Position Description Form (PDF)

College: Sir Sandford Fleming

Incumbent's Name: **VACANT**

Position Title: Environmental Chemistry Technologist Payband: J

Position Code/Number (if applicable): S00299

Scheduled No. of Hours____40_____

Appointment Type: ____X_____12 months _____less than 12 months

Supervisor's Name and Title: Tania Clerac, Academic Chair, Environmental Cluster

Completed by: Tania Clerac and Heather Broadbent PDF Date: August 2019
Last Revision: March 2018

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.

Position to originate, develop, modify, demonstrate and organize experiments and protocols for the Chemistry lab after consultation with faculty and students to determine their needs as they apply to the required theories and principles. Develops, organizes and oversees the Chemistry lab operations ensuring safe, accurate and effective use of facilities and equipment.

Ensures that safety procedures are followed for the protection of students and faculty.

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.Originate, plan and organize chemistry labs and experiments based on general concepts from faculty to meet course, and student learning outcomes and College's needs. Develop, modify, and execute experiments to gain test results in support of the theories being taught. Advise and guide students through experiments as they are being performed. Advise students and faculty on the appropriate technical and theoretical principles involved in preparing experiments for technical electives. Deals with safety issues by developing and planning protocols for safe use of potentially hazardous chemicals and equipment. On a day to day basis, advises students that are having problems with chemistry concepts.	25%
2. Create new techniques to complement curriculum and reinforce learning outcomes – Adapt existing instrumentation to perform new Types of analysis, design new systems to meet the complex technical needs of non-chemistry faculty teaching in chemistry lab. ie: design system for detecting trace metal uptake (ppb) in plants. Advise faculty on creation of student lab with regard to delivery and safety	20%
3. Demonstrates operation and theoretical principles of complex laboratory instruments such as Mass Spectrometer, Atomic Absorption Spectrophotometer, UV/Vis Spec. Gas Chromatograph, Anion chromatography, ICP Spectrophotometry etc.	5%
4. Loon Lake 3rd year Fish & Wildlife Camp: Organizes students and equipment, completes set-ups, tear downs and adaptations of laboratory equipment to camp environment, liaise with camp owner, consults with the camp owners along with other faculty giving g advice on water chemistry and limnological concerns. Demonstrate to, supervise and advise students engaged in field activities to ensure safe use of equipment and that theories are being followed and equipment is properly used, supervise safety of students	10%

5. Repairs, maintains and calibrates highly technical and complicated laboratory equipment with the use of instrument manuals. Analyses and trouble shoots instrument problems requiring knowledge of vacuum systems, electrical principles and electronics, along with the theories behind each instrument in order to effect repairs. Maintains Instrument in state of Research readiness. Repairs require extreme care and dexterity in order to complete. Analyse prospective instruments and make decisions on the replacement of old equipment and purchase of new equipment by negotiating with outside vendors.	25%
6. Prepare budgets for chemistry services. Initiates and prepares purchase orders, follows up with suppliers, inspects orders for completion and installs equipment upon arrival at college. Ensures expenditures are within program requirements and budget allocation. Maintains inventory levels. .Supervises and advises student helpers in Chemistry lab	5%
7.Develops and maintains external contacts by visiting industries for training and development sessions so current changes in methodology and technology can be applied to chemistry components. To adapt and modify current facilities and equipment to address new techniques.	5%
8. 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 or related environmental field.

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.

□ No additional requirements	
x Additional requirements obtained by course(s) of a total of 100 hours or less	Instrument Courses – ie: Mass Spectrometry, ICP Spectrophotometry, First Aid, CPR, WHMIS, On
□ 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.

