MEC 4103: Production Planning and Control

Hours per semester				Weighted total marks	Weighted exam mark	Weighted continuous assessment mark	Credit unit
LH	PH	TH	CH				
45	25		60	100	60	40	4

Brief description of course

Analysis, design and management of production systems. Topics include productivity measurement, forecasting techniques, project planning, inventory systems, aggregate planning, master scheduling, material requirement planning, operations scheduling, and modern approaches to production management such as capacity planning and control

Prerequisites:

1. Production Engineering I
2. Production Engineering II

Course Objectives:

Upon completion of this course, the student should be able to:

- Identify different strategies employed in production and service industries to plan production and control inventory.
- Measure the effectiveness, identify likely areas for improvement, develop and implement improved planning and control methods for production systems.
- To gain an understanding and appreciation of the fundamental principles and methodologies relevant to planning, design, operation, and control of World-Class Productive systems.
- To 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.
- To reinforce analytical skills already learned, and build on these skills to further increase your "portfolio" of useful analytical tools.

Learning outcomes

Students should be in position to:

1. Appreciate the importance of production planning and control in a company
2. Utilize the knowledge acquired in the company
3. Integrate production planning with other company functions

Course outline

Introduction to Production Planning and Production Control (4 hours)

Demand Management (4 hours)

Forecasting Demand (6 hours)

Inventory Management (4 hours)

Capacity Planning and Control (4hours)

Aggregate Planning (4hours)

Master Production Scheduling (6hours)

Material Requirement and Planning (6 hours)

Operation Scheduling (6 hours)

Total Quality Management (4 hours)

Delivery mode

The course will be taught using lectures, tutorials and assignments.

Assessment methods

The students will be assessed as follows;

Requirement	**Percentage contribution**
Course work	40%
Final examination	60%
Total	100%

Recommended and reference books

1. J. L Meriam and L. G Kraige. 2002, Engineering Mechanics (Statics) Fifth Edition.John Wiley&Sons,Inc.

2. Carleton G. Fanger.1970 Engineering Mechanics. Statics And Dynamics.Charles E.Merrill Publishing Company,Columbus, Ohio.

3. Timoshenko and Young. 2000, Engineering Mechanics Fourth Edition. Mcgraw-Hill Kogakusha,Ltd.