

PROGRAM: MBA, SUPPLY CHAIN ADMINISTRATION CONCENTRATION

<b>Course Name:</b> Supply Chain Administration	<b>Course ID: II 502</b>
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**Placement in curricular map:**  
Concentration on Supply Chain

**Course characteristics:**

In this course students will develop an integral vision of Supply Chain Management (SCM) under a strategic approach in the framework of international operations. Students will be able to incorporate the SCM approach for the enhancing of the business global functions. They will know the SCM different functions and activities. They will understand the relation among the inventory management and planning processes and SCM. They will be introduced to practical tools and contemporary cases that will allow them to apply their knowledge on provider selections, logistics, outsourcing, global purchases, contracts, negotiation, price and costs analysis. They will be able to determine which information technologies for supply processes have a major potential according to the business environment. Finally, they will be able to determine how to apply the SCM approach to their business as a competitiveness factor.

**General learning objectives:**

At the end of this course students will be able to determine the necessary strategies to incorporate Supply Chain Strategic Management in an organization and they will be able to design and to equip an application project to optimize the supply chain. Specifically students will:

- Know and understand the transformation of the purchase function to a SCM approach.
- Identify the different functions of SCM, as well as their main roles and responsibilities.
- Examine the planning processes related to SCM.
- Propose criteria and strategies for the selection and development of providers and decisions related to the supply strategic management.
- Plan negotiations with providers based on price and cost analysis.
- Identify the essential characteristics that a supply contract must contain.
- Describe the advantages and disadvantages of the development of strategic alliances in an international context.
- Understand and demonstrate the advantages of the use of information technologies in SCM.
- Analyze the opportunities of an organization and propose strategies for the implementation of a SCM.

## Contents

	<b>Hours</b>
<b>1. Introduction to Supply Chain Management.</b>	<b>2</b>
1.1 Transformation of the purchase function.	
1.2 Effectiveness elements in purchasing and supply chain.	
<b>2. SCM activities.</b>	<b>4</b>
2.1 Purchases.	
2.2 Transportation.	
2.3 Quality control.	
2.4 Reception and storage.	
2.5 Materials and inventory control.	
2.6 Order processing.	
2.7 Planning and scheduling.	
2.8 Shipment.	
2.9 Customer service.	
<b>3. Planning.</b>	<b>6</b>
3.1 General prediction methods.	
3.2 Master planning and MRP.	
3.3 Foundation of inventories and their relation with supply chain.	
3.4 Purchase strategies based on predictions	
<b>4. Supply strategic management.</b>	<b>8</b>
4.1 Provider selection and assessment.	
4.2 Provider development.	
4.3 Outsourcing: To make or to buy	
4.4 Purchase logistics	
4.5 Global purchases	
4.6 Legal considerations.	
<b>5. Strategic costs</b>	<b>8</b>
5.1. Price analysis	
5.2. Costs analysis	
5.3. Negotiation	
5.4. Contracts	
<b>6. Strategic alliances</b>	<b>4</b>
6.1. International aspects in SCM	
6.2. Coordinated design of the supply chain	
<b>7. Information technologies and decision systems</b>	<b>4</b>

<b>Learning activities guided by instructor</b>	<b>Hours</b>
1. Topics presentation by instructor	16
2. Case analysis and discussion	8
3. Presentation plenary and/or discussions	4
4. Small group exercises and activities	8
5. Individual activities	Elective

