NELSON MANDELA
UNIVERSITY

Industrial Engineering

Short Learning Programmes 2019

Contents

- The following short courses can be offered in-house (provided that there are a minimum number of attendees)
    - VSM
    - Introduction to Lean
    - Lean administration
    - Lean associate
    - Lean leader
    - Lean specialist
    - Lean transformation
    - Lean value stream
    - Basic SPC
    - FMEA
    - ISO 9001 Training

- Short courses offered by the Department of Industrial Engineering can be tailor-made to suit a company's specific needs. Certain course can be offered on a block release basis.
- A minimum attendance figure is required for these short courses and if this is not met, the course will be cancelled.
- Payment is required prior to attendance of the short course.



Introduction to Operations Management

Content	Target participants	Course objectives	Cost
• Introduction to Operations Management • Supervisory skills for Operations • Work study and productivity • Planning • Health & Safety • Quality • Finance • Lean • Constraint Management • Industrial Manufacturing Relations • Marketing	• Aimed at persons who require a background in Operations Management. • People who are new in the field of Operations Management.	• Will equip delegates with a basic understanding of the business, and specifically the operation function - how it works and the importance of the integration of this function with other business functions. • Successful delegates will receive an Nelson Mandela University certificate. • Students will be required to apply the knowledge they have gained through projects, work assignments and case studies. • A formal assessment will be conducted.	R 9 800 pp Includes notes

Introduction to Operations Management schedule to follow as Group 1 and Group 2

Group 1

No.	Date	Study unit	Day & time	Facilitator
1	2 March 2019	Introduction to Operations Management	Saturday 9am – 2pm	Ann Lourens Ann.lourens@mandela.ac.za
2	9 March 2019	Manufacturing Relations	Saturday 9am – 2pm	Loreen Le Roux loreen@aerosat.co.za
3	16 March 2019	Productivity	Saturday 9am – 2pm	Andrew Murray Andrew.murray@mandela.ac.za
4	30 March 2019	Workstudy	Saturday 9am – 2pm	Andrew Murray Andrew.murray@mandela.ac.za
5	4 May 2019	Lean	Saturday 9am – 2pm	Karl van der Merwe Karl.vandermerwe@mandela.ac.za
6	11 May 2019	Lean	Saturday 9am – 2pm	Karl van der Merwe Karl.vandermerwe@mandela.ac.za
7	18 May 2019	Supervisory Skills	Saturday 9am – 2pm	Ann Lourens Ann.lourens@mandela.ac.za
8	25 May 2019	Supervisory Skills	Saturday 9am – 2pm	Jaco Snyders Jaco.snyders@mandela.ac.za
9	1 June 2019	Planning	Saturday 9am – 2pm	Karl van der Merwe Karl.vandermerwe@mandela.ac.za
10	8 June 2019	Planning	Saturday 9am – 2pm	Karl van der Merwe Karl.vandermerwe@mandela.ac.za
11	22 June 2019	Finance	Saturday 9am – 2pm	Paul Tai Hing Paul.taihing@mandela.ac.za
12	29 June 2019	Quality	Saturday 9am – 2pm	Andrew Murray Andrew.murray@mandela.ac.za
13	6 July 2019	Marketing	Saturday 9am – 2pm	Cobus Joubert Cobus.Joubert@mandela.ac.za
14	13 July 2019	Exams	Saturday 9am – 2pm	

Group 2

No.	Date	Study unit	Day & time	Facilitator
1	20 July 2019	Introduction to Operations Management	Saturday 9am – 2pm	Ann Lourens Ann.lourens@mandela.ac.za
2	27 July 2019	Manufacturing Relations	Saturday 9am – 2pm	Loreen Le Roux loreen@aerosat.co.za
3	3 August 2019	Productivity	Saturday 9am – 2pm	Andrew Murray Andrew.murray@mandela.ac.za
4	17 August 2019	Workstudy	Saturday 9am – 2pm	Andrew Murray Andrew.murray@mandela.ac.za
5	24 August 2019	Lean	Saturday 9am – 2pm	Karl van der Merwe Karl.vandermerwe@mandela.ac.za
6	31 August 2019	Lean	Saturday 9am – 2pm	Karl van der Merwe Karl.vandermerwe@mandela.ac.za
7	7 September 2019	Supervisory Skills	Saturday 9am – 2pm	Ann Lourens Ann.lourens@mandela.ac.za
8	14 September 2019	Supervisory Skills	Saturday 9am – 2pm	Jaco Snyders Jaco.snyders@mandela.ac.za
9	28 September 2019	Planning	Saturday 9am – 2pm	Karl van der Merwe Karl.vandermerwe@mandela.ac.za
10	5 October 2019	Planning	Saturday 9am – 2pm	Karl van der Merwe Karl.vandermerwe@mandela.ac.za
11	12 October 2019	Finance	Saturday 9am – 2pm	Paul Tai Hing Paul.taihing@mandela.ac.za
12	19 October 2019	Quality	Saturday 9am – 2pm	Andrew Murray Andrew.murray@mandela.ac.za
13	2 November 2019	Marketing	Saturday 9am – 2pm	Cobus Joubert Cobus.Joubert@mandela.ac.za
14	16 November 2019	Exams	Saturday 9am – 2pm	

