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MORS U.S. National Security Risk Analysis Certificate Course

Required: *Computer with Excel and administrative privileges to download SIPMath (a simulation tool) and Netica (Bayesian network / Influence diagram)*

Day 1, 17 October 2022

Theme: **Definitions, Pillars of Modern Risk and Using Monte Carlo Simulation for Risk Analysis**
Morning   Introduction to quantitative risk concepts
Midday   Model building
Afternoon   Probability and Monte Carlo simulation

Day 2, 18 October 2022

Theme: **Making Decisions with Risk and Uncertainty**
Morning   Output analysis and validation & verification
Midday   Risk attitude and its impact on decision making under uncertainty
Afternoon   Value of obtaining new information

Day 3 19 October 2022

Theme: **Risk Management Decision Making**
Morning   Risk analysis example (e.g., cyber security)
Midday   Intelligent adversary
Afternoon   Risk management approaches

Day 4, 20 October 2022

Theme: **Calibration and Risk Communication**
Morning   Biases with uncertainty
Midday   Calibration of probabilities and expert elicitation
Afternoon   Risk communication

Day 5, 21 October 2022

Theme: **Bayesian Analysis**
Morning   Computational creativity
Midday   Bayesian updating
Afternoon   Bayesian networks / influence diagrams / Netica