

GUARANTEED TO OFFER YOU

PRESENTS

STATISTICS: The Foundation for Process Understanding, Control and Improvement



May 18-21, 2010

Clemson University

Clemson At The Falls, Greenville, SC

Taking the Certified Quality Engineer (CQE) Exam?

The material covered in this course provides the necessary foundation to not only pass, but to excel on the CQE examination.

SPECIAL NOTE FOR CURRENT AND FUTURE SIX SIGMA PRACTITIONERS

Statistics forms the foundation for Six Sigma DMAIC methodology. This course will provide future Black Belts a firm foundation for maximum learning. Current Black Belts can increase their effectiveness dramatically by improving statistical skills and understanding. In your critical leadership roles, you need a firm foundation in statistics to effectively communicate with your Black Belts. This course provides that ability.

- A better understanding of your customers' requirement and the ability to set realistic specifications
- A method for evaluating your measurement system for accuracy, precision and control
- Ways to evaluate a new test or evaluate an existing one
- Critical information for determining your process capability (CPK, etc.)
- A fully-developed process control plan
- Tools for implementing SPC
- Ways to improve or develop your processes and products
- The most effective way to evaluate a proposed new product or product
- An evaluation scorecard for a new or existing supplier
- An effective comparison scorecard to use on suppliers, processes, tests or measurement systems
- A highly intense study preparation for your taking the CQE examination
- The basic instructional platform for when you launch your Six Sigma Black Belt training.
- Critical tools even a Six Sigma project champion could use!

“ This is the most interesting statistics course I've ever taken! A statistics training course that is not boring is difficult to find. This one was NOT. The instructor was excellent.”

– Ishmael Acevedo
Lucent Technologies, Orlando, FL

Register Today by Calling Kay James at 864-656-2200

STATISTICS: The Foundation for Process Understanding, Control and Improvement

About the Program

Statistics only sounds difficult. It is not!

This practical, applications-oriented seminar is designed so you can easily understand what it means to think statistically and to make decisions based on facts and data instead of opinion. The material presented lays the foundation for all statistical applications in industry and business organizations, both manufacturing and non-manufacturing. The course is full of real-world examples gathered from the instructor's more than 30 years of experience.

During the program you will discuss many real-world examples which are based on hypothesis testing and estimation. Six statistical distributions (Normal, Student t, Chi Squared, F, Binomial, and Poisson) are most often used in these real-world applications. You will come away from this course knowing when and how to use each distribution, the logic behind each, and how to properly interpret the results to achieve optimum decision making.

Day I: Tuesday, May 18, 2010

8:00 am Pre-Registration

Check in, receive your materials at Clemson At the Falls and enjoy a continental breakfast with fellow participants.

9:00 am Welcome to the Seminar and Opening Remarks

Laurie Haughey, Director, Center for Professional Advancement and Continuing Education

Introduction of Dr. Earl Burch

“Faces and Places”

Get to know each other and improve the quality of your networking during the seminar.

MODULE I Laying the Foundation for Process Understanding and Control

The proper use of statistics does not begin with statistics. In this session, we will discuss the approach and tools necessary to insure that statistics is used both efficiently and effectively. You will learn how to avoid the pitfalls that many companies encounter.

Noon Networking Luncheon Hosted by Clemson University

MODULE II The Role of Statistics in Process Understanding, Improvement and Control

The use of statistics should never be an organization's objective. In fact, establishing such an objective can lead to fear, resentment and often

failure. The objective is process understanding and improvement. (By the way, the process may be a manufacturing process, accounting process, shipping process, receiving process, laboratory test, etc., not just manufacturing.) The necessary and critical role of statistics, as one of many tools, is discussed in clear, practical and simple terms.

4:30 pm Adjourn

Day II: Wednesday, May 19, 2010

8:00 Return to Clemson at the Falls and enjoy a continental breakfast with fellow participants.

MODULE III A Brief Review of Basic Statistical Concepts

In this session, we review the three basic areas of statistics: sampling, descriptive statistics and statistical inference as they facilitate process capability and control. You will be reminded of such basic calculations and concepts as the mean, mode and median, all measures of central tendency and measures of variability as the variance and standard deviation.

MODULE IV The Importance of the Normal Distribution

We will briefly review the concept of the normal distribution, which forms the foundation of most statistical applications, such as process capability and process control. What does it mean for numbers to be “normal”, how do you know and who cares? What if the numbers you are interested in are not normal?

