

Departmental Elective Course

IE 473

Material Handling Systems

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2010-11 Fall Semester
Çankaya University, Ankara

Academic Background

- Born in 1965, in Gemlik, BURSA
- 1983, Bursa Anadolu Lisesi
- 1987, Middle East Technical University, BS in IE
 - Furniture Manufacturing, TEPE Mobilya
- 1990, Bilkent University, MS in IE
 - Analytical Loading Models and Control Strategies in Flexible Manufacturing Systems
- 1995, Bilkent University, PhD. In IE
 - Modelling and Analysis of Pull Production Systems

Professional Background

- *1986-1987, Student Assistant, IE – METU*
- *1987-1994, Research Assistant, IE – Bilkent*
- *1994-1995, Instructor, IE – Bilkent*

- *1995-1999, Faculty Member, Asst.Prof.Dr. in IE – EMU*
- *1999-2010, Faculty Member, Assoc.Prof.Dr. in IE – EMU*
- *1999-2007, Chairman in IE – EMU*

- *2010- , Faculty Member,
Asst.Prof.Dr. in IE – ÇANKAYA University*

An Academician,
An Instructor,
An Advisor,
A Researcher,
An Engineer (IE),
A Friend,
A Father,
A husband ...

- **Student for 24 years,**
- **Married for more than 22 years,**
- **Lecturing more than 16 years,**
- **Engineer for more than 23 years,**
- **Administrator for more than 8 years ...**

Material Handling Systems

- **Introduction to Material Handling:**
 - Definition, goals, objectives, costs,
 - Principles,
 - MHS Design procedure,
 - Relationship with Layout: Simultaneous Development,
 - MH Analysis, equation of questions, productivity,
 - Unit load: pallet sizing and loading,
 - MH Equipments, and selection,
 - Storage and warehousing:
 - Mission, functions, operations,
 - From receiving to shipping,
 - Order picking operations,
 - Stacking,
 - Dock planning and design,
 - Automated Storage and Retrieval Systems,

Material Handling Systems

- **MH in Production and Flow Systems:**
 - Conveyor models,
 - AGV Systems,
- **MH in Warehousing and Storage Systems:**
 - Conventional systems: order picking,
 - AS/R systems,
 - Unit-load,
 - Mini load,
 - Person-on-board,
 - Carousels,
 - Storage models,
 - Dedicated, random, class-based, complementary,
 - Capacity and location determination,
 - Storage space utilization,

Important Values,

- **Working hard,**
- **Getting hands dirty,**
- **Telling the truth,**
- **Helping each other, cooperative,**
- **Being in a positive attitude,**
- **Justice,**

- **Supporting decision making with analysis and model formulation,**
- **Making use of engineering in real life,**

Don't forget:

- ***Engineers make things.***

- ***Industrial Engineers make things better!***