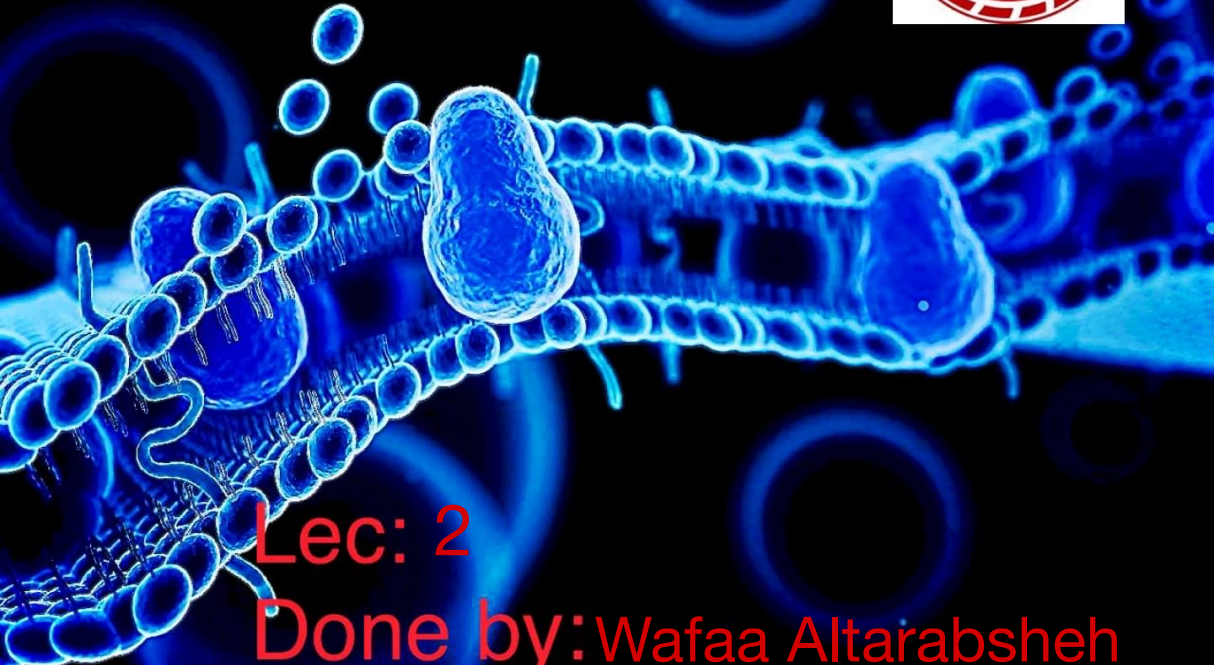


PHYSIOLOGY



Lec: 2

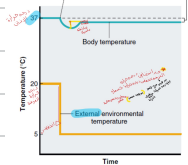
Done by: Wafaa Altarabsheh

Lecture 2

to measure the effectiveness of the control system

Gain control system

$\neq 0$
 because error/sensor output is $\neq 0$
 gain control system
 Error signal
 Gain control system
 Error signal
 Gain control system
 Error signal



Feedforward regulation (open loop)

regulating process/loop with feedback
 feedforward regulation (open loop)
 anticipates changes in a regulated factor

- Components of feedback:
- Controlled variable
 - Comparator/sensor/detector
 - Control center/computer/singulator
 - Effector

Core body temperature
37.2°C

Concentration of nutrient molecules

Concentration of O₂ & CO₂

plasma volume and pressure

The 7 factors that must be homeostatically controlled in the internal environment

Concentration of waste products

Water volume & osmolality

pH

The goals that the body aims to control, through different mechanisms

Other things are not necessarily stable

homeostatic regulation of 7 of the 7 factors [Physiologic factors] often involve ≥ 1 control system mechanisms activated at the same time in succession

has 2 types

- feedback
- + feedback

- Sensor to detect variations from normal in the internal env
- information integration
- ability to make adjustments (response)