

ISEN 3730 - Materials Handling and Facilities Planning

Fall 2026 Syllabus, Section 01, CRN 42735,

Credit hours: 3

Instructor

Zefeng Lyu

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Public Instructor Information

Instructor Title: Assistant Professor

Instructor Professional Qualifications: Ph.D., Industrial Engineering, University of Tennessee, 2023

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Course Description

3730. Materials Handling and Facilities Planning. The course focuses on operational facility planning through comprehensive layout design. Considerations include product flow, space and activity relationships, workforce requirements, and material handling. Topics include flow analysis, facility location, group technology and layout, just-in-time, material handling equipment such as AGV, motion and time studies, and work sampling. Prereq.: ISEN 2616. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Optional	Facilities Planning	James A. Tompkins, John A. White, Yavuz A. Bozer, J. M. A. Tanchoco	9780470444047

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Week of	Proposed Topic	Due/To Prepare for Class
8/24	Introduction to facility planning and material handling	
8/31	Product, process, schedule, and facility design	
9/7	Flow analysis techniques	
9/14	Activity Relationships and Space Requirements	
9/21	Layout planning models and design	
9/28	Group technology	
10/5	Warehouse operations	
10/12	Manufacturing Systems	
10/19	Facility Systems	
10/26	Material Handling	
11/2	Motion and time studies	
11/9	Work Sampling	
11/16	Quantitative facility planning models	
11/23	Evaluating and selecting the facility plan	
11/30	Preparing, presenting, implementing, and maintaining the facility plan	

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.