

The R15.06 Robot Safety Standard

Course Objective:

Students will be able to:

- Understand basic safety guidelines for robotic applications
- Identify key elements of the robot safety standard
- Apply provisions of the standard in daily operations

Methodology:

Using lecture aided by visual presentations, inform the students of the essential information contained in the ANSI/RIA R15.06-1999 and ANSI/RIA/ISO 10218-1-2007 robot safety standards.

Topical summary:

General introduction to standards

- Various types of standards
- Oversight and review requirements

Overview of the R15.06 and Technical Reports

- Clauses 1-14 plus annexes

Updates on International Standards development work

Detailed explanation of key points in the standard

- Application
- Definitions
- Manufacturer responsibilities
- Circuitry
- Safeguarding methodology
- Prescribed method
- Risk Assessment
- Safeguarding devices
- Special safeguarding procedures
- Annexes

Course length – 3+ hours

Robot Risk Assessment

Course Objective:

Students will be able to:

- Identify necessary tasks
- Identify possible hazards
- Use furnished matrix to determine risk reduction requirements
- Reason possible solutions to reduce risk
- Validate proposed solutions
- Document the risk assessment

Methodology:

Using group participation, guide students through each stage of a risk assessment as called out in the ANSI/RIA R15.06-1999 robot safety standard.

Topical summary:

General introduction

- Safety planning, design
- Need for risk assessment
- Sample robot cell

Organizing a risk assessment

- Planning
- Room setup
- Equipment needs
- Selecting personnel participation

Identify tasks

- Using forms furnished determine what tasks are performed on the robot work cell

Identify hazards

- Using forms furnished determine potential hazards

Determine risk reduction required

- Using table in R15.06 determine what level risk reduction is necessary for each hazard

Determine hazards associated with each task

- Using matrix in R15.06 determine what level safeguarding will be necessary for each task/hazard combination

Determine what safeguards will be appropriate to mitigate risk

- Discuss possible options, necessary considerations

Validate safeguard selection

- Using matrix in R15.06 determine if selected safeguard choice will be sufficient

Document risk assessment

- Using forms furnished, document decisions made in the risk assessment

Course length – 3 hours