Professional Position Description

Section I **Position** **Information**	Update Only ☐ Classification Review ☒
Position Title	Cloud Database Administrator
Position #	998688, 998689, 998691
Department	Digital Strategy Office, Information Technology
Classification Level	C
Reports to	Manager, DevSecOps
Effective Date	March 12, 2021
Position Summary Briefly describe the main purpose(s) of the position	Directly responsible for the implementation, care and maintenance of critical student and staff facing cloud database systems which are essential to the core business of the University. This involves the administration of primarily AWS databases but may also include, Oracle, SQL Server and other cloud-based databases as well as certain aspects of related cloud-based application architecture. Works with cloud database colleagues to provide administrative services with respect to University cloud databases Contributes to and follows Standard Operating Procedures (SOPs) created by AU IT management in support of the Digital Governance Control Framework of IT Policies and Procedures of Athabasca University. Provides analysis, design and programming work. Analyzes user needs, and designs DBMS solutions to solve user problems, both independently and as assigned by the Director, DevSecOps.

Duties and Responsibilities Organize by key responsibility area and include % of time spent where possible	• Responsible for the key areas of database administration in AU's cloud, including but not limited to configuration management, security rules implementation, automation, monitoring and tuning, data custodian management, trouble shooting, upgrades, and API integrations required by the University's cloud architecture • Monitors computer resource data storage requirements (capacity planning) to contribute to efficient cloud resource management • Assesses the need for periodic system reorganization to reassign data, restructure databases, remove obsolete records and files, and install database upgrades and fixes; and monitors their effectiveness • Ensures the security and integrity of all university database systems • Evaluates and approves additional data elements which are being considered for database inclusion and ensures it will meet overall University objectives • Enforces procedures regarding the copying, removal, and/or destruction of data and compliance with the FOIPP act for databases under control of the Cloud Database Administrator • Adds database users and security for users following security protocols determined by the CISO and their Digital Security Office. Assists with the setup and maintenance of security classes, roles, programs, procedures and policies • Has authority to enforce procedures and standards related to database activities following the protocols determined by CISO and their Digital Security Office • Evaluates, acquires and installs DBMS software and applies upgrades as applicable in the AU cloud • Performs long range database planning; maintains timely documentation of the DBMS; coordinates with project team personnel concerning the database, as modifications to the operating system and the DBMS are made • Maintains data dictionaries and entity-relationship diagrams • Participates as directed in Business Continuity Plan/Disaster Recovery Plan • Participates in the design, implementation, support and automation of new AU DataLake and API integration to AU's Integrated Learning Environment and Digital Experience Platform • Provides advanced database technical assistance to users and project teams • Cloud Database Administrators will be routinely assigned to squads and will be required to report on their day-to-day activities in support of the squad deliverables to the technical squad lead • Accountable for ensuring all time spent on projects and ongoing steady-state activities and initiatives are entered in AU IT time entry system. • Accountable for estimating accurately and reporting progress on tasks assigned as part of larger implementations, configurations, decommissions and migration projects • Maintains or assists with a variety of application servers related to the AU Cloud databases • Responsible for the installation, implementation and/or configurations of certain upgrades to proprietary (3rd party non-RDBMS) software, where such upgrades involve AU Cloud databases and have a significant impact on AU administration database systems • Periodically is assigned report writing and presentation duties • In collaboration with AU IT Testing Specialists, defines test criteria and tests programs to ensure proper functionality • Provides programming, testing performance enhancement, evaluation and documentation services, related to his/her specialized expertise with RDBMS technology when assigned to a project • Performs related duties as assigned by the Director, DevSecOps

Occupational Health and Safety	Responsible for awareness of one's OHS related responsibilities as an AU employee and for participating in the AU OHS Program as required.

Classification Factors	
Communication	- Communicates with applicable user department personnel in the process of advising or consulting regarding database-related topics. - Convincingly justifies and defends critical decisions and plans to co-workers, management in support of IT Policy and Procedures and related Standard Operating Procedures (SOPs) - Interprets and communicates technical information to provide advice to technical staff and status updates to business leads. - May participate in community and industry computer related presentations. The nature of this position, and the related duties and responsibilities performed, require the incumbent of this position to uphold the utmost degree of confidentiality.
Supervision	May supervise other related cloud database positions, as assigned by the Manager, DevSecOps May assist with supervision of summer students and interns.
Impact of Service or Product	Directly responsible for care of several critical student- and staff-facing systems which are essential to core business. Effects of errors are very significant, effectively shutting down operation of AU until repaired. Work is often at a design level, which will impact the use and effectiveness of the University's administrative database systems.
Independence of Action	Independently performs highly responsible professional systems analysis and computer programming work. Responsible for executing a full range of computer-based tasks with no direct supervision of these tasks. Normally reports continuously during and at end of project lifecycles.
Complexity	The Cloud Database Administrator is responsible for the definition, planning, implementation and administration of cloud-based databases managed and housed within the Athabasca University cloud environment. Tasks are determined through applying methodology to a broad array of systems, problems, and events towards a single goal. Work is non-routine and is subject to rapid change as determined by the IT environment and AU IT protocols. The incumbent must be an adept problem solver at a senior level in order to develop effective solutions. The incumbent must be comfortable with root cause analysis; identifying or narrowing down the underlying source of an error. Includes interpreting the requirements of a wide variety of users and assists in conceiving and executing complex technical solutions.

Planning	Work involves the planning and scheduling of database modifications and service interruptions. May plan all portions of some projects and will plan or schedule most portions of other projects. Criteria must be established for successful changes and results assessed for effectiveness. Proactively plans to avoid problems, reactively troubleshoots, identifies and corrects potentially extremely complex and/or subtle errors. The incumbent provides expert advice to project managers regarding components of their project plans and assists in creating a work breakdown structure as related to cloud databases work packages.

Signatures for Section I

Incumbent's Signature _____   Date _____

Supervisor's Signature _____   Date _____

Section II
Qualifications

Includes education, experience, skills, abilities and any other special qualifications required. The qualifications relate to the position not the incumbent

- Minimum of five years of direct and progressive experience with AWS databases and Data Lake models, with an emphasis on cloud migration or cloud automation projects or related technology implementations
- AWS Certified Database – Specialty Certification required
- Diploma or degree in computer science, management, or engineering, recognized in Canada. In lieu of a degree or diploma, additional experience over and above the minimum requirement may be considered.
- A working knowledge of data dictionary and entity-relationship diagram methodologies
- Experience in database design and access methods is essential
- Experience involving aspects of the systems lifecycle: analysis, design, programming, testing, systems implementation, and maintenance
- Proven ability to thoroughly and logically analyze complex system applications, using both deductive and intuitive reasoning to recognize potential problem areas within a system
- Proven ability to predict the ramifications of alternate solutions identified to alleviate or eliminate existing or potential problem areas within a system
- Excellent interpersonal skills, including strong oral and written communication skills, as well as a high degree of tact, diplomacy, and persuasiveness
- Experience in administrative, instructional, or research systems is an asset
- Ability to efficiently and effectively estimate and schedule project tasks, and predict staff requirements to complete the tasks
- Knowledge and experience working in a DevSecOps environment.
- In addition to qualifications, desirable personality traits would be those of self-confidence, curiosity, tenacity, tact, as well as being detail-oriented and a self-starter
- Additional AWS certifications in Data Analytics and Machine Learning specialties preferred

Signatures for Sections I and II

Department Head Signature   _____   Date _____

Executive Officer Signature   _____   Date _____

Human Resources Review   _____   Date _____