Position Description Form (PDF)

College: Sir Sandford Fleming

Incumbent's Name:

Position Title: Water Research Intern I/O Payband: D

Position Code/Number (if applicable):

Location: Frost

Scheduled No. of Hours: 35 per week

Appointment Type: X 12 months □ Less than 12 months (please specify # months: _____)

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

Completed by: Jennifer Andersen Date: April 17, 2023

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 of 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 Water Research Intern is a supportive role within the Centre for Advancement of Water and Wastewater Technologies. This position is supported by NSERC Technology Access Funding, and gives recent college graduates an opportunity to obtain work experience in their field, following graduation from a relevant college program. Interns will participate in a wide range of activities required for working in a laboratory research environment such as sample collection, lab analysis, and project operations. They will receive substantial training in all health and safety protocols, ISO 17025 accredited methods, project operations, test plans, as well as college mandated requirements. As a supportive role they will work under the guidance of laboratory staff (technologists, coordinators) with direct daily supervision.

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*
Laboratory Maintenance • Interns will assist in routine maintenance and operations required in a laboratory setting including • Waste disposal • Tracking inventory (chemicals & supplies) • Cleaning (dishwashing, sweeping floors, wiping counters) • Outdoor site maintenance (mowing, weed whacking)	25%
Laboratory Analysis • Receive training on analytical methods and data entry, as required for an ISO accredited laboratory • Assist in analytical laboratory methods, including following 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. • Assist in the Set-up, operations and maintenance of bench and analytical instrumentation including, but not limited to: Titrator, multimeters, incubators, heating blocks, chemical digestion equipment, respirometer, fumehoods, sewage pumps, peristaltic pumps, flow meters, temperature recording devices, environmental chambers, walk-in fridges, autosamplers, autoclaves, muffle furnace, drying oven, and other laboratory equipment. • Perform accredited and non-accredited analysis of, but not limited to: 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, and other laboratory methods. • Assist in data entry by required deadlines.	35%

Project Work • Attend partner meetings, providing feedback on operations and project related tasks • Receive training related to experimental designs, and test plans to conduct bench scale, pilot, or full-scale installations. • Assist in the installation, execution and decommission of a range of experiments. Under the guidance of the Manager, Research Scientist, Lab Coordinator, Research Technologist or Lab Technologists adapt and modify current facilities and equipment to accommodate and integrate new techniques and projects. • Assist in the operation and troubleshooting of technologies and experiments.	35%
Other related 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	X 2 year diploma
□ Trade certification	□ 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:

Advanced Water Systems Operations and Management
Aquaculture
Biotechnology
Conservation Biology
Ecological Restoration
Ecosystem Management (Technician / Technology)
Environmental (Technician / Technology)
Fish and Wildlife (Technician / Technology)
Sustainable Agriculture

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 year 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.

□X Less than one (1) year	Practical related experience working in a lab setting with analytical methods and basic analytical instruments: pipettes, balances, hand- held meters Strong interpersonal, planning, time management and communication skills required. Practical experience in organizational techniques. Intermediate skills with spreadsheets and word processing.
□ Minimum of one (1) year	
□ Minimum of two (2) years	
□ Minimum of three (3) years	
□ Minimum of five (5) years	
□ 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.	Changes in daily tasks / activities (Ex. prioritizing urgent activities like dishwashing over inventory control)
How is it identified?	Through conversations with the CAWT Manager or Lab Coordinator, changes may be requested to the incumbent's scheduled daily duties and activities. These requests will need to be planned and detailed out in order to accommodate and keep the lab on track for the duties needed to be completed that day or week.
Is further investigation required to define the situation and/or problem? If so, describe.	Incumbent must investigate the change request thoroughly prior to taking action by determining if changes can be made, and what those changes may be (moving other scheduled tasks to another day, completing time sensitive duties first, etc.).
Explain the analysis used to determine a solution(s) for the situation and/or problem.	Incumbent will use accumulated knowledge to evaluate the project change requests; revising timelines to determine what can be done. In consultation with the CAWT Manager and Lab Coordinator will determine best course of action for resolving problem.
What sources are available to assist the incumbent finding solution(s)? (eg. past practices, established standards or guidelines).	The Lab Coordinator will develop daily and weekly duties for the incumbent from which change requests can be evaluated further. The CAWT Manager and Lab Coordinator will be important resources for solving these problems and in making necessary approvals prior to the work beginning.

