

Job Description

Job Title:	Data Scientist
Department:	Dean of Mathematics Office
Reports To:	Director, Planning
Jobs Reporting:	None
Salary Grade:	USG 10
Effective Date:	April 2021

Primary Purpose

The Data Scientist will advance the Faculty of Mathematics' use of data to inform strategic and operational decision-making by Faculty leadership. The Data Scientist is responsible for sourcing, understanding, consolidating, and analyzing student and other data about the Faculty of Mathematics; for effectively communicating analyses and findings; and for making related recommendations to Faculty leadership. The Data Scientist will maintain a robust understanding of data systems and of University and Faculty policies and practices to be able to understand the needs of a variety of clients across the Faculty and to independently design and develop effective data solutions.

Key Accountabilities

Data Acquisition and Management

- Understand the available data, systems, dictionaries, and distribution channels from multiple information systems across the University and involving multiple domains.
- Create and maintain documentation as needed.
- Design, document and build appropriate data acquisition channels; streamline/automate existing channels as appropriate.
- Implement data cleaning processes to ensure data quality standards and to identify data anomalies and discrepancies to appropriate institutional data stewards for resolution.

Data Analysis and Reporting

- Work with varied clients to identify, clarify, and fully understand their questions or problems to provide effective data answers and solutions.
- Develop and apply deep understanding of University and Faculty policies, procedures, and guidelines (including but not limited to undergraduate studies regulations) to solution design and analysis.
- Analyze data acquired from multiple platforms to gain insights.
- Develop reliable forecasting, predictive, and "what-if" models to inform and support planning, evaluation, and budgeting processes.
- Leverage machine learning algorithms where appropriate to optimize data solutions.
- Communicate findings, recommendations, and data through reports, presentations, and visual analytics.

Leadership, Relationships and Collaboration

- Maintain current knowledge of best practices across all domains of the role, in the post-secondary sector and beyond, to effectively advise Faculty leadership.
- Research new tools, systems, and practices to recommend improvements across all domains of the role

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- Develop and nurture effective relationships with offices and individuals across the Faculty and University involved in the development, provision, maintenance, and use of data systems and tools and in the interpretation and implementation of operational policies and guidelines.
- Understand the needs of each stakeholder group in order to assess and scope projects fully and to make recommendations on timelines and priorities for each.
- Communicate effectively with multiple, varied clients (senior leadership, faculty members, and staff) to understand needs, scope projects and project terms, update progress, and present findings.

**All employees of the University are expected to follow University and departmental health and safety policy, procedures and work practices at all times. Employees are also responsible for the completion of all health and safety training, as assigned. Employees with staff supervision and/or management responsibilities will ensure that assigned staff abide by the above, and actively identify, assess and correct health and safety hazards, as required.*

Required Qualifications

Education

- Graduate degree in computer science, statistics, mathematics, data science, data analytics, or another related discipline is required. An equivalent combination of education and experience may be considered.

Experience

- 3+ years' experience in data management, data analytics, statistical analyses and predictive modelling.

Knowledge/Skills/Abilities

- Proven ability to write SQL queries and to use SQL or other tools to extract, transform and load data for analysis.
- Proven ability to use R, Python, or equivalent for data analysis and visualization.
- Proven ability to use Python or another scripting language to automate tasks.
- Knowledge of statistical packages, ETL methods, and visual analytics.
- Strong interpersonal, visual, and technical written communications skills.
- Demonstrated problem-solving skills, including the ability to scope and execute on an effective data solution to an initially ill-defined problem.
- Proven ability to work independently with limited supervision.
- Effective collaborator, able to work with a variety of technical and non-technical roles across teams.
- Strong stakeholder management and prioritization skills.
- Experience applying machine learning techniques and frameworks would be an asset.
- Knowledge of postsecondary education data domains or student data systems would be an asset.

Nature and Scope

- **Contacts:** Internally, communicates regularly with multiple data project stakeholders and clients in the Faculty to understand their needs, scope work, seek clarification, problem-solve, provide updates, and test results. Connects with various data analytics teams across the University to exchange and collect information. External contact with vendors or suppliers may be required to obtain additional information.
- **Level of Responsibility:** Responsible for a faculty-wide function with specialized work and minimal supervision; provides guidance to others; no direct reports.
- **Decision-Making Authority:** Prioritize multiple projects and set timelines to ensure project goals are met as required. Develop and provide recommendations to Faculty leadership.
- **Physical and Sensory Demands:** Minimal demands typical of an administrative position within an office environment.

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- **Working Environment:** Office working environment with frequent need to give close attention to various stimuli such as written and verbal information. The work is varied and priorities must be juggled to ensure all projects are completed successfully. There are deadline pressures, while at the same time there is a demand for thoroughness and accuracy.