<b>Independent learning activities:</b>	Hours
	60
1. Reading of material selected by instructor. <ul style="list-style-type: none"> <li>a) Students must carry out individual readings to know and understand the class topics according to the books and chapters suggested by the instructor. This includes case readings in textbooks for their further discussion in class.</li> <li>b) The reading material must include support material based on the body of knowledge proposed by APICS and ISM.</li> </ul>	20
2. Written article, essay or reading report. <ul style="list-style-type: none"> <li>a) This activity will not be carried out in this class.</li> </ul>	
3. Solution to problems selected by instructor. <ul style="list-style-type: none"> <li>a) This activity will not be carried out in this class.</li> </ul>	
4. Field practicum <ul style="list-style-type: none"> <li>a) Based on their experience in research with expert colleagues, bibliographic sources or in different companies, students will develop a diagnosis and analysis tool of the current state in relation with the SCM approach which will be used in the course's integrating project.</li> </ul>	10
5. Research and development of a topic assigned by the instructor. <ul style="list-style-type: none"> <li>a) Students will write a report of bibliographic research from modern articles of recognized and specialized sources that deal with the application of Supply Chain Management. Students will select one of the topics seen in class as a starting point to deepen in the reference selection. They will perform a general revision of such literature and will propose general application recommendations.</li> </ul>	10
6. Course integrating project. <ul style="list-style-type: none"> <li>a) Students will carry out an integrating project whose advances must be reported to the instructor. Work will consist of selecting and making a project to be applied to their organization or the one they have chosen. Students will carry out a diagnosis of the situation where they identify opportunity areas to implement the SCM approach, as well as implementation strategies.</li> </ul>	20

<b>Assessment instruments and procedures:</b>
Assessment instruments and procedures will be the ones listed below: <ol style="list-style-type: none"> <li>1. Written or oral exam.               <ul style="list-style-type: none"> <li>o Students will demonstrate through writing that they understand the</li> </ul> </li> </ol>

concepts regarding to all the topics in the course.

2. Products to hand in.
  - Organizational diagnosis tools of the SCM approach.
  - Research report.
  - Students must hand in an advance report of each of the integrating project stages, as well as a project final report.
3. Class presentations.
  - Students will present their project, demonstrate the expected results and explain the strategies for its implementation.
4. Participation in discussion sessions.

It is expected that students actively participate in all the class sessions; this implies previous readings and valuable contributions in case discussions and examples.

#### **Assessment criteria:**

1. Assessment procedures and instruments will be focused on learning activities whether they be instructor-directed or independent.
2. Instructor will assess and assign a grade in each of the assessment instruments. The assigned grade must be from 0 to 100.
  - Written or oral exam 25 points.
  - Integrating project 75 points.
3. Instructor will report to Postgraduate Department the average grade obtained by students in all the assessment instruments.
4. The minimum passing grade will be 80 points.
5. Students won't fail the course due to absenteeism

#### **Bibliography**

	<b>Type</b>	<b>Title</b>	<b>Author</b>	<b>Publisher</b>	<b>Year</b>
<b>1</b>	Reference	World Class Supply Chain Management	Daviid N. Burt, Donald Dobler, Donald W. Dobler, Stephen L. Starling, Stephen Starling	Mc Graw Hill/Irwin	2002
<b>2</b>	Reference	Purchasing and Supply Chain Management	Michiel R. Leenders, Harold E. Fearon, P. Fraser Johnson, Harold Fearon, Anna E. Flynn	Mc Graw Hill/Irwin	2001
<b>3</b>	Reference	Purchasing and Supply Chain Management	Robert M. Monczka, Robert J. Trent, Robert B. Handfield	Thomson	2004

Program: MBA concentration in Supply Chain

<b>Course name:</b> Logistics and Distribution	<b>Course ID:</b> II506
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<b>Placement in curricular map:</b> Concentration on Supply Chain
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<b>Course characteristics:</b> This course deals with the fundamental aspects of business logistics, starting with the knowledge of concepts and necessary tools for the effective control of the supply chain covering the logistic costs, demand forecasting, inventory control and management of distribution centers and information systems.
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<b>General learning objectives:</b> Students will understand the strategic importance of logistic activities and their integration with the other functions of the company. They will acquire the necessary knowledge for the effective management of the supply chain.
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**Contents**

