HUMAN FACTORS ENGINEERING
IE 442
LABORATORY MANUAL

LAB – 3

ANTHROPOMETRIC MEASUREMENT

INDUSTRIAL ENGINEERING DEPARTMENT
COLLEGE OF ENGINEERING
KING SAUD UNIVERSITY, RIYADH

Objective:

The objective of this experiment is to Highlighting the importance of body size variation through self-measurement.

Experiment description

Anthropometry is the study of the measurement of the human body in terms of the dimensions of bone, muscle, and adipose (fat) and certain physical characteristics of the body such as volumes, centre of gravity, inertial properties, and masses of body segments. We confine our discussion to measurement of dimensions because such data are fundamental to a wider range of design problems.

Static Body Dimensions

Static dimensions are measurements taken when the body is in a fixed (static) position. They consists of skeletal dimensions (between the centres of joints, such as between the elbow and the wrist) or of counter dimensions (skin surface dimensions such as head circumference.

Equipment list

1   weight scale

2   Stadiometer

3   Calipers

4   Steel tapes
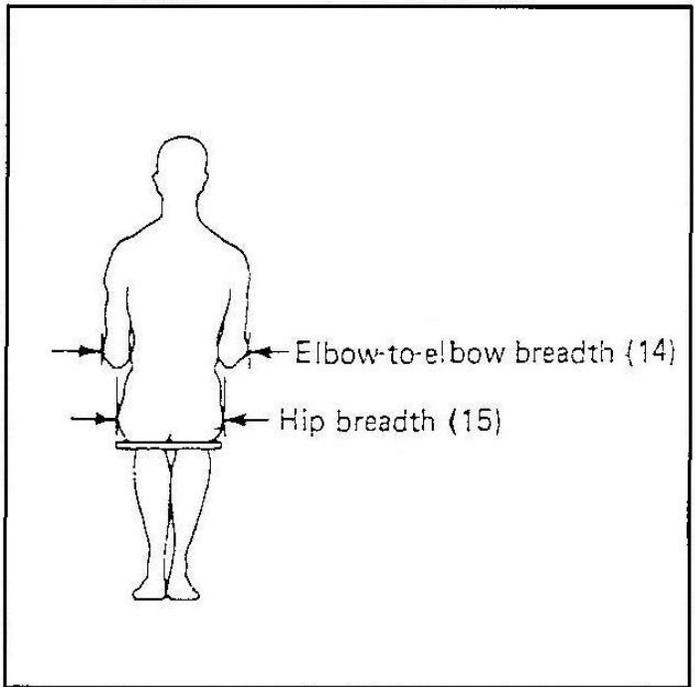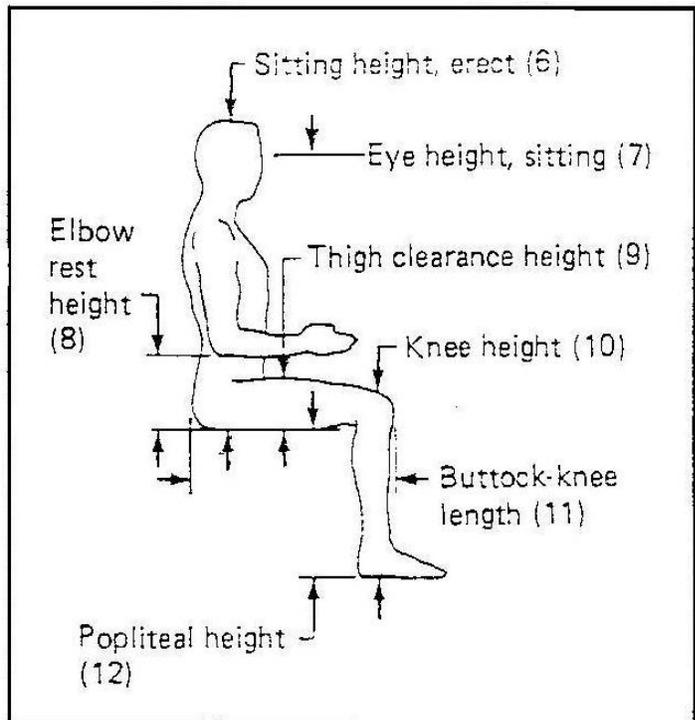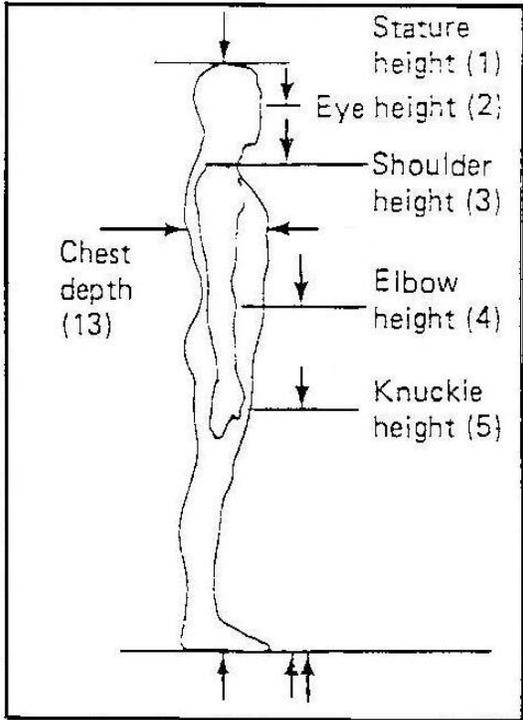
Diagrams of structural (static) body feature

Figure 2.1 Structural (static) body features

Carrying out the experiment

- Measure the shown body dimensions for your partner as shown in the figure 2.1 and record the dimension in the form given.
- Find the ratio of each dimension of stature. These ratios for all students will be discussed to each group (two students in a group). Compare these ratios with the US male adult population.

Data Analysis:

- Calculate the Avg. and standard deviation for every dimension.
- Calculate 5th, 50th and 95th percentile for each dimension of IE 442 student and then draw the comparison chart with US adult Civilian.
- Draw your analysis about the IE 442 students.

Format for Lab Report:

Cover Page is Title page in any format.

- Brief about Anthropometric Measurements
- Body Structural diagram & Data
- 5th, 50th and 95th percentile of the given data
- Comparison chart of 5th, 50th and 95th percentile with US adult.
- Analysis.
- Conclusion.