# INTERMEDIANT APPAREL PRODUCTION

# NTQF Level-II

# Learning Guide#16

## UNIT OF COMPETENCE: Carry-out and Analyze Body Measurements

## Module Title: Carrying-out and Analyzing Body Measurements

## LG CODE: IND IAP2 M05 –LO2- LG16

## TTLM CODE: IND IAP2 TTLM 0919v1

**LO 2: Measure fit model**

| Instruction Sheet | Learning Guide#16 |
|---|---|

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- ✓ Obtain tools and equipment for measurement
- ✓ Establish and mark body reference points
- ✓ Take and record body measurements of fit model
- ✓ Consult designer and product development team

This guide will also assist you to attain the learning outcome stated in the cover page.

Specifically, upon completion of this Learning Guide, **you will be able to –**

- ❖ Tools and equipment are obtained and fit model prepared for measurement and or image capture.
- ❖ Body reference points are established and marked.
- ❖ Body measurements of fit model are taken and recorded.
- ❖ Designer and product development team are consulted for analysis of measurements.

**Learning Instructions:**

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below
3. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-checks” in each information sheets.
5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You may get the key answer only after you finished answering the Self-checks).
6. If you earned a satisfactory evaluation proceed to “Operation sheets and LAP Tests if any”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity.
7. After you accomplish Operation sheets and LAP Tests, ensure you have a formative assessment and get a satisfactory result;
8. Then proceed to the next information sheet

| | |
|---|---|
| **Information Sheet-1** | **Obtain tools and equipment for measurement** |

# Introduction

Well selected sewing equipment's are essential for making a garment of good appearance. These are usually available at each and every home, as these tools are helpful for women in Garment making. Tools for clothing construction can be classified as

1. Measuring tool
2. Drafting tool
3. Marking tool
4. Cutting tool
5. Stitching tool
6. Pressing tool

1) Measuring tools are needed for taking body measurements and transferring it into paper patterns. A measuring instrument is a device for measuring a physical quantity. In the physical sciences, quality assurance, and engineering, measurement is the activity of obtaining and comparing physical quantities of real-world objects and events. Measurement is a technique in which properties of an object are determined by comparing them to a standard. Measurements require tools and provide scientists with a quantity. Some of the measuring tools are

   I. Measuring Tape
   II. Meter scale
   III. Ruler

I. Measuring Tape is one of the important tool for sewing. This is commercially available in different models. With the use of this one can take their own body measurement or measure from a garment for stitching a new garment and to check the measurement of the garment to be sewing in between stitching. Wrinkles must be removed when measuring from a stitched garment. Note that the tape must not get twisted while measuring. The model or person to be measured must not bend while taking measurement. Select a firm, good quality tape which will not stretch after use. It is used to take body measurements. The best are made of flexible, synthetic material or glass fiber, which will not tear or stretch and having 150 cm length Meter scale are made of wooden, plastic or metal. They are useful for checking fabric width when fixing pattern pieces on material and for drawing long seam lines on fabric or paper.

II. Ruler is useful for measuring small distances as tucks, hems, facing, etc. on patterns, for drawings lines and marking dots.

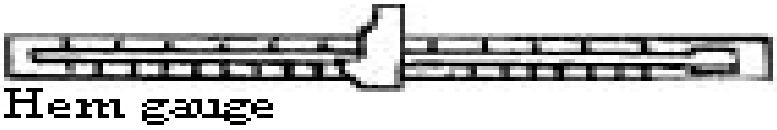
To work efficiently, the patternmaker must have the proper tools and supplies. To communicate effectively in the workroom and to minimize errors due to misunderstanding,

the patternmaker should know and understand terminology. This content introduces tools, suppliers, and definitions of terms used in industry.

