

## Improving Performance through people

### The Critical Success Factor

World-class organizations have the ability to successfully combine technological investment with continuous skill development initiatives. They realize that success is dependent upon achieving improved performance through people.


DSS Sustainable Solutions is committed to meeting your maintenance, technical, and educational skills training needs by developing comprehensive and engaging courses. Build the multi-skilled workforce your organization needs to thrive with our maintenance and reliability curriculum planning guide. Training that is site specific can help take your operation beyond reliability, and into the realm of improved performance and efficiency. We can customize or develop a program from scratch to achieve your facility's unique training requirements.


Maintenance training provides valuable insights to maintenance personnel in the theory of equipment operation, helping them to understand not just how to maintain it properly, but also to recognize factors that can impair efficient operation, and symptoms of inefficient operation. The level of manufacturing operations and the technical skills required by managers and knowledge workers impacts return on investment. We realize that your success depends on your people.


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 [www.youtube.com/ConsultDSS](https://www.youtube.com/ConsultDSS)

## The Maintenance & Reliability Curriculum Planning Guide

DuPont  
Sustainable  
Solutions



Help develop the multi-skilled workforce you need to enhance operational efficiency and improve profitability

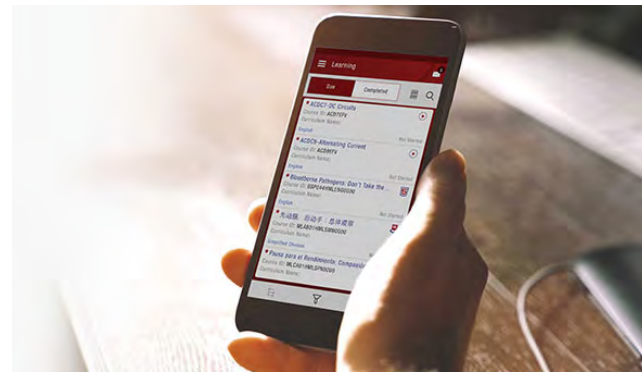
## Interactive Courseware

- More than 800 SCORM 1.2 compliant courses in maintenance and reliability, safety, and human resources
- 20+ languages available
- Branding options to increase relevance
- User-enabled course modifications — add, edit or delete audio, video, graphics, and training points to make content site specific
- New HTML5 course design which enables access from a computer, tablet or smartphone
- Average course length - 30 minutes



## Authoring Tool

- Use a wide variety of storyboard templates
- Include self-checks and post-tests to assess employee competency
- Intuitive interface for rapid development



### DSS eLearning Suite Mobile App

Learn Anytime, Anywhere

Get access to your training courses on your tablet or mobile device. Your employees can learn wherever they go. You can stay connected to them by sending mobile alerts.

Achieving a higher productivity rate and reduced number of incidents is possible with learning. Mobile learning can help increase engagement that leads to improved performance.

## DSS eLearning Suite

### Learning Management System

- Role-based access
- Multi-language interface
- Powerful reporting
- Self-registration and scheduling of online and classroom training
- Third-party course hosting

DSS Sustainable Solutions' powerful, Learning Management System (LMS) makes it easier for you to assign, administer and document the results of your employees' training from virtually any location around the world. Its enhanced features and capabilities offer you flexibility, customization and ease-of-use.

Employees learn what they need to know, and can easily pace themselves and review material as needed. Managers can assign training and track progress and mastery of essential information. Everyone can easily access our training courses via a mobile app. Transfer knowledge and transform performance with the DSS LMS.

Deploy personalized training based on specific employee needs with the LMS. Define your specific "Roles" based on "User Permissions." Simplify curriculums by arranging pre-requisite order or assigning them as required or optional.

Deliver email alerts and scheduled reports. Reports are completely customizable, can be created from scratch, and are available in a variety of formats with the option of including graphics and data that you can filter. Customize your site with your organization's logo and branding. Designed to help you meet and manage your complex training needs more thoroughly and efficiently than ever, our LMS will assist in keeping your organization on the leading edge of the training curve.

### Hosting Services

We host your e-learning solution, saving you the time and effort of installing and maintaining applications on your company's intranet. Enjoy the flexibility of 24/7 access to all courseware and the LMS - ready and available whenever you need it.

