

Table of Contents

About the BioTalent Canada bio-economy skills profiles.....	2
Occupational Definition	2
Components of the skills profile.....	3
Focus on competencies	3
How to use the profiles.....	3
Scenario	4
Situational Analysis	5
Essential Skills	5
Language Benchmarks	6
Competency Profile.....	7
A. Complete preliminary research activities	7
B. Manage staff	9
C. Maintain laboratory readiness.....	11
D. Manage samples	13
E. Conduct experiments	15
F. Develop standard operating procedures (SOP)	18
G. Administer research records.....	20
H. Communicate.....	21
I. Apply professional practices.....	23
J. Demonstrate personal competencies	27

About the BioTalent Canada bio-economy skills profiles

Biotechnology's fusion of science and business creates unique requirements for occupations in the sector. Executives and managers must have technical expertise; technical staff often needs entrepreneurial skill sets. Occupational descriptions from other sources don't always fit the bio-economy context. That's why, in partnership with industry stakeholders, BioTalent Canada has developed skills profiles specific to the bio-economy including this description of the role of a research assistant.

Occupational Definition

A research assistant is a trained professional who helps conduct investigative and original studies in a laboratory setting. They perform a wide range of duties that include researching past and current research initiatives and results, setting up (including identifying financial, human and material resources), conducting and documenting experiments, recording detailed observations, analyzing data, and interpreting and communicating results. This may require mentoring and supervisory activity. They are also responsible for preparing samples, testing equipment, and developing protocols and standard operating procedures (SOPs). Samples must be handled and labelled with care and research notes need to be orderly, coherent, and accurate. Once experiments are completed the research assistant stores samples in their appropriate locations and cleans the laboratory. Research assistants work for Canadian biotechnology companies of different sizes (i.e., small, medium, large) and in various biotechnology areas, such as:

- Agriculture
- Aquaculture
- Bioenergy
- Bioinformatics
- Bioproducts
- Biosciences
- Environment
- Food Processing
- Forestry
- Genomics
- Human and Animal Health
- Industrial
- Life Sciences
- Medical Devices
- Natural Resources
- Nanotechnology
- Nutraceuticals
- Pharmaceuticals

Components of the skills profile

Every BioTalent Canada skills profile presents the areas of competence, tasks and sub-tasks associated with a specific occupation.

Area of competence (AC): This describes a major function or responsibility associated with the profession, trade or position.

Task: This is a specific, observable unit of work with definite start and end points. Tasks can be broken down into two or more steps and are generally performed in a limited period of time. Tasks and ACs are identified in behavioural terms, beginning with a verb that describes the applied behaviour.

Subtask: This is a distinct, observable activity that comprises the steps involved in a task.

Important Action/Performance Standard: This provides a criterion for assessing competence and may be used as a performance indicator.

Focus on competencies

The BioTalent Canada skills profiles are built around areas of competence because competencies are flexible, inclusive and linked directly to performance: they are the traits or qualities a professional must have to succeed in a given role within a given organization, and can be used for recruiting, professional development, curriculum planning and many other purposes.

How to use the profiles

The complete contents of this or any BioTalent Canada skills profile are unlikely to be used for any one position. Because they are comprehensive, they include every area of competence, task and subtask that could be required for a specific occupation. In reality, the definition of a given job will encompass a narrower subset of the profile. Hiring organizations must choose the elements of the profiles that are relevant to their businesses—and tailor those elements as necessary to more precisely describe their particular job requirements.

The profiles can be put to many uses:

- **Employers** can use them to develop job descriptions, performance evaluations, professional development, succession planning, team building, target skills needed, and recruitment plans.
- **Job seekers** can use them to tailor their resumes, prepare for interviews, see job descriptions and identify additional professional development needs.
- **Educators** can build industry-oriented curricula from the profiles to produce job-ready graduates.
- **Students** can enhance their understanding of employers' expectations and choose the right educational programs to equip themselves with the skills for success.