The professional patternmaker arrives on the job with all tools required for patternmaking. Each tools should be marked with an identity symbol and transported in a carrying case. Tools may be purchased from apparel supply houses, art stores, department stores, and yardage stores. Specialized tools, such as a rabbit punch used to punch pattern holes for hanger hooks, are generally supplied by the manufacturers:

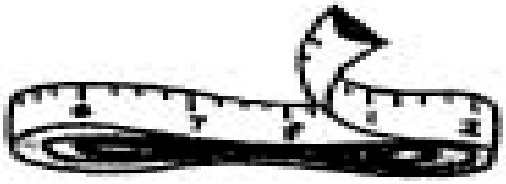
Measuring Tools and equipment's used in carrying out body measurements are:

- Manual or electronic tape measure
- Image capturing devices
- Pen/pencil
- Measure chart
- Tape, cord or elastic
- Eraser
- Ethiopian standard chart



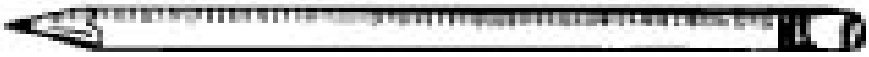
Hem gauge

Tablet



Tape measure

Pencil



| Self-Check -1 | Written Test |
|---|---|

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Define tape measurements and its purpose?
2. What are body reference points to be measure?
3. Write important Tools & equipment's to measure fit model?
4. What are the three parts of the body measurement?
5. mention three types of tools and equepments of measurements?

***Note:*** **Satisfactory rating - 5 points** **Unsatisfactory - below 5 points**

**Answer Sheet**

Score = _____

Rating: _____

Name: _____ Date: _____

**Short Answer Questions**

| Information Sheet-2 | Establish and mark body reference points |
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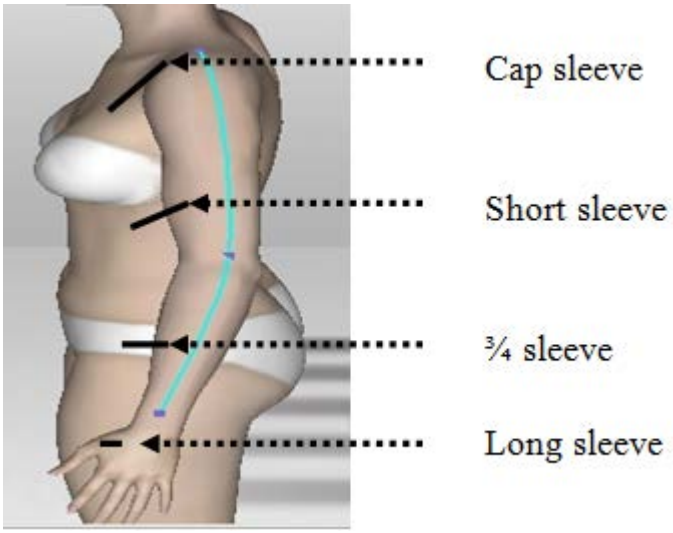
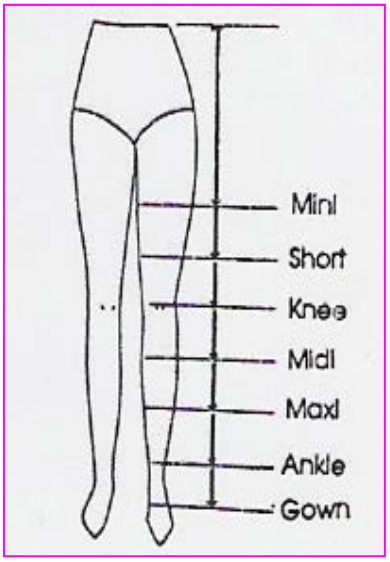
# Introduction

Pattern Markings. Once the pattern is graded, the fabric must be prepared for cutting. Marking refers to the process of placing pattern pieces to maximize the number of patterns that can be cut out of a given piece of fabric. More precisely, you need to specify its position relative to a convenient reference frame. Earth is often used as a reference frame, and we often describe the position of objects related to its position to or from Earth. Reference frame, also called frame of reference, in dynamics, system of graduated lines symbolically attached to a body that serve to describe the position of points relative to the body. In all cases a line from the origin to the point is known as the position vector for the point



| Self-Check -2 | Written Test |
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What are body reference points?
2. List body reference points of human body?
3. What is the purposes of body reference point?

