

Wollo University
Kombolcha Institute of Technology
Department Of Industrial Engineering
Course outline

Course Number: MEng3252	Credit Hours: 3
Course Title: Operations Planning and Control	Contact Hours: 2 Lecture hrs and 3 tutorials hrs
	Instructor: Moges M.
Course Objectives: The objective of the course is to assist the student to • Gain an understanding and appreciation of the fundamental principles and methodologies relevant to planning, design, operation, and control of production systems; • Gain an understanding of the role and importance of productivity in the welfare of society, and learn how to increase productivity and quality for competing in today's global marketplace; • Gain ability to recognize situations in a production system environment that suggest the use of certain quantitative methods to assist in decision making; • Learn how to think about, approach, analyze, and solve production system problems using both technology and people skills. • Acquire knowledge and broaden his/her perspective of the "new world" to which the student will contribute his/her talent and leadership as an Industrial Engineer.	
Course Description: Types of production systems; Techniques and applications of control concepts in the design of inventory, production, and project-planning systems; Aggregate planning and master scheduling; MRP, MRP-II, job shop scheduling and dispatching problems; Forecasting techniques; Basic concepts of OPT, JIT.	
Course Outline: 1. Introduction to Production Systems: Types of production system; Operations Strategy and Competitiveness; Product Design and Process Selection; Types of Layout; Job Design and Work Measurement; Project management. 2. Forecasting: Forecasting in Operations; Useful Forecasting Models for Operations; Selection of Forecasting Models. 3. Scheduling Production and Service System: Operation Planning and Scheduling System; Aggregate planning system; Master Scheduling and Rough cut Capacity Planning; Operation Scheduling. 4. Inventory Control and Applications: Inventory Concepts; Inventory costs; Inventory Models; Inventory control application in Manufacturing. 5. Material Requirement Planning: Planning for Materials need; Detailed Capacity Planning; Limitations and applications of MRP; Manufacturing Resource Planning (MRP-II); Purchasing. 6. Introduction to JIT Manufacturing System	
Pre-requisites: SQC and Computer programming	
Co-requisite:	
Textbook:	
References: 1. Everett E. Adam, JR. Ronald, J. Ebert, <i>Productions and Operations Management</i>: Prince Hall, 1992 2. James B. Dilworth, <i>Operations Management</i>: The McGraw-Hill Companies, Inc, 1996 3. Riggs James L. <i>Production Systems: Planning, Analysis & Control</i>, New York: John Wiley & Sons Inc. 1970.	

4. Moore, James M. <i>Plant Layout and Design</i> , New York ; Macmillan company, 1962 5. Muther , Richard <i>Systematic Layout Planning</i> , London, Industrial International Limited , 1962 6. Turner, Joe H. Mize, Kenneth E. Case , <i>Introduction to Industrial and System Engineering</i> , Prentice Hall ,Inc., Englewood Cliffs, New Jersey,1978 7. Kurtz, Max P.E., <i>Hand Book of Industrial Management</i> , New York: McGraw Hill, Inc. 1984, 19	
Teaching Methods: • Lectures supported by tutorials, • Assignments, and • Industrial visits.	
Attendance Requirement: • Minimum of 75% attendance during lecture hours; • 100% attendance during practical work sessions, except for some unprecedented mishaps; and • Presence during industrial visit/visits.	
Evaluation:	
Mid exam 30%	Assignment 10%
Final exam 50%	Quiz/test 10%