

# STATISTICAL SAMPLING FOR TESTS OF CONTROLS, COMPLIANCE AND FRAUD: COMPUTER HANDS-ON!

## COURSE DESCRIPTION

Want to hear an amazing fact? It has been proven that, in many instances, auditors take JUDGMENT samples which are bigger than the STATISTICAL sample they could have taken! Why would you do this? If your sample is adequate for statistical projection, to the population, why would you NOT do this? You are cheating yourself of your good efforts. Yes, learning statistics was likely painful (for most folks), but it doesn't have to be!

In this course you will utilize a proven freeware package (windows based) which allows for click-and-drag stat sampling. We're not just talking stat selection here, but full-blown stat projections of your audit results to the population. Research validates that if you do not drill-down on your risk assessment, your efforts will result in DRAMATIC OVER-AUDITING!

Auditors should have a "controls and process" focus, thus ATTRIBUTE sampling (not dollars) is the correct method (according to the IIA, ISAs, AICPA et al.). The advantage of stat sampling is to be able to start your audit report by saying... "I am 95% confident that..." WOW, what a powerful statement!

This course will provide several takeaways, including the 13 steps of (any) sampling, a decision tree to help select the best sampling method, discussions of Alpha and Beta risk, and multiple methods of how to "pull" your sample.

## WHO SHOULD ATTEND

ALL auditors: process, compliance, fraud/waste/abuse, I.T., SOX, efficiency, program, performance ... anyone who has to ask the following questions:

- *What's my sample size?*
- *Is this "in" or "out" of control?*

## COURSE COMPUTING REQUIREMENTS

This course screams of being HANDS-On. The only way students will learn these concepts is to "press the keys". **It is really important that you bring your laptop to class. If you cannot ... it would "OK." We will "buddy" you with someone who has a laptop.**

To maximize the effectiveness of this course, you should install the freeware software package called 'EZ-Quant'. To download the package please visit the website (<http://www.dcaa.mil/ezquant.htm>).

## DETAILED COURSE OUTLINE

1. Risk Analysis: The Engine that Drives an Audit
  - a. Risk Assessment (the “dog”) and Sample Size (the “tail”)
    - i. AICPA/IIA/ISA Standards and the Ultimate Risk Model
2. Statistics ... A Primer
  - a. Sampling is Really Easy
  - b. Judgment vs. Statistical Sampling
    - i. Arguments For Judgment Sampling in Certain Situations
3. Basics of Sampling
  - a. Estimate of  $\mu$  (“MU”) ... the Mean is a Dangerous Number
  - b. Estimate of Dispersion and of Sampling Risk
  - c. “Representativeness”
  - d. Distributions: Normal, Binomial, Hypergeometric, Poisson
  - e. Alpha & Beta Risk
  - f. The Sampling Unit or “Frame” ... How to Know your Data
  - g. The 13 Steps in Sampling
  - h. Methods of Selection: Random, Skip, Haphazard, and Block
4. Compliance Sampling (Attribute Sampling)
  - a. A Decision Tree to Select the Most Efficient Sampling Technique
  - b. Fixed-Sample Approach
  - c. Stop-And-Go Approach
  - d. Discovery Approach
  - e. Attribute Estimation Approach
  - f. Research/Guidance on the Quantification of Alpha & Beta Risk
  - g. Scientific Sample Projection to Population
  - h. Life After Sampling
5. Dr. Dan’s Most Commonly Asked Questions Regarding Sampling
  - a. What if a Sample Selection is Missing?
  - b. May I Test Multiple Attributes on One Document?
  - c. Is There an Acceptable Minimum Statistical Sample Size?
  - d. Must All Controls Be Tested at Same Risk Level?
  - e. What Can Go Wrong in Sampling?
  - f. Don’t Use PPS to Select Compliance Items ... “Coverage!”
6. How to Get a Buy-in From the Auditee
  - a. Pre-Audit Meeting and Parameter Discussion
7. Work-papers
8. Going Forward with an Implementation Plan
  - a. Your Policies
  - b. Your Audit Manuals



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## COURSE OBJECTIVES

Upon completion of this course participants will be able to:

- Distinguish among multiple sampling methodologies.
- Tie risk to sample size, at the individual assertion level.
- Reexamine the Standards.
- Refresh concepts of sample risk and “representativeness.”
- Use a decision tree match the method to your audit requirements.
- Review several research studies addressing the values for the parameters of attribute sampling.
- Discover statistical sample sizes SMALLER than judgment sample sizes.
- Examine the new kid ... Stop & Go sampling.
- Recognize the three key conditions which encourage judgment sampling.
- Perform sensitivity analysis to see the impact of parameters on sample size.
- Better explain to the auditee what you are/are not saying in your results.
- Perform scientific projection of errors to the population.
- Satisfy of the COSO requirement for monitoring via Stop & Go sampling.
- Improve report adjudication (obtain a better management “buy-off”).

## COURSE MATERIALS/TAKEAWAYS

Each participant will receive the following:

- Workbook with complete with screen captures and (numbered) step-by-step instructions.
- CD/USB drive with computerized cases so they may practice and replicate the classroom experience (that is, APPLY this knowledge on the job).

## COURSE LENGTH

- 1 to 1½ days