

Position Description Form (PDF)

College: Sir Sandford Fleming

Incumbent's Name: Vacant

Position Title: Geomatics Technologist

Payband: H

Position Code/Number (if applicable): S00384

Scheduled No. of Hours 35

Appointment Type: 12 months less than 12 months

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

Completed by: Tania Clerac

PDF Date: Oct2020

Last Revision: June 25, 2010

Signatures:

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

Date:

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.

This position is the front-line contact for computer users, students, staff and faculty in the Geomatics area when they encounter hardware, software peripheral equipment problems or require assistance and one-on-one training. The position provides technological cartographic expertise and preparation of materials, software and equipment to SENRS programs, faculty, and students in the lab environment as well as during field camp exercises. Individual is accountable for ensuring effective, timely and accurate communication with other Geomatics staff.

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. Provides support for Geomatics wing academic computer labs and individual users by troubleshooting user problems and peripheral equipment issues. Provides assistance to students, staff and faculty by helping them solve workstation/software application problems with specialized Geographic Information Systems and mapping software (GIS). Consults with individual staff and users to help them maximize the desktop software in relation to their individual needs.	30%
2. Assists and guides new faculty and contract faculty who may be unfamiliar with Geospatial curriculum. Provides Tech support for scheduled GLH hours. Assists Semester One Geomatics team with curriculum development, projects, and testing materials. Helps students to develop a better understanding of spatial concepts delivered in class by reinforcing previously introduced materials, providing out of class tutoring and guiding students with project work.	30%
3. Provides technical GIS support, cartographic advice and support for all SENRS departments.	20%
5. Assists with planning, coordination and operation of field camps. Develops curriculum, mapping, navigation and spatially related activities for GIS Post Graduate certificate field camp. Develops and delivers mapping material at Fall camp evening lecture sessions. Investigation and development of computer/digital mapping technologies, and hardware (laptop) technologies for the post graduate certificate program. Handles requests and co-ordinates tours for prospective students, industry, and community schools/groups	10%
6. Investigates, prepares and initiates purchases for the GIS programs. Provides budgetary updates to program coordinator, provides input to annual budget preparation and maintains program inventories. Works in conjunction with the Geomatics Technical Support Team to ensure proper supplies and equipment are available.	5%
Other related duties as assigned.	5%

* To help you estimate approximate percentages:

FINAL: June 2010

½ hour a day is 7%

½ day a week is 10%

1 week a year is 2%

1 hour a day is 14%

½ day a month is 2%

1 hour a week is 3%

1 day a month is 4%

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 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:

(GIS) Geographic Information Systems, Natural Resource Sciences or related 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

- 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

First Aid, CPR and WHMIS

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

Experience applying complex cartographic principles and procedures e.g. computing, designing, researching and analyzing.

Related experience working with various forms of geographic data, problem solving, troubleshooting technical problems, extracting information from technical manuals required to solve problems and determining proper procedures.

Working knowledge of ESRI products such as ArcGIS Desktop and ArcGIS Pro. Working knowledge of Autodesk products such as AutoCAD.

Experience using computer graphics and desktop publishing software - GIS and digital mapping systems, computer peripheral devices and various operating systems.

Knowledge and experience with Survey equipment such as Total Stations, Levels and mapping-grade GPS equipment.

Experience with cloud based GPS such as, but not limited to, Collector, Survey 123 and Qfield.

Knowledge of principles and practices of cadastral land surveying and land management

Experience working independently within a team environment using customer service, written & oral communication, problem solving and interpersonal skills.

Experience working with students in a post-secondary educational setting.

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.	<p>The Incumbent deals with unique software/hardware problems related to compatibility issues that have never been encountered previously in the GIS computer labs.</p> <p>The Incumbent identifies and resolves problems when dealing with data compatibility issues such as NAD27 data conversion to NAD83 or UTM coordinate systems to Lat. Long.</p>
How is it identified?	<p>Students or faculty bring to incumbent's attention.</p>
Is further investigation required to define the situation and/or problem? If so, describe.	<p>Must constantly compare and adjust using previous years of knowledge of industry standards and advanced computer mapping technologies and software compatibility.</p>
Explain the analysis used to determine a solution(s) for the situation and/or problem.	<p>Trial and error, logical process of elimination of possibilities, investigations on the internet, software company forums.</p> <p>Resolve problems based on knowledge of system, past experience and intention</p>
What sources are available to assist the incumbent finding solution(s)? (eg. past practices, established standards or guidelines).	<p>User manuals for some software user forums. Many problems are encountered for the first time and there are no previously established guidelines.</p>

3. Analysis and Problem Solving

#2 regular & recurring

Key issue or problem encountered

Obscure resources required by faculty are requested to be located by incumbent; this involves non-routine research work and external liaison with government agencies, private companies and other educational institutions. Locates and purchases digital and hard copy mapping products for faculty and student use in labs and project work.