<b>Topics and subtopics of each unit:</b>	<b>Hours</b>
<p><b>8. Logistic strategy in the supply chain processes.</b></p> <p>8.1 Concept of logistic system and supply chain.            8.2 Logistic activities.            8.3 Importance of logistic activities in the company and economy.            8.4 Logistic activities and their relation with the business functional areas.            8.5 Logistic planning and organization.            8.6 Concept of total cost.            8.7 Customer service. Measures of service level.</p>	<b>6</b>
<p><b>9. Demand forecasting.</b></p> <p>9.1 Analysis of data and information of the demand.            9.2 Forecasting methods: time series and causal methods.            9.3 Demand variability in supply chain.            9.4 Centralized and decentralized information.            9.5 Alternative Strategies: ECR, VMI, Postponement, CPRF.</p>	<b>8</b>
<p><b>10. Inventory control.</b></p> <p>10.1 Inventory administration in supply chain.            10.2 Techniques of inventory control.            10.3 Service level, inventories of security and uncertainty in the demand.            10.4 Multi-product inventory control in multiple locations.            10.5 Pull-push, postponement and speculation strategies.            10.6 Centralized and decentralized inventories.</p>	<b>6</b>
<p><b>11. Distribution centers, storage and material management.</b></p> <p>11.1 Configuration of the distribution net.            11.2 Location of distribution centers.            11.3 Strategies and means of transportation. Route programming.            11.4 Order processing.            11.5 Storage: Lay-out and material management team.</p>	<b>8</b>

11.6 Storage: operation profile. 11.7 Order picking  <b>12. Information systems and measures of logistic activities performance.</b> 12.1 Importance of information technologies. 12.2 Value chain, perceived values and information technologies. 12.3 Logistic information systems and the company's strategy. 12.4 Metrics to established processes health. 12.5 Costing by activities (ABC). 12.6 Traditional performance measures and their feasibility in the supply chain environment. 12.7 Balance Scorecard (BSC). Implementation, advantages and challenges in the supply chain.	<b>8</b>
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<b>Learning activities:</b>  <ul style="list-style-type: none"> <li>• <b>Classroom activities:</b> <ul style="list-style-type: none"> <li>- Presentation of topic by instructor.</li> <li>- Case discussions.</li> <li>- Invited Lecturers.</li> <li>- Presentation of final project by students.</li> </ul> </li>   <li>• <b>Independent activities by students:</b> <ul style="list-style-type: none"> <li>- Previous readings.</li> <li>- Assignments.</li> <li>- Exercises and practice.</li> <li>- Research projects.</li> </ul> </li> </ul>	<b>36</b>
	<b>60</b>

<b>Assessment criteria and procedures:</b> <ul style="list-style-type: none"> <li>• Final Exam</li> <li>• Homework and assignments</li> <li>• Final Research Project</li> <li>• Participation</li> </ul>
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### Bibliography

	Type	Title	Author	Publisher	Year
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4					
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Program: MBA concentration in Supply Chain

Course Name Lean Manufacturing	Course ID MF 509
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Placement in curricular map

Supply Chain Specialization Axis

**Course characteristics**

In this course students will develop an integrating vision of Lean Manufacturing and of the organizational steps and requirements for its implementation. Through the use of cases they will be able to develop a deep understanding of Lean Manufacturing implications and the benefits it provides to an organization.

They will know and apply Lean Manufacturing traditional tools such as value chain mapping, methods for fast changes, total productive maintenance, problem solving techniques, pull system and visual factory.

This course contains a strong orientation towards the understanding and application of the process of lean manufacturing implementation in industrial environments.

General Learning Objectives

At the end of this course students:

Will be able to plan, direct, execute and assess a Lean Manufacturing implantation project involving different areas in the organization, as well as to use different distinctive techniques of this approach.

Specifically students will:

Develop diagnosis of the company's current situation and the necessities for the implementation of Lean Manufacturing.

Know, understand and apply techniques to establish measurement standards of the effectiveness in operations.

Develop proposals for the implementation that demonstrate the benefits and convenience of such initiatives.

Know, understand and apply the techniques for mapping processes.

Know, understand and apply the traditional techniques of Lean Manufacturing.

Identify software to be applied in the implementation process as well as in Lean Manufacturing tools.

Determine the organization structure and of the most appropriate teams to carry out an implementation project according to the organizational environment.



Understand the management of change and its usefulness in Lean Manufacturing implementation in its different stages.

