

POSITION DESCRIPTION

Senior Data Engineer

Reports to:	Data Platform Lead
Division:	Information Technology Services
Tenure:	Permanent
Location:	Hamilton
Date:	October 2026

Vision

Ko te tangata

A research-intensive university providing a globally connected, innovative and inclusive student experience in an environment characterised by a commitment to diversity, respect for Indigenous knowledge, and high levels of community engagement.

Values

Ko te mana o Te Whare Wānanga o Waikato ka herea ki tō tātou:

- Tū ngātahi me te Māori
- Mahi pono
- Whakanui i ngā huarahi hou
- Whakarewa i te hiringa i te mahara

The University of Waikato places a high value on:

- Partnership with Māori
- Acting with integrity
- Celebrating diversity
- Promoting creativity

1. GENERAL

Our University's digital vision is "Digital connects us and moves us forward."

Information Technology Services (ITS) leads digital direction, manages and protects the digital ecosystem, supports digital initiatives and delivers digital services that ensure the University can teach, research and operate successfully in a secure, resilient, connected, sustainable and future-ready digital environment.

ITS is part of the Corporate Services Group within the portfolio of the Chief Operating Officer.

2. POSITION PURPOSE

The Senior Data Engineer is responsible for designing, building and operating the data pipelines and engineering foundations of the University's enterprise data platform (Databricks). The role brings data from the University's operational systems, both on-premises and cloud, into the platform reliably, securely and at scale, and delivers integrations that return trusted data to the operational systems that need it.

As a senior member of the team, the Senior Data Engineer leads the design and delivery of complex ingestion and integration work, and is a point of technical reference for other engineers. They work with source system owners, architects and the wider team to understand how data is produced, how it changes and how it must be protected. They then turn this into pipelines that are automated, tested, monitored and cost-efficient. They mentor colleagues across the Data team and in other teams that work with the platform, helping build data engineering capability across the University.

The position plays a central part in the migration away from the legacy on-premises data warehouse. It moves the data feeds and integrations that critical reporting and operations depend on to the modern platform, while protecting the continuity of those services.

All delivery must align with the platform standards, patterns and roadmap owned by the Data Platform function.

3. FUNCTIONAL RELATIONSHIPS

Internal: Head of Infrastructure
Enterprise Architect
ITS Data Engineering positions
Security and Risk / Assurance positions
Planning, Performance and Analytics (PPA) team
HR, Finance, Marketing teams
VC Office functions for recruitment and institutional performance
DVC Academic,
DVC Research portfolios
Digital Governance and Steering Groups
Information Management leads

External: Databricks and related partners
Sector peers for benchmarking and shared learning.

4. KEY RESPONSIBILITIES

Data Ingestion and Integration

- Design and build ingestion pipelines from the University's source systems, landing and structuring data in line with the platform's Medallion architecture, and applying the endorsed ingestion pattern that best fits each source.
- Design and build outbound integrations that deliver trusted data from the platform to operational systems.
- Investigate, scope and document new data sources, including how data changes over time and how it must be protected.
- Work with source system owners and infrastructure teams on secure connectivity and access to source data.

Solution Design and Technical Delivery

- Lead the technical design and delivery of complex ingestion and integration work, within endorsed architecture, standards and patterns.
- Work with architects and the wider team to shape solution designs, and contribute to the development of engineering standards and patterns.
- Consider downstream modelling and consumption needs when designing ingestion pipelines, and provide input into canonical and Gold-layer design.
- Produce source-to-target mappings and technical documentation for the solutions delivered.
- Take part in project scoping and advise on the feasibility, effort and risks of data engineering work.

Platform Operations and Reliability

- Build orchestration, monitoring and alerting so that pipelines run reliably and failures are detected and resolved quickly.
- Optimise pipelines and workloads for performance and cost efficiency.
- Undertake support and development work arising from incidents and change requests, and resolve root causes.

DataOps and Automation

- Build and maintain deployment automation and CI/CD pipelines for data workloads, including the structured promotion of code between environments.
- Build automated testing and data quality checks into pipelines.
- Lead and take part in peer review, holding work to endorsed engineering standards.

AI-Assisted and Agentic Engineering

- Use and build AI-assisted and agentic workflows to speed up pipeline development, testing, documentation and operations, within the University's AI and data governance controls.
- Develop reusable agentic workflows and prompts, and contribute them to the team's shared practice to improve delivery speed and consistency.

- Evaluate AI-generated outputs critically and take accountability for the quality and security of everything delivered.

Migration from Legacy Data Warehouse

- Lead the technical delivery of migrating data feeds and integrations from the legacy on-premises data warehouse to the platform, in line with the endorsed migration sequence.
- Analyse existing legacy load routines and integrations, and rebuild them on the platform to current standards, rather than replicating them as is.
- Protect the continuity of critical data integration and reporting operations during migration, including running and reconciling legacy and new pipelines in parallel where needed.

