RSciTech
Registered
Science Technician

Science Council

Assessing a Registered Science Technician Competence Report

Advice to assessors

Applicants for RSciTech will need to demonstrate competence across five areas. Guidance on what assessors should be looking for under each competency is provided below but the examples are just indicative – there will be many other valid examples that could be used by applicants.

Here are some tips to bear in mind when assessing the application:

- For each competence statement, applicants will need to give clear examples of the role that **they** play or the contribution that **they** make to a particular task or activity.
- The examples must have sufficient depth that you should be able to visualise what the applicant did from their description. If you can't visualise what they did, the answer is probably lacking this depth.
- They can use and refer to an example or activity more than once but must ensure they are clear on how it applies to the specific competency being addressed.
- Some of the competency answers may seem fuller or easier to assess than others – this is normal and is illustrative of the wide spectrum of scientists and technicians who wish to become professionally registered.
- Most of the examples they provide should be fairly recent (within the last three years) although they can also draw on relevant experience further back in their career.
- We expect that in a typical application around 300 words will be sufficient for each competency.

The guidance below is specific to applications you assess for the Science Council as part of the Common Application Process (CAP). Each Licensed Body will have their own guidance to which assessors should refer if assessing for a Licensed Body. There will be much overlap, and this document can be used by Licensed Bodies as a basis for their own guidance if required but please do check if they have any additional requirements.

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A: Application of knowledge and understanding

This competency grouping is looking at how applicants: Identify and use relevant scientific understanding, methods and skills to complete tasks and address well defined problems.

The A competencies are their opportunity to demonstrate their scientific knowledge and understanding and how they apply it in the workplace; what knowledge they have gained and how they translate it. There are 3 competencies within the A group which each have a different focus. They could include:

- Investigating new techniques
- Scientific reports
- Data analysis
- Devising, reviewing, selecting, adapting or improving a method
- Optimising a process or equipment using prior knowledge

This is about demonstrating that the applicants understand the science behind what they do and why the method selected is appropriate for the task and how they interpret if the data output is high quality.

In this document the text in green is the competence statement itself. This will be documented in the application form and must be evidenced in the answer. The black text is guidance about what applicants might want to consider in their evidence but is not intended to be an exhaustive list.

A1: Apply knowledge of underlying concepts and principles associated with area of work.

This competency can be used to describe the applicant's routine scientific duties and responsibilities.

What you should be looking for here is an example of how the applicant applies their knowledge in their day-to-day work.

This means that they can explain the major reasons for undertaking their work. They may be, for example:

- working in a subject discipline in an applied science area. They should name and describe in technical detail how they use the main components, elements, materials, or designs involved in their work and why they are carrying it out.

- involved in carrying out a procedure or process. They should explain in technical detail why they are using that procedure or process and why it is relevant to that specific work.
- involved in using an experimental model or computer programme. They should explain why they are using that specific model or programme and describe in technical detail how they are using it and what the results might contribute to.

A2: Review and select appropriate scientific techniques, procedures and methods to undertake tasks.

This means that they can explain the underlying reasons for undertaking tasks and why a particular procedure, technique, or process is appropriate. They could describe a specific task or procedure and why they do it that way. What is the outcome using that method and why is this a good thing?

They example may for instance describe:

- the principles behind the activity that they are undertaking and any associated technology.
- the reasons behind the choice of method used to carry out the activity and the criteria which form the basis of what they need to achieve the end result.

The answer to this competency could be expanded on in the next competency – this competency is looking at the stated problem, A3 at how it is solved.

A3: Interpret and evaluate data and make sound judgements in relation to scientific concepts.

This means they can explain how they recognise when their activity appears to have been successfully carried out, or not, and what data, observations, or measurements they are evaluating mean, relating it to the underlying principles. They should also be able describe how they present information (e.g. a report, tables, meetings, presentations) in an appropriate manner to explain their judgement.

