**Course Description**

- **Instructor**
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- **Class time**
  - Sunday-Tuesday 09:00-10:30

- **Course evaluation**
  - Mid-term (30%)
  - Final exam (50%)
  - Quiz (5%)
  - Exercise (15%)
Course Description (Continued ...)

- **Mid-term session:**
  - Sunday: 16th Azar 1393, 09:00 ~ 10:30

- **Final Exam:**
  - Tuesday: 30th Dey 1393, 15:00 ~ 17:30

- **Reference:**

Course Description (Continued.)

- **Contents:**
  - Globalization and Manufacturing Paradigms (8 sessions)
  - System Concepts (3 sessions)
  - Evolution of Manufacturing systems (2 sessions)
  - Manufacturing System Design (4 sessions)
  - Manufacturing Equipment Design (3 sessions)
  - Information flow in Manufacturing Systems (4 sessions)
  - Product design and Manufacturing System (3 sessions)
  - Manufacturing System Implementation (5 sessions)
Course Description (Continued..)

- **Contents:**
  - Globalization and Manufacturing Paradigms
    - The Importance of Manufacturing to Society
  - The Basics of Manufacturing in Large Quantities
  - The 1990s: A Decade of Intensified Globalization
  - The Global Manufacturing Revolution
  - The Manufacturing Paradigm Model
  - Four Major Manufacturing Paradigms

Course Description (Continued..)

- **Contents:**
  - System Concepts
    - Open System Concepts
  - Application to the manufacturing systems
  - Developing models of manufacturing systems
Course Description (Continued..)

**Contents:**

- **Evolution of Manufacturing systems**
  - *(2 sessions)*
  - Applying open system theory to manufacturing systems
  - Case studies

- **Manufacturing System Design**
  - *(4 sessions)*
  - Problem definition
  - Computer Integrated Manufacturing
  - Design principles
  - A multi-layer model for study of design principles
  - Implementing system design concept
Course Description (Continued..)

- Contents:
  - Manufacturing Equipment Design (3 sessions)
    - Equipment unit parameters
  - Range of equipment technologies and automation available
  - Technology assessment

Course Description (Continued..)

- Contents:
  - Information flow in Manufacturing Systems (4 sessions)
    - Evolution of computer hardware
  - The open system interconnect model for computer communication
  - A strategy for comparing alternative approach to computer communications
  - Manufacturing Automation Protocol (MAP)
Course Description (Continued..)

**Contents:**
- *Product design and Manufacturing System*  
  - Introduction to Computer-Aided Design and Manufacturing
- *Design for Assembly and Manufacturing*
- *Computer Communication for CAD integration*

**Manufacturing System Implementation**  
- State-of-the-Art Technology
- CIM design principles and reference models
- Product definition in terms of manufacturing operations
- Composite manufacturing functions for the entire product line
- Functional Process Model
- Functional Information Model