

UNI-Tel project

Interview questions for company representatives

Competence profiles

Broad company needs for STEM students.

- basic information-processing skills,
- advanced cognitive skills,
- technical job-specific skills and
- socio-emotional skills (Cunningham & Villasenor 2013).

The EU approach for STEM skills include:

- numeracy and the ability to generate, understand and analyse empirical data including critical analysis;
- an understanding of scientific and mathematical principles;
- the ability to apply a systematic and critical assessment of complex problems with an emphasis on solving them and applying the theoretical knowledge of the subject to practical problems;
- the ability to communicate scientific issues to stakeholders and others;
- ingenuity, logical reasoning and practical intelligence

The Council of Canadian Academies (2014) approach:

-fundamental skills for STEM, such as reasoning, mathematics, problem solving, and technological literacy needed for STEM literacy, developed from early childhood through high school

-practical STEM skills, generally associated with technical training, the trades, apprenticeships, and STEM diplomas or certificates including knowledge of established scientific principles and how to apply them to specific tasks or occupational roles

-advanced STEM skills include familiarity with scientific methods, conceptual design, as well as specialised STEM discipline-specific training, and are associated with education at the undergraduate level and above.

Example of STEM skills as defined in a STEM employer survey

	basic information processing skills	advanced cognitive skills	technical job-specific skills	socio-emotional skills
Occupation-specific STEM skills				
Knowledge of legislation, regulation and codes				
Programming				
System analysis and evaluation				
Time management				
Interpersonal skills				
Active learning (i.e. learning on the job)				
Complex problem-solving				
Creative problem-solving				
Design thinking				
Critical thinking				
Lifelong learning				

Source: Deloitte Access Economics (2015).