Scenario

The following illustrates how an employer might use the BioTalent Canada skills profiles to identify professional development priorities for his or her team.

Step 1

The employer would review the ACs for each occupation and identify which apply to the related positions within his or her company, omitting those that are not relevant.

Step 2

Under the selected ACs, the employer then notes which of the associated tasks, subtasks and important actions are relevant to that specific position within his or her business.

Step 3

Now with a complete, tailored profile, the employer can assess employee performance. Needs areas are easily identified and defined—to a significant depth of detail.

Step 4

Based on the needs analysis, the employer can either develop or seek out professional development programs that address employee needs areas.

Situational Analysis

A research assistant is a trained professional who helps research scientists conduct research studies in a laboratory or field setting. Research assistants are involved in many aspects of a research project – from initial background research through the preparation, planning, implementation, collection of data, analysis of findings and development of documentation/reports/publications.

At the onset of a project a research assistant conducts preliminary background research, works with project leads to identify objectives, establishes requirements and helps define the methodologies and protocols that will guide a research project. Once a research project begins, they take on more operational responsibilities such as maintaining the readiness of the research laboratory (supplies, equipment, cleanliness). They may manage samples being used the research – ensuring the integrity of all samples collected, their safe storage and ultimately their disposal. A research assistant will also conduct experiments and bench laboratory work – preparing and analyzing samples and preparing reports based on findings/results.

A research assistant will help develop standard operating procedures (SOPs) based on regulatory requirements and prepare methodologies and documentation for review before use by all involved in the project. They may also provide training on the SOPs related to the project to other staff. A research assistant may also administer records related to a project making arrangements for record storage, retrieval and distribution according to project and document management requirements. It is also their responsibility to review or audit records - ensuring the reliability and validity of the data collected based on the standards of Good Clinical Practice and the guidelines established for the research project.

The education, technical knowledge and skills required of research assistants will vary with the type of research and the organization that hires them. In a university environment, a Bachelor of Science degree may be acceptable for an entry level research assistant position, provided the individual is enrolled in a Master's or Doctoral study program in a relevant field/specialization. Companies often look for postgraduate degrees in the appropriate scientific field/specialization. Entry level positions require 1 - 2 years of related experience if an undergraduate degree is held, but those with graduate degrees may not require experience. Mid level research assistants with a master's degree usually need 2 – 3 years of prior related experience. Senior level positions require between 3 – 6 years experience in addition to a masters or doctorate. Related experience is a broad term that can include laboratory bench experience, prior work in the industry and/or prior experience with relevant types of research.

Research assistants must demonstrate a high level of professional integrity in their occupation and must be committed to ensuring protocols and processes are followed throughout a research project. They must be organized and have a good sense of prioritization – allowing them to develop clear project plans with a view to accomplishing established objectives. To ensure accurate and repeatable results in laboratory experiments and trials, it is important for a research assistant to be detail oriented and thorough - laboratory samples must be handled and labelled with care and research notes need to be orderly, coherent, accurate and complete.

Essential Skills

The most important Essential Skill(s) for this Profile: ✓				
✓	Reading Text	✓	Thinking Skills – Problem Solving	Working With Others
	Document Use		Thinking Skills – Decision Making	Computer Use
	Writing		Thinking Skills – Critical Thinking	Continuous Learning
	Numeracy	✓	Thinking Skills – Job Task Planning & Organizing	
	Oral Communication		Thinking Skills – Significant Use of Memory	
			Thinking Skills – Finding Information	

A research assistant needs to read and understand relevant scientific literature, detailed protocols and instructions and information/data relating to projects that are in planning or under way. They must have strong task planning and organizing skills to ensure that projects proceed efficiently and according to plan. They also need well developed problem solving skills to ensure that issues arising during planning or execution of projects are dealt with as much as possible when they arise or are raised with the research manager and/or director.

Language Benchmarks

The majority of communications tasks associated with the required competencies and activities of a competent research assistant were found to be between Canadian Language Benchmark levels 7 - 9. This finding is based on a limited sampling of representatives in industry. The actual language benchmark requirements for this occupation within an organization will be subject to the organization's requirements, and the definition of the occupational role within the organization.

