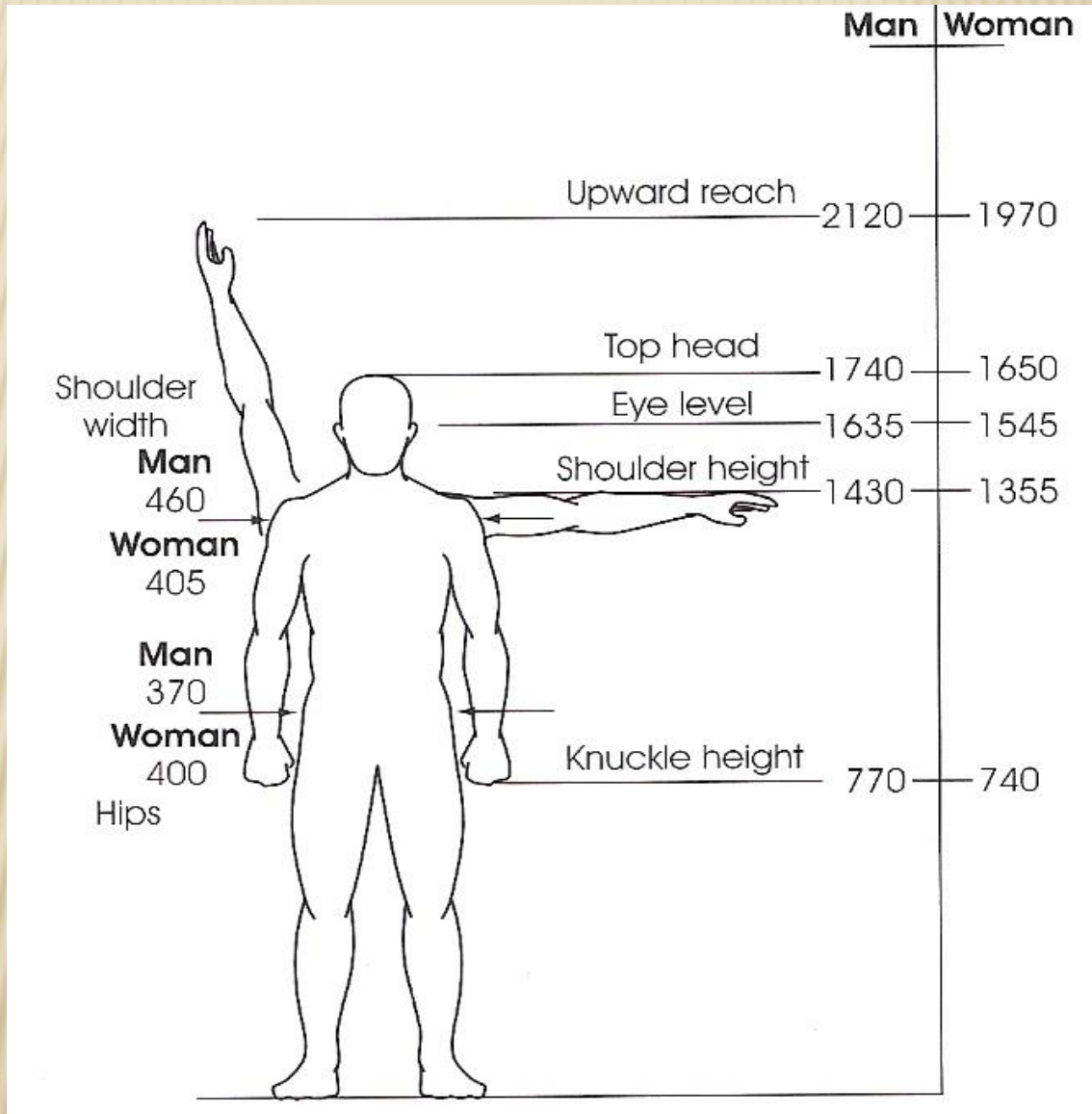


ERGONOMICS OF DESIGN

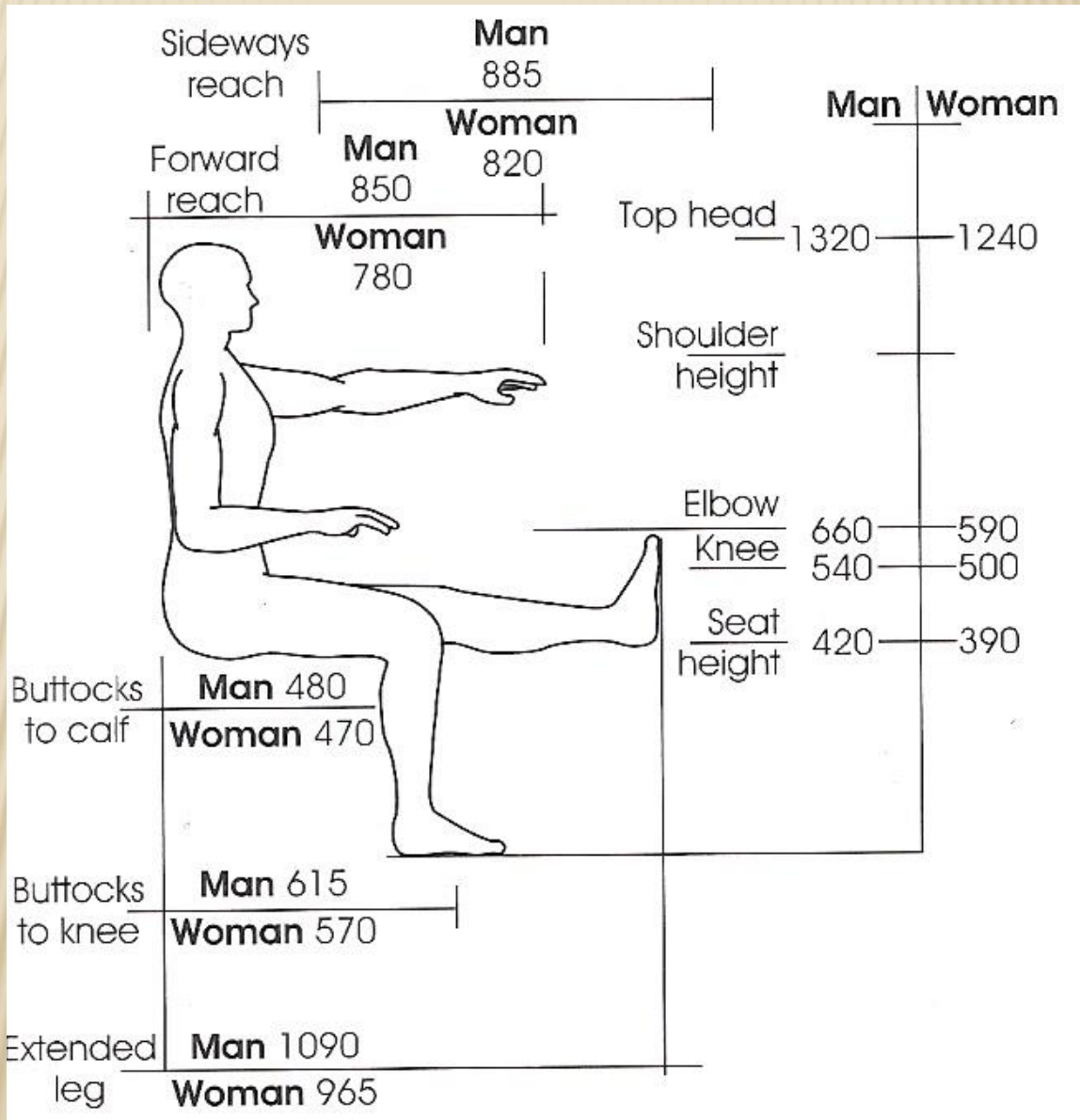
ERGONOMICS & ANTHROPOMETRICS

- ✘ These two terms are used to describe the application of scientific information about human variability and adaptability to the design process.
- ✘ Ergonomics (also known as Human Factors) describes information about humans in "working" situations.
- ✘ Anthropometrics deals with information about human body size and shape.
- ✘ As furniture is used by many its design must accommodate a wide range of people.
- ✘ The "average" person is a mythical creature. When measurements are taken from a target population for a particular design, a mid-point (termed the 50th "percentile") divides users into two groups - one above and one below the "average."

AVERAGE SIZES



AVERAGE SIZES



LOGIC

- ✘ It may be logical to use this mid-point/average number to determine the height of a chair seat but not the height for the top shelf in a storage cabinet. In the latter case, it is standard practice to use a dimension that accommodates 90 to 95 per cent of users who can reach an object on the top shelf.
- ✘ Another example would be headroom on a flight of stairs; the design should accommodate tall people since short people in these circumstances would not be at a disadvantage.