### Support Services

Get toll-free access to expert Technical Support 24 hours/day, 365 days a year. Plus, you'll always have access to internet-based technical support and file downloads.

Schedule a Demonstration of the [DSS Learning Management System](#).

## Maintenance & Reliability Topics

AC Induction Motors  
 Applied Physics  
 Applied Chemistry  
 Basic Electrical Theory  
 Basic Engine Lathe  
 Basic Machine Technology  
 Basic Process Control  
 Basic Skills  
 Boiler Operation & Control  
 Calibration & Test Equipment  
 Computer Numerical Control  
 Computer Numerical Control Lathe  
 Continuous Process Control  
 Control Valves & Actuators  
 ControlLogix  
 DSS Energy Efficiency  
 Electronic Maintenance  
 Electrical Measurement  
 Electronics  
 Fieldbus

Fluid Power  
 HVAC&R  
 Industrial Electricity  
 Machinery Oil Analysis  
 Maintenance Principles  
 Maintenance Troubleshooting  
 Mechanical Electrical Control Systems  
 Motor Drives  
 Motors & Motor Controls  
 Operator Inspection  
 Operators & Their Responsibilities  
 Pipefitting  
 Power Transmission  
 Process Measurement  
 Programmable Logic Controllers  
 Smart Digital Instrumentation  
 Steam Traps  
 Thermography  
 Ultrasonics  
 Vibration Analysis







## A Step-by-Step Approach to Implement Your Training Program

### Step 1

#### Conduct a Needs Assessment to Identify Training and Skills Requirements

- Define training objectives, audience, and metrics used to measure success
- Review operational needs
- Analyze job descriptions
- Conduct interviews and surveys
- Create a baseline training curriculum (first draft)

### Step 2

#### Determine Current Knowledge and Skill Levels

- Design a placement test with subjects and questions based on the training curriculum
- Measure and analyze test results, determining areas of proficiency and/or lack of knowledge

### Step 3

#### Identify Your Organizational and Individual Training Programs

- Select the subjects and individual courses, as supported by placement test analysis
- Finalize the training curriculum in educational and training sequence, “foundation to advanced”
- Determine individual training programs, focusing on the gaps between knowledge and skills required and individual test results

### Step 4

#### Train

- Distribute individual program outlines and course materials
- Verify individual development through mastery (post-course) testing
- Conduct remediation training where appropriate.
- Engage in supervisor/trainee discussions and conduct on-the-job workshops

### Step 5

#### Evaluate Your Training Program

- Review individual progress supported by administrative reports
- Measure impact of training against original objectives and operational needs (step 1)

