufficient ease. If there is not sufficient ease, the constant pulling and friction that the lining is subjected to will cause tears in the lining (Cabrera:1996), previous research showed that the jacket lining is 2.4- 5.6cm larger than the outer shell pattern (kim:2014).

Most patterns include either separate lining pattern pieces or instructions for cutting the lining from the regular pattern. If no pattern pieces or instructions are included, a simple jacket or coat can be lined by using the front, back and sleeve pattern pieces. (Tondl, Rose Marie:(1993).

#### Fig (5)

-Measure 1¼-inch from this line toward center front and back, extend the shoulder line 1½ inch, extend arms ½ inch at underarm.

-For a jacket or coat, add 1 inch to the center back from neck to bottom, sleeve extend underarm by ½ inch. Taper underarm seam down to elbow...

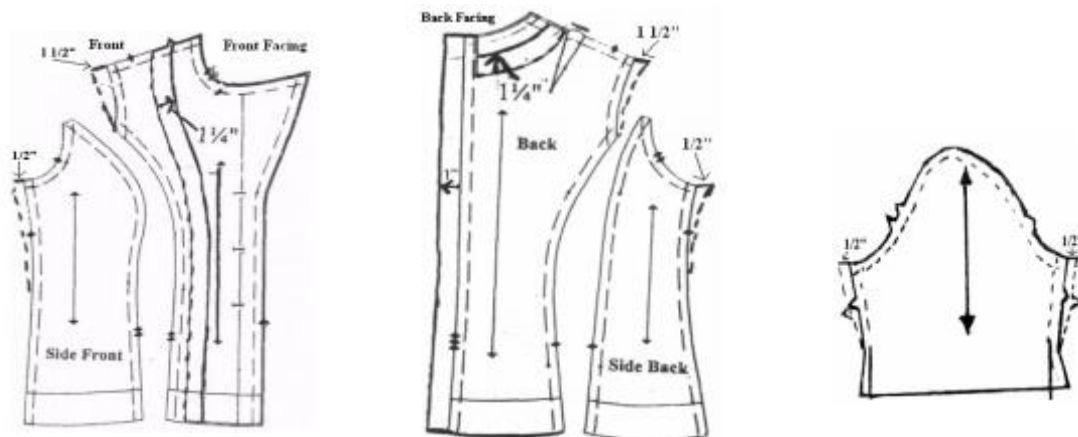
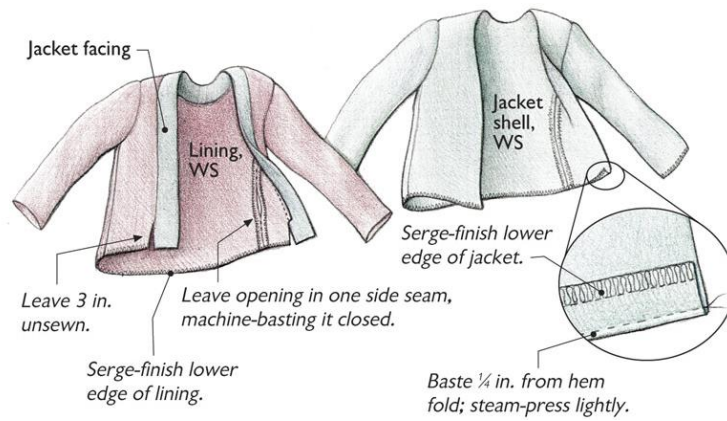


Fig (5): lining pattern making (Spike, Kathleen:1993)

### Lining Construction & Application

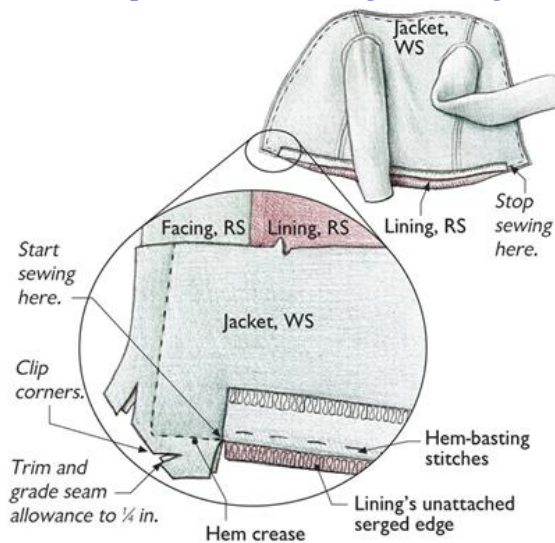
Linings are attached to the fashion garment by one of three methods fig (6,7): hand, machine, or combination (some hand sewing, some machine sewing). Garment and lining preparations differ somewhat depending on which method is used. Type of garment (skirt, jacket, etc.), garment design (short cropped jacket with/without facing).