<b>Contents:</b>	<b>Hours</b>
1. Lean Manufacturing foundations	4
1.1. Process flow	
1.2. Performance measurement	
2. Lean Manufacturing Implementation	12
2.1. Value chain mapping	
2.2. Development of implementation proposals	
2.3. Change administration	
2.4. Implementation process by stages	
2.5. Human and organizational aspects	
3. Lean manufacturing tools	16
3.1. Display of implementation policies	
3.2. Work team	
3.3. Visual Factory	
3.4. Design of error proof processes	
3.5. Fast changes	
3.6. Total productive maintenance	
3.7. Problem solving	
3.8. Pull systems	
3.9. Contemporary issues associated to Lean Manufacturing	
4. Implementation cases	4

<b>Learning activities guided by instructor</b>	<b>Hours</b>
	<b>36</b>
6. Topics presentation by instructor	16
7. Case analysis and discussion	4
8. Presentation plenary and/or instructor guided discussions	4
9. Small group exercises and activities	12

10. Individual activities	OP
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Independent learning activities:	Hours
<p>7. Reading of material selected by instructor.</p> <ul style="list-style-type: none"> <li>• Students must carry out individual readings to understand the foundations of Lean Manufacturing.</li> <li>• Carry out readings to know and understand the main components of its implementation</li> <li>• Students must carry out individual readings to know and understand the application of Lean Manufacturing tools.</li> <li>• Students must carry out individual readings to know and understand implementation cases.</li> </ul> <p>8. Writing of article, essay or reading summary.</p> <ul style="list-style-type: none"> <li>• This activity won't be carried out in this course.</li> </ul> <p>9. Solution of problems selected by instructor.</p>	<p>16</p>
<ul style="list-style-type: none"> <li>• For each Lean Manufacturing tools students must carry out and hand in application exercises.</li> </ul>	<p>16</p>
<p>10. Field practicum.</p> <ul style="list-style-type: none"> <li>• A group field work activity will be carried out in which one of the tools will be applied in an organization.</li> </ul>	<p>8</p>
<p>11. Research and development of a topic assigned by instructor.</p> <ul style="list-style-type: none"> <li>• Students will write a research report identifying <i>software</i> that has specific application in Lean Manufacturing and specifically in its tools. They will explain general characteristics and benefits.</li> </ul>	<p>4</p>
<p>12. Course integrating project.</p> <ul style="list-style-type: none"> <li>• Students will carry out an integrating project whose advances must be reported to the instructor. Work will consist of selecting and analyzing a project to be applied their organization or the one they have chosen. Students will carry out a diagnosis of the situation where they identify opportunity areas to implement Lean Manufacturing and they will propose an implementation plan to the management specifying the different stages, times and necessary resources.</li> </ul>	<p>16</p>

**Assessment instruments and procedures:**

Assessment instruments and procedures will be the ones listed below:

- Written or oral exam.
  - Students will demonstrate through writing that they understand the concepts regarding all the topics in the course.
- Products to hand in.
  - Report of the Lean Manufacturing application tools exercises.
  - Report of practicum.
  - Research report.
  - Students must hand in an advance report of each of the integrating project stages, as well as a project final report.
- Class presentations.
  - Students will present the project in which they propose the implementation of Lean Manufacturing in an organization, clearly specifying the stages, strategies, resources, time and expected benefits, as well as the specific tools to be used.
- Participation in discussion sessions.
  - It is expected that students actively participate in all the class sessions; this implies previous readings and valuable contributions in case discussions and examples.

**Assessment criteria:**

6. Assessment procedures and instruments will be focused on learning activities whether they be instructor-directed or independent.
7. Instructor will assess and assign a grade in each of the assessment instruments. The assigned grade must be from 0 to 100.
  - Written or oral exam 25 points.
  - Integrating project 75 points.
8. Instructor will report to Postgraduate Department the average grade obtained by students in all the assessment instruments.
9. The minimum passing grade will be 80 points.
10. Students won't fail the course due to absenteeism.