### Step 6

#### Benefits of Your Successful Training Program:

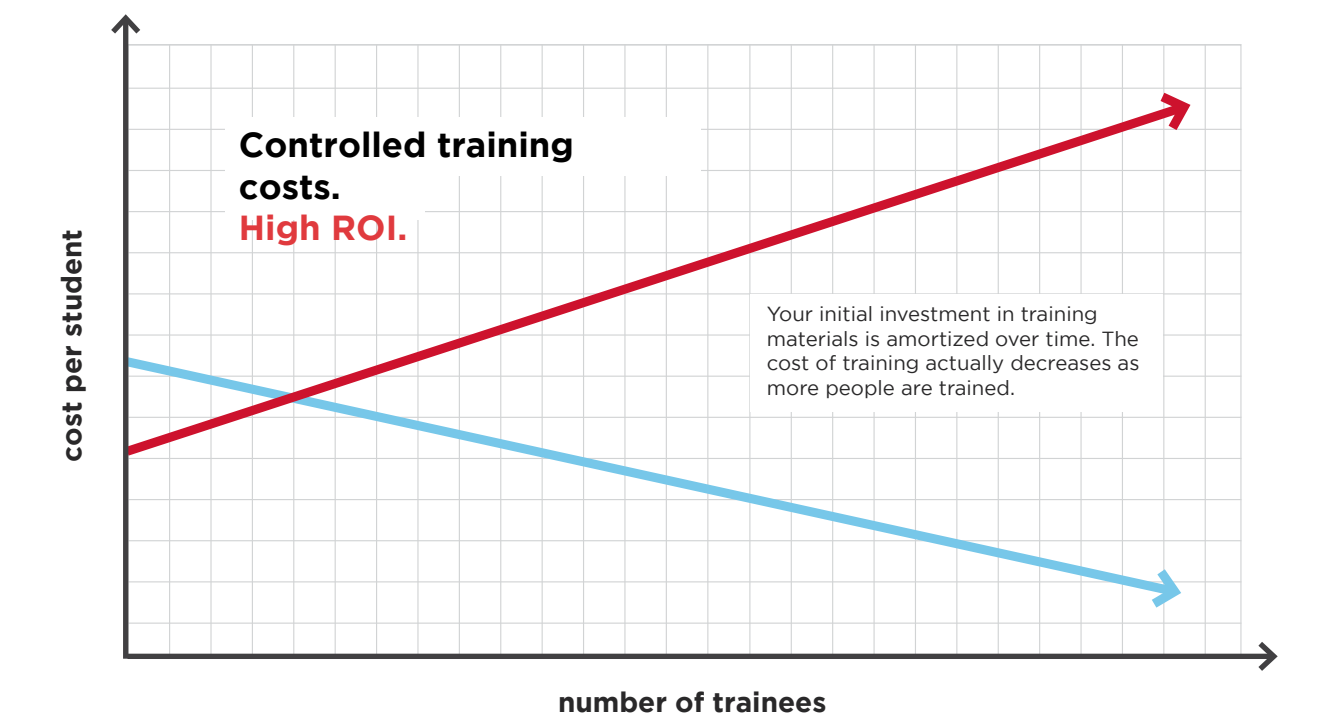
- The application by employees of their improved knowledge and skills
- The educational partnership formed between your company and employees
- Win-win benefits from your successful training program:
  - Improved productivity
  - Reduced equipment downtime
  - Efficient maintenance and production operations (lower costs of repair)
  - Improved morale
  - A person who wants to do the job each day and possesses the knowledge and skills to perform at a quality level

## Design Your Training Curriculum with our Comprehensive Course Library

The following sample training curriculum is designed to meet the needs of a Boilermaker as to the criteria found in the below table:

