#### Trent University LogoOPSEU JOB DESCRIPTION

**Job Title:** GIS Analyst & Database Support Specialist

**Job Number:** L-098 | VIP: 1937

**Band:** OPSEU- 9

**Department:** Library, Maps, Data & Government Information Centre (MaDGIC)

**Supervisor Title:** Research Data Services Librarian

**Last Reviewed:** August 1, 2023

#### **Job Purpose:**

Reporting to the Research Data Services Librarian, the incumbent participates in the design and delivery of services offered by the Maps, Data & Government Information Centre to support teaching, learning and research activities across the university. The incumbent provides specialized support to researchers, students and staff including finding spatial and statistical data; designing GIS procedures and workflows; use of varied spatial, statistical and data visualization software and apps; and fostering best practices in management and preservation of research data. The incumbent also leads and/or participates in select departmental projects related to enterprise geodatabase development and maintenance; defining and implementing ArcGIS Enterprise custom solutions; Web GIS; metadata development and digitization. The position requires advanced knowledge of GIS practices and methodologies, SQL Server and RDBMS, and use of ArcGIS Enterprise and Desktop software and apps. Must be able to work on multiple projects, collaboratively as part of a team, and with minimal supervision.

#### Key Activities:

##### Research Support with finding information & specialized collections

* Responds to requests for spatial and statistical data, cartographic resources, and government information, meeting diverse research, teaching, and administrative needs and deadlines as received from within and outside of the university.
* Conducts research interviews, provides written responses in a timely manner.

##### Teaching/Orientation

* Designs, develops, maintains, revises, and validates instructor-led and web-based training materials and exhibits.
* Assists with the department’s instruction and outreach initiatives.

##### Data & GIS Support

* Guides students and researchers identifying workflow design, troubleshooting production issues, and identifying solutions fit to purpose.
* Assists with spatiotemporal data analyses and modeling.
* Assists with data visualization using various methodologies and software.

##### Cartography & Map Design

* Produces high-quality cartographic maps, data extracts and reports, infographics, and other visualizations.

##### Research Data Management Support

* Provides advice on data analysis, cleaning, normalization, and management using a variety of open-source and proprietary tools and methods.

##### Web GIS/Enterprise Geodatabase Support

* Develops Web GIS applications.
* Designs and maintains SQL Server / PostgresSQL geodatabases.
* Validates and edits database project specifications and requirements.
* Analyzes data for quality control and quality improvement purposes.
* Incorporates various data sets and formats into databases, verifies data integrity of new and existing data.
* Analyses, tests, and resolves production problems.
* Assists with metadata and digitization initiatives.
* Prepares documentation and training materials.

##### Other

* Performs other duties, as assigned.

#### Education Required:

* Honours Bachelor’s Degree (4 year) in a related field, ***and*** a College Degree or Post-Graduate Diploma in Geographic Information Systems.

#### Experience/Qualifications Required:

* Minimum of three (3) years directly related experience including progressive experience with designing, implementing, and/or administrating enterprise GIS solutions/systems that leverage the ArcGIS platform (ArcGIS Pro, ArcGIS Enterprise, ArcGIS Online, ArcGIS Apps).
* Demonstrated experience working with spatial and relational databases (e.g. SQLServer or PostgreSQL).
* Knowledge of computerized mapping technologies, open-source and proprietary software.
* Knowledge of cartographic best practices and methods.
* Familiarity with JavaScript libraries and APIs; ability to modify and apply web applications.
* Strong research skills. Ability to apply analytical, conceptual, and problem-solving skills to research problems and questions at the undergraduate and graduate levels.
* Ability to function independently with minimal supervision, as well as within a team setting, work within defined and often constrained timelines.
* Outstanding verbal and written communication skills; demonstrated ability to communicate clearly.
* Remains current with frequent updates and changes to technology.
* Demonstrated commitment to diversity and understanding of the contributions a diverse workforce brings to the workplace.

#### Supervision:

* Supervise and direct the activities of student employees.
* May provide on-the-job training and guidance to new employees and employees who are job shadowing.

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**Job Evaluation Factors:**

##### Analytical Reasoning

The candidate requires analytical and problem-solving skills to: identify and resolve technology issues; respond to complex research questions; develop spatial computing solutions to bring forward to managers, co-workers, researchers, and students. In completing technical assignments, the candidate will require problem-solving, evaluative and analytical skills to lead the development and testing of solutions, advise on use on new technologies and techniques (for example, implementation of Esri technologies or SQL database solutions)

##### Decision Making

Ability to work independently within a team, allocate time to multiple tasks, solve complex problems that require in-depth evaluation of their components, determine methods and procedures for new assignments, adapt existing criteria and guides to new issues, devise new approaches and draw conclusions from comparable situations (e.g., devising procedures for geodatabase development for teaching programs and administrative units within the university). Must be able to represent department in responses given within and external to the organization, and to determine when to escalate problems or issues to manager. (e.g. requests from researchers and research affiliates for departmental services and licensed products)

**Impact**

Incumbent provides highly technical responses to research questions which can influence and impact the success of a research or grant proposal, thesis or dissertation, journal article submission, or internal library project. These questions are usually time sensitive, require comprehensive written responses, with limited precedent, past examples, and availability of technical help from managers, members of the unit and vendors.

##### Responsibility for the Work of Others

Directs work of student assistants and students working on experiential learning placements

May provide on-the-job training and guidance to new employees and employees who are job shadowing.

##### Communication

Communicates verbally and in writing; adapting communication styles to level of knowledge and type of response required; meeting frequent, time sensitive deadlines.

Gives presentations to students, faculty, staff, university invited guests and members of the public (e.g. presentation given in Data Visualization Lab to support curriculum).

Provides research and teaching support to faculty, instructors, TAs, administrative units (e.g. Facilities Management Land Stewardship staff and students requiring assistance with GIS).

Provides highly technical responses to Vendors, Trent IT and affiliated units within the university. Represents university in responses to vendors (e.g. troubleshooting software / data base issues with Esri).

##### Motor/ Sensory Skills

Motor: Frequent sitting during the daily use of a computer; requires continuous and repetitive hand and eye movement.

Audio: The office and lab environment may be busy, noisy and requires excellent organizational and time management skills to address competing priorities and student / researcher requests.  
  
Visual: Sensory demands include the use of the computer, which may cause eyestrain while programming, designing graphics and manipulating digital maps and databases.

##### Effort

Job requires balancing multiple deadlines and commitments.

Lifting maps and atlases (oversized collections) from diverse cabinets and storage areas, low and high shelves.

##### Working Conditions Work is performed in an open concept office environment and student lab; may be interrupted frequently to meet the diverse needs of students, researchers, faculty, members of the public, co-workers and managers.

Able to routinely work outside of normal business hours and to accommodate other flexible scheduling to allow for extended shift coverage.