



Designing

Consumer protection

Ergonomics and anthropometrics

Useful web links

Ergonomics coursework example

View the ergonomics coursework example sheets at technology student.

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Ergonomics 4 Schools

Explore the Ergonomics 4 Schools Learning Zone section of the website.

[View the ergonomics for school site >>](#)

Ergonomics society

Learn more about ergonomics at the ergonomics society website.

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Ergonomics and anthropometrics

Ergonomics

When designing you must always keep in mind that it must fit the person it is designed for. Adults and children come in different shapes and sizes. Ergonomics is the application of set average sizes of humans to the design of products. Whatever you design must fit the person who will use it. For example, if you are to designing a jewellery box you may need to collect statistics regarding the size of hands. If you are designing a chair you will need to work out the average comfortable seating height. Designers look at ergonomics in order to make things easier for people to use.

What should you consider?

When designing you should consider the shape, weight, height and width of your product. Ergonomics and anthropometrics will provide you with the data to do this. You should also consider the environment in which the product will be used in. You will then need to consider light, smell, noise, moisture and the temperature of the environment that your product will be used in. What ergonomics should you consider within graphics that go on your products?

Graphic ergonomic considerations:-

Lettering

Look at the lettering examples below one is easy to read the other is quite hard to read from an ergonomic point of view. So it is important that you make your letting quick and easy to read for your posters, adverts and product packaging.

Lettering

Lettering

Font style

You must also choose a type that is easy to read for its function. For example an elaborate font would not be suitable for a fire extinguisher.

Fire Extinguisher

Fire Extinguisher

Colour

Within your graphics you must ensure that the colour contrast is easy to read. This is a very important ergonomic factor. The text must have contrast in order to be read easily. Also a small minority of the population are red/green colour blind.

Good contrast
easy to read

Poor contrast
not easy to read

Anthropometrics

Anthropometrics are concerned with the appliance of ergonomics to the human form and are used to

explain the user or target range for your product. Anthropometric data is displayed within a table format. It shows the average measurements of the human form. 'Anthropo' means 'human' and 'metrics' means 'measurements'.

| Age | Height | | Hand Length | |
|-----|--------|------|-------------|------|
| | Girls | Boys | Girls | Boys |
| 11 | 1440 | 1430 | 155 | 155 |
| 12 | 1500 | 1490 | 165 | 165 |
| 13 | 1550 | 1550 | 175 | 190 |
| 14 | 1590 | 1630 | 175 | 190 |
| 15 | 1610 | 1690 | 180 | 195 |
| 16 | 1620 | 1730 | 180 | 195 |
| 17 | 1620 | 1750 | 180 | 200 |
| 18 | 1620 | 1760 | 180 | 200 |

Note: Example Anthropometrics data table



Quiz time!

Mr DT says 'Read the text above and then answer these questions below'. Write your answers on a sheet of paper, dont forget to write your name on the sheet!:-

- 1.) What is ergonomics?
- 2.) Name the nine things you should consider when designing with ergonomics in mind?
- 3.) What ergonomics should you consider when designing lettering?
- 4.) What ergonomics should you consider when addressing a fonts style on a product?
- 5.) Name the two colours that a small minority of the population are colour blind too?
- 6.) What is anthropometrics?
- 7.) What does 'Anthropo' and 'metrics' actually mean?
- 8.) Using the table above what is the average hand size for a 15 year old boy and girl?



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