

Competitive Manufacturing Qualifications Level 2 to Diploma



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Transform your business to gain the “Competitive Edge” you need with Productivity Solutions Limited’s Government subsidized productivity improvement training programmes.


Lean Manufacturing is “A systematic approach to identifying and eliminating waste through continuous improvement by flowing the product at the rate of demand of the customer.”

Lean is about doing more with less: Less time, inventory, space, people effort, and money; Lean is about speed and getting it right the first time.

Productivity Solutions trainers and coaches can help your business fine tune your operations to transform in to a Lean Organization to meet market demand, to maximize efficiencies, increase productivity, product or service quality and improve cash flow.

Our programs are customized to suit your individual business by working along side with your staff to maximize the outcomes and offer value for your time and money.

What’s in for the Businesses?

Introduction of “Competitive Manufacturing” Principles ...			
Makes Organisations	Improves	Reduces	Producing
<ul style="list-style-type: none"> • Competitive • Employer of Choice • Customer of choice • Supplier of Choice 	<ul style="list-style-type: none"> • Productivity • Quality • Service • Work Flow • Staff communication and morale • Sustainability • Bottom Line 	<ul style="list-style-type: none"> • Costs • Rework • Inventory • Waste • Lead Times • Staff absenteeism • Staff turnover 	<ul style="list-style-type: none"> • Happy Owners / Shareholders • Happy Customers • Happy employees 

The Competitive Manufacturing program involves an international assessment and benchmarking, developing a strategy for successful lean implementation, apart from engaging your staff, imparting the tools and techniques required and developing a continuous improvement culture to sustain the benefits gained.

Currently the Productivity Solutions Limited offers the following programs:


- Level 5 Diploma in Competitive Manufacturing (suitable for Mangers)
- Level 4 Certificate in Competitive Manufacturing (suitable for Supervisors and Team Leaders)
- Level 4 Certificate in Competitive Manufacturing Facilitation Strand (for Technical Team Leaders)
- Level 3 Certificate in Competitive Manufacturing (for Technical Operations staff)
- Level 2 Certificate in Competitive Manufacturing (for Operators)

Notes: 1. Page 3 shows the list of unit standards available on NQF
2. Page 4 shows a sample frame work (one can pick and choose the units as required)



National Diploma in Competitive Manufacturing (Min 120 Credits)	Level 4 Certificate in Competitive Manufacturing (Min 70 Credits)	Level 2/3 Certificate in Competitive Manufacturing (Min 40 Credits)
<p>Diploma in Competitive Manufacturing: Core units - 40 credits Elective 1 - 20 credits Balance of units - (Level 5 or 6) 60 credits Total = 120+ credits</p>	<p>Level 4 Qualification: Core Units - 26 credits Elective 1 – 5 credits Elective 2 – 10 credits Balance from Level 4 or 5 – 29 credits Total = 70+ credits</p>	<p>Level 2 Qualification: Core units - 21 credits Elective units (level 2 or 3) 19+ credits Total 40+ credits</p>
<p>Core Units—Compulsory (40 Credits)</p> <ul style="list-style-type: none"> Analyze and map a value chain (10) Facilitate holistic culture improvement (20) Develop a balanced score card (10) <p>Elective 1—Choose at least 1 unit</p> <ul style="list-style-type: none"> Lead a CM Strategy (20) Manage CM in a jobbing shop environment (20) Introduce CM to a small or medium enterprise (20) <p>* Elective 2—Choose balance of CM Units from Level 5 or 6 units (at least 20 credits must be from level 6)</p>	<p>Level 4 Qualification—Facilitation Strand: Units as above for Level 4 – 70 credits Additional 20 credits from level 4 or 5 Total = 90+ credits</p>	<p>Level 3 Qualification—Technical Staff: Core units - 21 credits Elective units (level 3) up to 15 credits Elective units (level 4) 14-29 credits Elective units total 29+ credits Total 50+ credits</p>
<p>Level 6 Units</p> <ul style="list-style-type: none"> Develop CM related business plans (10) Develop a levelled pull system (10) Analyze cost implications of maintenance strategy (15) Implement a CI system (10) Design an experiment (10) Develop and manage sustainable energy practices (10) Develop and manage sustainable environmental practices (10) Adapt a proactive maintenance strategy to the process manufacturing sector (20) Adapt a proactive maintenance strategy for a seasonal or cyclical manufacturing operation (15) <p>Level 5 units</p> <ul style="list-style-type: none"> Lead change (8) Lead a competitive manufacturing team (5) Lead team culture improvement (5) Manage relationships with non-customer external organizations (20) Manage people relationships (15) Improve a value chain (10) Develop a communications strategy (10) Develop Quick Changeover procedures (10) Proactive maintenance analysis (10) Develop a Just in Time (JIT) system (10) Design a process layout (10) Optimize cost of product (15) Undertake product cost analysis (10) Manage 5S system (15) Improve process capability (15) Develop the application of enterprise systems in manufacturing (10) Determine and establish information collection requirements and processes (10) Develop a documentation control strategy for a manufacturing enterprise (10) Develop a proactive maintenance strategy (10) 	<p>Core Units—Compulsory (26 Credits)</p> <ul style="list-style-type: none"> Implement a competitive manufacturing system (10) Ensure process improvements are sustained (8) Lead change in a manufacturing environment (8) <p>Elective 1—Choose at least 1 unit</p> <ul style="list-style-type: none"> Lead a competitive manufacturing team (5) Lead team culture improvement (5) <p>Elective 2—Level 4 CM Units</p> <ul style="list-style-type: none"> Lead a manufacturing team using a balanced score card approach (5) Facilitate a Just in Time (JIT) system (5) Monitor a levelled pull system (5) Improve cost factors in work practices (5) Lead 5S in a manufacturing environment (5) Facilitate continuous improvement in manufacturing (5) Improve Process Capability (10) Mistake proof a production process (5) Apply statistics in manufacturing (5) Facilitate the use of planning software systems in manufacturing (8) Facilitate SCADA systems in a manufacturing team or work area (8) Support proactive maintenance (5) Implement proactive maintenance strategy (8) <p>* Select 29 or more credits from Elective units at Level 4 or 5 for Level 4 Certification and 39 or more for the Facilitation Strand on top of the core and elective units</p>	<p>Core Units—Compulsory (21 credits)</p> <ul style="list-style-type: none"> Apply competitive manufacturing practices (5) Sustain process improvements (3) Manage the impact of change (3) Interpret product costs (5) Undertake root cause analysis (5) <p>* Select 19 or more credits from Elective units at Level 2 or 3</p> <p>Elective units—Level 2</p> <ul style="list-style-type: none"> Apply quick changeover procedures (5) Apply Just in Time (JIT) procedures (5) Apply cost factors to work practices (5) Use planning software systems in manufacturing (5) Use SCADA systems in manufacturing (5) <p>Elective units—Level 3</p> <ul style="list-style-type: none"> Explain TPM Principles (5) Apply 5S procedures (5) Monitor process capability (5) Complete quality control tests (5) Use sustainable energy practices (5) Use sustainable environmental practices (5) Contribute to the application of a proactive (5) maintenance strategy Analyze manual handling (5)

