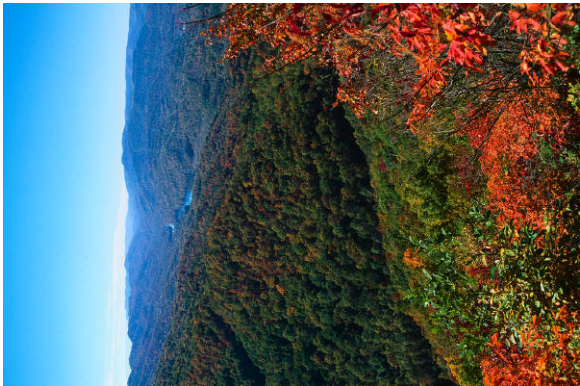


UP Course Registration



20 mi. from Smoky Mountain Natl. Park.

Name: _____

Company: _____ P.O. #: _____

Position: _____ Phone: _____

Address: _____

City: _____ State: _____ Zip: _____

e-mail: _____

Course Fee: \$2,750; includes lodging, meals, materials, and fees for both sessions.
Register Online! www.spcforwood.com

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PREVIOUS CLIENTELE

Georgia-Pacific Corporation
Georgia-Pacific Chemicals, LLC
FINSA of Europe
Footner Forest Products, Ltd.
Flakeboard, Ltd.
J.M. Huber Corporation
Louisiana-Pacific Corporation
Norbord Corporation
Weyerhaeuser Company

Comments from Past Participants

- *Its use of real world data applied to statistical theory was right on the mark!*
- *It was good to see real world forest products industry examples of SPC and statistics...*
- *SPC project led to variation reduction in product weight and targets leading to \$340,000 in annual savings!*
- *Variation reduction in refining energy usage led to a \$410,000 in annual savings!*
- *More than 98% of past participants have rated the course as "excellent"!*
- *Course has been taught to more than 450 industry participants*

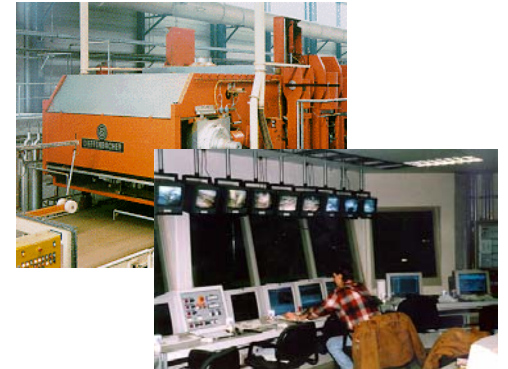
CONTACT

Timothy M. Young
865.946.1119
e-mail: tmyoung1@utk.edu

University of Tennessee
Forest Products Center
2506 Jacob Dr.
Knoxville, TN 37996-4570

<http://www.spcforwood.com/>

Statistical Process Control and Practical Statistical Methods for Variation Reduction



Customized Training
Designed for the
Forest Products Industry

April 2008

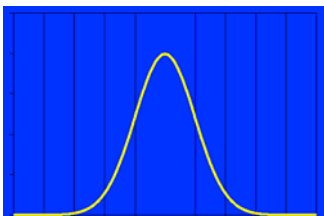
FUTURE
Forest Products Center

WHAT IS SPC AND PRACTICAL STATISTICS?

Statistical Process Control is a general term that applies practical statistical methods to forest products manufacturing processes with the goal of variation reduction. The course is “practical” in that it focuses on variation reduction of key process variables and product attributes, e.g., weight, thickness, resin usage, line speed, time-to-final thickness, etc. Variation reduction leads to target reduction and costs savings.

VARIATION REDUCTION?

A barrier to target size reduction and cost savings is variation. A key question posed to the participants is: “How can you reduce variation unless variation is quantified?” The benefit of SPC and practical statistical methods is that it allows process and product variation to be quantified, i.e., natural variation, special-cause variation, components of variance.



The course builds upon the successful strategies of Walter Shewhart, W. Edward Deming, Joseph Juran, Kaoru Ishikawa, Genichi Taguchi and Mikel Harry (“Six Sigma Quality”). A key outcome of the course is direct and immediate implementation of SPC and other statistical methods at a participants’ manufacturing site.

COSTING VARIATION “TAGUCHI LOSS FUNCTION”

Manufacturers have to run targets given the variation of the process. The Taguchi Loss Function is a capstone concept of the course in teaching quantifying the cost of variation.

COURSE DESCRIPTION

The Forest Products Center (FPC) at The University of Tennessee holds a training course which provides a comprehensive overview of the principles and analysis techniques for effective statistical process control. Candidates participate in hands on activities and develop presentations based on real world process scenarios in their company.



The course has easy to understand text which helps ensure a comfortable pace and a fun learning experience benefiting both the student and respective employer. The FPC offers this program to maintain a focus of providing leading education for the forest products industry.

The course requires no prior knowledge of SPC or statistics. It is designed for plant managers, production managers, technical directors, quality control managers, supervisors, operators, and lab technicians. Examples re-



late to wood products manufacture. The course is taught in two Sessions with **Session I held on April 15, 16 and 17, 2008.** The dates for Session II are determined at the end of Session I. The course is **limited to 16 candidates.** The fee of **\$2,750** covers lodging, food, registration, local transportation and materials/fees for both sessions. 3-credit, 40-hour undergraduate course equivalent, can be taken for UT college credit.

INSTRUCTOR



Timothy M. Young tmyoung1@utk.edu

Associate Professor

- PhD, NR (Statistics), Univ. of Tennessee
- MS Statistics, Univ. of Tennessee
- MS Forest Economics, Univ. of Wisconsin
- BS Forestry, Univ. of Wisconsin
- Member:
 - American Statistical Association
 - American Society of Quality
 - Forest Product Society)
- 15 yrs. experience in the wood products industry; 4 years experience with private sector in MDF manufacture
- Taught SPC course since 2001.



KEY CONCEPTS TAUGHT

- Foundations for Variation Reduction
- Linking Key Process Variables with Critical Product Attributes
- Quantifying Variation
- Sampling Manufacturing Processes
- Control Charts for Measurement & Attribute Data
- Capability Analysis
- Descriptive Statistics/Histograms
- Statistical Tolerance (% Out of Spec)
- Taguchi Loss Function
- Components of Variance
- Correlation Analysis
- Gage R&R
- Control Chart for Autocorrelated Data
- Control Chart for the Coefficient of Variation
- Applied Course Project and Case Study