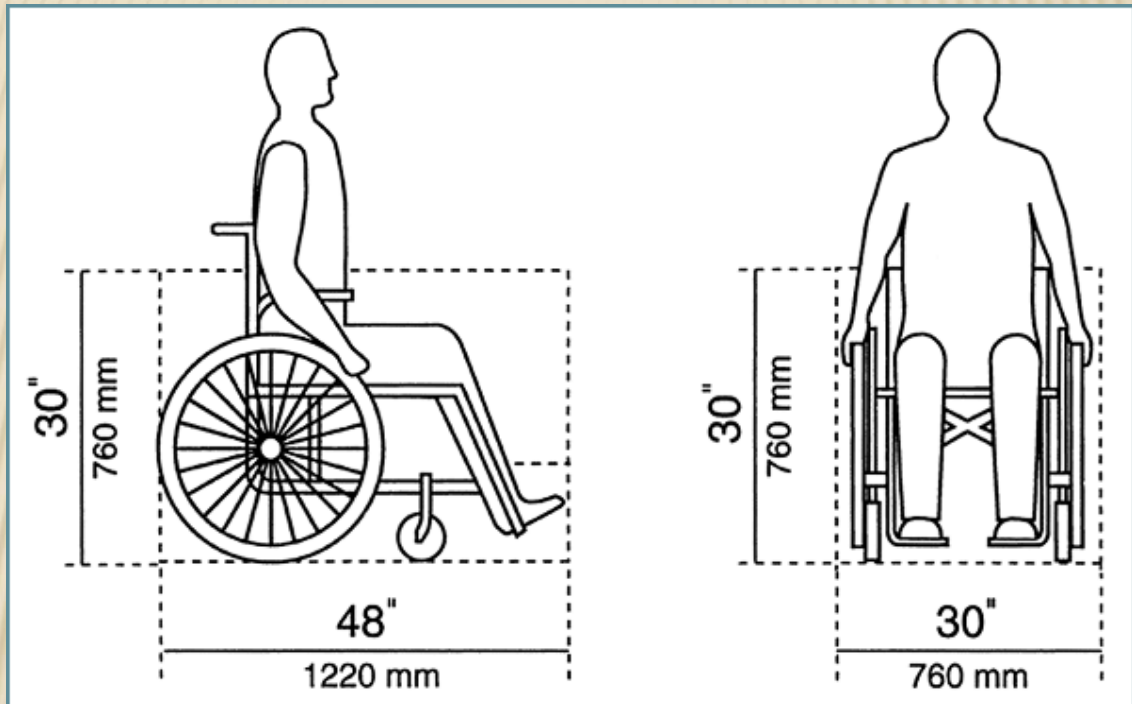
DISABILITIES

- ✘ When designing for public areas and some domestic situations, wheelchair accessibility must be considered. Guidelines for these are set down in the Technical Guidance Documents part M.
- ✘ Lack of consideration at the design stage can have costly effects.



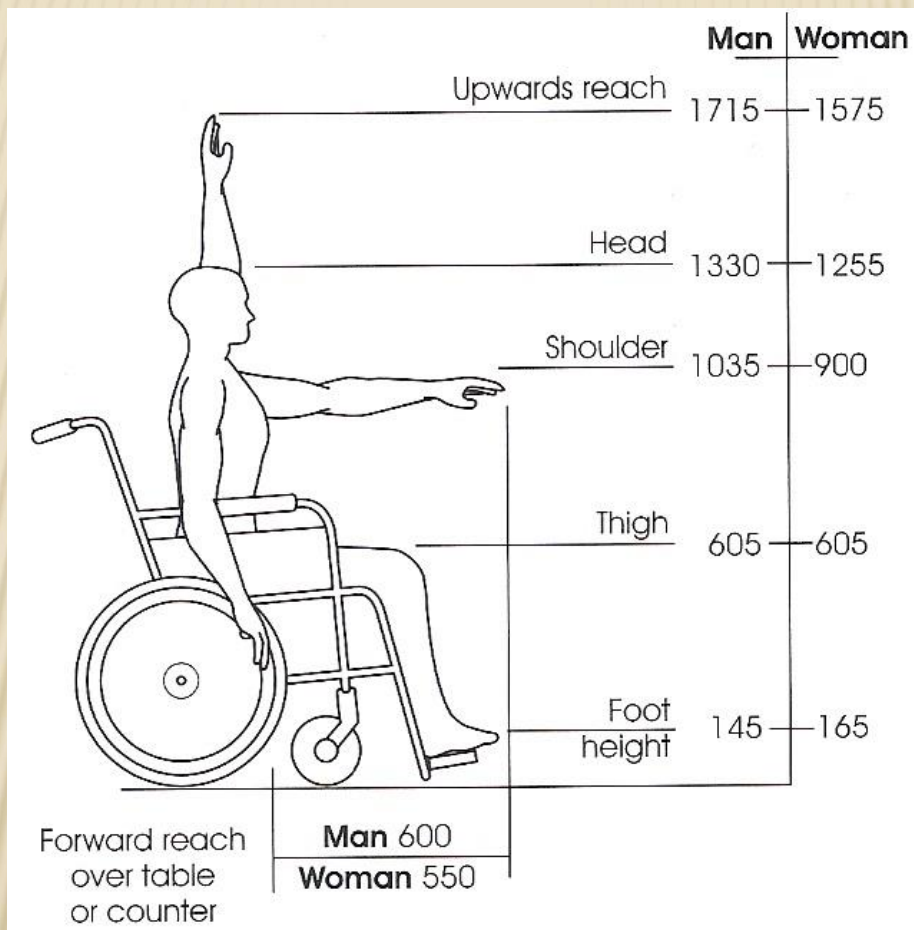
- ✘ <http://universaldesign.ie/What-is-Universal-Design/The-7-Principles/#p1>

DIMENSIONS OF AN ADULT WHEELCHAIR



- ✘ Building regulations now dictate that all houses and premises must be wheelchair friendly.
- ✘ As well as access other items such as electric switches, handles etc. must be within reach of users.

ERGONOMICS OF A WHEELCHAIR USER



- ✘ Be aware that the sizes given above would also vary considerably depending on the person's disability and type of chair or mobility vehicle.

WORK STATION

- ✘ When designing for office furniture there are a number of issues to be considered.
- ✘ The user will be at the work station for prolonged periods of time.
- ✘ Item of furniture should have some method of adjustment.