Sample Framework to show how the CM Units can be used to customize the delivery.

 Productivity Institute psl training centre		<h2 style="text-align: center; background-color: yellow;">Framework for Creating World-Class Operations</h2>					
Stage-1 Month 01	Stage-2 Months 02 - 04		Stage-3 Months 05 - 07 Months 08 - 10		Stage-4 Months 11 - 13 Months 14 - 16		Stage-5 Months 17 - 20
Setting the Scene	Develop Strategy & System		Simplification of Processes		Stabilisation of Processes		Sustain
2-Day Intro to World-Class Manufacturing;	Assessment and Benchmarking and Goal Setting; CM Strategy; Balanced Score Card (2-Day)	2-day: Value Stream Mapping; Identification of Opportunities; Hoshin Policy Deployment	5S Training (2 days) and Work-Flow (1 day)	JIT Training including Kanbans and Pull Systems (1-day)	Training on Standardised Work Practices and Problem Solving & RCA and Error Proofing (2-Day)	Training on Kaizen and Levelling (1 Day)	Training on Quick Changeovers and TPM (1 day); Sustain the culture
↓	↓	↓	↓	↓	↓	↓	↓
Sign-up for Diploma in CM or Level-4 Cert in CM; Optional - Sign-up for Level 2 for operational staff so that they are engaged in the change process	On-Site Follow-up to get concurrence from the management & operational Teams on opportunities & goals; Form Teams	Monthly On-Site Follow-up to help out on Policy Deployment and VSM	Implementation of work-flow where required and 5S in Assembly / Workshop; continue 5S implementation in other areas slowly; Monthly Follow-up	Continue 5S Efforts; Introduce Kanbans in Store and Production or Workshop; Monthly On-Site Follow-Up	Continue 5S efforts; Introduce Standard Work Practices; Train Staff; Analyse Product Costs; Monthly On-Site Follow-Up	Continue 5S efforts; Introduce Kanbans and Standard Work Practices; Train Staff; Analyse Product Costs On-Site Follow-Up	Continue 5S efforts; Kanbans, Standard Work Practices; Kaizen Culture; Train Staff; Analyse Product Costs; Introduce in Office & Administration; On-Site Follow-Up
ASSESSMENTS Level -5	24788 (Strategy); 24789 (Balanced Score Card)	Unit Std. and 21530 (Value Chain);	Work-Flow - 24794 and 5S - 21537	21534 JIT System	21515 (RCA) 21536 (product costs)	24797 CI Systems); 24781 (Team Culture)	24792 (Holistic Culture)
ASSESSMENTS Level -4	21517 (CM System); 24779 (Balanced Score Card)	Unit Std. and 21530 (Value Chain);	Work-Flow - 21333 and 5S - 21523	21520 JIT; 24782 (Pull)	21521 (cost factors); 21515 (RCA); 21525 (Error Proofing)	24780 (CM Team)	21518 (Sustain) and 21519 (Lead Change); 24781 (Team Culture); 24783 (CI)
ASSESSMENTS Level -2			5S -21508; 21533 - Work Flow	21505 - JIT; 21506	21515 (RCA); 21507 - Costs	21501 - Apply CM Practices	21502 - Sustain; 21503 - Change
Productivity Improvement			5% to 30%	5% to 15%	5% to 10%		
Quality Improvement			5% to 10%		5% to 10%		
Cost Savings			5% to 10%	5% to 10%	5% to 10%		
Soft Benefits	Improved Safety	Improved Team Work	Boost in Staff Morale	Lower Absenteeism	Lower Risk Profile	Innovative Team	Simplified Processes
Note: Assessments lag training by 1 to 6 months and beyond for some unit standards							