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## LONDON CAPITAL COMPUTER COLLEGE

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### Diploma in Management (890) – Operations Management

<b>Prerequisites:</b> Basic business knowledge.	<b>Corequisites:</b> Completion of Certificate in Business Studies or equivalence.
<p><b>Aim:</b> Examines the concepts for designing, planning and improving manufacturing and service organisations. Topics include enterprise resource planning, facility layout, forecasting, queuing models, inventory management, lean manufacturing, total quality control, and project management. The intent of this course is to further provide management and analytical concepts/tools for the management of operations and the decision-making process within the scope of the supply chain. Competitive advantage driven by supply chain strategy has been a common practice in the business environment in the past few years. Most of the strategies involve improving operational efficiency either through cost reductions or increase capital efficiency. Decision-making regarding operational issues is one of the most common tasks within organisations. This course will enhance candidates' ability to perform the quantitative analysis necessary and understand the management issues in order to make good operational decisions within the supply chain.</p>	
<b>Required Materials:</b> Recommended Learning Resources.	<b>Supplementary Materials:</b> Lecture notes and tutor extra reading recommendations.
<b>Special Requirements:</b> The course requires a combination of lectures, demonstrations and discussions.	
<p><b>Intended Learning Outcomes:</b></p> <p>1 Define the term operations management.</p> <p>2 Understand competitiveness, strategy, and productivity</p>	<p><b>Assessment Criteria:</b></p> <p>1.1 Identify the major functional areas of organisations and describe how they interrelate.</p> <p>1.2 Compare and contrast service and manufacturing operations.</p> <p>1.3 Describe the operations function and the nature of the operations manager's job.</p> <p>1.4 Differentiate between design and operation of production systems.</p> <p>1.5 Describe the key aspects of operations management decision making.</p> <p>1.6 Identify current trends in business that impact operations management.</p> <p>2.1 Discuss the primary ways that business organisations compete.</p> <p>2.2 List reasons for the poor competitiveness of some companies.</p> <p>2.3 Define the term strategy and explain why strategy is important for competitiveness.</p> <p>2.4 Contrast strategy and tactics.</p> <p>2.5 Discuss and compare organisation strategy and operations strategy, and explain why it is important to link the two.</p> <p>2.6 Describe and give examples of time-based strategies.</p> <p>2.7 Define the term productivity and explain why it is important to organisations and to countries.</p>

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<p>3 Describe forecasting. List the elements of a good forecast.</p>	<p>3.1 Outline the steps in the forecasting process.</p> <p>3.2 Describe qualitative forecasting techniques and the advantages and disadvantages of each.</p> <p>3.3 Compare and contrast qualitative and quantitative approaches to forecasting.</p> <p>3.4 Describe averaging techniques, trend and seasonal techniques, and regression analysis, and be able to solve typical problems.</p> <p>3.5 Describe ways of evaluating and controlling forecasts.</p> <p>3.6 Identify the major factors to consider when choosing a forecasting technique.</p>
<p>4 Understand product and service design. Explain the strategic importance of product and service design.</p>	<p>4.1 Define key reasons for design or redesign.</p> <p>4.2 Identify the main objectives of product and service design.</p> <p>4.3 Discuss the importance of standardisation.</p> <p>4.4 Discuss the importance of legal, ethical, and environmental issues in product and service design.</p> <p>4.5 Describe the phases in product design and development.</p> <p>4.6 Describe the phases in service design.</p>
<p>5 Understand Strategic Capacity Planning for Products and Services.</p>	<p>5.1 Explain the importance of capacity planning.</p> <p>5.2 Discuss ways of defining and measuring capacity.</p> <p>5.3 Describe the determinants of effective capacity.</p> <p>5.4 Discuss the major considerations related to developing capacity alternatives.</p> <p>5.5 Describe approaches that are useful for evaluating capacity alternatives.</p>
<p>6 Describe process selection and facility layout. Explain the strategic importance of process selection.</p>	<p>6.1 Explain the influence that process selection has on organisation.</p> <p>6.2 Describe the basic processing types.</p> <p>6.3 Discuss automated approaches to processing.</p> <p>6.4 Explain the need for management of technology.</p> <p>6.5 Describe the main advantages and disadvantages of product layouts and process layouts.</p>
<p>7 Explain the importance of work design. Describe the basic approaches to job design.</p>	<p>7.1 Discuss the advantages and disadvantages of specialisation.</p> <p>7.2 Explain the term knowledge based pay.</p> <p>7.3 Explain the purpose of methods analysis and describe how methods studies are performed.</p> <p>7.1 Discuss the impact of working</p>