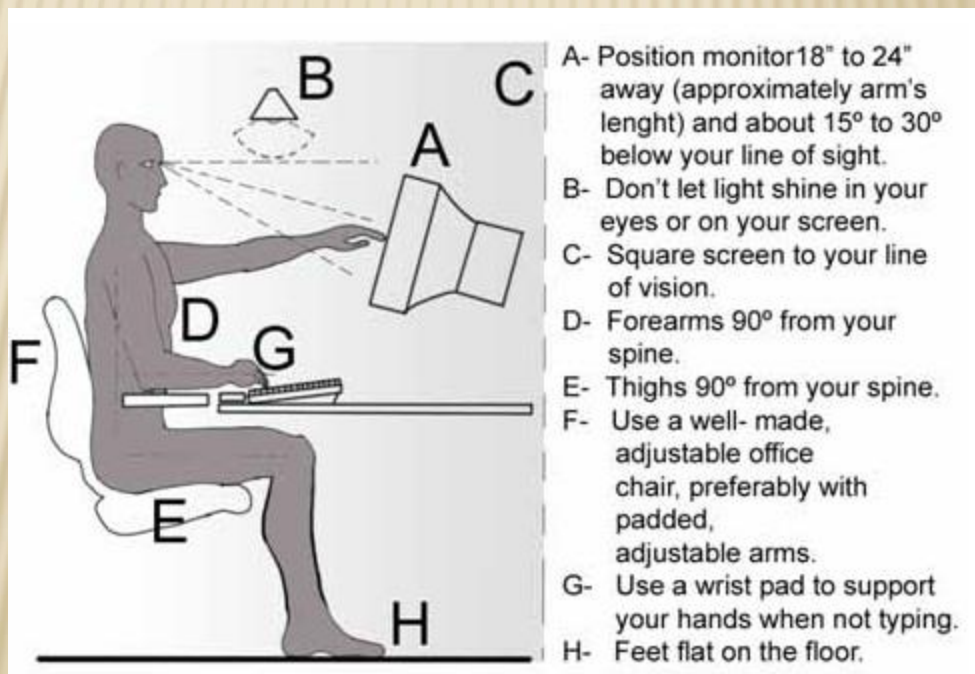
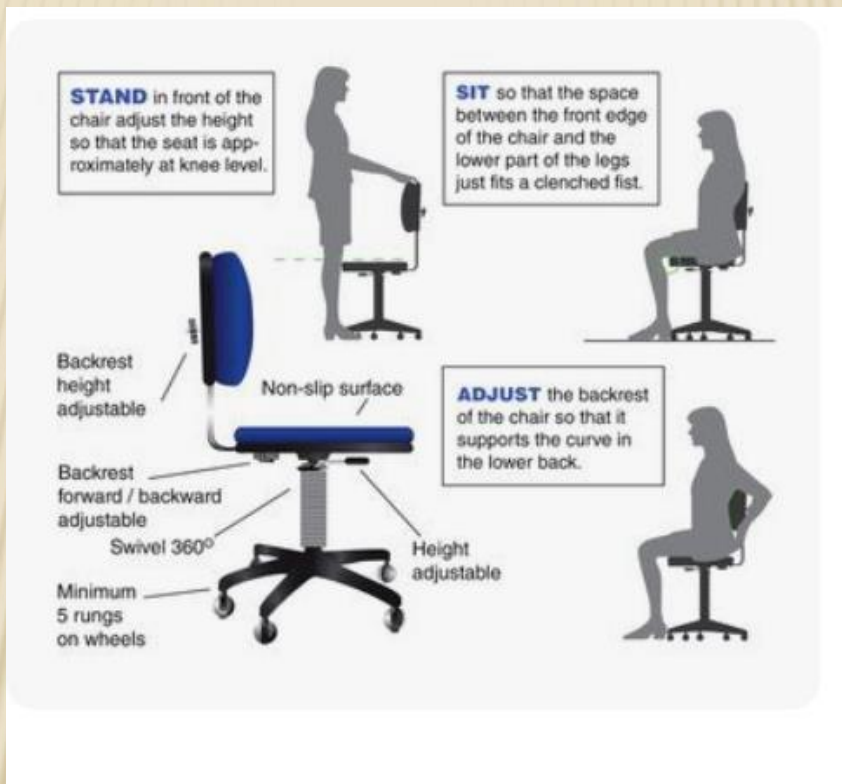


Image from Coreconcepts.com

WORK STATION CHAIR

- ✘ Tips on how the user should adjust and sit in the chair.

