

LEAN MASTER CLASS

Start	Time	Finish	MAIN CONTENT	#	SUB CONTENT	EXERCISES/MATERIAL
DAY 1 – INTRODUCTION & FUNDAMENTAL LEAN PRINCIPLES						
0900	30	0930	1. Course Overview	8	Course admin, aims, objectives and outcomes, course roadmap	Slides in Module 1 Delegate Introductions (Name, Co & role, Improvement experience, expectations of course)
0930	60	1030	2. Introduction to Lean	33	Why Lean (profit=price-cost, World Class), What is Lean – History, TPS model. Example results achieved – Toyota, Danaher, others	Slides in Module 2 Exercise: Tennis balls (team based process improvement) 10min Handout: 2.1 Lean Glossary Handout: 2.2 Recommended Reading List Case Study (Mod 2 Appendix): Lean Tools – Wind Towers 10mins
1030	15	1045	Break			
1045	30	1145	3. Basic Lean Concepts	18	Lean and Six Sigma, Culture, PDCA, Lean principles	Slides Module 3 Handout: 3.1 Deming's 14 principles
1145	30	1215	Exercise		Cooperation	Exercise: Reds and Yellows (cooperation game) (see Reds&Yellows.ppt in trainers folder)
1215	45	1300	Lunch			
1300	60	1400	4. The Lean Way	32	Toyota Way, Lean Philosophy, Leadership	Slides Module 4 Exercise (prompt in slides): Discuss and contrast Lean way with group's experiences 15 mins
1400	60	1500	5. Specifying Value	19 +21 apx	Customer value, Mura, Muri, Muda. Appendix: Office wastes, service wastes	Slides Module 5 Exercise (see Black Dot Waste Skit.docx): Skit 'Black dot co Ltd' (Value Add vs NVA) 10 mins Handout: 5.1 Waste Observation Form Exercise: List wastes in delegates own job function e.g. production, admin, service (or waste walk for in company) (see Module 5 Appendix for some examples) 10 mins
1500	15	1515	Break			
1515	90	1645	6. Value Stream Mapping	62	VSM CSM (demand, processes, Info, lead-time, process time)	Slides Module 6 Handout: 6.1 Fasst Snax Intro Resources: Fasst Snax Data.xlsx Handout: 6.2 Fasst Snax VSM CSM
			Homework (optional)		Toyota DNA	Handouts: 2.2 & 2.3 Decoding the Toyota Production System

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DAY 2 – LEAN FOUNDATIONS						
0900	15	0915	Review Homework (optional)		Toyota DNA	Discuss answers to questions in Handout 2.2b (trainer answers in Decoding DNA of TPS Answers)
0915	45	1000	Exercise		VMS CSM	Case Study Fasst Snax: VSM (Fast food & delivery business) Handout: 6.2a Fasst Snax VSM CSM Answer
1000	90	1100	7. Direction Management (Hoshin Kanri)	68	Direction management, customer needs, strategy, deployment	Slides Module 7 Case Study: Strategy Deployment – Compressor Manufacturer Resources: QFD.xlt, SWOT analysis.dot, X-matrix.xls
1100	15	1115	Break			
1145	30	1215	Exercise		X-matrix	Handout: 7.1 X-matrix JIT Delivery.xls Exercise: Case Study Fasst Snax X-matrix JIT Handout: 7.1a: X-matrix JIT Delivery Answer
1215	45	1300	Lunch			
1300	90	1430	8. Breakthrough Improvement (Kaikaku)	77	Project based improvements, 3P, DfSS, Six Sigma	Slides Module 8 Exercise (slide prompt): Styrofoam cup verb-noun functions 5min
1500	30	1530	Exercise		3P	Case Study: Handout 8.1 Fasst Snax 3P Logo Design
1530	15	1545	Break			
1545	60	1645	9. Continuous Improvement (Kaizen)	46	Concept, mindset, suggestion schemes, daily imp, problem solving, one point lessons, workshops (Kaizen blitz),	Slides Module 9 Resources: OPL.doc one point lesson template