Competency Profile

A Research Assistant must be able to:

A. Complete preliminary research activities

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Establish the methodology	1.1. Identify the area of interest.	
	1.2. Define the scope and breadth of the area of interest.	
	1.3. Define the objectives of the investigation of the area of interest.	
	1.4. Outline general approach to be taken.	
	1.5. Identify sources of information that may be useful in conducting the investigation.	
	1.6 Participate in development of methodologies and associated protocols.	Material Safety Data Sheets (MSDS)
	1.7 Establish human and material resource requirements.	
2. Conduct investigation	2.1. Review books, journals and conference papers.	
	2.2. Look at indexes, abstracts and other reference materials.	
	2.3. Review government publications.	
	2.4. Search electronic databases and the Internet.	
	2.5. Survey the Internet.	
	2.6. Study past dissertations.	
	2.7. Network with peers/colleagues.	
	2.8. Investigate other research organizations in terms of research activities, position in the research cycle.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
3. Consolidate gathered information	3.1. Compile the information from the various sources.	
	3.2. Organize the information to facilitate review and analysis.	
	3.3. Categorize sourced information (relevant, somewhat relevant, not relevant).	
	3.4. Determine that sufficient information has been gathered.	
4. Complete the analysis	4.1. Complete an analysis of gathered data/information.	
	4.2. Determine general themes/trends/gaps and current state of research related to the area of interest.	
	4.3. Identify potential questions/areas for further investigation.	
	4.4. Summarize and document findings.	
	4.5. Discuss findings with Research Scientist/Research Manager.	

A Research Assistant must be able to:

B. Manage staff

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Assist in recruitment	1.1 Participate in pre-selection.	
	1.2 Participate in interview(s).	
	1.3 Participate in candidate selection.	
2. Supervise and train students	2.1 Orient students.	Insurance Provisions, Workplace Hazard Management Information System (WHMIS)
	2.2 Assess skill levels.	
	2.3 Provide appropriate training on techniques, lab procedures (SOPs) and laboratory note book maintenance.	
	2.4 Confirm completion of appropriate safety training.	
	2.5 Supervise performance on techniques and use of proper safety practices.	
	2.6 Provide feedback on performance.	
	2.7 Provide evaluation and report to educational institution.	
3. Mentor and supervise staff	3.1 Orient new staff.	Insurance Provisions, Workplace Hazard Management Information System (WHMIS)
	3.2 Provide training on techniques, laboratory procedures standard operating procedures (SOPs) and laboratory note book maintenance.	Workplace Hazard Management Information System (WHMIS)
	3.3 Confirm completion of appropriate safety and technical training, e.g., microscopy.	
	3.4 Supervise performance on techniques and use of proper safety practices.	Workplace Hazard Management Information System (WHMIS)

	3.5 Provide feedback on performance.	
4. Evaluate performance	4.1 Prepare/develop goals and objectives.	
	4.2 Participate in the evaluation sessions.	
	4.3 Identify areas for improvement.	
	4.4 Suggest continuing education.	
	4.5 Ensure performance evaluation activities are documented.	
5. Plan and delegate	5.1 Develop a project management plan.	
	5.2 Create relevant protocols.	
	5.3 Identify appropriate resources.	
	5.4 Organize laboratory meetings to optimize teamwork.	
	5.5 Assign research activities.	
	5.6 Review results.	
	5.7 Review performance against expectations.	