□ 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 the following: Analytical and Environmental Chemistry methods, and instrumentation, including Mass Spectrometry, Atomic Absorption, ICP Spectrometry, Anion Chromatography, Electrophoresis etc.. trouble shooting electrical and electronic components, operations and function of computers and highly technical instrumentation. Working knowledge of analytical chemistry techniques including analysis of water, soil tissue and air samples . Experience repairing , maintaining and trouble shooting, calibrating and operating highly technical and sensitive instrumentation and field equipment; experience creating analytical chemistry methodologies for environmental applications. Experience in environmental field work, such as sampling and handling various materials Excellent interpersonal and communication skills (oral and written) and experience giving presentations of complicated material and equipment to an audience with little or no background . Practical experience in organizational techniques and inventory control. Strong interpersonal and communication skills, able to liaise with outside agencies and industry.
□ 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 240 soil samples for 4 different metals, 40 plant tissue samples for cadmium uptake, and 80 water samples for 12 different water quality parameters in a space of only two weeks using students assistance whenever possible. Calibrate and prepare all instruments (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. Create lab protocol and lab exercise to accomplish requested goals
How is it identified?	Learning sequence dictates a short timeline for completion of high level analysis involving multiple instruments and protocols running simultaneously. There as many as 30 students (of limited knowledge and experience) involved in the process at the same time.
Is further investigation required to define the situation and/or problem? If so, describe.	If variables change ie: Chemical interferences, weather changes,(Field analysis), or if students fail to follow Protocols correctly , Adjustments and changes to the protocol or design of the lab must be made to complete lab or analysis in the allotted time. These 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. Adapting to the cold weather to prevent poor functionality of the instruments may involve designing additional equipment to be used with original instruments that will allow them to function in adverse weather conditions, Often protocols usually performed in a lab setting are performed at camp, these require the building of portable labs that will allow the same accuracy at camp as in the lab. Adaptation of existing equipment is a large part of the job given the field orientation of a majority of the activities. Set up quality control checks to detect errors in sampling and analysis as they occur and make 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 not existing protocols that suit the instrumentation at hand, Original research and adaptations to existing lab techniques must be done to arrive at solutions for existing 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	After developing an extraction and analysis procedure for 3rd Yr ET course for cadmium determination in plant tissue, fine tuning was needed to get rid of interferences and a more student friendly method had to be developed to execute this procedure. The modified method must fit into the skill level of the students and must provide a safer method for student handling of concentrated corrosives needed for experiment. Sample preparation and analyse must be done in a total of 9 hours with two groups of 25 students.
How is it identified?	Request from faculty generates need for protocol, time lines determined by course time table. The incumbent must experiment with and change procedure to produce required results and come up with safer means to get required results
Is further investigation required to define the situation and/or problem? If so, describe.	Incumbent must research using Web, industry contacts and references like standard methods for the determination of water and wastewater analysis to implement changes
Explain the analysis used to determine a solution(s) for the situation and/or problem.	Incumbent will use findings from above research and draw on his/her experience to test the protocols thoroughly. Statistical analysis will be used to determine the appropriate QA/QC measures to be followed.
What sources are available to assist the incumbent finding solution(s)? (eg. past practices, established standards or guidelines).	Internet, Standard methods, EPA Standards, MOE guidelines, analytical periodicals like Laboratory Focus, vendors and supplier catalogues to research alternate methods and equipment to be used to change delivery.

	#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	Develop a field water sampling methodology for Geology and ET programs. This method must prevent contamination of samples for lead analysis.
How is it identified?	Faculty concerns over contamination and unexpected results from traditional sampling protocols
Is further investigation required to define the situation and/or problem? If so, describe.	All sampling equipment had to inspected and tested for contaminants. The protocol for cleaning the equipment had to be reviewed.
Explain the analysis used to determine a solution(s) for the situation and/or problem.	All the equipment was analysed for lead content (using Atomic Absorption Spec.), as well as the cleaning solutions and water that was used in the cleaning process.
What sources are available to assist the incumbent finding solution(s)? (eg. past practices, established standards or guidelines).	Standard methods for waste water Analysis, MOE Sampling Protocols, and Internet Sources IE: (EPA USA)

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

Key issue or problem encountered	Develop a method that would produce a representative sample from field sampling and allow a full Water Quality profile for a lake.
How is it identified?	Faculty need to have water quality data representative of the lake body from a single point source. The time frame for this analysis is 1 hour from the time the students get out on the water to the time you get back with data. A volumized sample is needed to estimate total lake water chemistry.
Is further investigation required to define the situation and/or problem? If so, describe.	Incumbent needed to research, using established standard methods and EPA protocols and needed to condense these techniques to be done efficiently in a short amount of time.
Explain the analysis used to determine a solution(s) for the situation and/or problem.	Once established methods were found, incumbent shortens these methods while maintaining a comparison of newly developed methods with older more established methods. Once a strong co-relation was established a new method was written up by incumbent
What sources are available to assist the incumbent finding solution(s)? (eg. past practices, established standards or guidelines).	Ministry of Environment , Environmental Protection Agency, Standard methods to Waste water analysis, Limnology Lind) Reference books, Internet.