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DAY 3 – FLOW						
0900	45	0945	10. A3 Thinking	25	A3 report	Module 10 Resources: A3 questions.doc, A3 Reports.doc Handout 10.1: A3 Project Charter Case Study Fasst Snax: A3 style project proposal 15 mins
0945	90	1115	11. Standard Work, Visual, 5S	64	Concept, elements of SW, SW for all (prod, admin, maint, leader SW), visual, 5S, implementation	Slides Module 11 Handouts: 11.1 Standard Time Observation & 11.2: Standard Combination Sheet Exercise: Standard time & combination sheets on slide 10 mins Exercise (slide prompt): Visual draw with a partner 10 mins Handout: 11.3 5S letter sort (trainer 5S letter sort.ppt) Exercise: 5S Letter sort.ppt and/or Bolts/or Stationary exercise 10 mins (see trainer notes 5S Bolts or Stationary Exercise for guide) Resources: Standard Work Forms.xls, 5S Observation Form.doc, 5S Recording System.xls, 3D Observation Form.doc
1115	15	1130	Break			
1130	45	1215	12. Load Levelling (Heijunka)	22	Demand amplification, Mura & Muri, Yamazumi charts, levelling methods, implementation	Slides Module 12
1215	45	1300	Lunch			
1300	60	1400	13. Setup Reduction	65	History, purpose, definitions, set-up: observation, improvement, control	Slides Module 13 Resources: SMED Forms.xls
1400	45	1445	Exercise		SMED	Case Study Fasst Snax: hot printer platen changeover (see trainer guide SMED Exercise)
1445	15	1500	Break			
1500	75	1615	14. TPM	48	History, eight pillars of TPM, autonomous 7 steps, implementation	Slides Module 14 Resources: TPM Forms.ppt, TPM Capability & OEE.xls Handout 14.1: Case Study Fasst Snax OEE data sheet Exercise: Calculate OEE from Case study OEE data sheet 15 min (trainer see OEE Answer.xls)
1615	45	1700	Exercise		Flow	Pipe Cleaners & Beads (or Lego) (trainer see Flow Beads Instructions and score sheet)

Start	Time	Finish	MAIN CONTENT		SUB CONTENT	EXERCISES/MATERIAL
DAY 4 – QUALITY & PROBLEM SOLVING TOOLS						
0900	75	1015	15. Flow	48	JIT, flow vs batch, implementing flow, work flow in offices	Slides Module 15 Handout 15.1: Case study Fasst Snax Load Levelling & Flow Exercise: Case Study Fasst Snax: VSM CSM load levelling & flow 15 mins
1015	15	1030	Break			
1030	75	1145	16. Pull (Kanban)	52	Push vs pull, kanban types, kanban signals, sizing the kanban, ABC analysis, implementing pull	Slides Module 16 Resource: Kanban Calculation.xls Handout: 16.1 Case study Fasst Snax Kanban notes & data Exercise: Sizing Kanbans from case study notes 15 mins
1145	30	1215	17. Autonomation (Jidoka)	35	History, definition, 10 steps, machine cells, monument m/c's, m/c controls	Slides Module 17
1215	45	1300	Lunch			
1300	45	1345	18. Error Proofing (Poka Yoke)	24	Origins, source, self, successive, examples - office, manuf, other	Slides Module 18
1345	90	1515	19. Problem Solving Tools	67	Problem solving methods, flow charts, 5 why, idea generation tools, CEDAC	Slides Module 19 Resources: 8D Problem Solving Worksheet.doc, QOS - Quality Operating System.xls, 5 Why Analysis Tree.doc, TRIZ 40 Inventive Principles.doc, TRIZ Contradiction Matrix.xls Exercises: Brainstorm ways to make money + pen dot vote or CEDAC inconsistent cup of tea 20 mins (Post lts for CEDAC cards)
1515	15	1530	Break			
1530	60	1630	Exercise		Problem analysis VSM FSM	Case Study Fasst Snax: Mark up the current state map and develop a Future State Map Handout: 19.1a Fasst Snax VSM FSM Answer
			Homework (optional)		Belbin	Handout: 21.1 Belbin Questionnaire & score sheet

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DAY 5 – IMPLEMENTING AND MANAGING LEAN						
0900	90	1030	20. Working with Data	53	Data collection, Pareto, displaying data, relationships, control chart	Slides Module 20 Resources: SPC Xbar&R.xls, SPC PRE-control.xls Exercises: Graphical Analysis.xls (20 mins if time)
1030	15	1045	Break			
1045	75	1200	21. Facilitation Skills	53	Facilitation, managing people, facilitating a workshop	Slides Module 21 Exercise: Discuss Belbin roles and profile team (trainer use Belbin Score Sheet to list team member scores) and comment on team strengths and weaknesses (optional)
1200	45	1245	Lunch			
1245	60	1345	22. Lean Management System	32	LMS visual controls, leader std work, daily accountability, rapid reaction, sustaining	Slides Module 24 Case study: Lean Transition – Paper Products
1345	15	1400	Break			
1400	90	1530	23. Implementing Lean	50 +19	Lean transformation, Six Stage approach, Kotter 8 steps, Lean maturity	Slides Module 23 Resource: Lean Assessment.xls Case Study: Danaher Business System Exercise (prompt in slides): Group discussion on how to implement Lean – report out 20 mins
1530	30	1600	24. Course Close	10	Summary of course, individual action plans, close of course	Slides Module 24 Handout 24.1: Course Certificates