Assignment 1: Measuring body dimensions

**Goal of the assignment**

* Insight into measuring procedures
* Insight into your own dimensions compared to the Dutch population

**Material**

Tape measure (both rigid and flexible), piece of cardboard or large drawing triangle with a 90-degree angle, two rigid books or boxes

**Assignment**

Measure the following dimensions:

* Stature
* Shoulder breadth (bideltoideus)
* Head circumference

Use the protocol (see Appendix 1) to measure these dimensions of at least five people including yourself.

Take pictures of the way you perform the measurement. This way you can check whether you performed the measurement according to the protocol.

Use the table in Appendix 2 to register the data for each person you measured.

Add some (at least 5) other dimensions to the list.

For more protocols see:

* Steenbekkers,L.P.A*. Child development, design implications and accident prevention*
* Steenbekkers, L.P.A. and van Beijsterveld, C.E.M. *Design relevant characteristics of ageing users*

Both books are available on the TU library site:

 [www.tudelft.nl](http://www.tudelft.nl) – scroll down to the blue part and choose ‘library’ – collections – TU Delft Repository – dissertations – search for ‘steenbekkers’.

Measure 3 dimensions (one length, one width and one circumference) of one person 5 times.

Take the measurements in the following order: start with the length, then the width, then the circumference; repeat 5 times.

The same person should take all these measurements. This will give you some insight into the intra-individual variation in measurement results.

Measure one dimension of one of the participants 4 times; each time someone else should take the measurement. This will give you an idea of the inter-individual variation in measurement results.

Use the table in Appendix 3 to register the data and give comment on the results.

Compare your own dimensions with the dimensions in the DINED tables (www.dined.nl).

Compare them with DINED 20-60, male & female as well as with Delstu male OR female (depending on your own gender).

Use the table in Appendix 2 to register the percentile values for each dimension.

Any interesting/strange/remarkable values?

Use the pictures you took to see if you can find the cause of the not-expected values of the body dimensions.

# Appendix 1: measuring protocols























# Appendix 2: Results

|  |  |  |
| --- | --- | --- |
| **Measurements** |  | Percentile |
|  | Value (mm) | DINED 20-60male&female  | DELSTUMale or female |
| Stature |  |  |  |
| Shoulder breadth |  |  |  |
| Head circumference |  |  |  |
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| --- | --- |
|  | Mark percentile (DINED, male&female) on scale |
|  |  5 50 95 |
| Stature |  |  |  |  |
| Shoulder breadth |  |  |  |  |
| Head circumference |  |  |  |  |
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| --- | --- |
|  | Mark percentile (DELSTU, male or female) on scale |
|  |  5 50 95 |
| Stature |  |  |  |  |
| Shoulder breadth |  |  |  |  |
| Head circumference |  |  |  |  |
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# Appendix 3: Results repeated measurements

One subject, 3 dimensions, every dimension measured 5 times by the same measurer

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|  | Values (mm) |
| Body dimension | 1 | 2 | 3 | 4 | 5 |
| 1: |  |  |  |  |  |
| 2: |  |  |  |  |  |
| 3: |  |  |  |  |  |

One subject, measured by 4 different measurers

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| --- | --- |
|  | Values (mm) |
| Body dimension | 1 | 2 | 3 | 4 |
|  |  |  |  |  |

**Comments:**