

Job Description

Job Title:	Institutional Analyst
Department:	Institutional Analysis and Planning
Reports To:	Manager, Institutional Analysis and Planning
Jobs Reporting:	none
Salary Grade:	USG 8-13
Effective Date:	November 2019

Primary Purpose

Under the direction and guidance of IAP leadership, the Institutional Analyst (IA) is responsible for the development of databases, models, analyses, and reporting as well as communicating the results of analyses internal and external to IAP. The IA will proactively contribute to IAP's mandate of providing data, advice, analytical and planning support to the Senior Leadership of the university to inform policy development, strategic planning, decision-making and priority-setting.

Key Accountabilities

Institutional data analysis and reporting:

- Develops and prepares analytical models, reports and relevant data visualizations (including dashboards, graphs, presentations and web applications) to inform evidence-based decision-making at the University.
- Supports indicator development and ongoing reporting for Waterloo operational and strategic measures.
- Analyzes trends and patterns in university performance over time using various benchmarks and comparative data
- Prepares annual and customized reports and presentations for senior leadership and university governance bodies, including monitoring student enrolment, retention and graduation rates, student survey outcomes, etc.
- Prepares standard and customized reports and accountability submissions for the Ministry of Advanced Education & Skills Development (MAESD), Council of Ontario Universities (COU), U15 Data Exchange and other consortia, university rankings agencies, Statistics Canada.
- Uses external data from a variety of sources including Statistics Canada, in combination with institutional data to prepare analysis and reports that address research questions.

Institutional data management:

- Ensures that institutional data is accurate, consistent, properly maintained and shared in compliance with relevant privacy protection, confidentiality and other ethical principles.
- Identifies and addresses data integrity/reliability issues and uses data cleaning processes to achieve required data quality standards.
- Works with large data sets to perform data mining and complete statistical analyses.
- Transforms, synthesizes, and cleanses data: identifies opportunities to reduce duplication and errors and to ensure consistency in data; identifies data integrity issues and proposes data cleansing processes to develop clear and consistent data quality standards.
- Designs and develops user interfaces for accountability reporting using web applications and best practices in data visualization, for example, scorecard and dashboard reporting.

- Helps lead the adoption and standardization of new data analysis tools and techniques, in partnership with stakeholders across campus

Communication

- Develops accurate graphs, reports, dashboards and presentations to convey complex information in an understandable and compelling manner.
- Creates business/analytical models and related user interfaces that allow stakeholders to self-serve and explore planning parameters.
- Ensures data and information is placed into the proper context by combining university data with both qualitative and quantitative environmental/external data and appropriate narrative.
- Communicates with technical and non-technical users to gather data and data system requirements, reporting requirements, consolidate and document technical data requirements, transform data into visualizations, and assist with project planning.
- Ensures timely communication to University leadership, managers, campus support units, Faculties, departments, research groups, appropriate staff through appropriate media, of developments and projects; also communicates on any related events that have the potential to directly or indirectly impact normal services.
- Serves on University, and as appropriate, non-University committees and groups, offering data and analytical expertise and fostering data information sharing and collaborative approaches on a variety of projects.
- Liaises with other departments campus-wide in providing technical support and guidance (e.g., IST)

Student supervision

- Assists with coaching, training and co-op student development to assure student growth and development
- Provides input into regular performance reviews with direct report(s), and supports achievement of performance goals
- Assists with making decisions on the hiring of his/her direct report(s), in consultation with the Managers, Institutional Analysis and Planning

Institutional Analysts may specialize in one of the following areas of work within the IAP office:

- Evaluation and Accountability:
 - Applied social science research: uses various quantitative and qualitative research methods to administer surveys, develop sampling procedures, analyze survey results, or to gather and analyze data for special research requests (literature reviews, environmental scans, needs assessments, focus group and key informant interviews);
 - Strategic planning and evaluation: assesses the University's progress towards strategic goals and priorities, and/or routine monitoring of institutional performance.
- Data Analytics and Reporting
 - Forecasting and predictive modelling: develops predictive and descriptive admissions and retention models using advanced statistical procedures; develops student enrolment forecasting models;
 - Data warehousing: designs and develops extraction, transformation, and load (ETL) procedures in support of data collection and reporting; designs and executes queries and cubes in support of reporting needs; develops and maintains data bases and datamarts; creates standard operating procedures for data maintenance and storage with appropriate documentation.

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- Budget and Resource Planning
 - Budget modelling: develops, maintains, and refines institutional resource allocation models and associated business processes. Works with other stakeholders to prepare the annual institutional budget.
 - Financial viability analyses: develops financial viability models and prepares associated analyses in support of overall academic program approval processes.
- Policy and Enrolment Planning
 - Policy analysis: evaluation of government policy objectives, directions, and developments in order to assess the potential impacts of policy changes (e.g. tuition frameworks, strategic mandate agreements, and government funding formula changes). Support to the development and revision of internal policies stemming from government directives and requirements.
 - Enrolment planning: Support to enrolment planning and forecasting initiatives in relation to both short and long range planning efforts, revenue projections, and resource allocation decisions. Support to the broader program approval processes, including MAESD approval processes for new academic programs.

**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

- Bachelors degree in Statistics, Economics, Computer Science, Social Science Research, or a combination of equivalent experience and education

Experience

- 3+ years of demonstrated experience with mathematical, statistical and analytical methods, such as regression analysis and significance testing working with large and complex data sets
- 2+ years of project management experience

Knowledge/Skills/Abilities

- Superior data management, manipulation, interpretation and analysis skills
- Excellent written and verbal skills for procedural documentation and demonstrated experience with report writing
- Ability to work independently and as part of a team
- Ability to manage large workloads and prioritize competing deadlines
- Taking initiative and be proactive
- Working knowledge of a variety of reporting and data visualization tools, such as Tableau or Power BI
- Knowledge of Sharepoint and other web development applications
- Demonstrated ability to use MS SQL Service (SSIS,SSRS and SSAS)
- Knowledge of SPSS,SAS, Python, R or other statistical analysis or data transformation tools
- Ability to apply, identify and use a combination of quantitative and qualitative research methods

Nature and Scope

- **Contacts:** Internally, communicates with all employees in all groups and departments and at all levels to deal with, influence and motivate others, and to address potentially sensitive matters.

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- **Level of Responsibility:** The position is responsible and accountable for the overall results of the service area
- **Decision-Making Authority:** Responsible and accountable for establishing the priorities for projects as assigned and addressing the changes requested by consulting with members of IAP, or relevant working groups as appropriate.
- **Physical and Sensory Demands:** Minimal exposure to disagreeable conditions typical of an office position exposed to stress and pressure associated with those responsibilities.
- **Working Environment:** Minimal exposure to disagreeable conditions typical of an office position exposed to stress and pressure associated with those responsibilities.