The methods, practices and systems that deliver productivity, high plant reliability and maximum ‘tool time’ from maintenance crews

Maintenance Planning and Scheduling for Reliability

3 Day & 2 Day Training Courses in South Africa

Improve Maintenance Crew Task Productivity and Job Accuracy

You save large amounts of time, lost production and money when maintenance work is fully prepared and well scheduled. Learn the maintenance planning methods and business systems that maximise ‘tool time’ by ensuring jobs are ready, with all resources and information at-hand, so tradesmen go from job to job uninterrupted, doing their work with 100% right-first-time quality. Move your maintenance planning and scheduling performance from where it is today to the Pacesetter levels shown in the table below.

<table>
<thead>
<tr>
<th>Key Performance Indicator</th>
<th>Poor Performance</th>
<th>Pacesetter Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘Hands on tools time’ % possible</td>
<td>20</td>
<td>&gt; 50</td>
</tr>
<tr>
<td>Mechanics per Planner</td>
<td>8 - 10 : 1</td>
<td>20 - 27 : 1</td>
</tr>
<tr>
<td>Maintenance Backlog</td>
<td>8 – 10 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>% Planned Work</td>
<td>&lt; 50%</td>
<td>&gt; 80%</td>
</tr>
<tr>
<td>Schedule Compliance</td>
<td>&lt; 50%</td>
<td>&gt; 90%</td>
</tr>
<tr>
<td>Urgent Job Requests</td>
<td>70%</td>
<td>5%</td>
</tr>
</tbody>
</table>
**Be Successful in Maintenance Planning & Scheduling**

There is a great difference between being a top Artisan and a top Planner. The skill sets are totally different. The decisions required from a Planner involve **Strategic thinking** and **Business systems optimisation**. This course prepares people to be top-class planners by teaching them the systems, the information, the knowledge and the skills they need to use to be successful in this incredibly important role in a company.

Documented evidence confirms that a good maintenance planning and scheduling process can deliver the following business benefits:

- Twice the maintenance work done of reactive methods
- Planned work is 3 – 9 times less expensive than reactive
- Planned work is 4 – 12 times more efficient than reactive
- On larger jobs each hour of planning saves 3 – 5 hours Execution time
- Up to 90% of your work can be planned
- Up to 95% of planned work can be done when first Scheduled
Day 1

**Maintenance Strategy & Reliability: Foundations of Maintenance Planning**

1. The Purpose of Maintenance
   • Sustaining Production
   • Equipment Reliability
   • Failure Avoidance
   • Defect Elimination

2. Defect and Failure True Cost

3. The Purpose and Role of Maintenance Planning and Scheduling

4. How Maintenance Planning and Scheduling Reduce Costs
   • The Strategic Business Importance of Planning Maintenance

5. Plant and Equipment Life Cycle
   • Life Cycle Costs / Life Cycle Profits
   • Equipment Condition Monitoring

6. Risk Management Fundamentals for Maintenance

7. Equipment Criticality Analysis – identify plant and equipment at risk

   **Activity – Do a simple Equipment Criticality example**

Failure Mode and Effects Analysis (FMEA) - identify parts at risk and necessary maintenance.

   **Activity – Do a simple FMEA example**

High Equipment Reliability Fundamentals
   • Maximum Allowable Downtime
   • Calculate True Downtime Cost per Hour
   • Increasing Equipment Reliability
   • Increasing System Reliability

International Engineering and Equipment Care Standards
   • Alignment and Distortion
   • Lubrication
   • Balance and Vibration
   • Bearing/Shaft Clearances
   • Looseness
   • Contamination and Cleanliness

   **Activity – Identifying Applicable Engineering and Maintenance Standards for the Site**

Maintenance Types
   • Preventive, Predictive/Condition Monitoring, Breakdown, Corrective, Block (Shutdown), Opportunity
   • Proactive Inspection and Detection Rounds/Watch-keeping

Precision Maintenance for Maximum Failure-Free Life
   • Creative Disassembly
   • Precision Assembly
   • Precision Installation
   • Using Condition Monitoring to Test Work Quality
   • Measure Machine Baseline Condition
1. Planning Maintenance Work

Activity – Planning Activity and Review and Discussion of Activity

Necessary Planning Office Systems and Methods
- Work Order Costing
- Plant and Equipment Information
- Planning Documents and their Control
- Equipment Records and their Control
- Job Procedures
- Job Records and their Control
- Equipment Performance Trending
- Job Performance Trending
- Track Planning Performance & Benefits
- Job, Work and Personnel Safety

Specifying Workmanship Standards
- Standardized Work
- Setting the Standards for a Job
- Identifying Necessary Skills for a Job
- Failure Preventing Job Procedures

Data Capture for Maintenance
- Refurbishment Decisions and Costs
- Important Purchasing Information
- Useful Store Control Practices
- Good Storage Practices
- Working with and Developing Suppliers

Project Management Principles and Practices
- Identify Work Priorities
- Set Project Goals and Objectives
- Specifications and Contracts
- PERT Charts (Critical Path)
- Checkpoints and Checklists
- Preparing for All Eventualities