## Bibliography

	<i>Type</i>	Title	Author	Publisher	Year
	Book	Lean Manufacturing: A Plant Floor Guide	John Allen, Charles Robinson, David Stewart	Society of Manufacturing Engineers	2001
	Book	Lean Thinking: Banish Waste and Create Wealth in your Corporation	James P. Womack, Daniel T. Jones	Simon & Schuster	2003
	Book	Lean Manufacturing	William M. Feld	CRC Press	2000
	Book	Lean Manufacturing Implementation: A Complete Execution Manual for Any Size Manufacturer	Dennis P. Hobbs	Ross, J. Publishing	2003
	Book	Value Stream Management: Eight Steps to Planning, Mapping and Sustaining Lean Improvements	Don Tapping, Tom Shuker, Tom Luyster	Productivity Press	2002

<b>Course Name:</b> Plant Operations Management	<b>Course ID: II 508</b>
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<b>Placement in curricular map:</b> Concentration on Supply Chain
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<b>Course characteristics:</b> This course is designed so students of the Industrial Management Master Degree know the activities that are carried out in Operations Management in organizations meeting global markets. Special attention is given to the dynamism of markets and the sudden changes in the preferences of potential clients and the actions that must be developed to respond promptly to the demands of international competition. Methodologies of Productivity and Human Behavior, Operations Programming and Production Activities Control, Processes Technology Management and Selection and Project control are analyzed in this course since they are part of the operative strategy in the Modern Management of productive plants.
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<b>General learning objectives:</b> At the end of this course students will: <ul style="list-style-type: none"><li>• Know and understand the different methodologies on which international organizations base their competition strategies.</li><li>• Know and understand the main challenges manufacturing organizations meet in a global competition.</li><li>• Identify the concept and methodologies for Operations Management in organizations that compete in a global market.</li><li>• Know and understand that the current competition strategies are built through participation and contribution of different methodologies from which directors will have to choose the most relevant ones to achieve their organizational objectives.</li><li>• Know how to elaborate industrial diagnoses to identify and consider the competition level of the organizations in global markets.</li><li>• Know how to create operative strategies to increase industrial organization productivity through the correct operations programming, management of human behavior that generates productivity, selection and management of process technology for Industrial Installations.</li></ul>
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## Contents

	<b>Hours</b>
<b>13. Productivity and Human Behavior.</b> 13.1 Multifactor Procedure to measure Productivity. 13.2 Employees Work Post Design. 13.3 Authority Transfer 13.4 Work Measurement	<b>8</b>
<b>14. Operations Programming and Production Activities Control.</b> 14.1 Objectives of PAC system. 14.2 Programming strategies and guidelines. 14.3 Terminology used in PAC System. 14.4 Control and Programming Models.	<b>12</b>
<b>15. Process Technology Selection and Management.</b> 15.1 Automated Production Systems. 15.2 The Factory of the Future (FMS, CAD/CAM, CIM). 15.3 Management of Technological Change.	<b>8</b>
<b>16. Project Planning and Control.</b> 16.1 Models of Project Control and Planning. 16.2 Product Development Process. 16.3 CPM 16.4 PERT	<b>8</b>

<b>Learning activities guided by instructor</b>	<b>Hours</b>
	<b>36</b>
11. Topics presentation by instructor	20
12. Presentation plenary and/or discussions	12
13. Small group exercises and activities	4
14. Individual activities	OP

<b>Independent learning activities:</b>	Hours
<p>13. Reading, analysis and conclusions of material selected by instructor.</p> <p style="padding-left: 40px;">a) Introduction to Production System Facilities b) Group Technology and Cellular Manufacturing c) Flexible Manufacturing Systems d) Product Design and CAD/CAM in Production System</p>	60  20
<p>14. Solution to problems selected by instructor.</p> <p style="padding-left: 40px;">a) Exercises: Operations Programming and PAC b) Exercises: Project Planning and Control</p>	20
<p>15. Course integrating project.</p> <p style="padding-left: 40px;">a) In a project students will create work teams which will carry out a diagnosis in a local organization on some of its strategic decisions related to the content of the subject. Such research will be integrated in a report that will be presented to the class at the end of the course.</p>	20