How is it identified?

Problem brought to Incumbent attention by faculty or student

Is further investigation required to define the situation and/or problem? If so, describe.

Further research is often done on-line and with various agencies whose resources are accessed by Geomatics professionals.

Explain the analysis used to determine a solution(s) for the situation and/or problem.

Evaluate the student and faculty needs and provide them with the venues and options and make a recommendation

What sources are available to assist the incumbent finding solution(s)? (e.g. past practices, established standards or guidelines).

Industry standards, Industry service providers and data suppliers, professional associations

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

Key issue or problem encountered

During geomatics field camp activities the incumbent is expected to monitor and supervise the activities of student groups collecting data in conditions that can be harsh ensuring that all foreseeable student safety concerns are addressed.

How is it identified?

The geomatics field camp may take place in a harsh environment under often difficult (wet winter) conditions. Incumbent must be aware of any student health concerns that may cause problems for the student and put others at risk.

Is further investigation required to define the situation and/or problem? If so, describe.

If a particular student has a health issue that may hinder their performance in the field they may need additional coaching, supervision or monitoring to ensure their and their peer's safety.

Explain the analysis used to determine a solution(s) for the situation and/or problem.

Close observation, does the student show signs of fatigue, are the conditions such that hypothermia might be a concern. A decision may have to be made to postpone field activities for more favourable weather conditions or alter the activity to ensure adequate learning can occur in a measurable way.

What sources are available to assist the incumbent finding solution(s)? (eg. past practices, established standards or guidelines).

Actions taken are the result of consultation with other staff, faculty and Industry professionals at the site.

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 is responsible for planning, organizing, and facilitating field activities including the annual GIS Survey camp (APST 87).

What are the organizational and/or project management skills needed to bring together and integrate this activity?

When planning the GIS Survey camp, the incumbent may be responsible for resolving conflicting schedules and designing an activity which is suitable for individuals with various levels of knowledge and expertise working under the limitations of field conditions implementing procedures which will result in an exercise which can be completed and evaluated within predetermined allowable time constraints.

List the types of resources required to complete this task, project or activity.

Access to the internet and college IT services. Mapping and GIS software. Access to and operational knowledge of GPS receivers and survey equipment.

How is/are deadline(s) determined?

Deadlines for this type of activity are usually predetermined by class schedules and activities must be delivered within the time constraints of a class, half day or full day. Factors affecting this delivery model may include the season, the time of day and the availability of equipment.

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.

Through consultation with staff, faculty a decision might be made to postpone or alter the activity. Severe weather conditions may have an impact on satellite signals and affect GPS activities planned as well as contributing to unsafe environment. Consultation with the student groups, faculty advisors to assess any potential impact may see the need to alter the project specifications and outcomes.

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 assists 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.	
	<input type="checkbox"/>	There is a need for the incumbent to demonstrate correct processes/procedures to others so that they can complete specific tasks.	
X	<input type="checkbox"/>	The incumbent recommends a course of action or makes decisions so that others can perform their day-to-day activities.	The incumbent organizes scheduled GLH hours for the Geospatial semester one course. The incumbent designs flexible work schedules which must conform to college hiring practises and existing class schedules. They also orient the new employees to the Geomatics area and work environment
x	<input type="checkbox"/>	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.	Reinforces previously learned material during guided learning hours.

- 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)
Basic program responsibilities are defined on a yearly basis in program meetings and are planned for the academic year. Once responsibilities are established, the incumbent receives little to no instruction or review from faculty or supervisor and acts independently to ensure responsibilities are met. Within the day to day duties the incumbent has significant freedom to develop and plan projects and course material which may benefit the program.	

What rules, procedures, past practices or guidelines are available to guide the incumbent?	
Regular and Recurring	Occasional (if none, please strike out this section)
Most computer software systems have extensive documentation in the form of Users guides, reference guides, and other technical manuals.	

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 by report and discussion. Feedback provided by faculty and students as needed.	

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)
Faculty and other techs may meet and make adjustments in the work assignment to allow a more balanced approach to curriculum delivery or to ensure that the individuals with the most relevant knowledge and experience are being utilized in an effective manner.	

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)
Manager and/or co-ordinator are involved only with major problems which may involve site safety or budgetary considerations. Issues/concerns with employees and students may also involve consultation with supervisor.	

Describe the type of decisions that would be decided by the incumbent.	
Regular and Recurring	Occasional (if none, please strike out this section)
When the incumbent is dealing with software maintenance tasks he/she is accountable for meeting expectations of the user. Identifies alternate solutions. Decisions are made within the bounds of the system or program specifications and program standards.	