	<p>conditions on job design.</p> <p>7.3 Define a standard time.</p> <p>7.4 Describe and compare time study methods and perform calculations.</p> <p>7.5 Describe work sampling and perform calculations.</p>
8 Discuss the importance of location planning and analysis	<p>8.1 Explain why location decisions are important.</p> <p>8.2 Discuss the options that are available for location decisions.</p> <p>8.3 Describe some of the major factors that affect location decisions.</p>
9 Define the term quality. Explain why quality is important and the consequences of poor quality.	<p>9.1 Identify the determinants of quality.</p> <p>9.2 Describe the costs associated with quality.</p> <p>9.3 Describe the quality awards.</p> <p>9.4 Describe TQM.</p> <p>9.5 Describe and use various quality tools.</p> <p>9.6 Explain the elements of the quality control process.</p> <p>9.7 Explain how control charts are used to monitor a process, and the concepts that underlie their use.</p> <p>9.8 Be able to use and interpret control charts.</p>
10 Describe supply chain management. Explain the need to manage a supply chain and the potential benefits of doing so.	<p>10.1 Explain the increasing importance of outsourcing.</p> <p>10.2 State the objective of supply chain management.</p> <p>10.3 Identify the elements of supply chain management.</p> <p>10.4 Identify the strategic, tactical, and operations issues in supply chain management.</p> <p>10.5 Explain the value of strategic partnering.</p> <p>10.6 Discuss the critical importance of information exchange across a supply chain.</p> <p>10.7 Outline the key steps, and potential challenges, in creating an effective supply chain.</p>
11 Describe inventory management. Define the term inventory, list the major reasons for holding inventories, and list the main requirements for effective inventory management.	<p>11.1 Discuss the nature and importance of service inventories.</p> <p>11.2 Discuss periodic and perpetual review systems.</p> <p>11.3 Discuss the objectives of inventory management.</p> <p>11.4 Describe the A-B-C approach and explain how it is useful.</p> <p>11.5 Describe the basic EOQ model and its assumptions and solve typical problems.</p> <p>11.6 Describe the economic production quantity model and solve typical problems.</p> <p>11.7 Describe the quantity discount model</p>

<p>12 Explain what aggregate planning is and how it is useful.</p>	<p>and solve typical problems.</p> <p>11.8 Describe reorder point models and solve typical problems.</p> <p>11.9 Describe situations in which the single-period model would be appropriate, and solve typical problems.</p> <p>12.1 Identify the variables decision makers have to work with in aggregate planning and some of the possible strategies they can use.</p> <p>12.2 Describe some of the graphical and quantitative techniques planners use.</p> <p>12.3 Be able to prepare aggregate plans and compute their costs.</p> <p>12.4 Explain the importance of the purchasing function in business organisations.</p> <p>12.5 Describe the responsibilities of purchasing.</p> <p>12.6 Explain the term value analysis.</p>
<p>13 Define Materials Required Planning (MRP) and Enterprise Resource Planning (ERP)</p>	<p>13.1 Describe the conditions under which MRP is most appropriate.</p> <p>13.2 Describe the inputs, outputs, and nature of MRP processing.</p> <p>13.3 Explain how requirements in a master production schedule are translated into material requirements for lower-level items.</p> <p>13.4 Discuss the benefits and requirements of MRP.</p> <p>13.5 Explain how an MRP system is useful in capacity requirements planning.</p> <p>13.6 Describe MRP II and its benefits.</p> <p>13.7 Describe ERP, what it provides, and its hidden costs</p>
<p>14 Explain what is meant by the term Just In Time (JIT). Define the term lean operations system.</p>	<p>14.1 Describe the goals of JIT and explain its importance.</p> <p>14.2 Describe the building blocks of JIT.</p> <p>14.3 List the benefits of the JIT system.</p> <p>14.4 Outline the considerations important in converting a traditional mode of operations to a JIT system.</p> <p>14.5 Describe some of the obstacles that might be encountered when converting to a JIT system.</p>
<p>15 Explain what scheduling involves and the importance of goods scheduling.</p>	<p>15.1 Discuss scheduling needs in job shops.</p> <p>15.2 Be able to use and interpret Gantt charts, and use the assignment method for loading.</p> <p>15.3 Discuss and give examples of commonly used priority rules.</p> <p>15.4 Describe problems encountered in service systems, and the approaches used for scheduling service systems.</p>

<p>16 Analyse Project Management. Discuss the behavioral aspects of projects in terms of project personnel and the project manager.</p>	<p>16.1 Discuss the nature and importance of a work breakdown structure in project management.</p> <p>16.2 Describe PERT/CPM techniques.</p> <p>16.3 Be able to construct simple network diagrams.</p> <p>16.4 Define information that a PERT or CPM analysis can provide.</p> <p>16.5 Analyse networks with deterministic and probabilistic times.</p> <p>16.6 Describe activity “crashing” and be able to solve typical problems.</p>
<p>17 Describe management of waiting lines</p>	<p>17.1 Explain why waiting lines form in systems that are underloaded.</p> <p>17.2 Identify the goal of queuing (waiting-line) management.</p> <p>17.3 Identify the measures of system performance that are used in queuing.</p> <p>17.4 Discuss the assumptions of the basic queuing models presented.</p>

### Recommended Learning Resources: Operations Management

<p><b>Text Books</b></p>	<ul style="list-style-type: none"> <li>• Operations Management by Nigel Slack , Stuart Chambers , Robert Johnston. ISBN-10: 140584700X</li> <li>• Operations Management by Jay Heizer , Barry Render. ISBN-10: 0138134545</li> <li>• Operations Management by Andrew Greasley. ISBN-10: 0470012099</li> </ul>
<p><b>Study Manuals</b></p> 	<p>BCE produced study packs</p>
<p><b>CD ROM</b></p> 	<p>Power-point slides</p>
<p><b>Software</b></p> 	<p>None</p>