

Department of Industrial Engineering			
Production planning & Inventory Control (65431)			
Total Credits	3		
major compulsory			
Prerequisites	P1 : Statistical Methods & Probabilities for Engineers (21230) OR Quantitative Methods (65211)		
Course Contents			
Forecasting, Supply Chain Management, Aggregate Planning, Inventory Management, Special Inventory Management Models, Master Production Scheduling, Material Requirements Planning, Scheduling, Capacity Planning, Lean Systems			
Intended Learning Outcomes (ILO's)		Student Outcomes (SO's)	Contribution
1	Teach students fundamental problem areas of Production Planning and, to introduce the relation between planning and control activities, as well as issues related to system design.	E	30 %
2	Teach approaches that utilize mathematical modeling and optimization to solve problems and emphasize the importance of solving a planning problem analytically.	A	35 %
3	Be able to use different techniques and modern planning tools for engineering practice	K	20 %
4	Be able to work in a team and confident in presenting and defending his work	G	15 %
Textbook and/ or References			
Krajewski, L.J, Ritzman, L.P and Malhotra M. Operations Management: Processes and value chains. 8th Edition, New York: Prentice Hall, 2007. Useful References: Textbook: Arnold, J.R.T, Chapman, S.N., and Clive, L.M. Introduction to Materials Management, Prentice Hall, 2012 (Seventh Edition). Sipper, D. and Bulfin, R.L. Production: Planning, Control, and Integration. New York: Mc Graw-Hill, 1997 Silver, E.A., Pyke, D.F. and Peterson, R. Inventory Management and Production Planning and Scheduling. 3rd Edition, New Jersey: John-Wiley, 1998. Stevenson, W. Production Operations Management. 6th Edition, New York: Mc Graw-Hill, 1999.			
Assessment Criteria		Percent (%)	
First Exam		20 %	
Second Exam		20 %	
Projects		15 %	
Final Exam		45 %	
Course Plan			
Week	Topic		
1-2	Forecasting		
3	Supply Chain Management		
4-5	Inventory Management Models		
6-7	Sales and Operations Planning (Aggregate Planning)		
8	Midterm I Exam		
9	Master Production Scheduling		
10-11	Material Requirements Planning		
12	Scheduling		
13	Midterm II Exam		

14	Constraint Management
15	Lean Systems
16	Final Exam