Position Description Form (PDF)

College: Sir Sandford Fleming

Incumbent's Name:

Position Title: Laboratory Instrumentation Specialist (CAWT) Payband: I

Position Code/Number (if applicable): S00467

Scheduled No. of Hours____35_____

Appointment Type: ____X_____12 months _____less than 12 months

Supervisor's Name and Title: Jennifer Andersen, Manager, CAWT Operations

Completed by: Jennifer Andersen

Effective Date: June 14, 2022
Last Review date: September 2022

Signatures:

Incumbent: Date:
(Indicates the incumbent has read and understood the PDF)

Supervisor: Date:

Instructions for Completing the PDF

1. Read the form carefully before completing any of the sections.

2. Answer each section as completely as you can based on the typical activities or requirements fo the position and not on exceptional or rare requirements.

3. If you have any questions, refer to the document entitled "A Guide on How to Write Support Staff Position Description Forms" or contact your Human Resources representation for clarification.

4. Ensure the PDF is legible.

5. Responses should be **straightforward and concise using simple factual statements.**

Position Summary

Provide a concise description of the overall purpose of the position.

The CAWT Laboratory Instrumentation Specialist will set up and conduct a wide range of research experiments and laboratory analyses, specializing in high-end analytical analyses, in the Centre for Advancement of Water and Wastewater Treatment (CAWT) at the Frost Campus.

The incumbent will conduct laboratory analyses as required for water and wastewater treatment research in an accredited lab (ISO 17025:2017) within set timelines and in adherence to established methods. They will develop and validate laboratory methods and procedures necessary for the analytical needs of a research project, including keeping detailed records, developing standard operating procedures and work instructions, and health and safety protocols in consultation with the CAWT Manager, CAWT Laboratory Coordinator, and Research Scientist.

They will ensure integrity of data collected through laboratory methods and procedures and ensure it is recorded and backed up in accordance with accepted laboratory procedures. They will follow quality control (assurance) measures to ensure repeatability and data integrity. They will be responsible for maintaining and calibrating laboratory equipment, including high-end precision instruments, infrastructure, as well as undertaking troubleshooting and repair work. They will coordinate with external parties including vendors and manufacturers for services, repairs, troubleshooting, and to obtain quotes as required for analytical needs.

The incumbent will implement and execute a variety of research projects by following project outlines and test plans following standard methods, procedures and as developed by Research Scientists. The incumbent will organize the work of laboratory technicians, students, and others as necessary to meet lab deliverables. They will ensure safe, accurate and effective use of facilities, equipment and instrumentation, and that all health and safety procedures are followed for the protection of students, staff, faculty, and visitors. They will provide training on analytical methods and lab practices to student workers, co-ops, interns, Lab Technicians, and visitors.

Duties and Responsibilities

Indicate as clearly as possible the significant duties and responsibilities associated with the position. Indicate the approximate percentage of time for each duty. Describe duties rather than detailed work routines.

	Approximate % of time annually*
1. Laboratory Analysis and Method Development. Operate and develop analytical laboratory methods, including the development of standard operating procedures and work instructions, on a wide range of instruments based on Standard Methods and ISO 17025:2017 guidelines, and as required for an ISO accredited testing facility. Set-up, operate and maintain bench and analytical instrumentation including high-end precision instruments, including but not limited to: Atomic Absorption Spectrophotometer, UV/Vis Spectrophotometer, Gas Chromatography/Mass Spectrometer, Anion/Cation chromatography, ICP Spectrophotometry (ICP-OES, ICP-MS), Liquid Chromotography Mass Spectrometer, High Performance Liquid Chromatographer, Smart Chem, Luminometer, Total Organic Carbon Analyzer, Respirometer, Titrator, multimeters, microbiological testing equipment, incubators, heating blocks, evaporators, distillation units and water purification systems, chemical digestion equipment, respirometer, fumehoods, temperature recording devices, environmental chamber, walk-in fridges, autoclaves, muffle furnace, drying oven, and other laboratory equipment. Perform accredited and non-accredited analysis of, but not limited to: total and dissolved metals, anions, cations, nitrate, nitrite, total Kjeldahl nitrogen, total phosphorus, phosphate, sulfide, pH, turbidity, dissolved oxygen, conductivity, oxidation reduction potential, alkalinity, biomethane potential, Biochemical oxygen demand (total and soluble), chemical oxygen demand (total and soluble), total and free chlorine, total and volatile suspended solids, total and total volatile solids, ammonia, total organic carbon, dissolved organic carbon, E. coli, total coliforms, fecal coliforms, heterotrophic plate counts, volatile fatty acids, and other laboratory methods. Maintain CALA PT proficiency through lab analysis. Perform method validation and development under ISO 17025:2017 requirements and under the guidance of the CAWT Manager and CAWT Laboratory Coordinator. Perform data entry and data validation by required deadlines. Develop and review final data spreadsheets to ensure accuracy and unambiguity. Ensure data integrity and security to include multiple backups both onsite and offsite. Organize and implement quality control (assurance) procedures and Standard Operating Procedures (SOPs) that will ensure and maintain high quality of data and data reporting system. Participate in hazardous waste disposal.	55%

