

## **IE 471 Design of Manufacturing Systems 3(3,1,0)**

<b>Catalog Data</b>	Manufacturing fundamentals and automation strategies; High volume manufacturing systems; Automated handling and storage systems;; Flexible manufacturing systems; Modeling of manufacturing systems
<b>Prerequisite</b>	IE 450, IE430
<b>Co-requisites</b>	
<b>Level</b>	10
<b>Textbook</b>	1. <u>Production System, and Computer Integrated Manufacturing</u> , Groover, M.P. Automation, Prentice Hall. 2. <u>Modeling and Analysis of Manufacturing Systems</u> , Askin, R.G. & Standridge, C.R., John Wiley & Sons.
<b>Reference</b>	
<b>Learning Objectives</b>	To provide understanding and awareness about manufacturing systems automation and technologies: Also to give the knowledge for the design of various manufacturing systems and analyzing their performance
<b>Project work</b>	Case studies are given to design and analyze manufacturing systems.
<b>Computer Usage</b>	Computer use covers course topics
<b>Learning outcomes</b>	1. Ability to recognize the manufacturing system automation and technologies <b>[a]</b> 2. Ability to Model manufacturing system and analyze its performance <b>[e, k]</b> 3. Capability to design manufacturing system <b>[c]</b> 4. Capability to work within team during case studies <b>[c, e, k]</b>
<b>ABET Program Outcomes</b>	<b>(a) An ability to apply knowledge of mathematics, science, and engineering</b> <b>(c) An ability to design, develop, implement, and improve process, component, and integrated system that include people, material, information, and energy to meet desired needs within realistic constraint such as economic, environmental, social, political, ethical, health and safety</b> <b>(e) An ability to identify, formulate, and solve engineering problems</b> <b>(k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.</b>