

## NEW SYSTEMS ENGINEERING CERTIFICATE COURSES

# RISK ANALYSIS FOR ENGINEERS

### COURSE AT-A-GLANCE



**FORMAT**  
Online



**ESTIMATED COST**  
\$775



**DURATION**  
1 Quarter

### LEARN MORE

UC San Diego Extension  
Data Science and Engineering  
(858)534-1566  
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**UC San Diego**  
EXTENSION

Discover how risk analysis, management principles and techniques can be applied to engineering projects.

### COURSE HIGHLIGHTS

- Introduction to risk and reliability
- Risk assessment and risk management
- Uncertainty concept
- Review of probability theories
- Analytical techniques in uncertainty analysis
- Safety factor and safety margin
- Reliability index
- Reliability analysis of complex systems
- Monte-Carlo simulation
- Hit and Miss method
- Variance reduction techniques

### COURSE LEARNING OUTCOMES

- Identify information sources and risks for engineering projects.
- Identify and develop a plan for managing risks and opportunities.
- Use statistical methods to analyze empirical data and develop a risk-based simulation model.
- Use simulation and Engineering Reliability techniques to predict the occurrence of failures of engineering projects.
- Implement a risk management framework including risk identification, risk evaluation in conjunction with uncertainty analysis
- Ability to apply knowledge of science and engineering fundamentals for risk assessment.

### ENROLL TODAY

[extension.ucsd.edu/Risk-Analysis](https://extension.ucsd.edu/Risk-Analysis)