A Research Assistant must be able to:

C. Maintain laboratory readiness

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Manage laboratory supply inventory	1.1. Monitor inventories of lab supplies - chemicals, reagents, glassware, tubing, etc.	Workplace Hazard Management Information System (WHMIS), Material Safety Data Sheets (MSDS), Federal and Provincial Labour Health, Safety and Security provisions, Chemical Inventory Database Requirements (applies to the overall competency)
	1.2. Identify supply shortages and reorder as necessary.	
	1.3. Identify expired chemicals and order replacement stock as needed.	
	1.4. Deal with laboratory suppliers by telephone and in person.	
	1.5. Ship and receive dangerous goods and controlled substances.	
	1.6. Dispose of chemicals in accordance with legislative and regulatory requirements and corporate directives.	
2. Manage laboratory equipment	2.1. Follow established preventive maintenance programs and maintain instrument logs.	
	2.2. Determine need for calibration of instruments (electronic and/or manual methods).	
	2.3. Maintain and calibrate laboratory equipment and initiate repair procedures when necessary.	
	2.4. Recognize and report malfunctions in equipment/instruments.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	2.5. Address equipment/instrument malfunction according to established protocol.	
3. Maintain a clean and organized work environment	3.1. Apply appropriate laboratory hygiene and infection control practices.	
	3.2. Apply spill containment and clean up procedures as appropriate to the nature of the spilled material.	
	3.3. Keep laboratory bench tops clear when not in use.	
	3.4. Clean equipment after use.	
	3.5. Store equipment once experiments are complete.	
	3.6. Store samples when not required for experiments.	

A Research Assistant must be able to:

D. Manage samples

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Collect samples	1.1. Administer confidential consent agreements, as applicable.	
	1.2. Record relevant information on appropriate requisition forms.	Workplace Hazard Management Information System (WHMIS), Material Safety Data Sheets (MSDS), Federal and Provincial Labour Health, Safety and Security provisions, Chemical Inventory Database Requirements (applies to the overall competency)
	1.3. Obtain and label samples according to specific requirements, in a variety of conditions.	
	1.4. Observe established protocols for procurement of samples with legal implications.	
	1.5. Collect, label and deliver samples in a safe and timely manner taking into account priority and sample stability.	
	1.6. Verify sample suitability including adequate amount/volume and integrity.	
	1.7. Take corrective action when errors in sample procurement are identified.	
	1.8. Dispose of samples deemed to be unsuitable.	
2. Preserve sample integrity	2.1. Create sample record documentation.	
	2.2. Register samples into laboratory information system (e.g., logbook, computers).	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	2.3. Validate documentation to ensure that it corresponds with the sample.	
	2.4. Comply with existing guidelines for sample retention, storage and disposal.	
3. Store samples	3.1. Maintain appropriate storage facilities per legislative requirements.	
	3.2. Maintain separate storage areas for different types of samples per legislative requirements.	
	3.3. Clearly label storage areas.	
	3.4. Follow standard operating procedures (SOPs) for sample storage.	
	3.5. Ensure sample inventory logs are updated each time a sample is removed or placed into storage.	
4. Dispose of samples	4.1. Identify sample 'shelf life'.	
	4.2. Enter 'shelf life' information into laboratory information management system.	
	4.3. Monitor sample 'shelf life'.	
	4.4. Retrieve samples when the end of the 'shelf life' is reached.	
	4.5. Dispose of 'expired' samples in accordance with legislative and regulatory requirements.	
	4.6. Dispose of samples that are unsuitable for analysis in accordance with legislative and regulatory requirements.	

A Research Assistant must be able to:

