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# ADVANTAGES OF MODELING IN BASIC SIZES IN DESIGNING MODERN CLOTHES

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**Abstract**

Nowadays, the fashion industry is developing rapidly. The design of clothes, their shape, size and fabric, their suitability for human taste, aesthetic appearance and comfort are among the important factors. In this regard, the importance of modeling on a basic pattern in the process of developing and manufacturing clothes is incomparable. It is this approach that provides a number of conveniences and advantages in designing modern clothes.

**Key words**

design, modern clothes, styles, clothing construction, fashion designer, basic pattern, modeling.

## INTRODUCTION

How is the fashion and light industry in Uzbekistan? Of course, it is not like in France or Italy, Germany or the USA, or China. But it is gratifying that the number of ateliers and factories in our country is increasing day by day, and each of them is finding its place. If you read these job advertisements, you will see that tailors, designers, and fashion designers are the most sought-after specialists.

In increasing production efficiency, the quality of a wide range of products plays a special role. It consists of a complex of work quality, labor quality, product quality, and the attitude of the worker to his labor. Improving the quality of work is not only an important state issue, but also a local factor that changes the entire way of life of society. Without sewing high-quality clothes, it is impossible to accelerate scientific and technical progress today.

The main goal of automated design systems is to improve quality, reduce material costs, and shorten design times.

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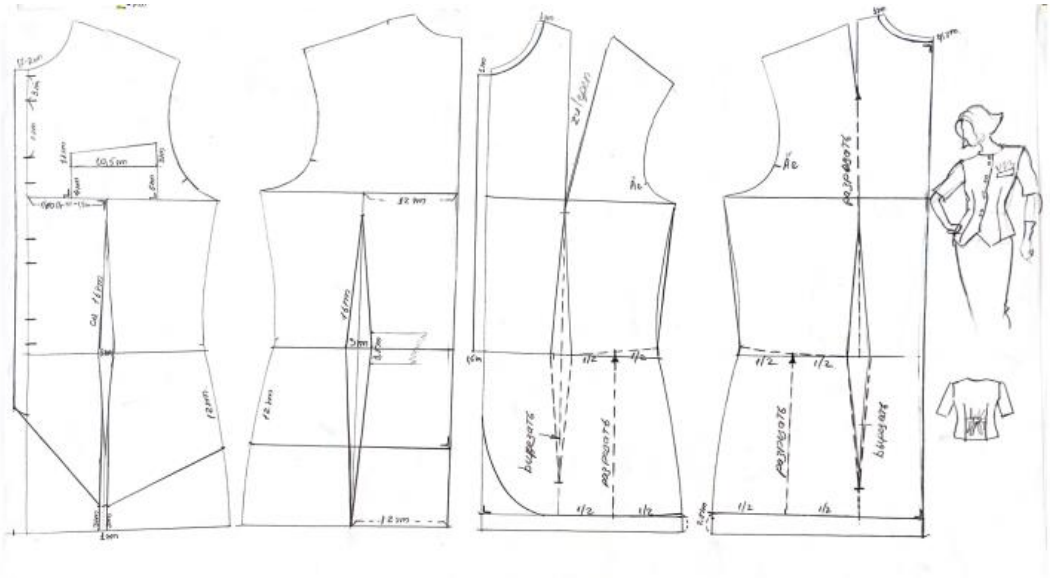
The products produced by small textile enterprises, joint ventures, and tailoring enterprises in our republic serve to satisfy the population's need for clothing.

**DISCUSSION AND RESULTS**

Clothing design is a complex creative process that combines artistic and technical problem-solving. The object of this process is the moving "human-clothing" system.

During the development process, human body shape, fashion, and style undergo significant changes, and this should certainly be taken into account when designing clothing. Therefore, design methods must change, develop, and evolve along with the dynamic changes in the "human-clothing" system. The realization of a designer's idea largely depends on the quality of design. That is why it is very important for specialists to choose a construction method.

It is true that fashion is always in the spotlight, and its trends and events are extremely changeable. However, a garment that is not perfectly tailored and tailored to the figure has no value. M. Muller & Son, a professional school specializing in tailoring techniques and the technology of creating perfectly tailored garments, is different from other schools for tailors and fashion designers. In addition, the tailoring method developed by Mikhail Muller two centuries ago, which was a revolutionary step for that time, has received international recognition. The proportional calculation-based cutting technique is easy to master, takes into account various deviations from the standard shape of the figure, saves time, and is very convenient to use in work. "Muller's system" laid the foundation for the rapid development of the sewing industry.



