

Program	BS Business Education
Course Title	BSBE 315 OPERATIONS MANAGEMENT WITH AI
Semester	6 <sup>th</sup>
Credit Hours	3
Pre-requisite	None
Introduction	The main objectives of the course are to introduce the field of production/operations management. Topics to be covered represent a blend of concepts from industrial engineering, cost accounting, general management, quantitative methods and statistics. This will include some operations as well as strategic issues such as: applied forecasting, aggregate planning, scheduling, shop floor control, total quality management, inventory management, facility layout and project management.
Learning outcomes	Upon successful completion of course the students will be able to: <ol style="list-style-type: none"> <li>1. Describe operation management areas of responsibility and the contribution of operations management to an organization.</li> <li>2. Use computer analysis to produce a linear regression forecasting model.</li> <li>3. Explain the concept of supply-chain management and the requirements and design of a successful supply chain.</li> <li>4. Develop an operational aggregate plan following a chase strategy, level strategy or mixed strategy.</li> <li>5. Describe inventory systems for independent demand and the costs and benefits of carrying inventory.</li> <li>6. Identify the characteristics of JIT (just-in-time) systems that enable the realization of the JIT philosophy.</li> <li>7. Identify the key concepts of materials planning for dependent demand using MRP (material requirement planning).</li> </ol>
Course Content	<p>INTRODUCTION</p> <ul style="list-style-type: none"> <li>• Introduction to Operations Management</li> <li>• Competitiveness, Strategy, and Productivity</li> </ul> <p>OPERATIONS MANAGEMENT MODELS</p> <ul style="list-style-type: none"> <li>• Forecasting</li> <li>• Decision Making</li> <li>• Transportation models</li> <li>• Waiting lines models</li> <li>• Learning curves</li> </ul> <p>SYSTEM DESIGN</p> <ul style="list-style-type: none"> <li>• Product and Service Design: Reliability</li> <li>• Strategic Capacity Planning for Products and Services:</li> </ul> <p>Decision Theory</p>

	<ul style="list-style-type: none"> <li>• Process Selection and Facility Layout: Linear Programming</li> <li>• Design of work systems: Learning Curves</li> <li>• Location Planning and Analysis: The Transportation Model</li> </ul> <p>QUALITY</p> <ul style="list-style-type: none"> <li>• Management of Quality</li> <li>• Quality Control: Acceptance Sampling</li> </ul> <p>INVENTORY MANAGEMENT AND SCHEDULING</p> <ul style="list-style-type: none"> <li>• Inventory Management</li> <li>• Aggregate Planning</li> <li>• MRP and ERP</li> <li>• JIT and Lean Operations: Maintenance</li> <li>• Scheduling</li> </ul> <p>SUPPLY CHAIN MANAGEMENT</p> <ul style="list-style-type: none"> <li>• Supply Chain Strategies</li> <li>• Vendor selection, Internet purchasing, Supplier quality and reliability</li> <li>• Benchmarking</li> <li>• Types of Facilities and location analysis techniques</li> <li>• Transportation and distribution system</li> </ul> <p>PROJECT MANAGEMENT</p> <p>WAITING LINES AND SIMULATIONS</p> <p>LAYOUT STRATEGY</p> <ul style="list-style-type: none"> <li>• Basics layouts</li> <li>• Designing process layouts</li> <li>• Designing product layouts</li> <li>• Warehousing and storage layouts</li> <li>• Assembly line balancing</li> <li>• Hybrid Layouts</li> </ul>
References	<p>Chary, S.N. (2009). <i>Production and Operations Management</i>. McGraw Hill.</p> <p>Dilworth, J. B. (1993) <i>Production and Operations Management</i>. McGraw Hill.</p> <p>Elwood S. Buffa and Rakesh K. Sarin. <i>Modern Production/Operations Management</i>. John Wiley</p>
Teaching/ Learning Strategies	<p>Lecture</p> <p>Multimedia presentations</p> <p>Cooperative Learning</p> <p>Non creditor workshops and seminars.</p> <p>Active Learning</p>

Evaluation Criteria	Course Evaluation	
	Assignments	20
	Mid Semester Test	25
	Final Project	15
	Final Test	40
	Total	100