Manufacturing System and Supply Chain Design

- **Introduction**

- **Class format and protocols**

- **Intent and learning goals**

- **Overview**

- **Requirements and expectations**

Class Format and Protocols

- **Part of Singapore-MIT alliance program in manufacturing; distance ed experiment**

- **At MIT: 15.763/1.274J/ESD.268J !!!**

- **15.760/761 or 15.770J as pre req**

- **Web access for MIT students**

- **Use mike's to talk**

- **Two Seminars on Friday**

Intent and learning goals

- **Develop your understanding of phenomena and challenges in supply chains and manufacturing systems**

- **Develop your modeling skills and tool kit, applicable to system or network design**

- **Learn tactics, concepts and counter-measures for system improvement**

Topics

- **Manufacturing system design**
- **Supply chain design: network optimization, sourcing, pricing**
- **Flexibility and capacity planning**

Approach

- **Models, frameworks and general principles for conceptualization: how to think about supply chain or system challenges?**

- **Specific tools and software: how to develop a solution plan?**

- **Cases and applications: how to apply in practice?**

Primary challenge

- **Given uncertainty and constraints, how to design and plan a manufacturing system or supply chain to meet certain goals?**

- **Types of uncertainty and constraints will vary with context**

- **Applicable counter-measures and tactics will vary with context**

Requirements and Expectations

- **Come to class prepared**

- **Group assignments: three written assignments & four small assignments**

- **Group size: 3 or 4 students, ideally from a mix of programs**

- **Your feedback**

- **Syllabus**