2. Instrument Repair & Maintenance. Repair, maintain and troubleshoot high-end analytical instrumentation, infrastructure and equipment, including coordinating the work of vendors and manufacturers for service requests, repairs and obtaining quotes.	20%
3. Project Work. Participate in partner meetings and project planning sessions to provide feedback in relation to methodologies and modification of technologies, experimental designs, and test plans to conduct bench scale or pilot scale installations. Plan, install, execute and decommission a range of experiments. Adapt and modify current facilities and equipment to accommodate and integrate new techniques and projects. Operate and troubleshoot technologies and experiments.	10%
4. Training. Facilitate training/orientation sessions/demonstrate procedures for new lab staff, student workers, placement workers, and technicians. Informing them of procedures, policies and best practices. Provide day-to-day guidance for student workers and lab technicians. Train CAWT staff and students on project operations and analytical methods. Provide tours of facilities and safety equipment.	10%
5. Other duties as assigned.	5%

* To help you estimate approximate percentages:

½ hour a day is 7% | 1 hour a day is 14% | 1 hour a week is 3%

½ day a week is 10% | ½ day a month is 2% | 1 day a month is 4%

1 week a year is 2%

1. Education

A. Check the box that best describes the **minimum** level of **formal** education that is required for the position and specify the field(s) of study. Do not include on-the-job training in this information.

□ Up to High School	□ 1 year certificate	□ 2 year diploma
□ Trade certification	X 3 year diploma / degree	□ 4 year degree or 3 year diploma / degree plus professional certification

□ Post graduate degree (e.g. Masters) or 4 years degree plus professional certification

□ Doctoral degree

Field(s) of Study:

Analytical Chemistry, Organic Chemistry, Biochemistry, Molecular Biology, Toxicology, or other similar science-related discipline

B. Check the box that best describes the requirement for specific course(s), certification, qualification, formal training or accreditation in addition to and not part of the education level noted above and in the space provided specify the additional requirement(s). Include only the requirement that would typically be included in the job posting and would be acquired prior to the commencement of the position. Do not include courses that are needed to maintain a professional designation.

x No additional requirements	
□ Additional requirements obtained by course(s) of a total of 100 hours or less	
□ Additional requirements obtained by course(s) of a total between 101 and 520 hours	

□ Additional requirements obtained by course(s) of a total of more than 520 hours	

2. Experience

Experience refers to the minimum time required in prior position(s) to understand how to apply the techniques, methods and practices necessary to perform this job. This experience may be less than experience possessed by the incumbent, as it refers only to the minimum level required on the first day of work.

Check the box that best captures the typical number of years of experience, in addition to the necessary education level, required to perform the responsibilities of the position and, in the space provided, describe the type of experience. Include any experience that is part of a certification process, but only if the work experience or on-the-job training occurs after the conclusion of the educational course or program.

