

# Information for Education Providers

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## *SaRS System Safety Practitioner Competency Scheme*

### Background and Motivation

Over the last few years the Safety and Reliability Society has sought to build consensus with any organisation with a common interest in system safety. We recognise our discipline is historically fragmented and that this mix brings about inconsistency in risk management, undermining safety management and safety case regimes. The findings emerging from the Haddon-Cave Inquiry, the Bunsfield Accident and the BP Deep-Water Horizon Accident point to a need for consensus on good practice and competence.

It must be recognised that specific system safety expertise is only one factor in maintaining safety. All engineering and management disciplines have roles to play in both positive and negative safety outcomes. The intent of this scheme is not to downplay the role of other disciplines, but to recognise that in the same way that these disciplines have competency certification frameworks, so too must system safety.

Two technical challenges facing registration of system safety competency are the cross-disciplinary nature of safety (shown in Figure 1), and the varying roles played by safety practitioners.

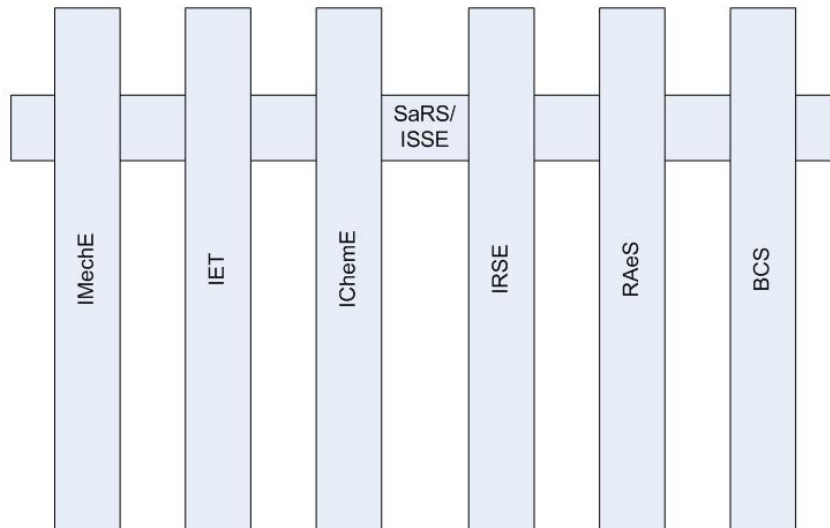


Figure 1: Safety as Cross-Discipline Competency

To manage these challenges the scheme aims to avoid over-specifying the competency which **should be held** by any individual, and focus on recording the competencies which **can currently be demonstrated** by the individual.

## What is the purpose of the scheme?

The scheme is designed to formally recognise the specific competencies held by each individual practitioner. SaRS will not tell you which competencies you must teach, or whether you teach the right set of competencies to apply any programme label.

SaRS will provide sample role specifications as indications to individuals and employers of the appropriate sets of competencies for particular organisational roles. It is the responsibility of employers to judge how applicable these specifications are to their own organisations.

SaRS will maintain a database cross-referencing practitioners and competencies. The intention is not to say which competencies any given practitioner **should** demonstrate, but which competencies they **can currently** demonstrate.

Each competency is phrased as a specific skill that can be demonstrated by a practitioner, and can be judged to have been performed appropriately. Thus, “understand faults and failures” and “fault tree analysis” are not competencies. However, “prepare fault tree analysis for a complex system” is a competency, as is “explain the strengths and limitations of quantitative fault tree analysis for demonstrating the safety of a system”.

Where possible, competencies are described in a non-domain-specific way, although safety competencies specific to a domain will be included in the scheme. Domain knowledge not related to safety is not included, as this is considered to be properly within the scope of other professional bodies.

Practitioners may demonstrate competencies by mechanisms other than formal education. The most accessible method for many competencies will be through on-the-job performance, assessed by a peer or supervisor.

## What do education providers get from the scheme?

1. Increasingly, employers are asking for Continuing Professional Development to be formally assessed, and to be accredited by a professional body. Endorsement of a training offering by SaRS is a simple and effective action to increase the attractiveness of an offering to students and employers.
2. The scheme as a whole encourages acquisition and demonstration of safety competencies. This will serve to increase overall demand for system safety education.
3. The scheme allows individual practitioners to compare courses and select courses to fill specific gaps in their competency. This results in a better match of students to education offerings, and increases employability of students.

## What do education providers need to do to be part of the scheme?

1. Education providers may provide SaRS with details of any module that they wish to be accredited. A module is simply any unit of education that can be separately identified with

attached learning objectives – it could be anything from a one-day seminar to a four year distance learning program. Two examples of module descriptions are attached to this letter. The key elements are:

- a. Identification of the module
  - b. A list of competencies that students who have passed the assessment for the module will have demonstrated
  - c. A description of how students will acquire and demonstrate the competencies
  - d. An indication of the evidence available to show the quality of the module and that the learning objectives will have been demonstrated
2. We request that all institutions submitting more than one or two modules for endorsement nominate a member to the accreditation sub-committee. As much as possible, SaRS hopes to make accreditation of courses self-administering, to avoid levying administrative charges for course accreditation.
  3. The Safety and Reliability Society accreditation sub-committee will make a determination whether the competencies are suitably described and whether the evidence is suitable. This determination is not final, and it is anticipated that the sub-committee will actively engage with new applicants. In particular, where multiple education providers propose similar competencies the sub-committee will attempt to find consistent wording for these competencies which can be applied across the providers.
  4. SaRS will endorse individual modules as suitable ways of demonstrating the associated learning objectives.
  5. SaRS will from time to time publish sample role descriptions, including a list of competencies associated with that role. Education providers associated with the scheme will be given opportunity to comment on these, and to indicate where existing modules include demonstration of the competencies in each role description.