1- picture

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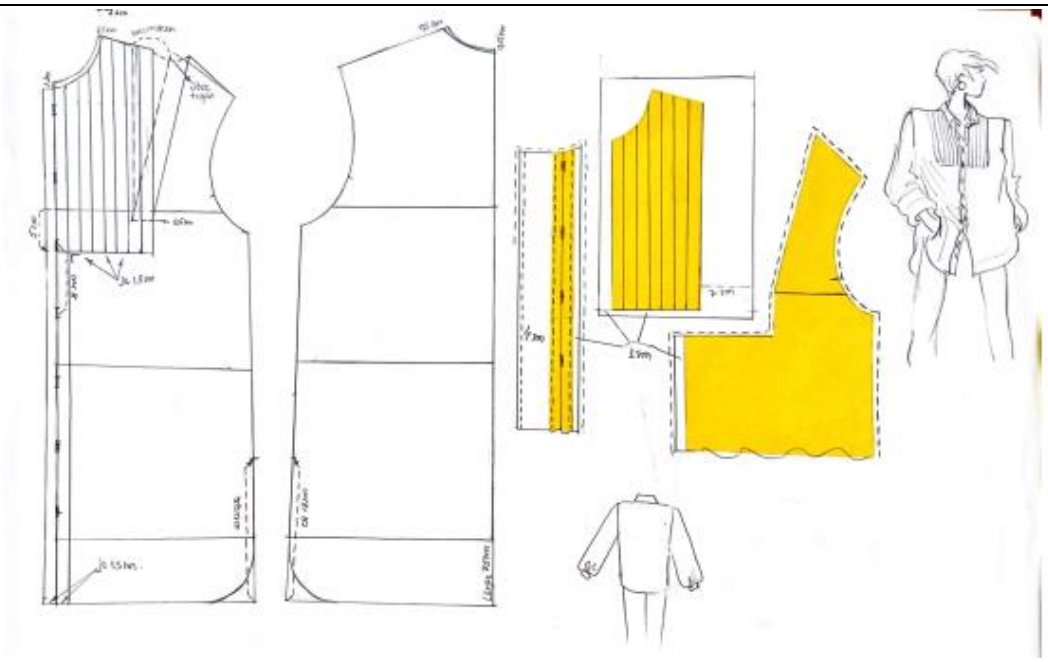

2- picture.

The modern clothing industry widely uses the pattern-based modeling method to create clothes. This approach helps designers and tailors create clothes with precision and quality. The main advantages of pattern-based modeling are listed below.

**1. Work with precision and perfection.**

A basic pattern is a basic construction designed to fit the dimensions of the human body and serves as a basis for creating a garment. Since modeling is carried out based on this pattern, the final garment fits the human body perfectly. This ensures that the garment has a good "fit", that is, the garment fits the body beautifully and is comfortable.[120]

- Ensures a perfect fit of the garment to the body.

**Ensuring a perfect fit:**

**1. Why is a fitted dress important?**

The fit of clothing improves a person's appearance and makes them feel comfortable and confident. If clothing does not fit properly:

• Shoulders hang down,

• Waist is tight or loose,

• Clothes lose their shape.

Therefore, through modeling on patterns, ergonomically comfortable clothes are created that fit the body structure.

[120] *Manba: fashion-era.com*

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**2. Key body points to consider when adjusting:**

When fitting clothing to the body, the following points are accurately measured:

- **Bust**
- **Waist**
- **Hip**
- **Shoulder width**
- **Shoulder to chest length**
- **Height**
- **Arm length and width**

A template is prepared based on these dimensions.

**3. The role of modeling in the basic model.**

• **Standard pattern** — suitable for the average body structure, but not completely suitable for everyone.

• **Individualized pattern** — created based on the customer's measurements, allowing you to sew a dress perfectly.

Using a template, the parts of the garment (front, back, sleeves, collar, waist) are placed correctly on the body.

**4. Use of computer programs (CAD)**

In modern sewing, using CAD programs (e.g. Gerber, Optitex, Clo 3D):

- An accurate 3D model is obtained through body scans,
- A corresponding template is automatically created,
- The fitting is performed without errors,
- You can preview how the dress will look through visualization.

**5. Choose a design that suits your body type:**

Everyone's body shape is different (e.g., hourglass, triangle, and straight). To get the perfect fit:

- The design is chosen according to the body type,
- It hides the body's flaws and highlights its advantages.

For example:

- Belts that define the waist,
- A-line skirts that cover the hips,
- Sleeve types that do not show the shoulders.