<b>Assessment instruments and procedures:</b>
<p>Assessment instruments and procedures will be the ones listed below:</p> <ul style="list-style-type: none"> <li>• Students will carry out assigned readings for this unit and will present a reading report on their content and their personal conclusions.</li> <li>• Students will carry out readings on selected topics on the subject and will make class presentations, to do this work teams will be integrated. These teams will be responsible of carrying out a presentation of the assigned topics and hand in to the teams representatives and instructor a written report of the analyzed topic.</li> <li>• Students will develop a task that covers the solution to problems related to operations programming and production activities control.</li> </ul>



- Written exams will be done throughout the course with the purpose of assessing students learning and to carry out a gradual feedback of the activities and presentations performed by students.
- Diverse class dynamics will be carried out throughout the course in which students will be part of work teams to evaluate their effectiveness as a group and each member's individual performance to achieve the established goal.
- Students must be responsible and aware of their role in the work team and of the fact that the final product will be collective. They must understand that the final success of the activity is the result of a work in which everyone performs an important role, that each member depends on the others in an environment of cooperation and collaboration.

**Assessment criteria:**

Assessment procedures and instruments will be focused on learning activities whether they be instructor-directed or independent.

- Final grade must be integrated considering the following factors.
  1. Assignments
  2. Exams
  3. Presentation of selected topics

The value of the consideration of each factor will be an action agreed upon by the instructor and the class, where every one involved will have the right to express their opinion.

- Instructor will report to Postgraduate Department the average grade obtained by students in all the assessment instruments.
- The minimum passing grade will be 80 points.
- Students won't fail the course due to absenteesim.

**Bibliography**

	<b>Type</b>	<b>Title</b>	<b>Author</b>	<b>Publisher</b>	<b>Year</b>
<b>1</b>	Textbook	Fundamentals of Operations Management	Davis. Aquilano, Chase	Mc Graw Hill/Irwin	2003
<b>2</b>	Textbook	Administracion de Produccion y Operaciones	Gaithier, Frazier	Thomson	2000
<b>3</b>	Textbook	Administracion de Produccion y Operaciones	Chase. Aquilano, Jacobs	Mc Graw Hill	2004
<b>4</b>	Text	Productions and Operations Management	Martinich	Wiley	1997

<b>Course Name:</b> International Logistics	<b>Course ID: II 501</b>
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<b>Placement in curricular map:</b> Concentration on Supply Chain
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<p><b>Course characteristics:</b></p> <p>This course is designed to provide students with the knowledge of the activities performed in the Production Planning and Control area in the organizations that carry out International Operations and Logistics Activities in global markets with international suppliers and costumers. The dynamism of markets, the sudden changes in potential costumers' preferences and the actions that must be developed to respond in a punctual way to the demands of the international competition are observed. The required methodologies to develop a Master Program of Feasible Production in dynamic manufacturing environments that create the constant need of the innovation of products and services offered by organizations are analyzed.</p>
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<p><b>General learning objectives:</b></p> <p>At the end of this course students will:</p> <ul style="list-style-type: none"> <li>• Know and understand the different methodologies on which international organizations base their competition strategies.</li> <li>• Know and understand the main challenges manufacturing organizations meet in a worldwide competition.</li> <li>• Know the transcendence that Operation Management has in organizations that compete in international markets and they will apply the models and methodologies to carry out the Production Planning and Control in such organizations.</li> <li>• Identify the concept and methodologies to carry out production planning and control, as well as the sequence of actions to do it.</li> </ul>
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**Contents**

	<b>Hours</b>
<p><b>17. Introduction to operations management.</b></p> <p>17.1 Operative strategy. 17.2 Manufacturing planning and control. 17.3 Supply chain 17.4 Organization resource planning. 17.5 Purchases management.</p>	<b>6</b>
<p><b>18. Demand estimation.</b></p> <p>18.1 Long-term predictions. 18.2 Medium-term predictions. 18.3 Short-term predictions.</p>	<b>10</b>