***Note:*** **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

**Answer Sheet**

Score = _____

Rating: _____

Name: _____ Date: _____

**Short Answer Questions**

| Information Sheet-3 | Take and record body measurements of fit model |
|---|---|

# Introduction

Measurements are the foundation of pattern drafting. They establish basic axes which are natural to the body. These axes are then used to reconstruct the shape of the body onto the paper. Body measurements can be divided into three categories named as.

I. Vertical or lengthwise measurements
II. Horizontal or width-wise measurements
III. Girth or circumferential measurements

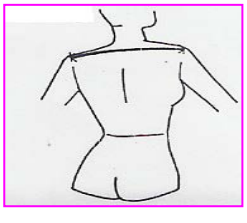
The measurements are taken around different positions around the body. A good quality measuring tape should be used for taking the body measurements. The long metal end of the tape is used for taking vertical measurements and the rounded metal end is used for taking horizontal measurements.

Person giving the measurements should stand straight, but in a natural pose and preferably in front of a mirror. A well fitted foundation garment should be worn while giving measurements.

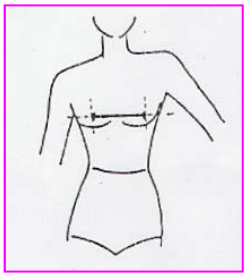
Another person is needed to take measurements. Basic lines of the body are to be taken into consideration while measuring body parts. Before body measurements are taken, a cord or tape is fastened around the waist and left until all measurements have been completed. The tape should be kept parallel to the ground while taking girth measurements like bust, waist, hip, etc.

The accuracy of several measurements depends on this exact waistline location. Add to these measurements the suggested amount of ease. The amount of ease needed varies with the type of fabric used. More ease is needed for woven fabrics than knits. A proper order and certain sequence should be followed in taking the measurements to make it more systematic.

1. The **horizontal** measurement is taken from the left of the figure to the right.
    - Shoulder – this measurement taken from the tip of the left shoulder to the tip of the right shoulder, arching slightly to cover the cervical prominence of the neck bone.

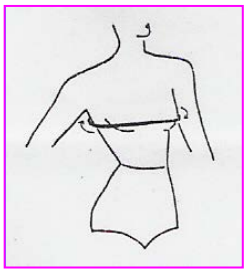


- Bust point width – this measurement taken across from the tip of the left bust point to the tip of the right bust point.

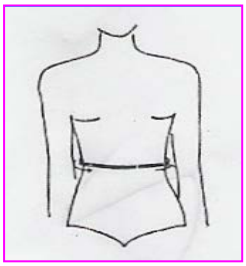


2. The **circumferential** measurement is taken around the body.

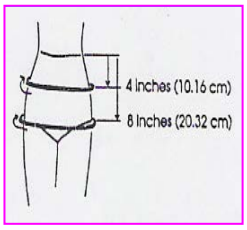
- Bust – this measurement taken around the bust with the tape measure running on the same level in front, at the back and on the side



- Waist – this measurement taken around the smallest part of the torso.



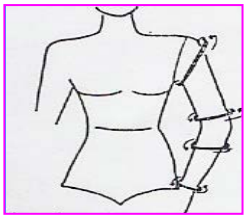
First hip – this measurement taken around the hip level where the stomach is fullest.




- Second hip – this measurement taken around the hip level where the buttocks are fullest

- Armhole – this measurement taken around the armhole.

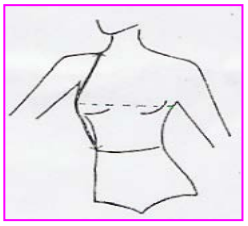
- Arm girth – this measurement taken around the arm.



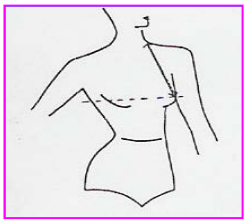
3. The **vertical** measurement is taken from the top of the body figure to its base.

- Figure back – this measurement taken from the center of the back shoulder over the shoulder blade down to the waistline level.

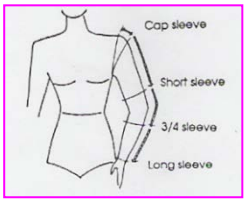
- Figure front – this measurement taken from the neck point passing over the bust down to the waistline level.