□ Less than one (1) year	
□ Minimum of one (1) year	
□ Minimum of two (2) years	
□ Minimum of three (3) years	

X Minimum of five (5) years	• Practical, related working experience in analytical methods and with high-end analytical instrumentation and methods: Atomic Absorption Spectrophotometer, UV/Vis Spectrophotometer, Gas Chromatography/Mass Spectrometer, Anion/Cation chromatography, ICP Spectrophotometry (ICP-OES, ICP-MS), Liquid Chromotography Mass Spectrometer, High Performance Liquid Chromatographer, Smart Chem (and other relevant instruments). • Working knowledge of analytical chemistry techniques including analysis of water and / or wastewater. • Experience troubleshooting electrical and electronic components, operations and function of computers and highly technical instrumentation. • Experience repairing, maintaining, and troubleshooting, calibrating, and operating highly technical and sensitive instrumentation; experience creating analytical chemistry methodologies for environmental applications. • Strong interpersonal, planning, time management and communication skills required. Practical experience in organizational techniques and inventory control. • Intermediate skills with spreadsheets and word processing.
□ Minimum of eight (8) years	

3. Analysis and Problem Solving

This section relates to the application of analysis and judgement within the scope of the position.

The following charts help to define the level of complexity involved in the analysis or identification of situations, information or problems, the steps taken to develop options, solutions or other actions and the judgement required to do so.

Please provide up to three (3) examples of analysis and problem solving that are regular and recurring and, if present in the position, up to two (2) examples that occur occasionally:

	#1 regular & recurring
Key issue or problem encountered.	Analyze numerous water / wastewater samples for many different parameters, for multiple ongoing projects and in a span of only two weeks. Analysis includes calibrating and preparing all high-end instruments (e.g. Mass Spectrometry, Atomic Absorption, Anion Chromatography) for analysis, determining through experimentation the range of calibration and the potential chemical interference that may occur according to sample types. Adjusting chemistry where necessary.
How is it identified?	Under the guidance of the CAWT Manager and CAWT Lab Coordinator priorities for samples and timelines for analysis will be assigned. Using this information, the incumbent will complete high level analysis involving multiple instruments and following standard operating protocols, simultaneously.
Is further investigation required to define the situation and/or problem? If so, describe.	If variables change, i.e. chemical interferences, specific needs of client (minimum detection level), etc., adjustments and changes to the protocol must be made in order to complete analysis in the allotted time and as required, following standard testing methodologies. This could mean adding steps to the protocol, or adjusting chemical make up of the samples being tested. Instruments might have to be adapted to a new procedure that they were not originally designed for.
Explain the analysis used to determine a solution(s) for the situation and/or problem.	Given time, tests and experiments using a modified protocol will be performed. The incumbent will use the results of these tests to make the necessary changes, i.e. adding a new step to the procedure, or learning a new standard method. Set up quality control checks to detect errors in sampling and analysis as they occur and making adjustments based on results.

What sources are available to assist the incumbent finding solution(s)? (eg. past practices, established standards or guidelines).	In most cases there are existing protocols that suit the instrumentation at hand, but original research and adaptations to existing lab techniques must be done to arrive at solutions for many problems. Analytical Chemistry journals and standard references are used periodically as a starting point.

3. Analysis and Problem Solving

	#2 regular & recurring
Key issue or problem encountered	Maintaining quality control and assurance on lab analyses.
How is it identified?	The incumbent will need to routinely conduct quality control checks on analytical procedures as defined by the CAWT Manager and CAWT Laboratory Coordinator.
Is further investigation required to define the situation and/or problem? If so, describe.	Inconsistencies with tests or with samples will need to be corrected. Isolating the cause of the inconsistency will require extensive investigation under the supervision of the CAWT Lab Coordinator. Investigations can be timely and complex, depending on the nature of the issue. In collaboration with the CAWT Laboratory Coordinator the incumbent will be responsible for carrying out investigations to get at the root of the issue.
Explain the analysis used to determine a solution(s) for the situation and/or problem.	Investigation and analysis will include following ISO 17025:2017 methods, running standards, including certified reference materials, and calculating standard curves. Standard laboratory methods for quality assurance and quality control will be implemented. In cases where the above instructions do not resolve the issue the incumbent will need to consult with the CAWT Laboratory Coordinator on next steps. This may include further actions such as assisting CAWT Laboratory Coordinator in developing written methods and executing these methods.
What sources are available to assist the incumbent finding solution(s)? (eg. past practices, established standards or guidelines).	ISO 17025:2017 Work Instructions, Standard Operating Procedures, Standard Methods, as well as other methods identified and approved by the CAWT Laboratory Coordinator will be used.

