Research Database Administrator / Developer
Position #3025

University Mission Statement
UNC Charlotte is North Carolina’s urban research university. It leverages its location in the state’s largest city to offer internationally competitive programs of research and creative activity, exemplary undergraduate, graduate, and professional programs, and a focused set of community engagement initiatives. UNC Charlotte maintains a particular commitment to addressing the cultural, economic, educational, environmental, health, and social needs of the greater Charlotte region.

Primary Mission of the Department
The UNC Charlotte Urban Institute is the primary applied research and public service arm of the University of North Carolina at Charlotte. Its mission is to meet the community research and technical support needs of the state’s urban and developing areas. A primary geographic focus of the Institute’s activities is the Charlotte Region, the 14 county area surrounding the City of Charlotte, the largest city in the Carolinas. The Institute is home to several prominent university programs, including the Institute for Social Capital, the Center for Transportation Policy Studies, the Charlotte Regional Indicators Project, and the online journal PlanCharlotte.com.

Job Details
The Research Database Administrator/Developer’s role is to participate as a key member of the research team, responsible for designing, installing, monitoring, maintaining, and performance tuning databases while ensuring high levels of data availability. This individual is also responsible for developing, implementing, and overseeing database policies and procedures to ensure the integrity and availability of databases and their accompanying software for Institute research.

The employee will be key to the design and implementation of research conducted by the UNC Charlotte Urban Institute and the Institute for Social Capital through the provision of database creation, management and data analysis services. In addition to in-depth knowledge of database management, this position requires knowledge in social research methodology and in working with statistical research software. The individual will create and analyze datasets, involving complex conversion of data for statistical analysis from multiple data sources and file formats. The employee will be part of the research team conferring on project research design and management in support of research conducted by the Institute. The employee
will contribute to research proposals, project implementation and reporting for externally funded projects in support of UNC Charlotte’s research mission.

This position provides leadership in the design, installation, testing, implementation and maintenance of new, current and upgraded database systems throughout the division. One of the main functions of this position is to serve as the primary intermediary to ensure applications deliver functionality matched to the division’s research requirements. This position supplies the technological expertise to support consistent accomplishment of the Division’s strategic plan and provides management support to the Director and the Senior Associate Director in these activities. In addition, this position will serve a strategic advisory and planning role in support of the Institute for Social Capital and its integrated data system, and will interact extensively with the Director of the Institute for Social Capital, its staff, and Board.

**Essential Job Duties**

The successful candidate will have the ability to design, install, monitor, maintain and performance tune databases, ensuring high levels of data availability for research. They will act as subject matter expert for SQL database configuration and administration as it supports enterprise and multi-center research data. They will work jointly with Systems Engineers, Web Developers, and Application Developers to ensure data relationships and database platforms are capable of supporting research and project needs. This includes understanding requirements for data recovery points, as well as developing and implementing backup and restore procedures, and disaster recovery plans. The person in this position will perform consistent data conversion processes from a variety of data sources including data linking, extraction, cleansing, migration and validation and develop a process to clean raw data, ensuring quality control through programming validation checks. In addition, they will have advanced experience querying and manipulating large sets of data in multiple source systems; be able to troubleshoot and tune complex database query performance issues; develop and maintain efficient database objects, such as tables, views, queries, indexes and stored procedures; create models for new database development and/or changes to existing ones; install and configure relevant network components to ensure database access as well as database consistency and integrity; respond to and resolve database access and performance issues; monitor database system details within the database, including stored procedures, table functions, scalar functions, triggers and their execution times, and implement efficiency improvements. They will design and implement redundant systems, policies, and procedures for disaster recovery and data archiving to ensure effective protection and integrity of data assets; monitor, optimize and allocate physical data storage for database systems; create, or support creation of, required reports/data request in response to researchers’ needs; and oversee the quality assurance of program logic, data processing, and error resolution. The person in this position should be familiar with MySQL, Oracle, Linux and Enterprise programs and proactively monitor SQL Server databases (and others if applicable) and respond to any alerts.

**Other Work Responsibilities**

The person in this position will be responsible for developing, implementing, and overseeing database policies and procedures to ensure the integrity and availability of databases and their accompanying software. They will assess and develop long-term strategic goals for databases in conjunction with data owners and organizational leadership; work with application development staff to develop database architectures, coding standards, and quality assurance policies and procedures; plan and coordinate data migrations and ETL (Extract, Transform and Load) between systems; work with web developer to develop application programming interfaces (API) as infrastructure for simplified data access. The API would serve as an interface to allow for further application development toward the goal of usable tools for the community to explore data relating to our region. The person in this position will also oversee the quality assurance of program logic, data processing, and error resolution; take an active role in cross-departmental
research projects when needed; run and monitor software performance tests on new and existing programs for the purposes of correcting errors, isolating areas for improvement, and general debugging; and conduct research and make recommendations on database products, services, protocols, and standards in support of procurement and development efforts.

**Departmental Preferred Qualifications and Experience Requirements**

Three+ years equivalent work experience in analysis, design, and development of database solutions in MS SQL (2008/2012/2014) and SQL Server Express including T-SQL and SSRS, as well as MySQL or PostgreSQL. Experience with SQL scripting, and XML based application and web development practices and database requirements. In-depth understanding of best practices necessary to produce enterprise database designs, and familiarity with inter-related Operating System components necessary for proper functionality including processor, memory and storage requirements, firewall restrictions and ports, and server-side scripting languages. Demonstrable technical documentation skills to communicate design exercises and platform recommendations. Working knowledge of MS Office products including Word and Excel. Working knowledge of one or more diagramming/flowcharting applications such as MS Visio, Dia or LibreOffice Draw. Working knowledge of SPSS and SAS. Strong understanding of database structures, theories, principles, and practices. Working technical experience with designing, building, installing, configuring and supporting database servers. Hands-on database tuning and troubleshooting experience. Experience with data processing flowcharting techniques. Project management experience. Experience in an Agile environment is a plus. Good understanding of the organization’s goals and objectives and social science research methodology. Knowledge of applicable data privacy practices and laws. Good written and oral communication skills. Strong technical documentation skills. Good interpersonal skills. Ability to conduct research into database issues, standards and products as required. Ability to present ideas in user-friendly language. Highly self-motivated and directed. Keen attention to detail. Proven analytical and problem-solving abilities. Strong customer service orientation. Flexible and adaptable in regards to learning and understanding new technologies. Experience working in a team-oriented, collaborative environment.

**Minimum Education / Experience:**

Bachelor’s degree or university degree in the field of computer science or other technical degree and 3+ years equivalent work experience. Master’s degree and/or PhD degree preferred.

**Preferred Qualifications:**


The University of North Carolina at Charlotte is an AA/EOE and an ADVANCE Institution that strives to create an academic climate in which the dignity of all individuals is respected and maintained. It values diversity that includes, but is not limited to ability/disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socio-economic status. Applicants will be subject to a criminal background check.

**Only online electronic applications will be accepted.** Applicants should submit a letter of application, responding to the required and desired qualifications listed above, a current resume, and the names and contact information for three references, posted to [http://jobs.uncc.edu](http://jobs.uncc.edu), where they will find a full position description. For a more detailed version of this job description please go to: [http://ui.uncc.edu/aboutus/jobs](http://ui.uncc.edu/aboutus/jobs). Review of applications will begin on May 06, 2015, and continue until the position is filled. For more information, contact the UNC Charlotte HR office.