Systems engineering is an interdisciplinary field of engineering and engineering management that focuses on how to design, integrate, and manage complex systems over their life cycles. At its core, systems engineering utilizes systems thinking principles to organize this body of knowledge. The individual outcome of such efforts, an engineered system, can be defined as a combination of components that work in synergy to collectively perform a useful function. Industrial engineers manage and improve manufacturing processes and service operations.

- Introduction to Industrial Engineering (Boardman)
- Book: Chemical Process Dynamics and Controls (Woolf)
- Book: Introduction to Control Systems (Iqbal)
- Book: Dynamic Systems and Control (Dahleh, Dahleh, and Verghese)
- Book: The Art of Insight in Science and Engineering (Mahajan)
- Book: Beyond Lean - Simulation in Practice (Standridge)

Thumbnail: A block diagram of a PID controller. (CC BY-SA 3.0 Unported; TravTigerEE via Wikipedia)