	~~**#3 regular & recurring**~~
Key issue or problem encountered	
How is it identified?	

Is further investigation required to define the situation and/or problem? If so, describe.	
Explain the analysis used to determine a solution(s) for the situation and/or problem.	
What sources are available to assist the incumbent finding solution(s)? (eg. past practices, established standards or guidelines).	

3. Analysis and Problem Solving

#1 occasional (if none, please strike out this section)

Key issue or problem encountered	Accommodating interruptions from facilities and infrastructure maintenance.
How is it identified?	The incumbent will need to occasionally accommodate interruptions in routine activities to allow facilities to do maintenance to equipment, and facility infrastructure. This maintenance may be unrelated to CAWT facilities (e.g. accessing building plumbing).
Is further investigation required to define the situation and/or problem? If so, describe.	Communicating with CAWT Manager and CAWT Laboratory Coordinator to further identify the scope of the interruption.
Explain the analysis used to determine a solution(s) for the situation and/or problem.	Adapting activities to accommodate interruption will be required or alternative measures taken.
What sources are available to assist the incumbent finding solution(s)? (eg. past practices, established standards or guidelines).	CAWT Manager and CAWT Laboratory Coordinator may need to be contacted to determine long term solution if interruption is lengthy.

~~**#2 occasional** (if none, please strike out this section)~~

Key issue or problem encountered	

How is it identified?	
Is further investigation required to define the situation and/or problem? If so, describe.	
Explain the analysis used to determine a solution(s) for the situation and/or problem.	
What sources are available to assist the incumbent finding solution(s)? (eg. past practices, established standards or guidelines).	

4. Planning/Coordinating

Planning is a proactive activity as the incumbent must develop in advance a method of acting or proceeding, while coordinating can be more reactive in nature.

Using the following charts, provide up to three (3) examples of planning and/or coordinating that are regular and recurring and, if present in the position, up to two (2) examples that occur occasionally:

	#1 regular & recurring
List the project and the role of the incumbent in this activity.	The incumbent needs to plan and coordinate instrumental analyses to find the most efficient way to execute analyses.
What are the organizational and/or project management skills needed to bring together and integrate this activity?	Incumbent needs to be familiar with running complex analytical equipment and planning and coordinating analytical runs and coordinating with ongoing experiments and research activities in the CAWT.
List the types of resources required to complete this task, project or activity.	Instrument manuals, standard methods,
How is/are deadline(s) determined?	Deadlines are determined by CAWT Manager and CAWT Laboratory Coordinator.

Who determines if changes to the project or activity are required? And who determines whether these changes have an impact on others? Please provide concrete examples.	Incumbent in consultation with CAWT Manager and CAWT Laboratory Coordinator decides if changes are required. Incumbent tests and assesses the procedure and decides if the system is working properly.

4. Planning/Coordinating

	#2 regular & recurring
List the project and the role of the incumbent in this activity.	Plan and coordinate completion of scheduled quality control procedures in line with laboratory analyses.
What are the organizational and/or project management skills needed to bring together and integrate this activity?	Incumbent needs to be very well organized and have a good understanding of holding times in line with quality control frequency requirements. They must plan out their workload each week in advance to identify when these tasks can be completed.
List the types of resources required to complete this task, project or activity.	Quality control schedule, weekly lab analysis schedule, and laboratory analysis holding times will all be good resources to help identify deadline.
How is/are deadline(s) determined?	Deadlines are determined by CAWT Manager and CAWT Laboratory Coordinator. They are also outlined in the monthly QC schedule.
Who determines if changes to the project or activity are required? And who determines whether these changes have an impact on others? Please provide concrete examples.	Incumbent in consultation with CAWT Manager and CAWT Laboratory Coordinator decides if changes are required.

	~~**#3 regular & recurring**~~
List the project and the role of the incumbent in this activity.	
What are the organizational and/or project management skills needed to bring together and integrate this activity?	
List the types of resources required to complete this task, project or activity.	

How is/are deadline(s) determined?	
Who determines if changes to the project or activity are required? And who determines whether these changes have an impact on others? Please provide concrete examples.	