**Fig (6): lining sewing methods**

<https://www.threadsmagazine.com>

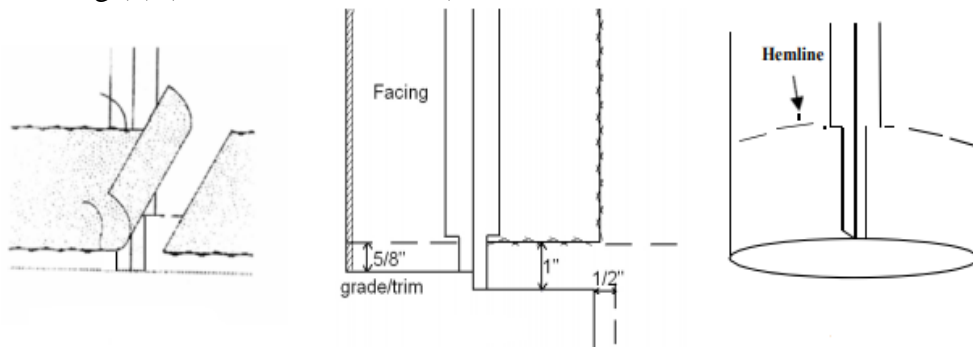


**Fig (7): lining sewing methods**

<https://www.threadsmagazine.com>

### Hand Method

Complete the fashion garment construction except for the hems (sleeve and lower jacket/coat). Apply collar, sleeves and facings, making sure you press carefully throughout the construction process. Seams may be lightly finished (pinked) if fabric travels extensively. Attach sleeve heads and shoulder pads. Bound buttonholes can also be finished; machine or hand-worked buttonholes should be completed. Buttons can be sewn on immediately or after the lining has been attached fig (8) (Sandra, Millett: 2000).



**Fig (8): lining sewing method (hand method) (Sandra, Millett: 2000)**

### Machine Method (ready-to-wear technique) fig (9)

The method described in this publication is sometimes referred to as the “bagging method.” It gives a very professional-looking product in a short amount of time. Sewing author Sandra Millett says, “...using the bagging method is as quick or quicker than finishing an unlined jacket.” (Sandra Millett: 2000).



Fig (9): Machine Method (ready-to-wear technique)

<https://www.wikihow.com/Sew-Jacket-Lining>

### Combination Method

The combination method is more generally used by manufacturers and home sewers than the completely hand inserted lining. In this method the body of the lining is assembled by machine and then inserted by hand. The sleeves can be joined with the main lining sections or can be put separately by hand, fig (10) shows preparing sections for combination method (Spence, Jane:1969).

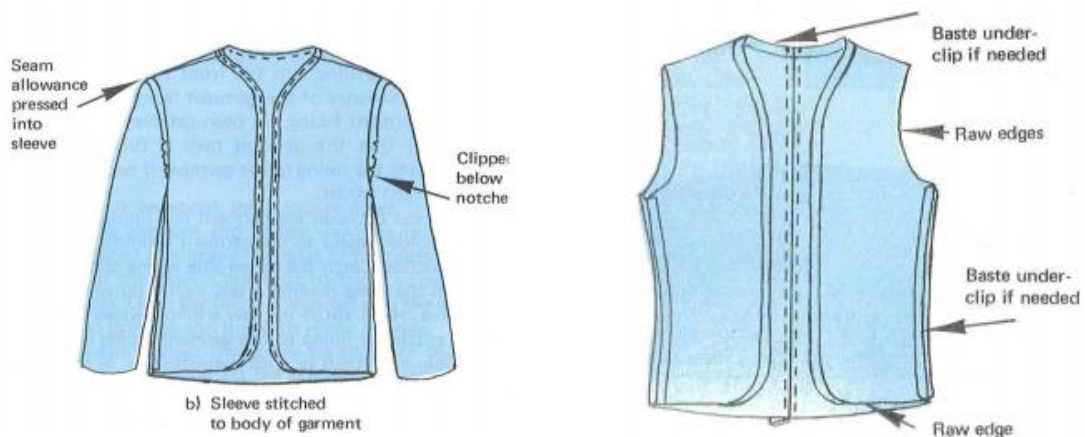


Fig (10): lining preparing sections for combination method

## 4- Experimental work.

The aim of the research is to combine tow designs in one design, and take the benefit of this combination in achieving durability of the jacket, warmth property by replacement lining, and interlining with ordinary fabrics. This conception of the research was applied to 4<sup>th</sup>-grade students in the readymade garments depatymnt, faculty of applied arts –Damietta University and creating a group of designs for two-faced winter jackets for young men and women, the students work out the following design. Six jackets have been chosen as shown in the following tables:



