Fundamentals of Manufacturing Supply Chain Operations

**Description:** This course focuses on manufacturing supply chain operations, including approaches for the design and planning of such systems. The course covers key supply chain components, performance measurement for supply chain operations, and approaches for the design and planning of supply chain systems and their components. Procurement, supply chain inventory management, freight transportation, warehousing, and distribution systems will be introduced and analyzed.

**Class Text:** “Supply Chain Management”, Sunil Chopra and Peter Meindl.

**Learning Outcomes:**

Students will

1. understand the structure of manufacturing supply chains, and techniques for supply chain system performance measurement;
2. develop skill in applying quantitative analysis of demand management, inventory management, warehousing, distribution, and freight transportation systems, including skill in using software tools such statistical analysis and optimization applications;
3. develop skill in the design of manufacturing supply chains to meet performance criteria or optimize performance metrics.

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| **Topics** | 1. Understanding the Manufacturing Supply Chain  * Performance metrics and measurement |
|  | 1. Supply Chain Demand Management  * Forecasting demand * Sales and operations planning * Pricing and revenue management |
|  | 1. Supply Chain Inventory Management  * Cycle inventory * Safety inventory * Inventory management policies * Strategic safety stock management |
|  | 1. Warehousing and Distribution  * Distribution facilities * Storage and retrieval systems planning  1. Freight Transportation Management  * Freight modes and characteristics * Long-haul transportation * Local distribution |
|  | 1. Network Design  * Procurement and supplier selection * Facility location * Global supply chain network design |

**Grading Policy:**

Homework 30%

Exam 1 30%

Exam 2 40%

**Grading scheme:**

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| **Grade** | **Range** |
| A | 90% to 100% |
| B | 80% to 90% |
| C | 70% to 80% |
| D | 60% to 70% |
| F | Below 60% |

**Learning Accommodations:**

If needed, we will make accommodations for students with documented disabilities. These accommodations must be arranged in advance and in accordance with the ADAPTS office (http://www.adapts.gatech.edu).

**Academic Honor Code:**

*All course participants (instructor, teaching assistants, and students) are expected and required to abide by the Georgia Tech Honor Code. Please familiarize yourself with the code, and use it to guide your conduct. Specifically, you must do your own work in all homeworks and exams.*

For any questions involving these or any other Academic Honor Code issues, please visit [www.honor.gatech.edu.](http://www.honor.gatech.edu)