Noon Networking Luncheon Hosted by Clemson University

MODULE V Understanding Process Capability

In order to prioritize processes for improvement and to set up proper control procedures, it is first necessary to understand and measure process capability. In this session, the proper methods for doing a process capability study will be covered. Additionally the implications of the results will be investigated by explaining the most often used capability indices such as Cp, Cpk, Pp and Ppk.

4:30 pm Adjourn

Day III: Thursday, May 20, 2010

8:00 Return to Clemson at the Falls and enjoy a continental breakfast with fellow participants.

MODULE VI Developing Process Control

In this session the underlying statistical concepts necessary for process control are thoroughly explored, specifically hypothesis testing and estimation (confidence intervals). Sample size determination and evaluating the risks involved are thoroughly investigated (Type I and Type 2 errors). Additionally evaluating a lab test, its accuracy and precision are explained by example. Finally, short cut methods for developing control charts are covered and their associated uses and dangers are explained.



MODULE VII When the Normal Isn't Appropriate—The Student t Distribution

Sometimes the normal distribution is not appropriate, perhaps due to a small sample size or violation of necessary assumptions. In this session, the t distribution and its use is thoroughly explained, when to use it and how.

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MODULE VIII Understanding and Reducing Process Variability—The Chi Square Distribution

Often process improvement is concerned with understanding process variability. This session investigates the proper methods of estimating variability and statistically demonstrating improvement by discussing hypothesis testing and estimation with the Chi Square distribution. The use of R&R studies for lab variability and construction of control charts for variability are covered also.

MODULE IX Comparing Two Populations—The F Distribution, Pooled t Tests and Paired t Tests

It is often necessary to compare two processes: the accuracy of two lab tests, the output of two machines, the quality of two suppliers, production form two time periods, etc. This session explores how to make valid comparisons, the F distribution when variability is the issue and various t tests when the need is to compare two averages.

4:30 pm Adjourn

Day IV: Friday, May 21, 2010

8:00 Return to Clemson at the Falls and enjoy a continental breakfast with fellow participants.

MODULE X Analyzing Attribute Data

All critical data is not necessarily variables data. What is done for count data and percentage data, i. e. attribute data? In this session when, how and why to use the binomial distribution and the Poisson distribution will be explored.

MODULE XI Putting It All Together

Noon Seminar Adjournment

PLEASE BRING A HAND-HELD CALCULATOR

Enroll online today or call your Customer Service Specialist, Kay James, at (864) 656-2200.

ACCOMMODATIONS—Just a Short Walk Away.



The Westin Poinsett

The Westin Poinsett is the only four-diamond

hotel in Greenville. You will enjoy quality service from a hotel which is a few blocks from over 50 shops and restaurants as well as Clemson At The Falls, The Peace Center for the Performing Arts, Falls Park on the Reedy River, and the Bi-Lo Center. Located at 120 South Main Street, please call 864-421-9700 to make your reservation.



The Hampton Inn & Suites—Downtown RiverPlace

Located in the heart of Greenville's vibrant downtown RiverPlace business, entertainment and dining district, the hotel is a short walk to Falls Park on the Reedy, Clemson

At The Falls and the Bilo Center. Complete with signature features such as glass enclosed circular one bedroom suites, and guest rooms and studio suites with balconies overlooking the Reedy River, Peace Center for the Performing Arts and the adjacent amphitheater and Wyche Pavilion, the hotel offers premier lodging with elegant, amenity filled guest rooms, unsurpassed views and a warm inviting decor. Guests enjoy complimentary wireless high-speed Internet access throughout the hotel and a 32 inch LCD television in every guest room. Located at 171 RiverPlace - Greenville, call (864) 271-8700 to book your accommodations.



Hyatt Regency Greenville

Ideally located in the heart of the city, the Hyatt

Regency Greenville is approximately a 15 minute walk along Main Street Greenville to the Falls Park and Clemson At The Falls. Located at 220 North Main Street, call 864-235-1234 to book your accommodations.

About ASQ

The American Society for Quality (ASQ) was established in 1946 and traces its beginnings to the end of World War II, as quality experts and manufacturers sought ways to sustain the many quality-improvement techniques used during wartime. ASQ has played an important role in upholding these standards from the past while championing continued innovation in the field of quality.

ASQ supports their members by providing a wide range of resources, from certification and training to publications and conferences. Globally, ASQ has formed relationships with nonprofit organizations that have comparable missions and principles, forming collaborative efforts to meet the quality needs of companies, individuals, and organizations worldwide.