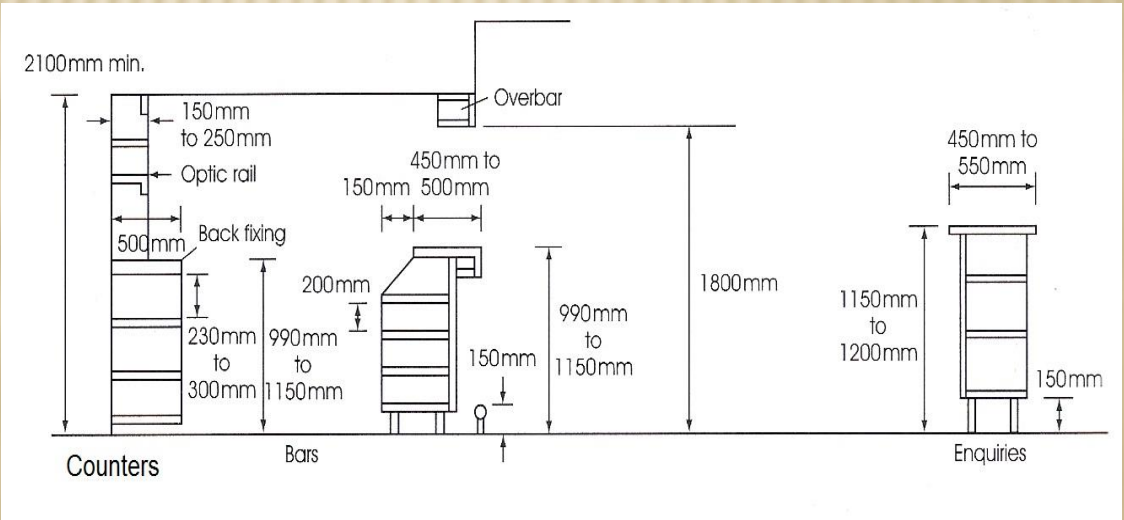
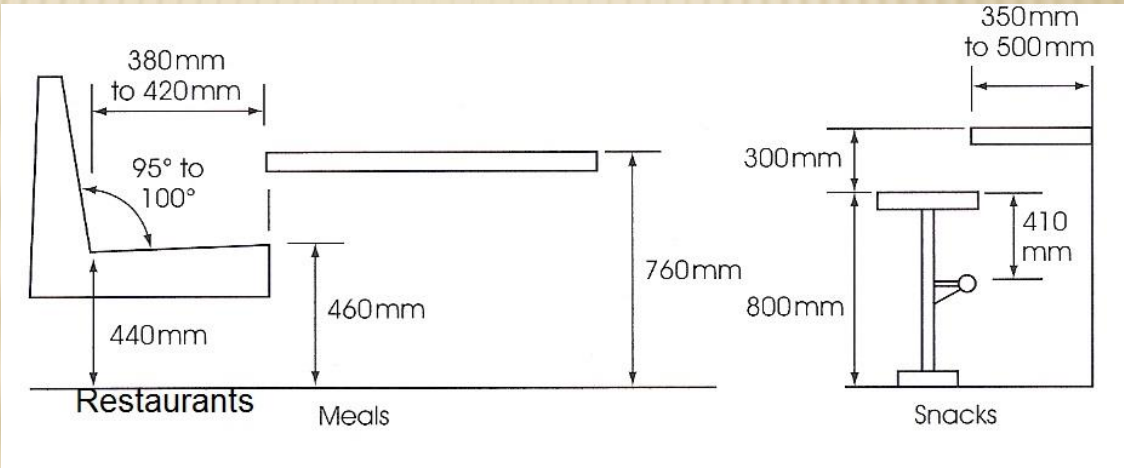
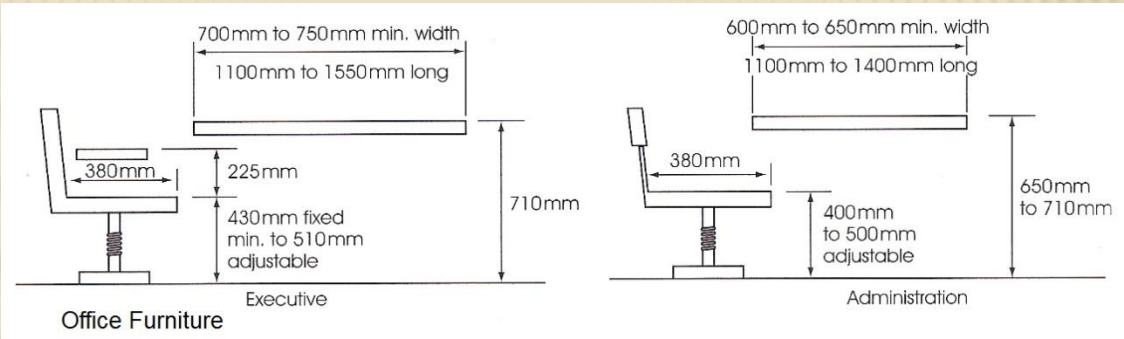


Reference: <http://www.eyeprotectorpro.com/2012/01/31/top-10-tips-of-rsi-prevention-recovery/>

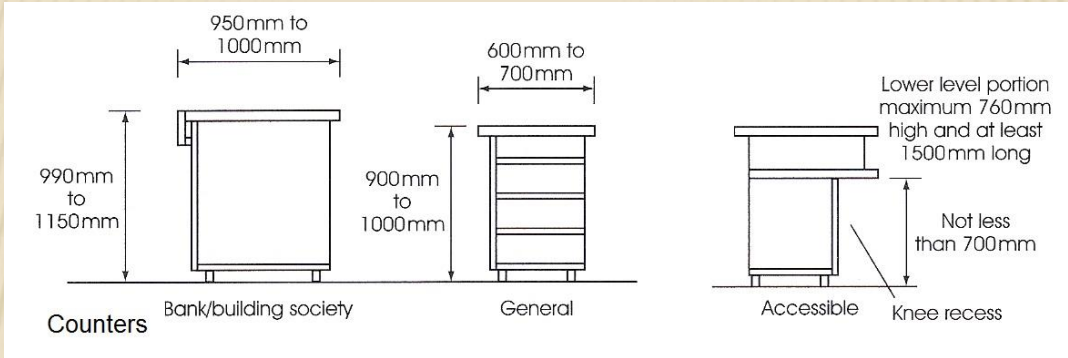
- ✘ Good website studying the relationship between Ergonomics & Anthropometrics and different designer chairs