<p><b>19. Aggregate planning and master production schedule.</b></p> <ul style="list-style-type: none"> <li>19.1 Resources and production planning.</li> <li>19.2 Models and decisions programming.</li> <li>19.3 The role of the master programmer.</li> </ul> <p><b>20. Inventory management models.</b></p> <ul style="list-style-type: none"> <li>20.1 Inventory ABC analysis.</li> <li>20.2 Cyclic counting techniques.</li> <li>20.3 Inventory models with dynamic demand</li> </ul>	<p style="text-align: right;"><b>10</b></p> <p style="text-align: right;"><b>10</b></p>
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<b>Learning activities guided by instructor</b>	<b>Hours</b>
<p>15. Topics presentation by instructor</p> <p>16. Presentation plenary and/or discussions</p> <p>17. Small group exercises and activities</p> <p>18. Individual activities</p>	<p style="text-align: center;"><b>36</b></p> <p style="text-align: center;">20</p> <p style="text-align: center;">12</p> <p style="text-align: center;">4</p> <p style="text-align: center;">Elective</p>

<b>Independent learning activities:</b>	<b>Hours</b>
	<p style="text-align: center;">60</p>
<p>16. Reading of material selected by instructor.</p> <ul style="list-style-type: none"> <li>• The Role of Technology in Operations (ERP).</li> <li>• Supply Chain Management</li> <li>• Managing Material with Dependent Demands.</li> <li>• Just in Time, Lean Synchronous Productions Systems.</li> </ul>	<p style="text-align: center;">20</p>
<p>17. Solution to problems selected by instructor.</p> <ul style="list-style-type: none"> <li>• Exercises: Prediction Models.</li> <li>• Exercises Inventory Models.</li> </ul>	<p style="text-align: center;">20</p>
<p>18. Course integrating project.</p> <ul style="list-style-type: none"> <li>• In a project students will carry out a diagnosis in a local organization on the methodologies and procedures to develop its production planning and control. They will identify the potential areas of improvement. Such research will be integrated in a report which will be presented to the class at the end of the course.</li> </ul>	<p style="text-align: center;">20</p>

**Assessment instruments and procedures:**

Assessment instruments and procedures will be the ones listed below:

- Students will carry out assigned readings for this unit and will present a reading report on their content and personal conclusions.
- Students will carry out readings on selected topics on the subject to do so teams will be integrated. These teams will be responsible of carrying out a presentation of the assigned topics and hand in a written report of the analyzed topic to the representatives of each team and instructor.
- Students will develop a task covering the solution to problems related to the estimation of the demand (predictions) and inventory models.
- Written exams will be done throughout the course with the purpose of assessing students' learning and to carry out a gradual feedback of the activities and presentations performed by students.
- Diverse class dynamics will be carried out throughout the course in which students will be part of work teams to evaluate their effectiveness as a group and each member's individual performance to achieve the established goal.
- Students must be responsible and conscious of their role in the work team and of the fact that the final product will be collective. They must understand that the final success of the activity is the result of a work in which everyone performs an important role, that each member depends on the others in an environment of cooperation and collaboration.

**Assessment criteria:**

Assessment procedures and instruments will be focused on learning activities whether they be instructor-directed or independent.

- Final grade must be integrated considering the following factors.
  1. Assignments
  2. Exams
  3. Presentation of selected topics

The value of the consideration of each factor will be an action agreed upon by the instructor and the class, where every one involved will have the right to express their opinion.

- Instructor will report to Postgraduate Department the average grade obtained by students in all assessment instruments.
- The minimum passing grade will be 80 points.
- Students won't fail the course due to absenteeism.

### **Bibliography**

	<b>Type</b>	<b>Title</b>	<b>Author</b>	<b>Publisher</b>	<b>Year</b>
<b>1</b>	Textbook	Fundamentals of Operations Management	Davis. Aquilano, Chase	Mc Graw Hill	2003
<b>2</b>	Textbook	Admisnistracion de Produccion y Operaciones	Gaither, Frazier	Thomson	2000
<b>3</b>	Textbook	Administracion de Produccion y Operaciones	Chase. Aquilano, Jacobs	Mc GRaw Hill	2000
<b>4</b>	Textbook	Productions and Operations Management	Martinich	Wiley	1997
<b>5</b>	Textbook	Planeacion y Control de la Produccion	Sipper, Bulfin	Mc Graw Hill	1998
<b>6</b>					