3. Analysis and Problem Solving

	#2 regular & recurring
Key issue or problem encountered	Assist in the analysis of numerous water / wastewater samples for many different parameters, for multiple ongoing projects in a space of only two weeks. Preserve and store samples as needed to extend analysis timelines.
How is it identified?	Under the guidance of the CAWT Manager and CAWT Lab Coordinator priorities for samples analyzed and timelines for analysis will be assigned. Using this information, the incumbent will complete sample preparations, preservations, and store samples simultaneously to accommodate analysis requirements.
Is further investigation required to define the situation and/or problem? If so, describe.	N/A
Explain the analysis used to determine a solution(s) for the situation and/or problem.	Given time, quantity of samples, and holding times the incumbent will evaluate which samples need to be preserved and stored.
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 outlining holding times and storage requirements for samples. The Lab Coordinator will be an important resource in these scenarios.

	~~**#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
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).	

	#2 occasional
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.	Taking inventory across multiple spaces within the CAWT, modifying checklists as needed.
What are the organizational and/or project management skills needed to bring together and integrate this activity?	The intern will be required to track chemical and supplies inventory on a weekly basis, this will span across several labs and project facility spaces. The incumbent will follow pre-developed templates, however attention to detail is required to capture correct information within a timely manner. When needed incumbent should adjust these checklists.
List the types of resources required to complete this task, project or activity.	Templates for this work will be provided.
How is/are deadline(s) determined?	Deadlines are determined by the Lab Coordinator who will schedule these duties and assign them to the incumbent
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.	The CAWT Manager and Lab Coordinator will serve as an important resource, identifying when changes are needed; adding / removing items to inventory lists, along with identifying which spaces / facilities require inventory checks.

4. Planning/Coordinating

	~~**#2 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.	

	~~**#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.	

Dated:

4. Planning/Coordinating

	#1 occasional
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.	

	#2 occasional
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.	

Dated:

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, once trained, may explain various procedures (i.e. dishwashing) to new students on staff. Not to replace formal training provided by Lab Coordinator and other CAWT staff.
□	X	There is a need for the incumbent to demonstrate correct processes/ procedures to others so that they can complete specific tasks.	Incumbent may at times be asked to demonstrate to other new students' tasks that they perform, such as dishwashing. Not to replace formal training provided by Lab Coordinator and other CAWT staff.
□	□	The incumbent recommends a course of action or makes decisions so that others can perform their day-to-day activities	
□	□	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 activities (ex. pH analysis) and, once trained, the incumbent will follow appropriate laboratory protocols.	

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.	Standard methods (MOE, USEPA) and additional sources as identified by CAWT Manager and the CAWT Laboratory Coordinator are available. Work instructions and methods are identified by the CAWT and the CAWT Laboratory Coordinator, these are available to the incumbent. 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.	During training there are pass/fail criteria for each method. The results of training and a pass or fail are provided to the incumbent, as each method is completed.

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)
Equipping lab as needed for lab related activities will require identifying items needing to be ordered and informing staff of these needs – requiring consultation with CAWT lab staff.	

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.	

Describe the type of decisions that would be decided by the incumbent.	
Regular and Recurring	Occasional (if none, please strike out this section)
Finding efficiencies in routine laboratory operations. Assisting in the preparations and analysis of samples as needed to ensure timely analysis and reporting	

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?		
Providing results of lab tests	Execute lab analysis following methods and work instructions	CAWT staff	D

* 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, extending common courtesy	Exchange Information (verbal and written)	CAWT Staff, CAWT Manager	D
Explanation and interpretation of information or ideas	Interpretation of laboratory procedures and work instructions (verbal and written)	CAWT Staff	W
Imparting technical information and advice			
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				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)

X Medium (between 5 to 20 kg or 11 to 44 lbs)

□ Heavy (over 20 kg or 44 lbs)

Equipment (vortex, plates)
Equipment (water bath, incubator) and instruments

Dated:

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
Washing glass laboratory dishes following established work instructions	W		X	
Can concentration or focus be maintained throughout the duration of the activity? If not, why? X Usually □ No				

Activity #2	Frequency (D, W, M, I)*	Average Duration		
		Short < 30 mins	Long up to 2 hrs	Extended > 2 hrs
Preserving laboratory samples with chemical reagents	W	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 to for focus and concentration when completing data entry	W			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

Dated:

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		
X difficult weather conditions	Occasionally need to work in wet, snow or cold temperatures to perform field procedures	I
☐ exposure to extreme weather conditions		
X exposure to very high or low temperatures (e.g. freezers)	Work in CAWT environmental chamber (-40C)	I
X handling hazardous substances	Low dose exposure to chemicals is probable (hazardous) – Acids (Corrosives), (Alkalis) Bases, poison i.e. Cyanide, Arsenic, Solvents i.e. Toluene, Chloroform, etc. Incumbent works with high voltage equipment.	D
X smelly, dirty or noisy environment	Some procedures requiring use of fume hoods to reduce odours do not eliminate them; exposure to chemicals; instruments are just below noise threshold for hearing protection	W
X travel	To field locations locally, may be a few times each month	M
☐ working in isolated or crowded situations		
☐ other (explain)		

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