4. Planning/Coordinating

	#1 occasional (if none, please strike out this section)
List the project and the role of the incumbent in this activity.	Plan and coordinate the experimental activities.
What are the organizational and/or project management skills needed to bring together and integrate this activity?	Incumbent needs to be very well organized and have a good understanding of project requirements, and timelines. They must plan out their workload each week in advance to identify when these tasks will be completed.
List the types of resources required to complete this task, project or activity.	Test plans, project outlines, project proposals, activity schedules.
How is/are deadline(s) determined?	Deadlines are determined by CAWT Manager, Research Scientist, and the industry partner.
Who determines if changes to the project or activity are required? And who determines whether these changes have an impact on others? Please provide concrete examples.	Incumbent is responsible for coordinating laboratory experiments under supervision of CAWT Manager, CAWT Laboratory Coordinator and the Research Scientist. Incumbent in consultation with CAWT Manager, Research Scientist and industry partner decides if changes are required.

	~~**#2 occasional** (if none, please strike out this section)~~
List the project and the role of the incumbent in this activity.	

What are the organizational and/or project management skills needed to bring together and integrate this activity?	
List the types of resources required to complete this task, project or activity.	
How is/are deadline(s) determined?	
Who determines if changes to the project or activity are required? And who determines whether these changes have an impact on others? Please provide concrete examples.	

5. Guiding/Advising Others

This section describes the **assigned responsibility** of the position to guide or advise others (e.g. other employees, students). Focus on the actions taken (rather than the communication skills) that directly assist others in the performance of their work or skill development.

Though Support Staff cannot formally "supervise" others, there may be a requirement to guide others using the incumbent's job expertise. This is beyond being helpful and providing ad hoc advice. It must be an assigned responsibility and must assist or enable others to be able to complete their own tasks.

Check the box(es) that best describe the level of responsibility assigned to the position and provide an example(s) to support the selection, including the positions that the incumbent guides or advises.

Regular & Recurring	Occasional	Level	Example
X	□	Minimal requirement to guide/advise others. The incumbent may be required to explain procedures to other employees or students.	Incumbent will be required to explain laboratory procedures to student workers, new lab technicians and others that may be using CAWT facilities.
X	□	There is a need for the incumbent to demonstrate correct processes/ procedures to others so that they can complete specific tasks.	Demonstrates safe and proper use of chemicals and analytical equipment. Provides training on project operations (ex. sample collection)
□	X	The incumbent recommends a course of action or makes decisions so that others can perform their day-to-day activities.	Reviews and develops safety protocols prior to the start of a project relating but not limited to sample collection and technology operations. Coordinates the efforts of project team members (students and technicians), monitoring tasks and ensuring project stays on schedule.

□	□	The incumbent is an active participant and has ongoing involvement in the progress of others with whom he/she has the responsibility to demonstrate correct processes/procedures or provide direction.	
□		The incumbent is responsible for allocating tasks to others and recommending a course of action or making necessary decisions to ensure the tasks are completed.	.

6. Independence of Action

Please illustrate the type of independence or autonomy exercised in the position. Consideration is to be given to the degree of freedom and constraints that define the parameters in which the incumbent works.

What are the instructions that are typically required or provided at the beginning of a work assignment?	
Regular and Recurring	Occasional (if none, please strike out this section)
Incumbent will receive direction from CAWT Manger and CAWT Laboratory Coordinator with daily supervisory contact. The Manager and / or CAWT Laboratory Coordinator will request specific analyses and the incumbent will follow appropriate laboratory protocols. The Research Scientist will outline required project operations through experimental plans. Where such protocols are not in use in the CAWT, the incumbent may be asked to research, develop and validate appropriate analytical methods under the guidance of the CAWT Laboratory Coordinator, or health and safety protocols under the guidance of the CAWT Manager and the CAWT Laboratory Coordinator.	

What rules, procedures, past practices or guidelines are available to guide the incumbent?	
Regular and Recurring	Occasional (if none, please strike out this section)
Work is reviewed daily to several times weekly depending on the task. Feedback is given daily to several times weekly depending on the activities from CAWT Manager and / or CAWT Laboratory Coordinator. Instrument manuals only supply operational info, methods, protocols and guidelines are created by research and drawing on incumbent experience.	Standard methods (MOE, USEPA) and additional sources as identified by CAWT Manager and the CAWT Laboratory Coordinator are available. Scientific journals and a small number of texts can be referenced to aid in the creation of new analytical techniques.

