



## Fundamentals Training

SIS201:

Advanced Safety

Instrumented Systems Design

Duration: 2 Day

Time: 8:00 am – 4:00 pm UTC -4

Date: See online store

Location: Microsoft Teams

Cost: \$1,600 USD / Student

### Course Outline

This course will cover will focus on advanced SIL Verification Calculations. Topics covered will include:

- SIL Verification Calculations
- Nuisance Trip Rate Calculation
- High / Low Demand Mode and Mode selection
- Test Interval Optimization
- Redundancy / Voting / Degraded Mode
- Common Cause Modeling
- Diagnostics / Partial Stroke Testing
- Imperfect Testing / Asset Life
- MTTR
- Failure Rate Data – Where to find it? Certified vs Prior Use?
- Architectural Constraints / Hardware Fault Tolerance
- Systematic Capability
- Energize to Trip vs De-Energize to Trip
- O&M Data Requirements

All students will get **hands on experience** in completing advanced reliability modeling / SIL Calculations

### Instructor – Mike Scott – PE, CFSE

CEO of aeShield which has developed a patented digital process / functional safety lifecycle enterprise software offering deployed in 283+ facilities across 42 countries. He has over 30 years of process / functional safety and I&C experience including risk analysis, safety instrumented systems and control systems engineering, where he performed / implemented conceptual design, detailed design, configuration, and startup / commissioning exercises for the process industry.

- Co-Chairman of the ISA S84 Committee
- IEC 61511 committee member
- Granted 7 patents on safety lifecycle tools and implementation
- ISA Fellow