

Announcing A Spring Seminar:

## **STATISTICS AND STATISTICAL ANALYSIS**

### **An Overview For The Working Professional**

Statistical Analysis is an essential tool in business, science and the social sciences. This seminar will provide an overview of statistical methodology for people involved with the collection and understanding of data, as well as an introduction to a powerful and easy to use analysis software tool called Caiss-Stat.

#### Seminar Description:

There will be an exposition of basic statistical terminology and techniques. Sampling and sampling problems will be examined, and numerous examples will help to illustrate the fundamental concepts of statistical reasoning. The seminar will benefit those with no statistical background, as well as practitioners who want to refresh and expand their skills.

Included in the seminar will be a discussion of statistics and statistical reasoning; the computation and interpretation of the basic statistical measures; the essential concepts involved in statistical estimation and confidence intervals; the basic procedure and evaluation of statistical testing, including null hypotheses, appropriate tests and significance levels, and finally, the ideas in regression analysis.

Enrollees will be provided an orientation to and a copy of Caiss-Stat, an easy to use statistical analysis program developed by CAISS, the Center for Algorithms and Interactive Scientific Software of the Grove School of Engineering at the City College of New York. Caiss-Stat is a graphical, point and click program which contains helpful user guides and reference material, and can immediately perform the computations needed in any analysis.

#### Who Should Attend:

Executives and their assistants, managers, planners, market researchers, engineers, social scientists, psychologists, school administrators and anyone faced with collecting and interpreting data.

#### What You Will Learn:

Upon completion of the course you will understand and correctly interpret statistical reports, including statements about confidence and significance levels, as well as fitted regression models. You will also know whether a study was correctly designed. Finally, using statistical software, primarily Caiss-Stat, you will learn how to perform necessary statistical calculations and statistical tests.

#### Format:

This will be a two day seminar from 9:00am to 5:00pm with a one hour lunch break each day. Attendees will be encouraged to bring up questions about their own data analysis situations. A portion of the seminar will be allocated to consulting questions for the seminar leader on issues posed by the attendees. As part of the seminar price enrollees will receive a version of the Caiss-Stat software package.

Course Outline:

FIRST DAY

I. STATISTICAL REASONING AND STATISTICAL INFERENCE

1. What is Statistics and Statistical Analysis
2. Populations and Samples
3. Sampling and Sampling Bias - various sampling methods
4. Descriptive and Inferential Statistics
5. Statistical Software  
2 Hours

II. BASIC DESCRIPTIVE STATISTICS

1. Basic Descriptive Measures and Their Meanings
2. The Concept of Variation
3. Statistical Parameters
4. The Use of Caiss-Stat for basic Statistics  
2 Hours

III. USE OF PROBABILITY THEORY

1. What is Probability Theory?
2. How does Probability Theory fit into Statistical Reasoning?
3. Statistical Distributions
4. The Use of Caiss-Stat for Probability Questions  
1.5 Hours

SECOND DAY

IV. STATISTICAL INFERENCE

1. Estimation Theory
  - a. Confidence Intervals and their Meaning
2. Hypothesis Testing - Basic Ideas
  - a. Statistical Significance and Null Hypotheses
  - b. Experimental Design - Basic Ideas
3. Using Caiss-Stat in doing statistical estimation and inference  
3 Hours

V. REGRESSION ANALYSIS AND MODEL BUILDING

1. Regression Analysis
  - a. Simple and Multiple Regression Models - an Introduction
  - b. What is Model Building
2. Simple Linear Regression
  - a. Parameter Estimation and Testing
3. Using Caiss-Stat in doing simple and multiple regression  
2 Hours

VI. PRACTICAL PROBLEMS AND CONSULTATIONS

1.5 Hours

Seminar Location and Price: The seminar will be held at The City College of New York/CUNY Center for Worker Education, a new downtown facility located on historic Bowling Green at 25 Broadway, New York, NY on May 8 and May 9, 2008. The price is \$595 per attendee, which includes the seminar, written materials and a version of Caiss-Stat. A certificate of completed study will be issued by The City College of New York / CUNY. For further information and to register contact:

Mary Himmelstein; mtramel@ccny.cuny.edu or fax 212 650-5381

Seminar Leader: The seminar leader is Dr. Benjamin Fine who is Professor of Mathematics and Statistics and Director of the Graduate Program at Fairfield University in Fairfield, CT. Dr. Fine is also a statistical consultant and a senior research scientist at CAISS.

Presented By: CAISS, Center for Algorithms and Interactive Scientific Software, at The City College of New York / CUNY, Professor Gilbert Baumslag, Director

Sponsors:

Department of Computer Science, Douglas Troeger, Chairperson  
Andrew Grove School of Engineering, Joseph Barba, Dean  
Center for Worker Education, Juan Carlos Mercado, Acting Dean  
Zeev Dagan, Provost,  
Gregory H. Williams, President,  
The City College of New York, City University of New York  
Research Foundation of the City University of New York



THE CENTER FOR ALGORITHMS AND  
INTERACTIVE SCIENTIFIC SOFTWARE

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THE CITY UNIVERSITY OF NEW YORK

FAX REGISTRATION FORM

Statistics and Statistical Analysis  
May 8 and May 9, 2008

NAME \_\_\_\_\_ EMAIL \_\_\_\_\_

COMPANY OR AFFILIATION

\_\_\_\_\_ PHONE \_\_\_\_\_

ADDRESS \_\_\_\_\_ FAX \_\_\_\_\_

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**PAYMENT TERMS:** Payment of \$595 must be received, or credit arrangements made, prior to attending the seminar. Payment by Company Check or Money Order is preferred, by mail, to CAISS, 160 Convent Avenue – NAC 8/206, New York, NY 10031. If by credit card:

Card Type \_\_\_\_\_ Name of User \_\_\_\_\_

Card Number \_\_\_\_\_ Exp. \_\_\_\_\_

**REFUNDS:** Full refund if cancellation is received during the week prior to the seminar; refunds thereafter are not possible, although substitutions will be permitted.

**Directions and Parking:** Please visit [www1.ccny.cuny.edu/prospective/cwe2/contact.cfm](http://www1.ccny.cuny.edu/prospective/cwe2/contact.cfm)