How is work reviewed or verified (eg. feedback from others, work processes, Supervisor)?

Regular and Recurring	Occasional (if none, please strike out this section)
Work is reviewed daily to several times weekly depending on the task. Feedback is given daily to several times weekly depending on the activities from CAWT Manager and / or CAWT Laboratory Coordinator.	Internal and external audits are performed as a part of our ISO 17025:2017 accreditation. The results of this provide feedback on an annual / biannual basis of lab performance.

6. Independence of Action

Describe the type of decisions the incumbent will make in consultation with someone else other than the Supervisor?	
Regular and Recurring	Occasional (if none, please strike out this section)
Incumbent will need to consult with CAWT Laboratory Coordinator on a frequent basis to coordinate analyses, maintenance and troubleshooting.	

Describe the type of decisions that would be decided in consultation with the Supervisor.	
Regular and Recurring	Occasional (if none, please strike out this section)
All health and safety as well as security issues requiring managerial attention or intervention	Permission to access funds. Situations where incumbent feels faculty or student demands may infringe on policies or rules of College.

Describe the type of decisions that would be decided by the incumbent.	
Regular and Recurring	Occasional (if none, please strike out this section)
Research methodologies and adapt existing instrumentation to perform required analysis. Finding efficiencies in routine laboratory operations. Analysis of samples as needed to ensure data assurance and integrity	Implementing installation and decommissioning of projects (technologies, experiments)

7. Service Delivery

This section looks at the service relationship that is an assigned requirement of the position. It considers the required manner in which the position delivers service to customers. It is not intended to examine the incumbent's interpersonal relationship with those customers and the normal anticipation of what customers want and then supplying it efficiently. It considers how the request for service is received and the degree to which the position is required to design and fulfil the service requirement. A "customer" is defined in the broadest sense as a person or groups of people and can be internal or external to the College.

In the table below, list the key service(s) and its associated customers. Describe how the request for service is received by the incumbent, how the service is carried out and the frequency.

Information on the service		Customer	Frequency (D, W, M. I)*
How is it received?	How is it carried out?		
To provide results of lab tests	Execute lab experiments, written reports, lab protocols and methods	CAWT staff	D
Provide advice and information on proposed research.	Research required information and provide advise required	CAWT staff, Laboratory Coordinator, Manager	I
New experiment/protocol required	Develop a new experiment/protocol to meet customer needs	CAWT Manager, Research Scientists and project industry partners.	I
New method required	Develop a new method/protocol to meet lab needs	CAWT Manager, Laboratory Coordinator, Research Scientist	M
To install / decommission a new technology or piece of equipment	Develop and research existing installations to gather information necessary for the planning and implementation of designs	CAWT Manager, Research Scientists	I

To provide quality data that is reliable and meets ISO requirements	Develop QC charts and checks to validate data	CAWT Laboratory Coordinator	W

* D = Daily W = Weekly M = Monthly I = Infrequently

8. Communication

In the table below indicate the type of communication skills required to deal effectively with others. Be sure to list both verbal (e.g. exchanging information, formal presentations) and written (e.g. initiate memos, reports, proposals) in the section(s) that best describes the method of communication.

Communication Skill/Method	Example	Audience	Frequency (D, W, M ,I)*
Exchanging routine information,	Exchange information	CAWT staff, CAWT Manager	D
Explanation and interpretation of information or ideas	To learn of new instrumentation and techniques in chemistry field	External sources, suppliers, vendors	M
Imparting technical information and advice	To advise how to complete their analytical chemistry goals and to aid in the repair and calibration of their highly technical chemistry related equipment	CAWT Staff, CAWT Manager, CAWT Laboratory Coordinator	D
	Demonstrates safe and proper use of equipment, chemicals and analytical equipment.	CAWT staff, students, visitors	D
	Explains research experiment results and progress to non-technical individuals	Industry clients	I
Instructing or training			
Obtaining cooperation or consent			
Negotiating			

* D = Daily W = Weekly M = Monthly I = Infrequently

9. Physical Effort

In the tables below, describe the type of physical activity that is required on a regular basis. Please indicate the activity as well as the frequency, the average duration of each activity and whether there is the ability to reduce any strain by changing positions or performing another activity. Activities to be considered are sitting, standing, walking, climbing, crouching, lifting and/or carrying light, medium or heavy objects, pushing, pulling, working in an awkward position or maintaining one position for a long period.

