

Multiple Objective Decision Analysis (MODA)

A professional short course by Innovative Decisions, Inc. | May 20-23, 2019

Decision analysis is the appropriate operations research/management science technique for difficult problems involving multiple stakeholders, complex value tradeoffs, significant outcomes, and risks due to major uncertainties. Decision analysis is used for evaluation of alternatives and resource allocation (portfolio) decision making. Several decision analysis applications are presented.

Course Objectives

- Understand the challenges of individual and organizational decision making
- Understand the mathematical foundations and axioms of decision analysis
- Be able to develop and implement a decision process using the appropriate decision models in a public or private organization
- Understand and apply the techniques of qualitative decision analysis to frame the decision problem
- Be able to develop decision objectives and value measures for a decision problem
- Understand the need for a divergent-convergent strategy generation process and be able to design creative alternatives
- Develop deterministic multiple objective decision models, perform analysis and identify decision insights
- Understand decision making traps and avoid cognitive and motivational biases
- Be able to identify key uncertainties and quantify uncertain knowledge with probability
- Perform probabilistic multiple objective decision analysis and develop decision insights using influence diagrams, decision trees, and Monte Carlo simulation
- Develop a decision model and perform a decision analysis on a significant professional decision
- Effectively communicate the problem frame, decision insights, and decision recommendation

LOCATION: IDI Offices 8230 Old Courthouse Road Suite 460, Vienna, VA 22182

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Fred Woodaman



Greg Parnell



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Day 1

- Introduction to Course and Decision Analysis
- Foundations of Decision Analysis
- Decision Analysis Soft Skills
- Use the Appropriate Decision Process
- Frame The Decision Opportunity
- Craft Decision Objectives and Value Measures

Day 2

- Design Creative, Value Focused Alternative
- Perform Deterministic Analysis and Develop Insight (MODA)
- Guided Team Project Working Time

Day 3

- Probability Review
- Quantify Uncertainty
- Perform Probabilistic Analysis
- Guided Team Project Working Time

Day 4

- Portfolio Decision Analysis with Multiple Objectives
- Stakeholders Enable Decision Implementation
- Guided Team Project Working Time
- Project Presentation and Course Wrap

Class runs 8:30 to 4:30 each day. Topics subject to change.

Please visit [MODA Course Site Page](#) for latest info & list of nearby lodging options.

COST \$1,950 includes all handouts and drinks and light snacks throughout the day.

A discount of \$200 for early registration is available (if registered by April 15, 2019). We also offer a discount for multiple persons from the same organization.

The course is very hands-on. **Please bring a laptop.** Also, please think about a problem you can work on during Student Workshop time.



For More Information visit: [MODA Course Site Page](#) or

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