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.	Research and create a highly technical and specialized system to be used for the determination of Mercury in fish tissues at parts per billion levels. Process includes designing new equipment and adapting and modifying existing equipment. Technique must be adapted to Laboratory setting as well as field setting. The final result is the creation of a method to perform analysis not before attempted at College which students and staff can use and understand.
What are the organizational and/or project management skills needed to bring together and integrate this activity?	Incumbent needs to research existing methods for Mercury analysis. Adapt these methods to existing equipment, design and have glassware built for sample handling, trouble shoot system to prevent chemical and physical interferences. Build a system that can be taken to camp, make a portable fume hood for safe handling of Chemicals in a field camp situation. Test method using statistical evaluation to determine detection limits and quality of data produced, maintain system integrity by developing a strong QA/QC protocol. Create a manual to be used by Students and Faculty so that System can be easily used and understood.
List the types of resources required to complete this task, project or activity.	Instrument Manuals, Standard Methods, MOE procedures, Internet sources, Liaise with outside professionals.
How is/are deadline(s) determined?	Deadline is determined by incumbent. The above Protocol was developed and fine tuned over a year.
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 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.	Create and design original field exercise for 3rd year fish and Wildlife students including various sampling techniques and the use of water quality instrumentation and fish tissue analysis instruments. These new techniques are used to supply students with previously unattainable data used in the completion of other College courses.
What are the organizational and/or project management skills needed to bring together and integrate this activity?	Must liaise with faculty to determine the timelines for the performance of this exercise. Must organise students (ie: Small amounts of equipment for Large groups of students, and have a knowledge of the applications for the chemistry protocols, This means having a general understanding of Limnological and water chemistry practices. Prepare students through meetings for the camp process, covering rules and procedures originated by incumbent, and instruct students on use of equipment that students need to successfully complete camp. Assign work schedules and duties to students and ensure that they are completed on schedule. Evaluate student success on completion of each field camp component.
List the types of resources required to complete this task, project or activity.	Vendor Instrumentation data, MOE Standard Protocol, Internet Sources, other sampling protocals. Water safety Manuals, Science journals, Internet Sources.
How is/are deadline(s) determined?	Deadline is determined by Faculty and program needs and student timetables.
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 solely responsible for outcomes of exercise, other staff involved lack the analytical skill to design an exercise.

	#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.	
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 (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
☐		Minimal requirement to guide/advise others. The incumbent may be required to explain procedures to other employees or students.	
x	x	There is a need for the incumbent to demonstrate correct processes/ procedures to others so that they can complete specific tasks.	Daily Demonstrations of pH, Conductivity meters, Field instruments like sonde units and Spectrophotometers Faculty requested a method to analyse for Mercury in Fish tissue . Incumbent adapts develops, writes procedure for, implements and instructs faculty and students on method. Method is made part of Course Curriculum Set up water sampling protocol and an analysis methodology for Geology program that has been used for the past 10 years. This is designed to analyse water for a number of different parameters in a manner consistent with outside agencies and is at a an attainable level for students
☐		The incumbent recommends a course of action or makes decisions so that others can perform their day-to-day activities.	

x	□	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.	Create a standardized method of Biological Oxygen Demand analysis for Centre for Alternative Waste Water Treatment facility (Research Facility). A continuous monitoring system is in place due to incumbent' direction. All analytical Chemistry techniques taught at the Campus are directly implemented and monitored by incumbent. Involvement in analytical components of research projects across programs.
□		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 has significant freedom to act under general direction of faculty with occasional supervisory contact. Faculty request a general type of analysis, and incumbent researches, develops and implements the methods used, independent of faculty or other inside sources.	

What rules, procedures, past practices or guidelines are available to guide the incumbent?	
Regular and Recurring	Occasional (if none, please strike out this section)
Minimal information is available for these applications. Journals and a small number of texts can be referenced to aid in the creation of new analytical techniques Information from outside sources such as Ministry of Environment and through some liaising with colleagues outside of the college. Instrument manuals only supply operational info, Methods are created by research and drawing on incumbent experience..	

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 not reviewed regularly Feedback is only given in the event that a project lab .. etc.. is not completed to the satisfaction of client, or if the intended result is not obtained. Incumbent is left to fix and trouble shoot in these cases with no direction from faculty, staff, students, or supervisor.	