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?		
In person, Email, telephone	Answer Questions, Demonstrate, instruct, correct, guide	students	D
In person, Email, telephone, Meetings	Implement course materials, purchasing, problem solving, assist in delivery of material	faculty	D
In person, Meetings, telephone, Email	attend external meetings and conferences, liase between program and Universities	SSFC Administration, Managers	I
telephone, Email,	Discuss software options,	Suppliers	I
LIO Data request	Procure from LIO data warehouse as per MNR agreement	Students and Faculty	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, extending common courtesy	Responding to demands	Faculty	D
	Establish needs,	Co-ordinators/	D
	Supply ordering	Purchasing	D
	Price quotes	Suppliers	
	Alumni Liaison, recruiting	Student grads	W
Explanation and interpretation of information or ideas	Technical advice, policies	Other Support Staff (tech. & Mtce)	D
	Acquisition of technical product specifications and safety/chemical considerations	Manufacturers	M
	Research to retrieve student resource data	Universities	
	Developing schedules for geomatics area support staff coverage of double labs, GLHs and help desk occupation	Other support staff	M
	Help desk coverage backfill	Other support staff	D
	Guided Learning Hours GLHs		W
	Needs assessment/assist in development of assessment tools		W
Imparting technical information and advice	Determine best practise and then Demonstrate procedure to students, faculty and other staff	Students	D
		Faculty	M
		Other college staff	M
Instructing or training	Reinforces previously introduced material through demonstration	Students	D
	Tutor and assist students on projects		
	Administering assessment of student work		
Obtaining cooperation or consent			

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
Heavy Lifting	M	√					
Uses light tools	W	√					
Walking about standing, assisting students, bending over computers.	D			√			
Sitting	D			√			
Climbing on and off equipment, working under large equipment	I	√				√	

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

X Light (up to 5 kg or 11 lbs)

Monitors or CPU's, paper boxes

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

Moving computers, monitors, desks, tables for startups, repairs.

√ Heavy (over 20 kg or 44 lbs)

Large computer monitors

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
Focusing on small detailed map features. Problem solving requiring significant mental concentration and attention to detail. This must be maintained often while experiencing interruptions from students and faculty.	D			√
Can concentration or focus be maintained throughout the duration of the activity? If not, why? <input type="checkbox"/> Usually <input checked="" type="checkbox"/> No, Usually interrupted by students or faculty				

Activity #2	Frequency (D, W, M, I)*	Average Duration		
		Short < 30 mins	Long up to 2 hrs	Extended > 2 hrs
Concentration and close attention to detail when installing or configuring applications and performing maintenance or data backup routines.	M		√	

Can concentration or focus be maintained throughout the duration of the activity? If not, why?

Usually

No Usually interrupted by students, faculty or other college employees

Activity #3	Frequency (D, W, M, I)*	Average Duration		
		Short < 30 mins	Long up to 2 hrs	Extended > 2 hrs
Analysis of problems This concentration is often disrupted by multiple sensory inputs (e.g. answering the phone, using the computer and constant interruptions from student/faculty). Juggle concurrent requests/issues and meet demands from both students and faculty while maintaining concentration needed to solve complex issues.	D		√	

Can concentration or focus be maintained throughout the duration of the activity? If not, why?

Usually

No, as a front line employee in a heavy use area the incumbent is visible and accessible to as many as 300 computer users and is constantly interrupted with questions and problems that need attention.

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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)*
<input checked="" type="checkbox"/> acceptable working conditions (minimal exposure to the conditions listed below)	Computer labs	D
<input type="checkbox"/> accessing crawl spaces/confined spaces		
<input checked="" type="checkbox"/> dealing with abusive people	Students and faculty	W
<input checked="" type="checkbox"/> dealing with abusive people who pose a threat of physical harm	Students	I
<input type="checkbox"/> difficult weather conditions	Skidder operations take place regardless of weather. Wet conditions increase likelihood of slipping and accidents	

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<input type="checkbox"/> exposure to extreme weather conditions	Wet stormy weather, electrical storms which can arise while at the cut block site	
<input type="checkbox"/> exposure to very high or low temperatures (e.g. freezers)	Cut block site in Sept can be very hot	
<input type="checkbox"/> handling hazardous substances	Oil, Gas, Diesel Fuel, Trans-hydraulic fluids under pressure, brake fluid	
<input checked="" type="checkbox"/> smelly, dirty or noisy environment	Constant Excessive noise in computer labs Diesel engines under load, multiple chainsaws and brush saws running	D
<input checked="" type="checkbox"/> travel	Promotional events To and from field camp	I
<input type="checkbox"/> working in isolated or crowded situations	Operating Skidder hauling several tonnes of logs from cut block site to landing completely isolated from anyone else	
<input type="checkbox"/> other (explain)		

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