E. Conduct experiments

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Prepare for analysis	1.1. Identify required samples from work lists, log books and computerized work documents.	Corporate Policies (applies to the overall competency)
	1.2. Prioritize analyses according to sample stability (e.g., urgent, routine, etc.).	
	1.3. Retrieve samples from storage area.	
	1.4. Prepare samples for analysis (e.g., diluting, centrifuging, aliquoting, preserving).	
	1.5. Prepare and use calibrators, standards, quality control materials.	
	1.6. Recognize possible sample/analytical deficiencies and takes appropriate action.	
	1.7. Update laboratory information system to reflect samples prepared for analysis.	
2. Analyze samples	2.1. Perform analyses within acceptable limits of error.	
	2.2. Verify test results using calibration and quality control data.	
	2.3. Identify implausible results and takes appropriate action.	
	2.4. Ensure that sample identification is traceable throughout the analysis.	
	2.5. Verify that all ordered analyses have been completed.	
	2.6. Return samples to storage area.	
	2.7. Update laboratory information system to reflect that samples have been analyzed.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
3. Determine results	3.1. Use a computer for data entry, storage, retrieval and calculations.	
	3.2. Evaluate analytical results against established criteria.	
	3.3. Recognize critical values and respond appropriately.	
	3.4. Recognize when results of analyses are outside expected findings and respond appropriately.	
	3.5. Investigate unusual findings prior to reporting.	
4. Analyze results	4.1. Code and enter data in databases where necessary.	
	4.2. Develop and run database queries.	
	4.3. Run computer simulations or programs.	
	4.4. Assess results of queries/simulations.	
	4.5. Translate data/results into tables/graphs/charts.	
	4.6. Document analysis findings.	
	4.7 Troubleshoot identified problems.	
	4.8 Optimize processes.	
5. Report results	5.1. Summarize analysis results.	
	5.2. Assess implications relative to the research hypothesis/experiment design.	
	5.3. Identify avenues for further study/experimentation.	
	5.4. Circulate the report for review.	
	5.5. Update report based on review feedback.	
	5.6. Submit report to the Research Scientist/Research Manager.	
	5.7 Troubleshoot identified problems.	
	5.8 Optimize processes.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
6. Develop new projects	6.1 Plan new experiments.	
	6.2 Undertake literature review.	
	6.3 Develop protocol(s).	
	6.4 Evaluate appropriateness of new and/or current equipment.	
	6.5 Assign human and material resources to the new project.	
	6.6 Conduct the experiment.	
	6.7 Analyse and report results.	

A Research Assistant must be able to:

F. Develop standard operating procedures (SOP)

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Determine regulatory requirements	1.1 Review the relevant regulations.	Workplace Hazard Management Information System (WHMIS), Nuclear Safety provisions, animal testing ethical standards (applies to the overall competency)
	1.2 Identify the scope and applicability.	
	1.3 Determine how being applied in other similar environments.	
2. Develop methodology/ies	2.1 Write protocols.	
	2.2 Test the protocols.	
	2.3 Optimize methodology/ies.	
	2.4 Set the specifications.	
	2.5. Test different samples using the methodology.	
	2.6 Establish “replicability”.	
3. Document methodology/ies	3.1 Write the draft standard operating procedure (SOP).	
	3.2 Coordinate review.	
	3.3 Modify, as appropriate.	
	3.4 Write final version of standard operating procedure (SOP).	
4. Transfer methodology knowledge	4.1 Circulate the final standard operating procedure (SOP) version.	
	4.2 Conduct related standard operating procedure (SOP) training.	
	4.3 Monitor results.	
	4.4 Evaluate the application of the standard operating procedure (SOP).	

	4.5 Act as the key resource person.	
--	-------------------------------------	--

A Research Assistant must be able to:

G. Administer research records

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Store records	1.1. Code research records in accordance with established taxonomy.	Corporate Policies (applies to the overall competency)
	1.2. Determine if records are designated as sensitive/confidential information.	
	1.3. Label records in accordance with company policies and guidelines if sensitive or confidential.	
	1.4. File information/records in accordance with information management standard operating procedures (SOPs) (hard and soft copy).	
	1.5. Restrict access to sensitive/confidential information.	
2. Retrieve records	2.1. Process requests for records.	
	2.2. Determine if request is for sensitive/confidential information.	
	2.3. Confirm requestor is authorized for access to requested information.	
	2.4. Pull appropriate records/information as outlined in request.	
3. Distribute records	3.1. Prepare copies for distribution.	
	3.2. Distribute copies to requesting parties.	
	3.3. Return original documents to storage.	
	3.4. Maintain log of record requests.	

