



**Piri Reis University**  
**Faculty of Engineering-Department of Industrial Engineering**  
**IND224 Facility Design and Planning**  
**(Spring'23) (3+0+0) (ECTS:5)**

**Description:**

Introduction to manufacturing facilities design and materials handling, sources of information for manufacturing facilities design, time study, process design, flow analysis techniques, activity-relationship analysis, ergonomics and workstation design space requirements, auxiliary services requirement space, employee services-space requirements, material handling, material handling equipment, office layout techniques and space requirements, area allocation, facilities design-the layout.

**Textbook:**

Manufacturing Facilities Design and Material Handling by F. E. Meyers, M.P. Stephens, 3rd Ed., 2005, ISBN: 0-13-112535-4

**Course Outline:**

The instructor reserves the right to modify this preliminary schedule at his discretion.

WEEK #	TOPIC	READINGS
1	Course Syllabus Int. to Manufacturing Facilities Design and Material Handling	Chapter 1
2	Sources of Information for Manufacturing Facilities Design	Chapter 2
3	Time Study	Chapter 3
4	Process Design	Chapter 4
5	Flow Analysis Techniques	Chapter 5
6	Activity-Relationship Analysis	Chapter 6
7	Auxiliary Services Requirement	Chapter 8
8	Midterm (April 4-No class)	Chapters 1-8
9	Space Requirements Employee Services-Space Requirements	Chapter 9
10	Material Handling Systems	Chapter 10
11	Material Handling Equipment	Chapter 11
12	Office Layout Techniques and Space Requirements	Chapter 12
14	Area Location Facilities Design - The Layout	Chapter 13 Chapter 14
TBD	Final Exam	All the Chapters

\* Chapter 15 is of advance applications of facility layout such as simulation (to be summarized).

\* Chapter 16 is only reading chapter. No class will be held for it.

### **Class Schedule:**

The class will meet on Tuesdays (14:00-17:00) on D1-215.

### **Grade Evaluation:**

The weights for each type of evaluation are given as:

- Midterm Exam (30%)
  - Project (30%)
  - Final Exam (40%)
- The final exam will be comprehensive of all the material covered. Failure to attend the exam will lead to a zero for that exam. The only exception will be for students with a medical reason signed by a physician from an acceptable institution (please see the regulations of Piri Reis University). Students must take the final exam to receive a grade in this course.
  - Blackboard-OİS will be used to communicate with students throughout the course. All the assignments and documents will be posted on the OİS System and/or given in class.

### **Instructor:**

Prof. Dr. Zeki AYAĞ, Professor of Industrial Engineering; e-mail: [zayag@pirireis.edu.tr](mailto:zayag@pirireis.edu.tr)

**Office Hours:** Tuesdays (10-12), and Wednesdays (10-12). Other times are by appointment.

### **Attendance Policy:**

- Students are expected to be in class and on-time. Students are responsible for all the materials covered in class. Students not being able to attend the class should provide prior notice to the instructor and subsequent official documentation.
- Each student is responsible for all announcements made in class, sent to his/her e-mail account and posted on Blackboard, including scheduling of exams, and homework assignments.
- If no prior arrangement has been made and neither I nor a substitute instructor has arrived 30 minutes after the scheduled start of class, the students may leave.

### **Academic Dishonesty:**

Any student cheating or knowingly assisting another student in committing an act of academic dishonesty will automatically receive a grade of zero and will be excused from the exam and/or homework assignments. Furthermore, students may also be subject to penalty in accordance with the regulations of Piri Reis University.

### **Course Rules:**

- Turn all cell phones off/in silent mode during class (please let me know if emergency calls); Cheating will not be tolerated; Do not bring any food to class.

**Note:** The instructor reserves the right to modify the information contained in this document at his discretion.