The Work Planning Process
- Site Investigation
- Root Cause Analysis
- Failure History
- The Required Documentation
- Calculating Maintenance Cost vs Budget
- The Required Documentation
- Specifying Important Information to Capture During the Job
- Specifying Materials
- Setting Job Performance Requirements
- Safety Considerations
- Specifying Subcontract Resources
- Calculating Maintenance Cost vs Budget
- Specifying Tools and Ancillary Equipment
- Compiling the Job Pack
- Specifying Human Resources
- Building Job Plan and Times
- Building the Job Plan and Times
- Preparations Before the Job Starts
- Complete the Checklists
- Job and Workmanship Feedback
- Post-Job Review
- ‘Lessons Learnt’ Meeting
- Continuously Improving the Planning

Shutdown and Outages Planning
- Using Project Management Methodology
- Successful Shutdown Management Strategies
Day 3

- Failure Prevention and Defect Elimination ACE 3T Maintenance Procedures
- Controlling Work Process Variation with ACE 3T Work Quality Standards

**Activity – Develop Accuracy Controlled Maintenance Procedure**
- Standardizing Planning Procedures and Scheduling Procedures

**Activity – Develop Standardized Planning Procedure**

**Activity – Planning Activity and Review and Discussion of Activity**

- Planning and Maintenance Key Performance Indicators
  - Maintenance Effectiveness Indicators
  - Equipment Performance Indicators
  - Production Indicators
  - Planning Indicators
  - Job Quality Indicators
  - Supplier Performance
  - Inventory/Store Management
  - Safety
  - Top-performance Industry Benchmarks

**Activity – Setting, Measuring and Trending the Types of Performance Indicators**

### 2. Scheduling Maintenance Work

- Visual Management in All Occasions
- Relationship Building
  - Identify planning/scheduling value add
  - Bring groups together to cooperate
  - Request others’ improvement ideas

- Production Requirements and Limits
  - The Production Plan
  - Liaison with Production
  - Scheduling into the Production Plan

- Important Time Management and Scheduling Concepts
  - Clear Job and Work Order Scheduling
  - Prioritize Work Orders based on Operational Risk
  - Manpower Scheduling and Resources Scheduling

**Activity – Design standardized Scheduling Process**

- Preparations before the Job Starts
- Addressing On-site Issues and Changes in the Plan with Team-based Risk Analysis
- Monitoring Job Performance and Schedule

- Backlog Management
  - **Activity – Scheduling to Get the Job Done Right First Time**
  - Review of Course and Key Issues
  - Feedback Questionnaire

**End of Course**
Registration for the Course

Register now for the course and secure your place by telephoning mobile 072 141 5941. Registration is limited by the room size and seat allocation is on a first-come-first-served basis.

Complete your registration form found on the last page, then choose your payment option and fax it to us at 086 212 4984, or scan it and email to Kate.Moleme@strivingminds.net. Book yourself and your key people into the course today.

Included in the cost are Course notes, Venue hire, Lunch meals and Refreshments. Transportation and Accommodation can be made at additional cost but you will need to advise us in time (2 weeks in advance) prior the course dates.

This course is offered either on-site (at the client’s venue/site) or as public training;
Terms & conditions apply

Public Training Course Cost

The 3-day public course costs R6 850.00 per person incl. VAT

In-House Training Course

We also offer in-house training at the clients 'site, we can organize a suitable quotation within your organization specifications and needs. Send us an e-mail or fax.

Course Information Details

Confirmation of registration will be emailed to the email address on your registration form and includes all venue details.

On the first-day venue doors open from 7.30am with the course starting at 8.00am and finishing at 4.00pm each day. Morning and afternoon teas are 15 minutes and lunch is 30 minutes. Substantial and comprehensive course notes are given to every attendee for future reference.

A certificate of training is provided at the end of the course.
1 - Course: Maintenance Planning and Scheduling for Reliability

2 - Registration Fee:
(Please tick) ☐ ☐ ☐

PLEASE NOTE: Payment must be made at least seven (7) days prior your course start date.

3 - Register:
By Phone: 087 820 4865 / 072 141 5941
By Email: Kate.Moleme@strivingminds.net
By Fax: 086 2124 984

4 - Payment Options
A. Electronic Fund Transfer to Bank:

<table>
<thead>
<tr>
<th>Name of Account</th>
<th>Striving Minds Trading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank Name</td>
<td>Nedbank S.A.</td>
</tr>
<tr>
<td>Bank account No</td>
<td>1015373437</td>
</tr>
<tr>
<td>Branch code</td>
<td>10094700</td>
</tr>
</tbody>
</table>

B. Cheque in favour of ‘Striving Minds Trading’ – Post to Private bag X7, Halfway house 1685

C. Credit Card secure online at www.paypal.com with Visa or MasterCard

Details you require to make Online Payment

Email address: kate.moleme@strivingminds.net
Order/Item #: Planning & Scheduling

D. Purchase Order: …………………………………………………………………………………………………………………………..
(only in S.A)

Cancellation Policy: Substitute delegate welcome. 75% refund prior 7 days, 50% refund within 7 days. Full refund if course cancelled, or free registration to next, or another course of equal value.

5 - Delegate Details (One form per person):

Name: ………………………………………………………………………………………………………………………………………

Job Title: ………………………………………………………………………………………………………………………………………

Company: ………………………………………………………………………………………………………………………………………

Street/Box: ………………………………………………………………………………………………………………………………………

Suburb: ………………………………………………………………………………………………………………………………………

Zip/Post Code: ……………….. State/Country: ………………………………………………………………………………………

Email: ………………………………………………………………………………………………………………………………………

Phone No: ………………………………………………………………………………………………………………………………………