A Research Assistant must be able to:

H. Communicate

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Communicate with diverse audiences	1.1 Organize/participate in meetings.	
	1.2 Demonstrate an ability to clearly articulate complex issues.	
	1.3 Apply industry terminology.	
	1.4 Communicate with suppliers.	
	1.5 Maintain relationships with regulatory bodies.	Health Canada, Food and Drug Act (FDA), European Medicines Agency (EMA)
2. Develop networks	2.1 Collaborate with other scientists.	
	2.2 Attend meetings to engage scientific discussion.	
	2.3 Attend relevant scientific conferences.	
3. Build effective working relationships	3.1 Motivate colleagues to meet deadlines.	
	3.2 Work effectively with team members and others.	
	3.3 Share new and current knowledge with colleagues.	
	3.4. Recognize the skills and abilities of others.	
	3.5 Show respect for diversity.	
	3.6 Accept and appreciate different ways of doing things.	
4. Make presentations	4.1 Present to internal and external audiences.	
	4.2 Publish results (e.g., scientific journals).	
	4.3 Use presentation equipment.	
	4.4 Deliver and adapt message for appropriate audiences.	

	4.5 Prepare presentations (e.g., slide shows, poster).	
--	--	--

A Research Assistant must be able to:

I. Apply professional practices

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Take appropriate safety measures	1.1. Use appropriate personal protective equipment (e.g., mask, gloves, laboratory coat, etc.).	Workplace Hazard Management Information System (WHMIS), Material Safety Data Sheets (MSDS), Federal and Provincial Labour Health, Safety and Security provisions, Chemical Inventory Database Requirements (applies to the overall competency)
	1.2. Utilize laboratory safety devices in a correct manner (e.g., biological safety cabinets, fume hoods, laminar flow cabinets, safety pipeting devices, safety containers and carriers, safety showers, eye washes).	
	1.3. Apply the principles of working with hazardous chemical or biological material regarding reagent preparation, storage and disposal and equipment cleaning and disinfecting (Workplace Hazard Management Information System (WHMIS)), for example, taking training courses such as WHMIS, radioactivity training, relevant to the nature of work and the environment.	
	1.4. Take the appropriate actions to minimize the potential hazards/dangers related to disinfection/sterilization methods, biological samples, radioactive materials, equipment and laboratory supplies.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	1.5. Label, date, handle, store, and dispose of chemicals, dyes, reagents and solutions according to the Workplace Hazard Management Information System (WHMIS) and existing legislation.	
	1.6. Seek appropriate first-aid treatment by mobilizing emergency response (e.g., external response (911) and/or internal response (Emergency Response Team), to respond to incidents such as chemical injury, traumatic injury, electrical shock, burns, radioisotope contamination).	
	1.7. Responds appropriately to fire emergencies.	
	1.8. Report incidents related to safety and personal injury (e.g., needle stick injuries), in a timely manner to management.	
2. Comply with established policies, procedures and protocols	2.1. Maintain confidentiality (e.g., data, records, intellectual property, client information).	
	2.2. Practice and adhere to Good Laboratory Practices (GLP).	
	2.3. Practice and adhere to legislative/regulatory requirements e.g. Workplace Hazard Management Information System (WHMIS).	
	2.4. Follow established corporate protocols and procedural documentation (e.g., policies, procedures, standard operating procedures (SOPs), test procedures).	
3. Demonstrate technical skills	3.1. Apply the principles of standard precautions.	
	3.2. Select and utilize the appropriate method for disinfection/sterilization.	
	3.3. Use sensitive weighing devices to weigh out chemicals.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	3.4. Use micropipettors, pipettes, graduated cylinders to measure liquids.	
	3.5. Calculate concentrations, areas, dilutions and other measurements in varying units of measure.	
	3.6. Perform microscopy.	
	3.7. Apply tissue culture techniques related to field of work.	
	3.8. Perform assays related to field of work.	
	3.9. Perform chemical tests.	
	3.10. Perform molecular biology techniques related to field of work.	
	3.11. Perform microbiology techniques related to field of work.	
	3.12. Work with animal models related to field of work.	
	3.13. Prevent cross-contamination and/or apply aseptic technique.	
4. Manage work activities	4.1. Utilize responsible practices which contribute to the cost-effective use of resources.	
	4.2. Use laboratory materials in a cost-effective manner.	
	4.3. Maximize efficient use of resources (e.g., time, equipment, personnel).	
	4.4. Apply continuous quality improvement techniques and risk management processes to ensure quality laboratory services.	
5. Ensure quality of work practices	5.1. Perform quality control activities and tests (internal and external)	
	5.2. Assess results of quality control activities and tests (internal and external).	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	5.3. Utilize statistics and indicators to monitor the acceptability of results based on established quality control ranges.	
	5.4. Investigate statistically significant deviations from established quality control ranges.	
	5.5. Maintain appropriate documentation (e.g., document laboratory reporting errors and corrective measures taken).	
	5.6. Report significant variations from quality control ranges to the Research Scientist/Research Manager.	