Examples may include where they have stated whether the activity has worked well or not:

- if successful, the example should describe the rationale/scientific basis behind this conclusion and why the data, observations, or measurements might mean this.
- if not, how they gave reasons why the activity 'failed' and what they proposed to do next time to address this. Their example should also include how they explained/demonstrated the results of the activity. This could include comparing it with results from a number of different activities.

You may find that the answer to A3 is an extension of A2 - demonstrating how the applicant solved the problem described in A2.

B: Personal Responsibility

This competency grouping is looking at how they: Exercise personal responsibility in planning and implementing tasks according to prescribed protocols.

The B competencies are focussing on their personal responsibility, specifically in the workplace. There are 3 competencies which look at different aspects of professional behaviours. Different aspects of work that they could include are:

- Crisis management
- Laboratory or team organisation
- Maintaining quality outputs
- Health and Safety responsibilities
- Sustainable practices

B1: Work consistently and effectively with minimal supervision to appropriate standards and protocols and know when to escalate appropriately.

We are looking for an example of how they carry out work with minimal input from their supervisor for certain key tasks, experiments or procedures associated with their role and completing them to the appropriate standards and time frame (for example following Standard Operating Procedures). We are also looking for evidence that they know when to escalate appropriately and that they are able to make a judgement on when to escalate.

This references personal responsibility, rather than your interpersonal skills.

This could be an example of independent laboratory work, or of a technical problem that occurred and how they dealt with it.

B2: Demonstrate how you apply safe working practices.

This means that they can explain the safe working practices applicable to their area of work and describe how they follow them.

Your examples could include:

- risk assessments associated with their work

- relevant Health and Safety regulations, e.g. COSHH, Noise, Manual Handling
- relevant Home Office Licences
- safety training courses they have successfully completed for their laboratory role
- any monitoring of safety within their work, e.g. for radioactivity, chemical exposure
- safety equipment and control

Other things that might be included:

- Sterilisation techniques
- Aseptic techniques
- Hazardous equipment use
- Lab recycling policies
- Safe disposal of chemicals

B3: Take responsibility for the quality of work and the impact on others.

This means that they can describe how they take responsibility for the quality of the work that they undertake and its impact on others within defined parameters and timelines– including if an activity does not work in the way that they expect.

For instance, the example could include how they:

- ensure that an activity is carried out to the agreed standard or protocol (e.g. good laboratory/workshop/design practice) and the example should provide evidence for this.
- understand when something might not have been carried out quite correctly and what impact it could have on the quality and reliability of the outcome.
- point out 'good experimental data' and 'bad experimental data' and the reasons why the bad data might have occurred
- have to follow different levels of regulatory frameworks e.g. company/government. They should include the differences impact on their practice. They might show that they understand their role in maintaining quality outputs and safe processes, explaining the impact on themselves and others if this is not achieved

C: Interpersonal Skills

This competency grouping is looking at how they: Demonstrate effective communication and interpersonal skills.

The C competencies are looking for evidence of their interpersonal and communication skills, and that they are appropriate and effective. There is scope to critically reflect on these skills. While most of their examples will be from your workplace, you may wish to use

more wider evidence if it fits better. There are 3 competencies to address here, examples could include:

- Leading meetings
- Giving presentations
- Work with regulators
- Line management

C1: Demonstrate effective and appropriate communication skills.

What we are looking for here is an example that they are an effective communicator. The example can be through appropriate oral, written or electronic means.

Examples should include a description and details of:

- how they discuss and agree objectives with their supervisor
- how they discuss and agree objectives in team meetings
- how they describe or present their work or other aspects of lab, workshop, or section work (e.g. safety updates, method updates) to their supervisor or colleagues
- how they prepare written reports on their work
- how they train students or staff in the use of equipment or processes
- how they demonstrate the processes or systems
- the part that they play in induction of new staff or students

C2: Demonstrate effective interpersonal and behavioural skills.

This means that they can demonstrate skills that they use to interact with colleagues in a constructive way within the work setting.

Behavioural skills can include being agreeable, non-threatening, reliable.

