

High Performance Production Systems

Factory Physics: The Science of Lean Manufacturing

Continuous improvement is a strategic imperative, and it's even more critical in challenging economic times. Our Operations faculty—who are highly acclaimed thought leaders with real-world expertise—will engage you through a powerful combination of action-based learning and simulations that will teach you so much more than just the best practices of other firms. We will explain the science behind those practices, which will give you the concepts necessary to construct a high-performance production system uniquely suited to your needs.

These programs leverage innovative teaching materials from the Ross School's Master of Supply Chain Management degree, Michigan's Tauber Institute of Global Operations, and hundreds of innovative action-based learning projects Michigan has conducted in partnership with leading corporations around the world.

Designed for:

- Senior - and middle-level managers with responsibilities in operations management, manufacturing, supply chain management, distribution management, inventory control, e-business and procurement
- Consultants or general managers who would like a broader understanding of how different parts of production systems and supply chains can be designed and integrated for optimal performance

Factory Physics: The Science of Lean Manufacturing

Factory Physics is an innovative framework of principles co-developed by Professor Wallace Hopp that describes the behavior of all production systems. In this program, participants will use the Factory Physics framework to provide a scientific basis for the practice of lean manufacturing, thus enabling them to select and develop lean policies to effectively design, control and manage their own organization's systems. Participants also learn Michigan's unique Rapid Plant Assessment method for quickly evaluating production facilities and applying the Rapid Plant Assessment to diagnose systems and identify improvement opportunities during a tour of a nearby plant.

Takeaways

Participants will return to their organizations able to:

- Link day-to-day operational details to business strategies
- Rapidly analyze production systems, and the process flows within them, to target improvement efforts
- Focus on operating policies that represent key leverage points with respect to the bottom line
- Work with the natural tendencies of a system to develop customized policies for their environment
- Increase throughput, reduce cycle time, lower variability and improve quality



If you choose to take Factory Physics and Global Supply Chain Leadership Consecutively, you are eligible for a special rate of \$4,200 for each program or a total of \$8,400. Registration by phone at 734.763.1000 is necessary to assure this special rate is applied to your enrollment.

#1 Operations program in the United States as reported by *BusinessWeek*

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High Performance Production Systems Global Supply Chain Leadership

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Global Supply Chain Management

Supply chains are the central nervous system of a global economy. Effective supply chain leadership and management are keys to success in today's competitive environment. This course provides a structured exploration of successful supply chain strategies and practices and methods for implementing them in your organization. This program is taught by Ross professors Izak Duenyas, who has twice been awarded the Ross Executive MBA teaching award, and Ravi Anupindi, who co-created the Ross School's innovative Master of Supply Chain Management program. The content is based on the Managing Business Process Flows framework (co-developed by Ravi Anupindi and the instructors' collective experience consulting with companies and advising innovative Ross projects over the last 15 years). The instructors share their key learnings from applying the supply chain frameworks, taught in this class, at numerous companies.

Participants will learn about frameworks for supply chain design and execution, as well as be exposed to topics and concepts in supply chain visibility, supply chain coordination, performance metrics, inventory and distribution management. Participants in this program will take part in two different simulations of a multilevel supply chain where each participant plays the role of a manager. In one, they will manage only one part of a supply chain, thus experiencing the effects that poor information sharing and long lead times have on supply chains. In another, they will manage a whole supply chain, and have a chance to see the effects of recent developments such as vendor-managed inventory management.

Takeaways

- Develop a framework for implementing effective inventory control, distribution and logistics management methods
- Learn how to partner with suppliers and customers to reduce global costs and increase service levels



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- Learn concepts in sales and operations planning
- Understand key performance metrics for supply chain excellence
- Acquire the tools to evaluate how supply chain management improvements can affect the bottom line

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