Physical Activity	Frequency (D, W, M, I)*	Duration			Ability to reduce strain		
		< 1 hr at a time	1 - 2 hrs at a time	> 2 hrs at a time	Yes	No	N/A
Standing	D			X		X	
Lifting equipment (vortex, plates), instruments	W	X				X	
Lifting equipment (water bath, incubator) and instruments	M	X					

* D = Daily W = Weekly M = Monthly I = Infrequently

If lifting is required, please indicate the weights below and provide examples.

X Light (up to 5 kg or 11 lbs)	Equipment (vortex, plates)
X Medium (between 5 to 20 kg or 11 to 44 lbs)	Equipment (water bath, incubator) and instruments
Heavy (over 20 kg or 44 lbs)	

10. Audio Visual Effort

Describe the degree of attention or focus required to perform tasks taking into consideration:

- the audio/visual effort and the focus or concentration needed to perform a task and the duration of the task, including breaks (eg. up to 2 hours at one time including scheduled breaks)
- impact on attention or focus due to changes to deadlines or priorities
- the need for the incumbent to switch attention between tasks (eg. multi-tasking where each task requires focus or concentration)
- whether the level of concentration can be maintained throughout the task or is broken due to the number of disruptions

Provide up to three (3) examples of activities that require a higher than usual need for focus and concentration.

Activity #1	Frequency (D, W, M, I)*	Average Duration		
		Short < 30 mins	Long up to 2 hrs	Extended > 2 hrs
Experiment performance	D			X
Can concentration or focus be maintained throughout the duration of the activity? If not, why? X Usually □ No There are occasional interruptions from staff.				

Activity #2	Frequency (D, W, M, I)*	Average Duration		
		Short < 30 mins	Long up to 2 hrs	Extended > 2 hrs
Calibrating precision instruments	D		X	
Can concentration or focus be maintained throughout the duration of the activity? If not, why? X Usually □ No				

Activity #3	Frequency (D, W, M, I)*	Average Duration		
		Short < 30 mins	Long up to 2 hrs	Extended > 2 hrs

Working on computers requires higher than usual need for focus and concentration when completing complex and highly analytical data analysis, calculations and reconciliations.	D			X
Can concentration or focus be maintained throughout the duration of the activity? If not, why? X Usually □ No				

* D = Daily W = Weekly M = Monthly I = Infrequently

11. Working Environment

Please check the appropriate box(es) that best describes the work environment and the corresponding frequency and provide an example of the condition.

Working Conditions	Examples	Frequency (D, W, M, I)*
X acceptable working conditions (minimal exposure to the conditions listed below)		
□ accessing crawl spaces/confined spaces		
□ dealing with abusive people		
□ dealing with abusive people who pose a threat of physical harm		
□ difficult weather conditions		
X exposure to extreme weather conditions	Occasional work in CAWT environmental chamber(-40oC)	I
X exposure to very high or low temperatures (e.g. freezers)	Occasional work in CAWT environmental chamber(-40oC)	I
X handling hazardous substances	Low dose exposure to chemicals is probably (hazardous) – Acids (Corrosives), (Alkalis) Bases, poison i.e. Cyanide, Arsenic, Solvents ie Toluene, Chloroform, etc. Deals with radio-Active sources in instrumentation, Some UV and RF exposure as well. Incumbent works with high voltage equipment.	D
X smelly, dirty or noisy environment	Some procedures requiring use of fumehoods to reduce odours do not eliminate them, exposure to chemicals, Instruments are just below noise threshold for hearing protection	W
X travel	To collect wastewater sludge, samples, etc. for lab analysis	W
X working in isolated or crowded situations	the incumbent may work alone in the laboratories, greenhouse, wetlands, and / or ponds.	D

□ other (explain)		

* D = Daily M = Monthly W = Weekly I = Infrequently