Their example should also describe how they ensure their method of interaction is appropriate for:

- interacting with researchers, technicians or other members of staff
- interacting with students or trainees face to face
- interacting with external colleagues (such as suppliers, couriers etc)

C3: Demonstrate an ability to work effectively with others.

Teamwork can be in a large team or on a 1:1 basis. Their example should illustrate how they worked collectively with others, what their specific role was within the team, and what the outcome was.

For instance, this might include:

- how they work with researchers, technicians or other members of staff
- how they work with students or trainees face to face
- how they work as part of a team, working group, or committee
- the logistics and challenges of working in teams
- what they do when working relationships are poor

D: Professional Practice

This competency grouping is looking at how they: Apply appropriate theoretical and practical methods according to protocol.

The D competencies focus on their professional practice.

Some examples included could be:

- Trouble shooting a method
- Reducing hazards and waste
- Improving processes after researching alternatives

D1: Recognise problems and apply appropriate scientific methods to identify causes and achieve solutions.

What we are looking for here is an example of where they have problem solved or attempted to problem solve.

D1 and D2 could be written in tandem, focusing on the same project – this competency is focussing on the planning and D2 on the delivery/outcomes.

D2: Demonstrate how you use resources effectively.

This means that they can give examples of work that they have undertaken where the method, procedure, programme, equipment, or materials used was chosen as the best (or most relevant) to use. Their example should describe how they planned and organised these to complete the task, and how they reviewed choices – why the one they selected was the best compared to others that are available.

This might include:

- cost effectiveness
- time taken
- IT considerations
- machine tool time

D3: Participate in continuous process improvement.

What we are looking for is an example of how they have improved the efficiency of a way of working, for example this could include maintenance of stock levels, improved methods, new ways to increase throughput, health and safety or ways to increase cost-effectiveness. Examples might be their role in:

- looking for cheaper resources
- buying equipment or consumables
- reviewing procedures
- taking part in staff reviews

This competency is not about their personal improvement but about what they've done to improve their working environment or the outputs of their employer. This could focus on lessons that they have learned from practice, and where colleagues have, at the completion of projects, undertaken review and then taken forward any improvements.

Think about how they personally take responsibility for, contribute to or participate in process improvement.

E: Professional Standards

This competency grouping is looking at how they: Demonstrate a personal commitment to professional standards

This section has a different focus from the other areas and should be looked at through the lens of 'professional standards' – not just within the workplace but in their wider interactions. Examples could include:

- Their Professional Body's Code of Conduct
- Codes of Conduct for your employers (e.g. Civil Service Code)
- Their commitment to EDI initiatives
- Their ethical principles

E1: Comply with relevant codes of conduct and practice.

This means that they can give examples of how they comply with a code of conduct (e.g. of their professional Body) or how they work within all relevant legislative, regulatory and local requirements.

This means that they can give examples of how they, for instance:

- comply with their professional body's code of conduct
- manage their work within all relevant legislative, regulatory and local requirements, frameworks such as Health and Safety Legislation, Home Office Regulations, Good Laboratory Practice (GLP), local Codes of Practice, etc.

You should look for their understanding of ethical practice as compliance with codes of conduct is only one part of ethical practice. This could include how they see the need for personal accountability in their practice.

E2: Maintain and enhance competence in own area of practice through professional development activity.

Their answer should provide specific examples of what they have already done in terms of continuing professional development (CPD) and their plans for the coming year. In their examples they must describe how their engagement in CPD has benefited their practice and the users of their work and reflect on its impact.

Examples can be taken from any of the five categories of activity (work-based learning, professional activity, formal/educational, self-directed learning and other).
e.g.

- Application of knowledge acquired on an external course that has benefitted the business – how they acquired the knowledge of a new technology and how they planned, implemented and reviewed its success in their organisation;
- Their work to promote careers in the STEM area including the design of materials and reflection on success.

We are not looking for a list of courses here but evidence of how their CPD benefits their practice and benefits others.

They should ensure that the CPD is planned, executed and then reviewed after completion to gauge the impact of their CPD, rather than focusing on lists of activities. Consider how the outputs of their CPD may feed forward into their future personal and professional development.