<https://ergonomics8.weebly.com/ergonomic--anthropometric.html>

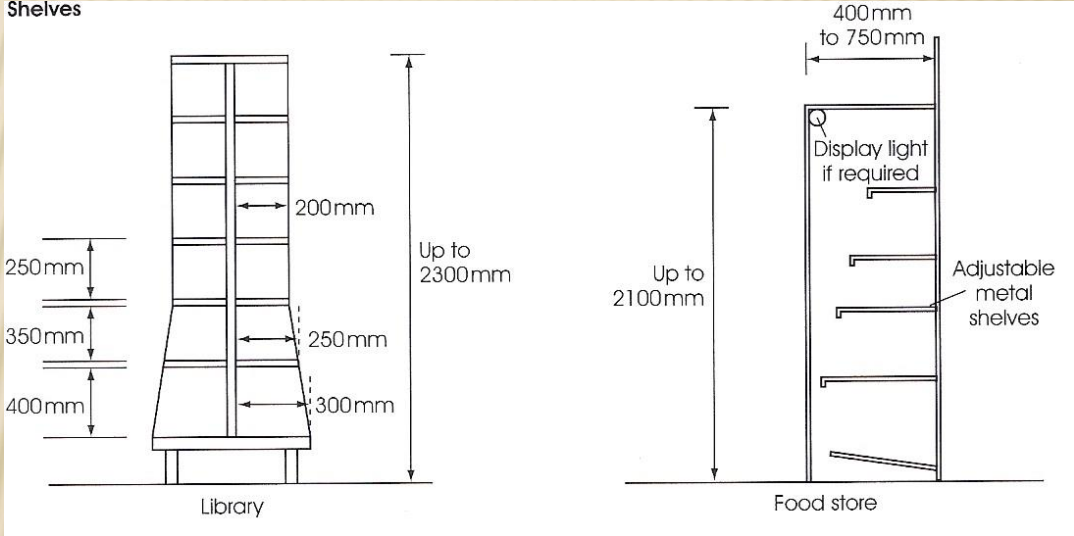
PUBLIC



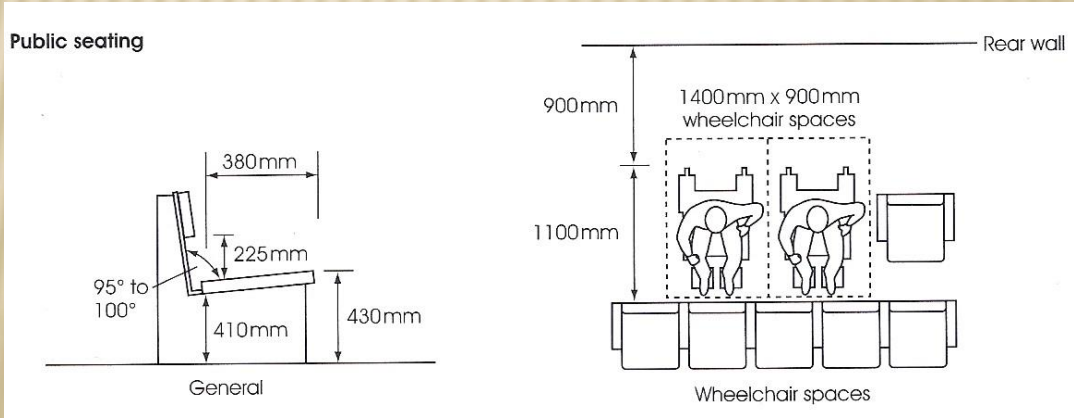
PUBLIC



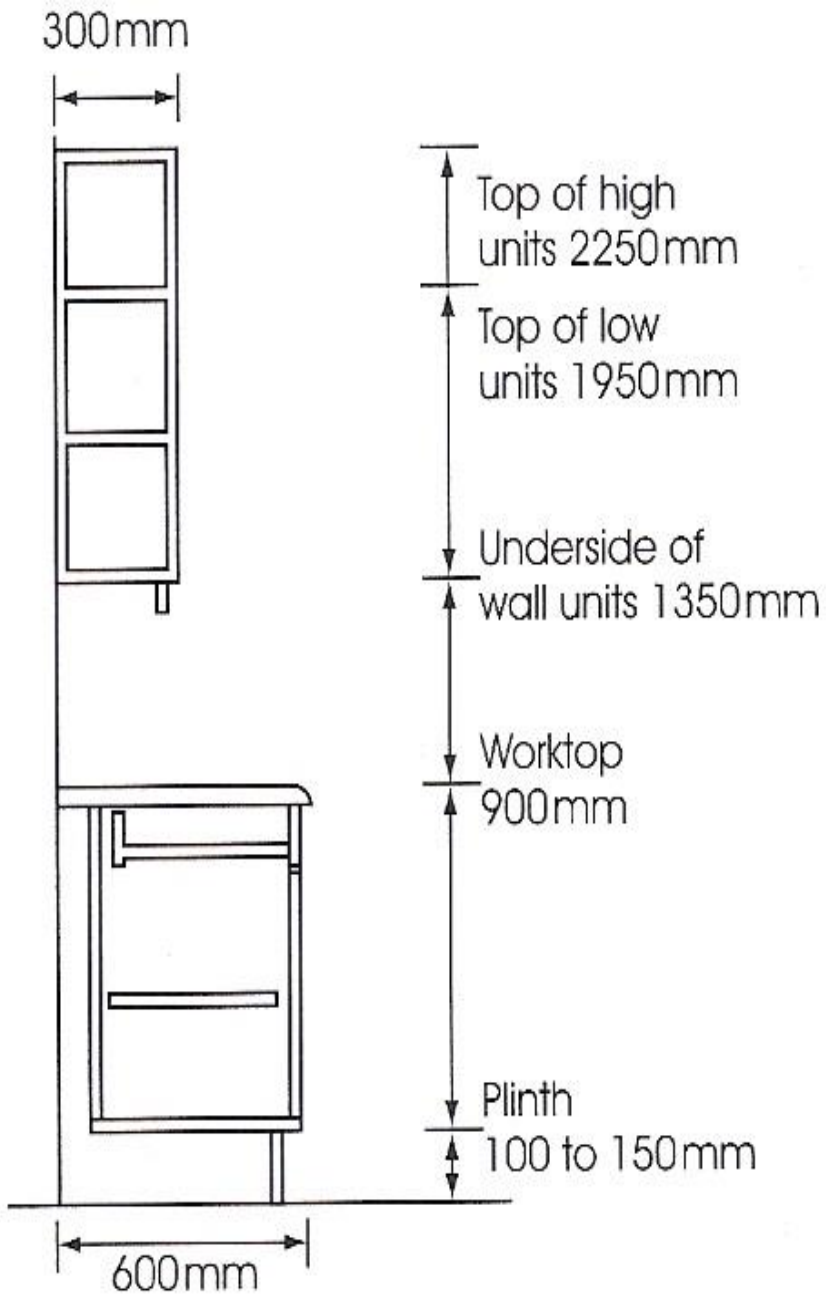
Shelves



Public seating

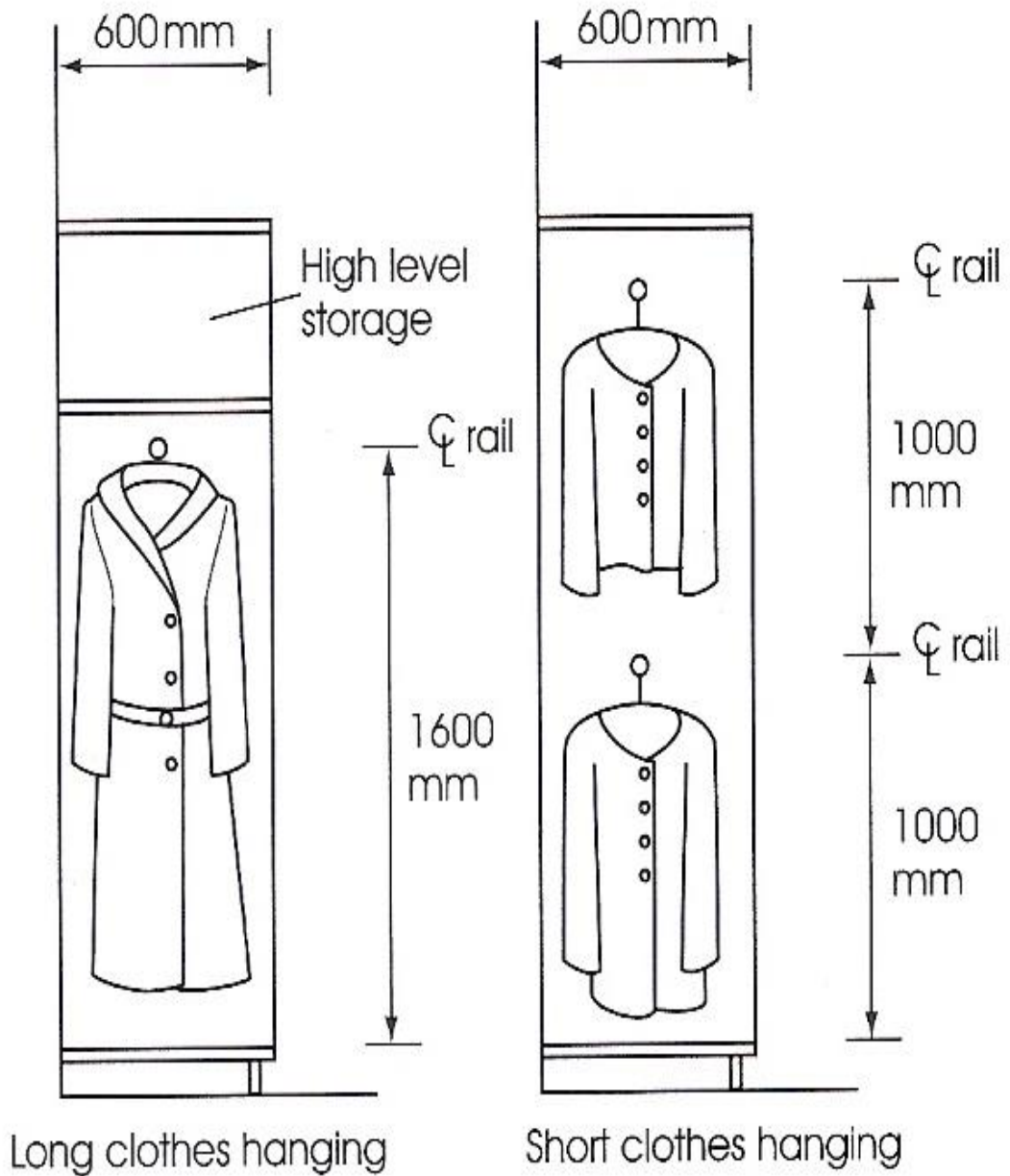


