



Institution of Railway Signal Engineers

The IRSE's Annual Examination: Information for Employers

Every year the Institution of Railway Signal Engineers organises a professional examination designed to test candidates' knowledge of railway train control and communications engineering principles and practices across a broad range of subjects. The examination is held at multiple centres around the world, with over 300 candidates taking one or more modules each year. The exam is split into seven modules (see page 2) and people can choose to sit one or more modules at a time. To receive a "Pass" for the exam as a whole they need to pass a total of four modules, one of which must be Module 1 (Safety of Railway Signalling and Communications).

Why is this a useful thing for your trainees, graduates and other young engineers to do? – What is its purpose and why should you encourage your engineers to take the exam and support them in their preparations?

The exam is not just a box-ticking exercise. To pass, candidates will have to exercise their professional judgment, demonstrate their ability to reason, show domain-specific knowledge as well as a good knowledge of allied domains, and a broad understanding of railway systems. It is therefore a real test of their engineering ability.

By encouraging your engineers to take the exam, they are motivated to learn not only in greater depth about their specialist areas, but also about a broader range of topics that are relevant to their core field of work. Members of the IRSE organise study groups and we provide support resources to help candidates learn and prepare for the exam. You may also have within your company more experienced engineers who can coach and mentor candidates, making use of the support resources available.

We strongly encourage you to identify within your company those engineers with the capability to prepare for and take the exam. They will benefit immensely from the experience gained, as well as enhancing your status as an employer of highly qualified people. Passing the exam also helps engineers to qualify as full (corporate) Members of the IRSE. For the best deserving candidate, the IRSE makes an annual award – the Thorrowgood Scholarship – enabling them to undertake a short Study Tour.

For the benefit of employers and engineers in the UK, the exam has been assessed by the IRSE as providing a qualification towards meeting the UK Engineering Council requirements for registration. People who have passed the exam and have appropriate Higher National awards or a Bachelor's degrees will be eligible to apply for registration at Incorporated Engineer (IEng) or Chartered Engineer (CEng) level, providing they meet the standard required competences.

The Exam Modules

Module 1: Safety of Railway Signalling and Communications (Compulsory module)

Module 2: Signalling the layout

Module 3: Signalling principles

Module 4: Communications principles

Module 5: Signalling & Control Equipment, Applications Engineering

Module 6: Communications Equipment, Applications Engineering

Module 7: Systems, Management & Engineering

Further developments

The IRSE has been committed to running the Exam annually for many years, and many of the senior signalling and telecoms engineers in the industry took the exam in their formative years.

At the beginning of 2015 we reviewed and updated the syllabus to reflect latest requirements for knowledge and understanding. We are also revising the study resources available to candidates, and we are exploring options for running a one year MSc course leading to a qualification that is equivalent to passing the exam.

Finding out more

If you want to find out more about the examination in order to help with the professional development of your engineers we suggest you: look on the IRSE website at <http://www.irse.org/membership/public/irseexam.aspx> or contact Christine White, the Membership and Registration Manager at christine.white@irse.org

Francis How Chief Executive, IRSE