Project Management for Manufacturing

Content	Target participants	Course objectives	Date, duration & cost
• Introduction: The project life cycle • Needs identification • Developing a project • Project planning • Scheduling and schedule control • Resource consideration • Cost planning and performance • Project Leadership • Project teams • Project Communication and documentation • Types of project organisation • Computer application	Project team members from any levels within the organisation	Enable participants to be able to do a project from a proposal to handover and turnkey perspective.	Group 1: 19/20/21 June 2019 (3 full days) Group 2: 16/17/18 October 2019 (3 full days) R5 500pp

Value Stream Mapping

Content	Target participants	Course objectives	Duration & cost
• Getting started • The current-state map • What makes a value stream lean? • The future state map • Achieving the future state	• Aimed at lean manufacturing implementation team members • Production team leaders • Process and Industrial Engineers • Middle management	Enable participants to map manufacturing or service processes and identify waste, and also to stream line processes.	R 3 200pp 2 days

FMEA

Content	Target participants	Course objectives	Duration & cost
• FMEA theory • Key indicators • FMEA rating scales • Cause and effect Diagrams • Developing FMEA's • Delegating responsibilities • FMEA case studies • FMEA format	Aimed at persons working on improvement projects	Enable participants to perform an FMEA	R 2 200pp 1 day

Introduction to Lean

Content	Target participants	Course objectives	Duration & cost
• Introduction to Lean • Achieving flow • Housekeeping and asset care • Standard work • Lean scheduling • Staff engagement • Quality management • Problem solving • Process mapping • 5S • 7 wastes • Seven improvement tools • Kanban • Changeover reduction • Small lot production	Aimed at Industrial Engineering, Mechanical Engineering, Electrical Engineering graduates, operations and technical/ technologists and senior manufacturing and operational staff.	Enable delegates to incorporate Lean into their work practices	R 1 300pp 1 day

Quality Assurance

Content	Target participants	Course objectives	Duration & cost
• Introduction to Quality • Process Control • TQM • Cost of quality • Quality of design • Probability • Supplier quality • Acceptance Sampling • Quality planning & improvement • Reliability • Frequency Distribution • Variable control Charts	Shop Floor Manager Supervisor Middle Management	This quality assurance course provides students with an understanding of quality principles and techniques aimed at enhancing quality assurance systems in their place of work. In addition, learner would be able to apply quality tools to monitor and control processes to assist continuous improvement.	R 9 800pp 17 weeks (Every Wednesday evening at 17:30) 6 May – 2 September 2019 (Notes, notepad, calculator, tablesbook)

Introduction to TQM

Content	Target participants	Course objectives	Duration & cost
• Introduction to quality • Principles and practices of TQM • Tools and techniques • Models used • Seven step quality solving • Technique • Case study	Shop floor staff and management	Develop and understanding of TQM principles	R 3 200pp 2 days

Basic SPC as a Quality Tool

Content	Target participants	Course objectives	Duration & cost
• Why SPC? • Basic statistical concepts • Quality tools: Pareto analysis, basic problem solving, Ishikawa diagram • Plotting average and range charts • Interpreting control charts • Process capability studies • Attribute control charts: np and c charts • Using control charts for improvement	Aimed at staff responsible for implementing and maintaining SPC	For participant to understand and be able to implement SPC principles	R 3 200pp 2 days

DQS Training

All of the courses below can be offered on a block release basis

- ISO 9001:2008 Awareness & Facilitation
- ISO 9001:2008 Internal Auditor Training
- ISO 9001:2008 Lead Auditor Training

- ISO 14001:2004 Awareness & Facilitation
- ISO 14001:2004 Internal Auditor Training
- ISO 14001:2004 Lead Auditor Training

- ISO TS16949 Awareness, Facilitation & Audit Fundamentals

- Basic Auditing Techniques & Management Review

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