**First design**



**First face**

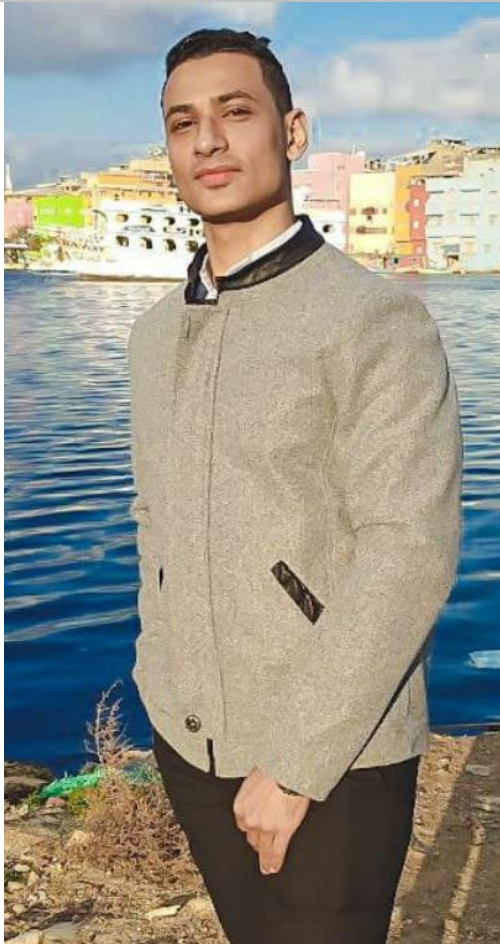
**Fabric:** synthetic leather  
**Color:** black  
**Washing:** dry wash or) Hand wash)  
**Description:** simple female jacket with princess cut, four buttons, fitted sleeves and tailored collar.



**Second face**

**Fabric:** non-woven fabric "cottage"  
**Color:** grey  
**Washing:** dry wash or) Hand wash)  
**Description:** simple female jacket with princess cut, four buttons, fitted sleeves with black leather strip and fur tailored collar.

**Second design**



**First face**

**Fabric:** non-woven fabric "cottage"  
**Color:** grey  
**Washing:** dry wash or) Hand wash)  
**Description:** simple male jacket with Chinese collar, fitted sleeves and two Weltd Pocket.



**Second face**

**Fabric:** synthetic leather  
**Color:** black  
**Washing:** dry wash or) Hand wash)  
**Description:** the same simple male jacket with Chinese collar, fitted sleeves and two weltd pocket sleeves with black leather strip and fur tailored collar.

**Third design**



First face

**Fabric:** water prove

**Color:** deep green

**Washing:** dry wash or) Hand wash)

**Description:** casual female jacket with Empire cut ,two patch pocket, fitted sleeves and tailored collar.



Second face

**Fabric:** chamois (*Warp knitting*)

**Color:** Beige

**Washing:** dry wash or) Hand wash)

**Description:** simple female jacket with princess cut , four buttons, fitted sleeves and tailored collar.



**Fourth design**



First face



Second face

**Fabric: water prove and Gabardine (twill 3/1)**

**Color: grey and black**

**Washing: dry wash or) Hand wash)**

**Description: casual male jacket with linear cuts, two separated front yoke fixed with buttons, two patch pocket with zipper, fitted sleeves with black rip cuff, black rip waist band, Chinese collar and separated cap show.**

**Fabric: jeans (twill 3/1)**

**and Gabardine (twill 3/1)**

**Color: blue and black**

**Washing: dry wash or) Hand wash)**

**Description: casual male jacket with linear cuts, two front yoke cuts, two patch bellows pocket with zipper on the chest, two welted pocket on both sides, fitted sleeves with black rip cuff, black rip waist band, Chinese collar and separated cap show.**

**Fifth design**



First face

**Fabric:** synthetic leather

**Color:** gray

**Washing:** dry wash or) Hand wash)

**Description:** simple female jacket with princess cut , one button on the waist, two welted pocket on both sides, separated fitted sleeves with flap cuts.



Second face

**Fabric:** wool (twill 2/2)

**Color:** aqua

**Washing:** dry wash or) Hand wash)

**Description:** simple female jacket with princess cut , one button on the waist, artwork on top left of the jacket, separated balloon sleeves with artwork gauntlet cuffs.



**Sixth design**

	
<p>First face</p>	<p>Second face</p>
<p><b>Fabric:</b> waterproof  <b>Color:</b> coffee  <b>washing:</b> dry wash  <b>Description:</b> casual male jacket with linear pleat closed inside with zipper and outside with press buttons, choir boy collar, two patch pocket with press button , two welted pocket on both sides, fitted sleeves with patch pocket on left sleeve only, badge on top right.</p>	<p><b>Fabric:</b> non-woven fabric “cottage”  <b>Color:</b> dark indigo  <b>washing:</b> dry wash  <b>Description:</b> casual male jacket with linear pleat closed inside with zipper and outside with press buttons, choir boy collar, two welted pocket on both sides, fitted sleeves with three buttons.</p>

**5- Research results:**

- The importance of replacing the jacket lining used from traditional fabrics with various other fabrics to increase the durability of the jacket.
- The use of different fabrics in the lining increases the aesthetic characteristics of the design and takes advantage of the presence of two different designs in one piece of clothing.
- The use of different materials helps to achieve the property of warmth instead of using interlining fabric.

## 6-Research recommendation:

- Developing the skillful and innovative side in designing clothes for students of the ready-made-garments department.
- Utilizing sewing techniques to create clothing designs with suitable functional performance.
- Keeping pace with the global trend towards sustainability and increasing the durability of clothing.

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