**6. Re-stitching (fitting) and adjustment:**

• After the garment is sewn, **the fitting** process is carried out - that is, the garment is tried on for testing.

• At this stage:

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- Wide or narrow areas are identified,
- The degree of comfort in body movements is checked,
- If necessary, the pattern is changed.

Perfectly fitting the garment to the body is:

• Making the garment look beautiful,

• Making it easy to move,

• The basis for obtaining a high-quality final product.

Modeling with a basic template allows you to manage this process in a clear, systematic, and professional manner.

•Reduces waste of materials of incorrect size.

Of course! Below we will introduce a detailed presentation on the topic of **"Reducing waste of materials of incorrect sizes"**. This issue is especially important in the garment industry, design and large-scale production.

***✂Reduce waste of materials with incorrect sizes***

**1. Problem: Incorrect dimensions and material waste**

In sewing, materials (fabrics, linings, coatings, etc.) are a valuable resource. If:

• When clothes are cut to the wrong size,

• When patterns are made with errors,

• When the sizes do not fit the person, unnecessary materials are cut or thrown away, which:

• Increases the cost of the product,

• Reduces production efficiency,

• Causes environmental damage (because waste increases).

**2. Waste is prevented by modeling in the template**

Key advantages:

*a) Precisely sized templates*

• Each garment is made to a predetermined size,

• The garment parts fit together – no additional adjustments are needed.

*b) Optimal material layout*

• Waste is reduced by optimally placing paper or digital patterns on the material.

• As much detail as possible is obtained from one fabric.

*c) Serial production based on the same patterns*

• Graduated (enlarged/reduced) patterns are prepared for several sizes of clothes.

• No need to remeasure every time.

**3. Saving material with the help of a computer**

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In modern CAD/CAM (Computer-Aided Design/Manufacturing) programs:

• Clothing details are drawn in exact dimensions,

• Optimal placement on the fabric is automatically calculated (nesting),

• Strategies for maximum material utilization are developed.

Examples:

**Programs such as Gerber, Optitex, Lectra, Clo3D** can help reduce material waste by 10–25%.

**4. Environmental and economic benefits**

*Ecological benefits:*

• Less fabric waste reduces waste,

• Garment factories comply with environmental standards.

*Economic benefits:*

• More clothes can be made with less fabric,

• The cost per garment decreases,

• Production efficiency increases.

**5. Examples observed during the production process**

| **Status** | **Dimensional modeling** | **Sewing without patterns** |
|---|---|---|
| Fabric waste | Low (5–10%) | Many (15–30%) |
| Lack of material for clothing | Almost no | It occurs frequently |
| Discarded details | Very little | More |
| Production cost | Stable, controlled | Variable, high |

**Reducing the waste of mis-sized materials is:**

• Increasing production efficiency,

• Maximizing material utilization,

• Avoiding errors, waste, and additional costs.

The basis for achieving this goal is modeling in a template - a reliable, economical, and environmentally friendly approach.

**2. Speeds up the production process.**

Pattern modeling saves time for designers and seamstresses. Once a basic pattern has been developed, it is possible to make various changes to create many new patterns. This simplifies the sewing process and increases efficiency.

**3. Allows you to create different variants of models**

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Various design elements - collars, sleeves, hems, decorative shapes - are added to the basic pattern, creating new models. This gives the designer ample opportunities to realize his creative ideas. Different types of fabrics, arrangement of details, and decorative elements can give the dress a unique look.

**4. It facilitates mass production.**

In mass production of clothing products, it is very important that all models are made to the same standard. Modeling using master patterns simplifies this process, because all models are developed on the same basis. This increases the quality and efficiency of production.

**5. Easy to expand the size range**

During the modeling process, the basic template remains unchanged, only different sizes (gradations) are introduced into it. This allows you to create several versions of the same model for people with different body types. In turn, this approach gives customers a wider choice.[121]

**Summary:**

It is known from history: One of the most important types of fine arts is graphic art. All types and genres are based on this type of art. There is a person who has mastered the art of drawing with a pencil, for whom it is easy to create and master all other types. In particular, since modern fashion is a daily human need, it is associated with the sewing characteristics of very luxurious and elegant clothes. The above-mentioned types of execution are created with intelligence, knowledge and manual labor. In the modern fashion industry, pattern modeling is one of the main tools for creating high-quality, comfortable, and stylish clothing. This method simplifies production processes, improves the quality of models, and makes it possible to create clothes that meet customer requirements. In principle, modeling is not only a technical process, but also a combination of art and technology.

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