

homeostasis - narrow window of heat/cold & other biological states

- can die if you stray too far

control loops

- negative - how we regulate things ex: hot so we sweat (diff. direction)
- positive - pregnancy - signals that tell the body to birth out a baby (same direction)

individuation - differences that can be important ex. below:

- we all have unique features of our bodies
- variations like lengths of limbs, height, etc.
- type I or II fibers in muscles
- history of injury, training, illness, age
- mechanical limitations & ROM & functional differences
- enzymatic composition
- hormonal balances
- metabolic conditions
- psychological differences

since we are all diff we have to train ourselves accordingly

positive injury principle - exercise is good for you bc its bad for you

accommodations - immediate reversible changes

adaptation - relatively permanent changes

- wolff's law & davis's law
- SAID - specificity of adaption to imposed demand
- functional improvements happen when excessive demands are placed

steady-state exercise - sustainable exercise. energy \neq muscles = energy demanded

periodization - linear, nonlinear, macro/meso/microcycle

absolute vs. relative intensity

dose response curve

trainability - limitations = "genetic ceiling"

sub-optimal recovery - overreaching & overtraining

overtraining

- serious injury
- extreme weight loss
- systemic inflammation