

Advanced training courses and workshops

General

A maximum of 10 to 12 course topics per 5-days week is suggested allowing sufficient time for workshops, discussions/questions, case studies and group work in between the course topics. Ideally 2 to 3 instructors are involved to avoid a straight series of theoretical lecture but rather to offer a varying and interactive atmosphere, drawing both on the varied practical experiences of the instructors and the theory behind their management solutions.

Objectives

Q-Proc's advanced training courses are much more than a series of theoretical lectures. A forum for discussion, each course draws on the extensive practical experience of the expert instructors as well as the theory behind their solutions. The course material is a blend of practical, easy-to-apply theory, case histories and physical examples designed for hands-on participation. The small class size and interactive format allow for and encourage examination of registrants' specific paper mill situations and problems.

Course lectures

1. Improving paper machine operations and product quality
2. Maintenance excellence
3. Operational excellence
4. Pulp and paper process variability and control guidelines

Training course lectures

1. Improving paper machine operations and product quality

Course description

Designed to help you learn 'why' things happen on a paper machine, this course focuses on improving your understanding of the overall paper machine operation and improving paper machine operations and product quality.

This course will provide participants with an improved understanding of the overall paper machine operation. Fundamental understanding of fiber properties and the way the mechanical components function on the paper machine will give the participant the tools needed to more quickly troubleshoot operational problems and improve paper machine operations and product quality.

This course will provide fundamental training on the design and operation of the paper machine and support systems, and is designed for technical staff, senior supervisory personnel and production management involved with the day-to-day operation of the paper machine. Learn more about 'why' things happen on a paper machine, as opposed to 'how'.

Who should take this course

- technical staff
- senior supervisory personnel
- production management

Instructors

2 to 3 persons (senior level pulp and paper engineering consultants with more than 20 years experience in the pulp & paper industry)

Course duration

Depending on the number of topics (minimum 5 to maximum 7 days)

Possible topics

- Thick stock system
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- Thin stock system
- Screening & cleaning
- Headbox
- Fourdrinier
- Twin wire forming
- Wet end fabrics
- Pressing
- Press felts
- Vacuum systems
- Drying
- Winding
- Calendering
- Doctors
- Savealls
- Showers
- Basis weight variation
- Refining
- Wet end chemistry

2. Maintenance excellence

Course description

This course focuses on the important maintenance practices and standards for the capital intensive paper industry with high demands to the asset's productivity, operational efficiency, technical availability and production quality. The selection of course topics represents a good balance between managerial techniques - as planning & scheduling, preventive maintenance program design, downtime analysis, operator involvement in basic care maintenance and key performance indicators - and practical guidelines and experiences in various relevant areas such as rolls, vibration, lubrication, process control, corrosion, alignment and preventive & predictive techniques.

The course material is a blend of practical, easy-to-apply theory, case histories and physical examples designed for hands-on participation.

Who should take this course

- paper mill management
- senior supervisory personnel
- maintenance engineers, planners and supervisors

Instructors

2 persons (senior level maintenance consultants with more than 20 years experience in the pulp & paper industry)

Course duration

5 days

Topics

- Maintenance efficiency and effectiveness
- Predictive and preventive maintenance
- Work order planning & scheduling
- S-RCM¹ reliability maintenance and preventive plan design
- Bearing Basics & Failure Analysis
- Vibration analysis

¹ Streamlined reliability centered maintenance

- Press Section Vibration Analysis
- On-line vibration monitoring systems
- Paper Machine Roll Covers
- Paper Machine Roll Changes
- Drive Maintenance - Emerging Technology
- Maintaining Your Process Control System
- Lubrication
- Paper Machine Roll & Component Alignment
- Corrosion in paper machines
- IR thermography analysis

3. Operational excellence

Course description

As pricing and margin pressures in the pulp & paper industry continue to increase, overall equipment effectiveness (OEE) has become more than just a catch phrase; it is an essential element in the viability of any player in the industry. Every 1% of machine efficiency represents millions of euro's over the period of a year's operations. Despite the fact that the factors determining the efficiency of a paper machine are known, there remains a tremendous discrepancy between machines of similar grade and size in terms of their efficiency. Typically, this difference is found in the management of the paper machines within the mill.

Operational excellence or in other words the management of a paper machine implies an understanding of the unique set of guidelines and standards – technical and managerial - which govern paper machine operation. Failing to completely understand and appreciate these rules greatly restricts the efficiency of the paper machine and its crew.

Who should take this course

- production managers
- superintendents
- team leaders
- shift supervisors
- maintenance staff

Instructors

2 to 3 persons (senior level production managers and pulp and paper engineering consultants with more than 20 years experience in the pulp & paper industry)

Course duration

Depending on the number of topics (minimum 5 to maximum 7 days)

Topics

- Paper machine efficiency benchmarks
 - Lost production analysis
 - Paper machine optimization
 - Basis Weight Variation
 - Process Variability Overview
 - Identifying Process Variability
 - Process control optimization
 - Paper machine clothing management
 - Optimizing your condition monitoring system
 - Maintenance efficiency and effectiveness
 - Energy efficiency
 - Standard operating procedures (SOPs)
 - Troubleshooting principles
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- Managing paper chemicals
- Headbox troubleshooting
- Diagnostic instruments forming section
- Press troubleshooting
- IR thermography analysis
- Training & education

4. Pulp and paper process variability and control guidelines

Course description

High process variability compromises the economic performance of continuous processes. Off-quality product, higher raw material costs and reduced process efficiency are the result. Minimizing process variability is a difficult, multi-disciplinary activity that extends from the process design engineer to the operator. Process design problems, poor control loop performance and inadequate stock chest mixing are important factors that lead to high variability in key process variables. Moreover, there is often a lack of the troubleshooting skills required to identify and correct variability problems. As a consequence higher than acceptable variability persists for an extended period compromising product quality and profitability

Who should take this course

- process engineers
- control engineers
- instrumentation engineers

Instructors

2 persons (senior level process control engineers or consultants with more than 20 years experience in the pulp & paper industry)

Course duration

5 days

Topics

- Process variability
 - Process dynamics
 - Tuning PID controllers
 - Attenuating disturbances
 - Troubleshooting loop problems
 - Impact of process design
 - Identifying process variability
 - Managing process variability
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