Data Security, Governance and AI Data Exposure

- Build security, privacy and access controls into pipelines from the point of ingestion, in line with platform standards.
- Apply data classification and capture lineage and metadata, so data is safe to expose to reporting, self-service and AI tools.
- Identify and escalate risks and non-compliant designs early, through the appropriate channels.

Mentoring and Team Contribution

- Mentor and coach colleagues across the Data team and in other teams that work with the platform, and support their growth on the modern platform.
- Work effectively as a member of ITS to support other team members and provide support and/or coverage of functions.
- Work collaboratively to encourage transparency across activities, open sharing of knowledge, and the building of positive relationships to support a high-performance culture.
- Actively take part in and contribute to knowledge-share sessions, including sharing engineering and AI-assisted practices.
- Support a positive culture and morale.
- Comply with and undertake responsibilities set out in the University's Health and Safety Policy

Continuous Improvement

- Actively contribute to the ongoing development and improvement of modern data systems and processes, including the continuous improvement plan for the platform.
- Use operational insight, such as failures, performance and cost trends, to improve pipelines and engineering patterns.
- Keep up to date with emerging practice in data engineering, the Databricks platform and AI-assisted engineering, and share it with the team.

NOTE: Staff have an annual Objectives, Development and Reflection (ODR) meeting with their manager.

5. PERFORMANCE STANDARDS

The Senior Data Engineer will be performing satisfactorily when:

- Data from source systems arrives in the platform reliably, on time and complete, with failures detected and resolved quickly.
- Ingestion and integration solutions conform to endorsed standards and patterns, and move through peer review and promotion without significant rework.
- Pipelines are automated, tested, monitored and documented, with lineage and classification in place.
- Pipeline performance and cost are understood and actively optimised.
- Data feeds and integrations migrated from the legacy data warehouse run in parallel and reconcile before cut-over, with no loss of service continuity.
- Complex technical work is designed and delivered with sound judgement, and risks are raised early.
- Colleagues in the Data team and in teams that work with the platform are supported and mentored, and data engineering capability grows.
- AI-assisted and agentic practices are adopted in day-to-day delivery and shared with the team, within endorsed governance controls.
- Interactions in the course of performing duties are conducted professionally, respectfully and collaboratively.
- Valuable contribution and participation in relevant meetings and/or projects are provided.
- Advice provided complies with professional standards, University policies and procedures and supports the University's strategic objectives.
- Safe and healthy work practices are followed that comply with University policies and procedures, relevant work standards and statutory obligations.

PERSON SPECIFICATION

EDUCATIONAL QUALIFICATIONS

Essential

- Bachelor's degree in computer science, information technology, engineering or a related field, or equivalent experience.
- Relevant industry experience (5 to 8 years) in data engineering, including building and supporting production data pipelines on a modern cloud data platform.

Desirable

- Industry certification in data engineering, e.g. Databricks Certified Data Engineer (Associate or Professional), a Microsoft Azure data certification, or equivalent.

SKILLS, KNOWLEDGE and EXPERIENCE

Essential

- Strong SQL and Python skills for building and optimising data pipelines.
- Demonstrated experience designing, building and supporting production data pipelines on a modern cloud data platform (e.g. Databricks, Microsoft Fabric, Snowflake).
- Experience ingesting data from a range of sources, including relational databases, files and APIs, using incremental and change data capture patterns.
- Experience applying DataOps practices, including version control, CI/CD, automated testing and the structured promotion of code between environments.
- Experience with Azure or comparable cloud services that support data platforms, such as storage, identity and networking.
- Good understanding of relational data modelling, and of Medallion or layered data architecture.
- Experience building security, privacy and access controls into data solutions.
- Experience mentoring or coaching other engineers, including through peer review.
- Ability to communicate technical concepts clearly to both technical and non-technical audiences.
- Demonstrated openness to, and practical use of, AI-assisted development tools.
- Commitment to equal opportunity and to the University's partnership with Māori as intended by the Treaty of Waitangi. Demonstrated awareness of Māori and Pacific cultures.

Preferred

- Experience with Databricks, including Spark (PySpark), Unity Catalog, Lakeflow (Declarative Pipelines and Connect) and deployment automation (Declarative Automation Bundles).
- Experience with infrastructure as code (e.g. Terraform) and secure connectivity to on-premises data sources.
- Experience designing or building agentic workflows for data engineering, and exposure to data engineering for AI and machine learning use cases.

- Experience with dimensional data modelling, and with designing data structures that support downstream modelling and reporting.
- Experience with monitoring, observability and cost optimisation of data workloads.
- Experience in higher education or a similar multi-stakeholder environment.

PERSONAL QUALITIES

- Curious and experimental, with the judgement to adopt new ways of working safely.
- A strong problem-solver, with sound engineering judgement and attention to detail.
- Takes ownership of production systems and works independently, while collaborating openly, sharing knowledge and welcoming feedback.
- Lifts the capability of those around them through mentoring and example.
- Consultative, inclusive and adaptable, able to engage with a diverse range of stakeholders at all levels of the organisation.

October 2026