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)
When a lab will take place – determined by time tabler and faculty.	

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)
Permission to access funds for items not specifically part of the normal budget (e.g. major repairs or purchase of capital equipment). 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 Fixing equipment which breaks down during a lab session. Makes temporary fixes which allow students to continue on with their work and complete the lab components. Develop new applications to be used by faculty and students. How to safely implement potentially hazardous methods or procedures Most Chemistry orientated decisions are made by the Incumbent or with the advice of the incumbent.	

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?		
Email, Phone calls,	Email, Written reports, Lab protocols and methods, In Person, Classroom lectures and oral presentation, Power point	College Faculty, Researchers College Grads, Consultants	D
Emails, Phone Calls, Letters, In Person	Email, Written reports, In person, oral presentations, Power Point	Camp Owners, Outside College Supporters, Outside Vendors	M

* 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	Other technicians and technologists	D
	To acquire information about used equipment for possible donation or purchase	Suppliers	W
	To liaise with colleagues outside of the College To exchange information and learn of new techniques, journals and other new information	Ministry of Natural Resources and Environment	M
	To create Ministry interest in our College as recipients of donated equipment	Ministry of Natural Resources and Environment	M

Explanation and interpretation of information or ideas	. To organize tours and P.D. training sessions in order to plan new types of applications to existing courses Purchase chemicals and instrumentation To learn of new instrumentation and techniques in chemistry field Solicit support for capital and non purchases and obtain and loan equipment between departments Provide consultation on Environmental issues to outside supporters of the College – ie: Land owners Attend Meetings and present oral presentations to the above to convey ideas and information from the incumbent and as a representative of other Faculty and College interests.	Ministry of Natural Resources and Environment Suppliers Faculty / other technicians and technologists Loon Lake Corporation, Hunt Clubs, College Grads.	M W I I
Imparting technical information and advice	To advise how to complete their analytical chem. goals and to aid in the repair and calibration of their highly technical chemistry related equipment To advise faculty in the completion of their complex analytical chemistry needs	Other technicians and Technologists Faculty	D D

Instructing or training	Incumbent Instructs students on proper use of equipment Instructs Faculty on the methods the incumbent develops, Trains student helpers on safe and effective use of chemistry resources, Demonstrates Safe and proper use of chemicals and all analytical equipment – complicated or simple	Faculty, Students, Technicians, Grads, Outside agencies wanting advice	D
Obtaining cooperation or consent	Liaise with Camp owners, and other outside agencies to use their facilities off campus, obtaining free demonstration equipment for use at College etc…	Loon Lake Corporation, Hoskins Scientific, Varian Inc.	M
Negotiating			

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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	
Lifting instruments, equipment Water jugs			D			X	
Setting up equipment and boats				D		X	

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

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

□ Light (up to 5 kg or 11 lbs)	
X Medium (between 5 to 20 kg or 11 to 44 lbs)	Equipment and instruments
X Heavy (over 20 kg or 44 lbs)	Water jugs

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			D
Can concentration or focus be maintained throughout the duration of the activity? If not, why? X Usually □ No There are occasional interruptions from Students or Faculty.				

Activity #2	Frequency (D, W, M, I)*	Average Duration		
		Short < 30 mins	Long up to 2 hrs	Extended > 2 hrs
Calibrating precision instruments	D		D	
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	D			D
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)*
□ 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	Exposure to inclement weather during field camp, sunlight exposure Cold, rain, Snow, etc.. Windy weather . in boats etc	I
X exposure to extreme weather conditions	Occasionally need to work in Extreme Cold and snow temperatures to perform Field Procedures – 2 weeks per year	I
X exposure to very high or low temperatures (e.g. freezers)	Work outdoors for a week at a time in February Temperature -20 Degrees C or lower.	I
X handling hazardous substances	Low dose exposure to chemicals is probably (hazardous) – Acids(Corrosives),(Alkalis) Bases, poison i.e. Cyanide, Solvents ie Toluene, Chloroform, etc.. Exposure to high voltage equipment. Deals with radio-Active sources in instrumentation, Some UV and RF exposure as well.	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	M
X travel	To camps, (cube van). In boats at camp, travel by Snowmobile in winter to Study lakes	I
□ working in isolated or crowded situations	Incumbent works with potentially dangerous/Hazardous Chemicals and high voltage equipment on a daily basis, the incumbent works alone in the chemistry lab	D
□ other (explain)		

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