- Bust point height – this measurement taken from the neck point down to the highest point of the bust.



- Length of sleeve – this measurement taken from the shoulder point down to the desired length in the arms.




- Length of skirt – this measurement taken from the waist down to the desired length.


How to take measurements

- Accurate Body Measurements
- Give  a better fit
- Alteration are easy
- Saves fabric
- Neat look
- Saves time and money

- Easy to make new designs

| Self-Check –3 | Written Test |
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Mention the three categories of body measurements?
2. Why accurate body measurements necessary in garment construction?
3. What are the points to be considered while taking body measurements?

4. How do you take upper bodice measurements?
5. How do record your taken measurements?

***Note:*** **Satisfactory rating - 5 points** **Unsatisfactory - below 5 points**

**Answer Sheet**

Score = _____

Rating: _____

Name: _____ Date: _____

**Short Answer Questions**

| | |
|---|---|
| **Information Sheet-4** | **Consulting designer and product development team** |

# Introduction

Product development is the process where that sketch or design is converted in to a 3D form garment, with all technical and aesthetic approach keeping in mind, now a day's product development is done at every stage of the fashion industry.

Product development in broad terms may be defined as the process of conceptualizing, designing, creating, producing, introducing and delivering new products and services to consumers (new product development) or improving on the old (product improvements).

A career in product development within the fashion industry requires you to become involved with developing fashionable goods for manufacturers and retailers. It involves planning, developing and presenting fashion-focused products for a specific market of the fashion or retail company you are working for. Fashion designers help create the billions of dresses, suits, shoes, and other clothing and accessories purchased every year by consumers. Designers study fashion trends, sketch designs of clothing and accessories, select colors and fabrics, and oversee the final production of their designs. Clothing designers create and help produce men's, women's, and children's apparel, including casual wear, suits, sportswear, formalwear, outerwear, maternity, and intimate apparel. Footwear designers help create and produce different styles of shoes and boots. Accessory designers help create and produce items such as handbags, belts, scarves, hats, hosiery, and eyewear, which add the finishing touches to an outfit. Some fashion designers specialize in clothing, footwear, or accessory design, but others create designs in all three fashion categories.

The design process from initial design concept to final production takes between 18 and 24 months. The first step in creating a design is researching current fashion and making predictions of future trends. Some designers conduct their own research, while others rely on trend reports published by fashion industry trade groups. Trend reports indicate what styles, colors, and fabrics will be popular for a particular season in the future. Textile manufacturers use these trend reports to begin designing fabrics and patterns while fashion designers begin to sketch preliminary designs. Designers then visit manufacturers or trade shows to procure samples of fabrics and decide which fabrics to use with which designs.

Once designs and fabrics are chosen, a prototype of the article using cheaper materials is created and then tried on a model to see what adjustments to the design need to be made. This also helps designers to narrow their choices of designs to offer for sale. After the final adjustments and selections have been made, samples of the article using the actual materials are sewn and then marketed to clothing retailers. Many designs are shown at fashion and trade shows a few times a year. Retailers at the shows place orders for certain items, which are then manufactured and distributed to stores.

Computer-aided design (CAD) is increasingly being used in the fashion design industry. Although most designers initially sketch designs by hand, a growing number also translate these hand sketches to the computer. CAD allows designers to view designs of clothing on virtual models and in various colors and shapes, thus saving time by requiring fewer adjustments of prototypes and samples later.

Depending on the size of their design firm and their experience, fashion designers may have varying levels of involvement in different aspects of design and production. In large design firms, fashion designers often are the lead designers who are responsible for creating the designs, choosing the colors and fabrics, and overseeing technical designers who turn the designs into a final product. They are responsible for creating the prototypes and patterns and work with the manufacturers and suppliers during the production stages. Large design houses also employ their own patternmakers, tailors, and sewers who create the master patterns for the design and sew the prototypes and samples. Designers working in small firms, or those new to the job, usually perform most of the technical, patternmaking, and sewing tasks, in addition to designing the clothing.