DOMESTIC



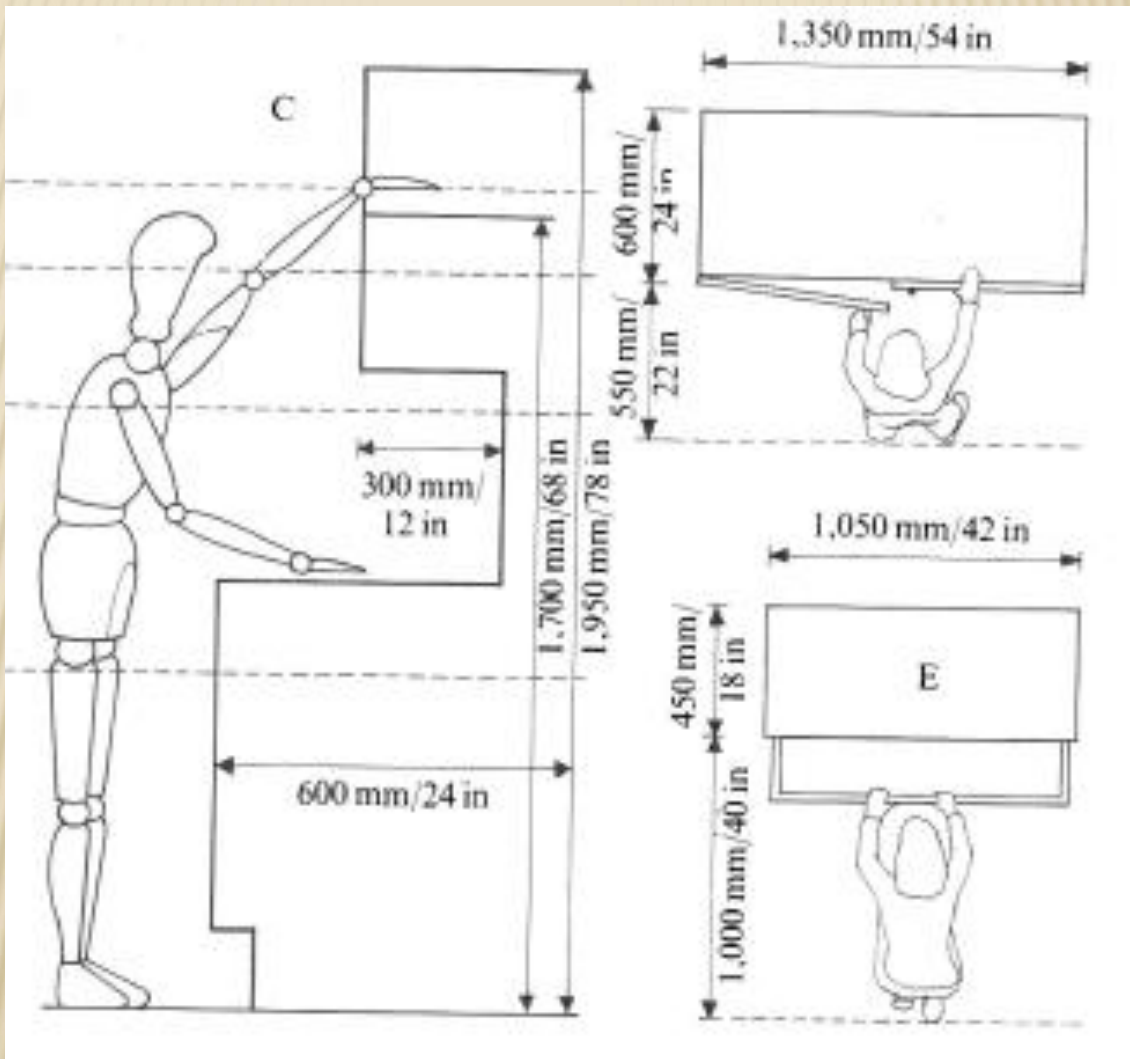
Kitchens

DOMESTIC



Bedrooms

POINTS TO NOTE



REFERENCES:

- ✘ The Mitchell Beazley Illustrated Encyclopaedia of **Working in Wood** by Ernest Scott
- ✘ Ergonomics & Anthropometric:
<https://ergonomics8.weebly.com/ergonomic--anthropometric.html>
- ✘ Ergonomic mismatch between students anthropometry and university classroom furniture:
<https://www.tandfonline.com/doi/abs/10.1080/1463922X.2019.1617909?af=R&journalCode=ttie20>
- ✘ Universal Design: <http://universaldesign.ie/What-is-Universal-Design/>