

Homeostasis (glossary)

Overview of the Systems Approach > homeostasis

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(1) *The ability or tendency of an organism or cell to maintain internal equilibrium by adjusting its physiological processes.* (The Free Dictionary)

(2) *A Homeostatic system state is one where the system is static but its elements are dynamic. The system maintains its state by internal adjustments.* (Ackoff 1971)

(3) *Homeostasis is the maintenance of suitable operating conditions for all contained systems.* (Hitchins 2007)

Sources

(1) The Free Dictionary. s.v. "Homeostasis." Available at: <http://www.thefreedictionary.com/homeostasis>.

Ackoff, R.L. 1971. "Towards a System of Systems Concepts." *Management Science*. 17(11), USA.

Hitchins, D. 2007. *Systems Engineering: A 21st Century Systems Methodology*. Hoboken, NJ, USA: John Wiley & Sons.

Discussion

(1) dictionary definition for living organisms.

(2) is theoretical system science definition which applies to all system, conducting internal actions to hold themselves in the same state (see also entropy).

(3) applies to complex engineered systems and describes system activities or sub systems who's purpose to to maintain stable conditions inside the system to allow other system to operate, e.g. air conditioning or sound insulation.

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