

Industrial Engineering Program

1. COURSE NUMBER AND NAME	IE 466 – Material Handling and Facilities Layout
2. CREDITS AND CONTACT HOURS	3 Credits. 3 Contact Hours
3. COURSE INSTRUCTOR	George Abdou
4. TEXT BOOK	Francis, R. L., McGinnis, L. F., and White, J. A., Facility Layout and Location: an Analytical Approach, 2 nd Ed., Prentice Hall, 1992
4A. OTHER MATERIAL	
5A. CATALOG DESCRIPTION	Analysis of organized human activities typified by industrial and office operations. Recent methods are applied to optimize location and layout of facilities. Introduction to modern material handling systems, expert systems in plant layout, logistics of motion of people and materials, flow analysis, plant layout, and material handling techniques.
5B. PREREQUISITES	IE 439
5C. REQUIRED, ELECTIVE OR SELECTED ELECTIVE	Required
6A. SPECIFIC OUTCOMES OF INSTRUCTION	The students will: <ol style="list-style-type: none"> 1 Learn to use graphical and analytical tools to describe a facility and its various activities (a, k) 2 Be able to list, and describe the capabilities and performance measures associated with various material handling equipment (e and k). 3 Be able to solve facility location problems (e, k).
6B. CRITERION 3 OUTCOMES ADDRESSED	The mapping of the three (3) outcomes of instruction of item 6A to the Criterion 3 outcomes (a-k) is as follows: <ol style="list-style-type: none"> 1. Satisfies Criterion 3 outcomes a and k. 2. Satisfies Criterion 3 outcomes e and k. 3. Satisfies Criterion 3 outcomes e and k.
7. TOPICS COVERED	<ol style="list-style-type: none"> 1. Introduction to facilities location and layout problems 2. Sources of information for facilities design 3. Flow analysis techniques 4. Activity analysis relationship charts 5. Systematic layout planning 6. Computerized layout planning tools 7. Analytical models for facilities layout 8. Material handling, planning and flow principles 9. Material planning equipment – conveyors, pallets, robots, trucks, bins, etc.

	<ul style="list-style-type: none">10. Planar single facility location problems11. Multifacility location problems12. Network location problems13. Storage system layout
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