
INTERACTIVE OPERATIONS RESEARCH IN SPREADSHEETS

Continuing Education Program Offering 03-707

15-18 April 2003

Location: U.S. Marine Corp, Quantico, VA

SYNOPSIS: Traditionally, forecasting, optimization, simulation and other methods of quantitative analysis required layers of technicians and hardware creating an algebraic curtain separating "operations" from "operations research." Today spreadsheet versions of these techniques can be applied (or misapplied) in the field on lap-top computers. The interactive nature of this environment enhances the more traditional applications of Operations Research by allowing rapid response to changing conditions, and clear communication of results.

As an analogy, traditional Operations Research is like heavy field artillery, which is set up, aimed at a large stationary target, and finally fired. Interactive Operations Research is closer to tracer-firing automatic weaponry, ideal for small moving targets.

Students will receive numerous examples on disk, including spreadsheet software which implements Forecasting, Monte Carlo Simulation, Linear Programming, Decision Trees, and Markov Chains in Spreadsheets.

Topics to be covered include:

- Modeling in Spreadsheets
- Simulation
- Decision Trees
- Integer Programming
- Stochastic Optimization
- Markov Chains
- Linear Programming
- Nonlinear Programming
- Optimal Real-time Targeting
- Optimal Force Deployment

TEXTS: Participants will receive the text Decision Making with Insight and the software package Insight 2.0 Commercial Edition, Duxbury Press.

SAM SAVAGE: After receiving his Ph.D. in computer science from Yale University, Sam Savage spent a year at General Motors Research Laboratory. He joined the faculty of the University of Chicago Graduate School of Business in 1974 where he taught regular classes until 1990. He then developed a popular executive seminar series on Management Science in Spreadsheets.

In 1985, he led the development of the first widely marketed spreadsheet optimization package, What'sBest!®, which won PC Magazine's Technical Excellence Award. The second edition of DECISION MAKING WITH INSIGHT was published in January 2003. In his foreword to this work, Harry Markowitz, Nobel Laureate in Economics, refers to it as "a Must Read." Further accolades for the book include those of former Secretary of Defense Dr. William J. Perry, who says it "Hits you right where you learn," and OR/MS Today that stated, "Without question, the leader of the management science in spreadsheets movement is Sam Savage"

Dr. Savage is currently a Consulting Professor in the School of Engineering at Stanford University, where he teaches courses in Interactive Management Science. He consults and lectures extensively to business and government agencies and has served as an expert witness. He is the founder and president of AnalyCorp Inc., a firm that develops executive education programs and software for improving business analysis.

He has been published in both refereed journals and the popular press with recent articles in the Harvard Business Review, the Journal of Portfolio Management and Financial Planning Magazine.

ADMINISTRATIVE INFORMATION:

PURPOSE: The ORSA CEP was initiated to support the OPMS Functional Area 49 Program and now supports the overall Department of Army analytical.

PLACE: Class will be held at Quantico, VA. .

ELIGIBILITY: Interested Military Officers and civilian GS-1515 analysts with adequate mathematical background. This is a special offering being conducted for the US Marine Corp, Quantico, VA. Others may attend on a space available basis.

CLASSIFICATION: All material will be unclassified.

FUNDING: All costs for the course, to include registration and issue materials, have been paid. Travel and TDY payments for all personnel accepted into the course must be made by the attendee's parent organization.

APPLICATION: Personnel desiring to attend should contact MCCDC, S&A: (703) 784-6022

POINT OF CONTACT: Further information may be obtained from the Course Director at (804) 765-4249/DSN 539-4249, or e-mail: orsacep@lee.army.mil. Personnel may also contact the Education Technician at (804) 765-4226/DSN 539-4226.