A Research Assistant must be able to:

J. Demonstrate personal competencies

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Maintain a high level of professional integrity	1.1. Know and apply applicable standard protocols and practices, regulations, and legislation.	
	1.2. Report findings and results accurately and honestly.	
	1.3. Seek help and guidance when asked to perform beyond competence.	
	1.4. Exercise the right to refuse to participate in potentially dangerous situations judiciously.	
	1.5. Take responsibility for actions and decisions.	
	1.6. Accept accountability for outcomes of actions and decisions.	
	1.7. Promote a professional image by maintaining high standards in practice.	
	1.8. Recognize effect and impact of ethical issues on work activities and responsibilities.	
2. Organize work	2.1. Plan work schedule according to tasks and availability of equipment.	
	2.2. Demonstrate effective time management.	
	2.3. Set priorities and objectives.	
	2.4. Identify and manage resources needed to complete work.	
3. Set priorities	3.1. Reference critical information when setting priorities.	
	3.2. Use established criteria such as risk, time-sensitivity to facilitate priority setting.	
	3.3. Keep goals and objectives in mind.	
	3.4. Multi-task where possible and practical.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
4. Demonstrate attention to detail	4.1. Maintain accurate, detailed records.	
	4.2. Validate reference information to actual samples.	
	4.3. Validate analytical results.	
	4.4. Maintain up-to-date content in the laboratory information system.	
	4.5. Ensure that research notes are orderly, coherent, and accurate.	
	4.6. Ensure deadlines are met.	
5. Solve problems	5.1. Identify problems or issues.	
	5.2. Understand the science or the technology relevant to the problem or issue at stake.	
	5.3. Develop practical solutions to problems or issues.	
	5.4. Apply accepted analytical tools and techniques to resolve problems.	
6. Manage data and information	6.1. Use laboratory information systems and related technology in sample tracking and data management.	Corporate Policies (applies to the overall task)
	6.2. Use computers, high technology measuring systems and other sophisticated equipment to collect, analyse and interpret complex data .	
	6.3. Apply computer skills in the processing and presentation of data.	
	6.4. Utilize appropriate computer software (e.g., word processing, spreadsheet, graphics).	
	6.5. Apply good record keeping skills (e.g., maintains up to date laboratory notebook).	
	6.6. Employ well-practised techniques for data collection, interpretation and calculation.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
7. Adapt to change in work environment	7.1. Show flexibility in resolving workplace and career challenges.	
	7.2. Adapt to rapidly changing situations.	
	7.3. Apply existing skills to new situations.	
	7.4. Retain composure in stressful situations.	
	7.5. Recognize that change initiated in one area will impact on other areas.	
	7.6. Contribute to and work effectively in a changing environment.	
	7.7. Consistently search for improvements.	
8. Embrace continuous learning	8.1. Allocate time for continuous learning.	
	8.2. Identify learning needs and participates in continuing education and skills development.	
	8.3. Keep abreast of laboratory techniques and research.	
	8.4. Enrol in continuing education courses.	
	8.5. Attend appropriate scientific and regulatory conferences and seminars.	