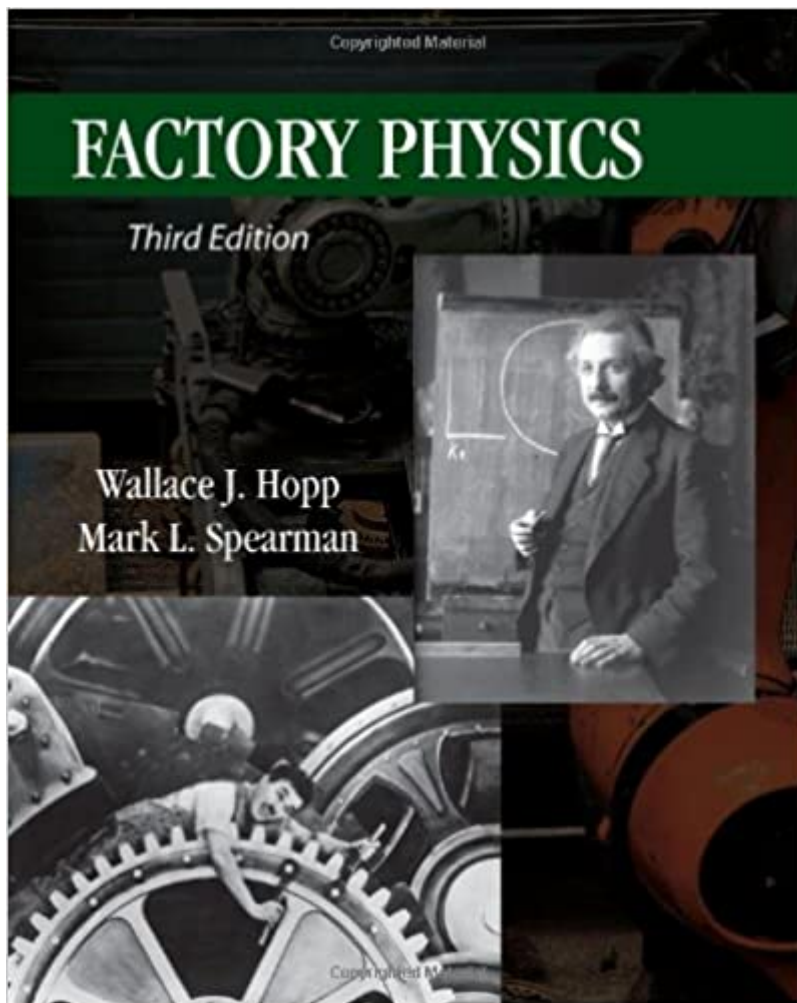


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# Factory Physics



## Synopsis

Our economy and future way of life depend on how well American manufacturing managers adapt to the dynamic, globally competitive landscape and evolve their firms to keep pace. A major challenge is how to structure the firm's environment so that it attains the speed and low cost of high-volume flow lines while retaining the flexibility and customization potential of a low-volume job shop. The book's three parts are organized according to three categories of skills required by managers and engineers: basics, intuition, and synthesis. Part I reviews traditional operations management techniques and identifies the necessary components of the science of manufacturing. Part II presents the core concepts of the book, beginning with the structure of the science of manufacturing and a discussion of the systems approach to problem solving. Other topics include behavioral tendencies of manufacturing plants, push and pull production systems, the human element in operations management, and the relationship between quality and operations. Chapter conclusions include main points and observations framed as manufacturing laws. In Part III, the lessons of Part I and the laws of Part II are applied to address specific manufacturing management issues in detail. The authors compare and contrast common problems, including shop floor control, long-range aggregate planning, workforce planning, and capacity management. A main focus in Part III is to help readers visualize how general concepts in Part II can be applied to specific problems. Written for both engineering and management students, the authors demonstrate the effectiveness of a rule-based and data driven approach to operations planning and control. They advance an organized framework from which to evaluate management practices and develop useful intuition about manufacturing systems. Titles of related interest also from Waveland Press: Hopp, Supply Chain Science (ISBN 9781577667384) and Nahmias-Olsen, Production and Operations Analysis, Seventh Edition (ISBN 9781478623069).

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## Customer Reviews

this book deals with Lean and Theory Of Constraints to explain the advantages and disadvantages. Its a very difficult read as it contains lots of formulas and physics! but worth it if you are considering a career in industrial engineering. very nominal rental price and the book arrived fast.

When it comes to textbooks, they all tend to get a little technical here and there. With this book there is not an exception, however, the technical is kept to a minimum and is still fairly easy to approach. The remainder material is well presented and is interesting to read.

Well written book. A 'must read' for all involved with managing complex factory systems. Folks should at least hold the book to feel it's weight, and scan the 27 principles summarized on the inside covers.

This is a must read for all Manufacturing Professional in order to create a manufacturing environment that is based on science, rather than based on feeling, experience or brute force alone.

very comprehensive study of the science of manufacturing. i also enjoyed spearmans book with bell called factory physics for managers, case studies highlighted the applied math.

Good information. Quality of the book was not as expected.

I've been using it for my class.

I have not applied the total concepts from this excellent book. I just have used the elemental ones and I obtained great results in Inventory reductions. If you really want to improve your business it is a good idea to start at the beginning... start with the basics with Factory Physics. You do not need to learn sophisticated techniques or expensive tools, you just need to take the original tools and develop them in order to improve your processes. This is the essential matter of this book.

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