Core Knowledge and Skills	Trade-Specific Knowledge and Skills	
<b>Basic Skills</b> <b>18 Training Hours</b> <hr/> <b>Workplace Reading</b> <ul style="list-style-type: none"> <li>• Basic Skills</li> <li>• Literal Comprehension: Main Idea</li> <li>• Literal Comprehension: Relationships</li> <li>• Inference</li> <li>• Study Skills</li> </ul> <b>Workplace Mathematics</b> <ul style="list-style-type: none"> <li>• Whole Numbers</li> <li>• Fractions</li> <li>• Decimals</li> <li>• Introduction to Algebra</li> <li>• Applied Chemistry: General Chemistry</li> </ul> <b>Mechanical Print Reading</b> <ul style="list-style-type: none"> <li>• Orthographic Projection</li> <li>• Drawing Format &amp; Dimensioning</li> <li>• Drawing Types &amp; Symbols</li> <li>• Thread Specifications</li> </ul> <b>Gaging &amp; Measurement</b> <ul style="list-style-type: none"> <li>• Types &amp; Fundamentals</li> <li>• Procedures &amp; Operation</li> </ul> <b>Rigging</b> <ul style="list-style-type: none"> <li>• Equipment Basics</li> <li>• Operations</li> </ul>	<b>Mechanical Maintenance</b> <b>12 Training Hours</b> <hr/> <b>Valve Basics</b> <ul style="list-style-type: none"> <li>• Shutoff Valve Designs &amp; Application Consideration</li> <li>• Selecting Shutoff Valves</li> <li>• Installing Shutoff Valves</li> <li>• Maintaining Shutoff Valves</li> </ul> <b>Centrifugal Pumps</b> <ul style="list-style-type: none"> <li>• Design &amp; Function</li> <li>• System Characteristics &amp; Selection</li> <li>• Operation &amp; Maintenance</li> <li>• Troubleshooting &amp; Disassembly</li> <li>• Reassembly &amp; Installation</li> </ul> <b>Industrial Seals</b> <ul style="list-style-type: none"> <li>• Types, Materials &amp; Properties</li> <li>• Gaskets &amp; Packings: Inspection &amp; Installation</li> <li>• Mechanical Face Seals: Troubleshooting &amp; Installation</li> </ul> <b>Steam Traps</b> <b>3 Training Hours</b> <hr/> <ul style="list-style-type: none"> <li>• Types, Principles &amp; Functions</li> <li>• Sizing, Installation &amp; Monitoring</li> <li>• Diagnostics &amp; Troubleshooting</li> </ul>	<b>Pipefitting</b> <b>11 Training Hours</b> <hr/> <ul style="list-style-type: none"> <li>• Introduction to Pipefitting</li> <li>• Piping Systems and Standards</li> <li>• Pipe Fittings &amp; Joints</li> <li>• Measuring Pipe and Drawings</li> <li>• Offsets</li> <li>• Manual and Electric Threaded Pipe</li> <li>• Flanged Pipe</li> <li>• Plastic Pipe</li> <li>• Accessories and Specialty Equipment</li> <li>• Tubing</li> <li>• Hoses</li> </ul> <b>Hydraulic Power Systems &amp; Troubleshooting</b> <b>4 Training Hours</b> <hr/> <ul style="list-style-type: none"> <li>• Identification and Operation</li> <li>• Troubleshooting Techniques</li> <li>• Maintenance Troubleshooting Skills: Hydraulic Circuits and HVAC</li> </ul>
<b>Safety</b> <b>7 Training Hours</b> <hr/> <ul style="list-style-type: none"> <li>• Bloodborne Pathogens</li> <li>• Electrical Safety</li> <li>• Line Breaking</li> <li>• Lockout/Tagout</li> <li>• Machine Guarding</li> <li>• Powered Hand Tool Safety</li> <li>• Process Safety</li> </ul>	<b>Power Transmission</b> <b>6 Training Hours</b> <hr/> <b>Machinery Lubrication</b> <ul style="list-style-type: none"> <li>• Lubricating Oil: Types, Properties &amp; Handling</li> <li>• Lubricating Oil: Equipment &amp; Procedures</li> <li>• Lubricating Greases: Types, Applications &amp; Equipment</li> </ul> <b>Industrial Bearings</b> <ul style="list-style-type: none"> <li>• Application &amp; Technology</li> <li>• Maintenance &amp; Installation</li> <li>• Troubleshooting</li> </ul> <b>Boiler Operation &amp; Control</b> <b>5 Training Hours</b> <hr/> <ul style="list-style-type: none"> <li>• Introduction to Boilers</li> <li>• Boiler Design &amp; Construction</li> <li>• Boiler Feedwater &amp; Steam</li> <li>• Boiler Fuel &amp; Air</li> <li>• Boiler Operation</li> </ul>	<b>Instrumentation &amp; Control</b> <b>Mechanical Electrical Control Systems</b> <b>7 Training Hours</b> <hr/> <ul style="list-style-type: none"> <li>• Introduction to Control Schematics</li> <li>• Creating Schematics</li> <li>• Electrical Lockout</li> <li>• Design &amp; Troubleshooting</li> <li>• Energy Management</li> <li>• Electronic Controls</li> <li>• Responsive Systems</li> </ul> <b>Control Valves &amp; Actuators</b> <b>4 Training Hours</b> <hr/> <ul style="list-style-type: none"> <li>• Basics &amp; Function</li> <li>• Types &amp; Design</li> <li>• Fundamentals &amp; Selection</li> <li>• Sizing &amp; Installation</li> </ul> <b>Continuous Process Control</b> <b>4 Training Hours</b> <hr/> <ul style="list-style-type: none"> <li>• Principles of Continuous Control</li> <li>• Applications of Heat Exchanger Control</li> <li>• Applications of Distillation Control</li> <li>• Applications of pH Control</li> </ul>
<b>Sustainability</b> <b>6 Training Hours</b> <hr/> <ul style="list-style-type: none"> <li>• Energy Smart</li> <li>• Best Practices</li> <li>• Instrumentation and Controls</li> <li>• Theory of Steam Generation</li> <li>• Fuels and the Combustion Process</li> <li>• Pumping Systems</li> </ul>		

## Solutions for a Skilled Workforce



- Training costs for companies that use DSS Sustainable Solutions courses
- Training costs for companies that use conventional training methods