The Society serves as an advocate for quality. Its members have informed and advised the U.S. Congress, government agencies, state legislatures, and other groups and individuals on quality-related topics. Since 1987, ASQ has administered the United States' premier quality award, the Malcolm Baldrige National Quality Award, which annually recognizes companies and organizations that have achieved performance excellence. The ASQ Dorian Shainin Medal is awarded annually for the Development and Application of Creative or Unique

Statistical Approaches in the Solving of Problems Relative to the Quality of Product or Service. ASQ is a founding partner of the American Customer Satisfaction Index (ACSI), a prominent quarterly economic indicator.



Your One-of-a-Kind Training Facility: Clemson University's Epicenter for Business Education

Clemson At The Falls is a 33,355 square foot state-of-the-art educational facility. Located at 55 East Camperdown Way in Greenville, the building houses Clemson's Center for Professional Advancement and Continuing Education, MBA programs, the Renaissance Center, an office of the Arthur M. Spiro Institute for Entrepreneurial Leadership and regional offices for the Small Business Development Center. Clemson At The Falls is conveniently located near Greenville's thriving downtown, hotels, eateries, entertainment and The Falls Park.

WHAT OTHERS ARE SAYING...

"This seminar was a fast-paced and effective course which satisfied the 'experts' in the class, but which also brought the 'stragglers' up to speed."

*Michael Andrews
Teksid Aluminum Foundry,
Dickson, TN*

"An excellent overview of how to use statistics to better understand your data and improve upon your processes."

*Misti Humphries
Invista (formerly KoSa), Shelby, NC*

"This is the most useful course of statistics I have attended so far."

*Aleksander Raskin
BIO-RAD Laboratories, Hercules, CA*

Your Benefits Are Guaranteed!

We are confident your organization will gain important insights from this program. If you're not satisfied with this conference, you will receive an immediate refund of your entire registration fee.

Your Instructor...

EARL BURCH, PHD, is a Professor Emeritus of Business Administration and Mathematical Sciences at Clemson University. He has taught courses in Probability and Statistics for Engineers and Statistical Analysis for MBA candidates. Also, Earl has years of experience teaching design and analysis of experiments, applied regression analysis, exploratory data analysis, production planning and scheduling, advanced statistical process control and management science.

Earl has published extensively in journals such as the Academy of Management Journal, the Journal of Quality Technology, Decision Sciences, Interfaces, and the Journal of Business. He has been involved in all phases of quality management from the development of a corporate quality philosophy and the implementation of SPC to training operators in basic statistics, SPC, problem solving and team building. He has helped implement Six Sigma in a number of companies and provides Six Sigma training for executive leadership teams, champions, black belts and green belts. Clients have included: BYK, Cabot, Celanese, Inc., DuPont, Hercules, Inc., International Paper Co., Millennium Inorganic Chemicals, Mitsubishi, Monsanto Chemical Co., Oakley, Philip Morris, Printpack Inc., Wellman Fibers, W.R. Grace and many others.

Register Today by Calling Kay James at 864-656-2200

5 EASY WAYS TO REGISTER



ONLINE . . .

www.clemson.edu/success



FAX . . . registration to

(864) 656-3997



CALL . . .

Kay James at

864-656-2200



E-MAIL . . .

odcereg-l@clemson.edu



MAIL . . . your registration

request to:

CLEMSON UNIVERSITY

P.O. Box 912, Clemson, SC 29633-0912

Your Registration Fee

Includes:

Tuition, workbook, program materials, continental breakfasts, refreshment breaks, and networking luncheons. Lodging and other meals are not included. A registration desk will be located outside the meeting room at 8:00 am the first day of the program.

Bring Your Team – Save \$100 Per Person!

Gain maximum value for your organization by attending as a team. If you enroll two or more people, you'll receive a discount of \$100 per person!

Cancellation Policy

A \$25 processing fee will be applied should you need to cancel and want a refund. Registration payments will be held on account for one year for cancellations received less than 5 business days before the conference. Substitutions can be made at any time.

Enroll online today or call your Customer Service Specialist, Kay James, at (864) 656-2200.

REGISTRATION FORM

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May 18-21, 2010 • Clemson University • Clemson At The Falls, Greenville, SC

Tuition: \$1495 per person \$1395 per person for teams of 2 or more from the same organization.

Name #1 _____ (Title) _____

Name #2 _____ (Title) _____

Name #3 _____ (Title) _____

E-Mail #1 _____ #2 _____ #3 _____

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Organization _____

Address _____

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Approving Manager _____ (Title) _____

(P.O. # or tuition must be received by conference start date.)

Clemson University is an Equal Opportunity Employer

Method of Payment

Check enclosed (Payable to CURF)

Payment being processed (letter of intent/P.O. enclosed)



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Please return this entire page (or a photocopy) to:

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