

<b>Module Title:</b>	Operations Management for the Supply Chain
<b>Credits:</b>	10
<b>NFQ Level:</b>	7
<b>Module Delivered In</b>	<a href="#">2 programme(s)</a>
<b>Teaching &amp; Learning Strategies:</b>	Lectures - communication and discussion of knowledge, ideas and skills. Problem Solving Exercises - student will work individually and/or as part of a team, to resolve relevant operations management problems. Students will use MS Excel to analyse and resolve relevant problems. E-Learning - It is envisaged that the module will be supported with on-line learning materials. Self-Direct Independent Learning - the emphasis on independent learning will develop a strong and autonomous work and learning practices.
<b>Module Aim:</b>	The aim of this module is to give students an understanding of role of the operations function within an organization and the outward impact operations has on all aspects of the business. The module will introduce the elements and practices that encompass the field of Operations Management and the quantitative tools that are used in this field to aid decision making.
<b>Learning Outcomes</b>	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Understand key terms, concepts and practices in the area of operations management.
LO2	Examine the processes and quantitative tools that are used to aid decision making in the area of operations management.
LO3	Apply appropriate processes and quantitative tools to defined and undefined practical operations management problems.
LO4	Analyse the outcome of the application of processes and quantitative tools to operations management scenarios in terms of implications and limitations.
<b>Pre-requisite learning</b>	
<b>Module Recommendations</b> <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
<b>Incompatible Modules</b> <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
<b>Co-requisite Modules</b>	
No Co-requisite modules listed	
<b>Requirements</b> <i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i>	
Quantitative Techniques Business Mathematics Management Business Applications	

## Module Content & Assessment

### Indicative Content

#### Introduction to Operations

What is Operations Management? Operations function as a transformation process in Manufacturing and Service organisations. Operations Management Decisions; History of Operations Management The operations function; Operations Management in Practice today: E-business, Ethics and Sustainability

#### Productivity Capacity Management

Measuring productivity and capacity; Reconciling capacity and demand; Evaluating capacity alternatives using Decision criteria, Expected Values, Decision Trees.

#### Forecasting

The Importance and Role of Forecasting; Quantitative and Qualitative forecasting methods. Time Series Forecasting: Moving Averages and Exponential Smoothing. Casual Forecasting: Regression and Correlation Analysis. Measuring Forecasting Errors. Collaborative Forecasting, Planning and Replenishment (CFPR)

#### Project Management

Project Planning Scheduling and Control; The Gantt Chart; Project Management Techniques - CPM/PERT; Probabilistic Activity Times; Project Crashing and Time Cost Trade Off; MS Project

#### Facility Layout

What is layout planning? Types of layouts. Designing process layouts. Special cases of process layouts. Designing product layouts. Hybrid layouts.

#### Independent Demand Inventory Management

Types of Inventory. Relevant inventory costs. Determining Order Quantities. EOQ, EPQ, Quantity Discount Model, Periodic Review System. Determining safety stock. ABC inventory classification.

#### Scheduling

Scheduling Operations in high & low Volume Operations. Scheduling Work using priority rules. Measuring performance and comparing priority rules schedules. Sequencing jobs through two workstations. Scheduling bottlenecks and the Theory of Constraints. Developing a workforce schedule for service organizations,

#### Quality Management

Quality Defined. Quality Dimensions. Costs of Quality. Total Quality Management. Six Sigma. Quality Tools.

#### Statistical Quality Control

Describe categories of SQC. Use of statistical tools in measuring quality characteristics, Describe the use of control charts. Identify the differences between x-bar, R, p and c-charts. Explain process capability and process capability index. Explain acceptance sampling and the use of OC curves. Describe the inherent challenges in measuring quality in service organizations.

#### Just in Time/Lean Operations

The philosophy of JIT. Elements of JIT. Just in Time Manufacturing. The pull system.. Kanban production. Variations on Kanban Production. Total Quality Management. Respect for people. Benefits of JIT. JIT in services.

Assessment Breakdown	%
Continuous Assessment	40.00%
End of Module Formal Examination	60.00%

### Continuous Assessment

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Other	Written assignment	1,2,3,4	20.00	Week 8
Other	Class test	1,2,3,4	10.00	Week 4
Other	Short open-book formative, online Quizzes	1,2,3	10.00	n/a

No Project

No Practical

### End of Module Formal Examination

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	End-of-Semester Final Examination	1,2,3,4	60.00	End-of-Semester

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

**Module Workload**

<b>Workload: Full Time</b>		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	Every Week	6.00
Independent Learning	Every Week	4.00
Total Hours		10.00

<b>Workload: Part Time</b>		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	Every Week	3.00
Independent Learning Time	Every Week	7.00
Total Hours		10.00

**Module Delivered In**

Programme Code	Programme	Semester	Delivery
CW_BBSCM_B	<a href="#">Bachelor of Business (Honours) in Supply Chain Management</a>	5	Mandatory
CW_BBSCM_D	<a href="#">Bachelor of Business in Supply Chain Management</a>	5	Mandatory