Fashion designers working for apparel wholesalers or manufacturers create designs for the mass market. These designs are manufactured in various sizes and colors. A small number of high-fashion (haute couture) designers are self-employed and create custom designs for individual clients, usually at very high prices. Other high-fashion designers sell their designs in their own retail stores or cater to specialty stores or high-fashion department stores. These designers create a mixture of original garments and those that follow established fashion trends. Some fashion designers specialize in costume design for performing arts, motion picture, and television productions. The work of costume designers is similar to other fashion designers. Costume designers, however, perform extensive research on the styles worn during the period in which the performance takes place, or they work with directors to select and create appropriate attire. They make sketches of designs, select fabric and other materials, and oversee the production of the costumes. They also must stay within the costume budget for the particular production item.

Fashion designers employed by manufacturing establishments, wholesalers, or design firms generally work regular hours in well-lighted and comfortable settings. Designers who freelance generally work on a contract, or by the job. They frequently adjust their workday to suit their clients' schedules and deadlines, meeting with the clients during evenings or weekends when necessary. Freelance designers tend to work longer hours and in smaller, more congested, environments, and are under pressure to please clients and to find new ones in order to maintain a steady income. Regardless of their work setting, all fashion

designers occasionally work long hours to meet production deadlines or prepare for fashion shows.

The global nature of the fashion business requires constant communication with suppliers, manufacturers, and customers all over the United States and the world. Most fashion designers travel several times a year to trade and fashion shows to learn about the latest fashion trends. Designers also may travel frequently to meet with fabric and materials suppliers and with manufacturers who produce the final apparel products.

Fashion designers typically need an associate or a bachelor's degree in fashion design. Some fashion designers also combine a fashion design degree with a business, marketing, or fashion merchandising degree, especially those who want to run their own business or retail store. Basic coursework includes color, textiles, sewing and tailoring, pattern making, fashion history, computer-aided design (CAD), and design of different types of clothing such as menswear or footwear. Coursework in human anatomy, mathematics, and psychology also is useful. Designers must have a strong sense of the esthetic an eye for color and detail, a sense of balance and proportion, and an appreciation for beauty. Fashion designers also need excellent communication and problem-solving skills. Despite the advancement of computer-aided design, sketching ability remains an important advantage in fashion design. A good portfolio a collection of a person's best work often is the deciding factor in getting a job. In addition to creativity, fashion designers also need to have sewing and patternmaking skills, even if they do not perform these tasks themselves. Designers need to be able to understand these skills so they can give proper instruction in how the garment should be constructed. Fashion designers also need strong sales and presentation skills to persuade clients to purchase their designs. Good teamwork and communication skills also are necessary because increasingly the business requires constant contact with suppliers, manufacturers, and buyers around the world.

| **Self-Check -4** | **Written Test** |
|---|---|

**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. How CAD can be consulting designer and product development team?
2. Define product development team?

3. How can consulting designer for product development team?

***Note:*** **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

**Answer Sheet**

| |
|---|
| Score = _____ |
| Rating: _____ |

Name: _____ Date: _____

**Short Answer Questions**

| | |
|---|---|
| **Operation Sheet 1** | **measuring fit model** |

**OPERATION TITLE:** measuring fit model

**PURPOSE:** enable to develop the skill of measuring fit model

**EQUIPMENT, TOOLS AND MATERIALS:-**

**TOOLS**

- Tape measure,
- Pen/pencil and
- Eraser,
- Measure chart,
- Standard chart,
- Dummy

**CONDITIONS OR SITUTATIONS FOR THE OPERATION:** given necessary tools & equipment's. You are required to perform the following within 20 minutes

**PROCEDURE:**

- Every thing should be in the right place.
- Wear undergarments or bodysuit when measuring.
- Use tape measure that does not stretch.
- Tie a string around your natural waistline.
- Pull the tape snug, but not too tight.
- Be sure to keep the tape parallel to the floor.
- Take girth measurements, then length measurements.
- Insert two fingers in taking girth measurements

**PRECAUTIONS:-**

- Follow body reference points;
- use correct Tools & equipment's

**QUALITY CRITERIA:-**

- Check body reference points
- Take body measurement of fit model accurately

**List of Reference Materials**

**1- BOOKS**

**2- WEB ADDRESSES (PUTTING LINKS)**