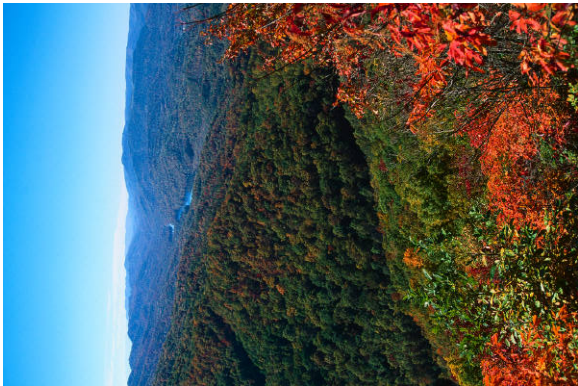


UT Course Registration



20 mi. from Smoky Mountain Natl. Park.

The University of Tennessee does not discriminate on the basis of race, sex, color, religion, national origin, age, disability or veteran status in provision of educational programs and services or employment opportunities and benefits. This policy extends to both employment by and admission to the University. The University does not discriminate on the basis of race, sex or disability in the education programs and activities pursuant to the requirements of Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act (ADA) of 1990.

Name: _____ P.O. #: _____
Company: _____
Position: _____ Phone: _____
Address: _____
City: _____ State: _____ Zip: _____
e-mail: _____

Course Fee: \$3,600; includes lodging, meals, local transportation, materials, 4 books, laptop usage and fees.

PREVIOUS CLIENTELE

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

Comments from Past Participants

- *Regression analysis using manufacturing data from MDF and OSB was exactly what I was looking for!*
- *I had an immediate need for advanced SPC with EWMA control charts adjusted for autocorrelation and multivariate control charting.*
- *The control chart for the coefficient of variation will be very useful at my plant.*
- *The section on Taguchi robust product design and his signal-noise ratio will be extremely helpful in improving our product!*
- *The use of forest products data with statistical theory and data mining was excellent!*

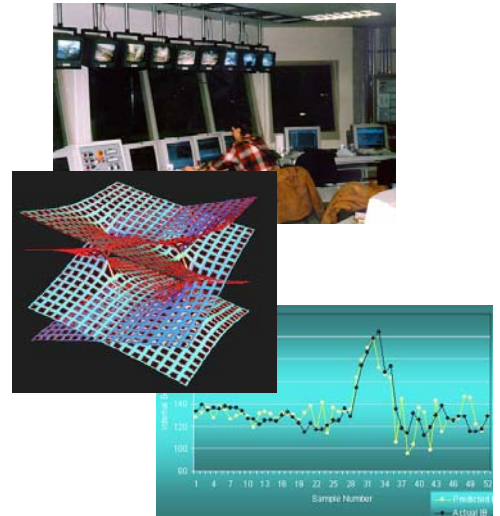
CONTACT

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

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

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

Advanced Statistical Methods and Data Mining for the Forest Products Industry



September 2008

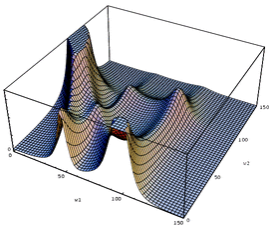
FUTURE
Forest Products Center

ADVANCED SPC

Advanced Statistical Process Control (SPC) applies SPC methods to advanced data applications that occur during forest products manufacture. Advanced SPC covers the topics of exponentially weight moving average (EWMA), autocorrelation, EWMA control charts adjusted for autocorrelation, multivariate control charts and a control chart for the coefficient of variation. The instruction is “practical” in that it focuses on immediate applications of Advanced SPC for variation reduction of key process variables and product attributes, e.g., weight, thickness, resin usage, line speed, time-to-final thickness, etc.

DATA MINING

A driving force in the rapidly changing global forest products economy is the power of information technology. Information and computing technologies have changed modern forest products manufacture. Data mining (DM) is the process of automatically searching large volumes of data for patterns. We believe that rapid growth in DM applications in the forest products industry is imminent. Real-time data mining using accepted statistical methods with considerations for deterministic methods such as neural networks and genetic algorithms is taught. Essentials of “Data Quality” are also covered.



TAGUCHI'S

“ROBUST PRODUCT DESIGN”

The idea behind robust product design is to improve the quality of a product by minimizing the effects of uncontrollable variation (e.g., ambient temperature, humidity, operators, etc.). Design arrays and the “signal-to-noise” ratios are taught.

COURSE DESCRIPTION

The Forest Products Center (FPC) at The University of Tennessee holds this training course which provides a comprehensive overview of the principles and analysis techniques for advanced statistical process control, probability distribution functions, confidence intervals, significance testing, sampling, regression analysis, decision-trees and data mining methods. Candidates participate in hands on activities and work on **PC-based exercises** on real world process data for their company. The course has easy to understand texts 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 strength of providing leading education for the forest products industry.



The course requires some prior knowledge of SPC, statistics and **PC/laptop usage**; it is designed for plant managers, production managers, technical directors, quality control managers, and lab technicians. Examples relate to wood products manufacture. The course is taught over 4 days **September 23, 24, 25 & 26, 2008**. The course is **limited to 8 candidates**. The fee of **\$3,600** covers lodging, food, registration, local transportation, 4 books, laptop usage 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 Advanced SPC course since 2002



KEY CONCEPTS TAUGHT

- Topics in Advanced SPC
 - Autocorrelation
 - Exponentially Weighted Moving Average (EWMA)
 - EWMA control charts
 - Multivariate control charts
 - Control chart for Coefficient of Variation
- Probability Density Functions (pdfs)
- Confidence Intervals (CI)
- Significance Testing
- Sampling
- Data Quality
- Regression Analysis
- Decision Trees (DT)
- Data Mining (DM)
 - Neural Networks (NN)
 - Genetic Algorithms (GA) & (GANN)
 - Cross Validation
- Taguchi Robust Product Design