



## ◀ Safety Instrumented Systems Implementation

**Time:** 1<sup>st</sup> Day - 8:30am to 4:30 pm  
 2<sup>nd</sup> Day - 8:30am to 4:30pm  
 3<sup>rd</sup> Day - 8:30am to 2:30pm

**CEUs:** 2.1

**Audience:** Control systems engineers, instrument engineers, and process safety specialists

**Course Description:** This 3-day course discusses the fundamentals of effective implementation of safety instrumented systems (SIS). The course content was developed using ANSI/ISA 84.00.01-2004 (IEC 61511), ISA TR84.00.04, and the CCPS Guidelines for Safe and Reliable Instrumented Protective Systems. This course is designed to provide the student with an understanding of the management system required for safety instrumented system (SIS), how to perform layer of protection analysis to assign the safety integrity level SIL, how to design to meet the (SIL), calculations to show the SIL has been achieved, and how to develop an operating basis to maintain the SIS. Tests are given associated with each module to determine comprehension of course material. Successful completion (>80%) of the tests is required to obtain PRISM Certification. This class is based on the Prism Certified Modules; details of the individual modules are available on our web site.

<p><b>Day 1</b></p> <p>Module 1      SIS Standards Overview</p> <p>Module 2      The Grandfather Clause</p> <p>Module 3      The Protective Management System</p> <p>Module 4      Process Risk and Protection Layers</p>	<p><b>Day 3</b></p> <p>Module 10     Software Specification</p> <p>Module 11     Verification Fundamentals</p> <p>Module 12     Data Decisions</p> <p>Module 13     Example Verification</p> <p>Module 14     Operating Basis</p>
<p><b>Day 2</b></p> <p>Module 5      Establishing H&amp;RA Criteria</p> <p>Module 6      Layer of Protection Analysis</p> <ul style="list-style-type: none"> <li>• PHA/LOPA walkthroughs</li> </ul> <p>Module 7      Process Requirements Specification</p> <p>Module 8      Safety Requirements Specification</p> <p>Module 9      Selection of Devices</p>	

Course developed by Dr. Angela Summers: •2009 ISA Fellow, •Technical editor for Guidelines for Safe and Reliable Instrumented Protective Systems •1 of 5 US Experts to the IEC 61508/IEC 61511 committee • Working Group Chair, TR84.00.02 (SIL Verification) and TR84.00.04 (Guidance on ISA 84.00.01-2004) • Member: ISA, IEC, API, NFPA, and CCPS • Ph.D. and Engineering Fellow, The University of Alabama • Licensed Professional Engineer in the State of Texas.



12621 Featherwood Drive • Suite 120 • Houston, Texas 77034  
 Tel: (281) 922-8324 • Fax: (281) 922-4362  
 www.SIS-Tech.com