Executive Summary
Fayette County Public Schools Board Meeting
Agenda Item

MEETING: Planning   **DATE: 9/12/2016**

TOPIC: Job Descriptions

PREPARED BY: Jennifer Dyar

Recommended Action on: 9/26/2016
                              Action Item for Vote (REGULAR MEETING)

Superintendent Prior Approval: Yes

Recommendation/Motion: A motion is in order to approve the job descriptions for Director of Data, Research and Accountability, Data Engineer, Data Strategist and Data Scientist.

Background/Rationale: These job descriptions have been updated to more accurately reflect current job responsibilities and more updated technology programs used in these positions.

Policy: 01.11 (General Powers and Duties of the Board)

Fiscal Impact: N/A

Attachments(s): Job descriptions

DIRECTOR OF DATA, RESEARCH AND ACCOUNTABILITY

TITLE: Director of Data, Research and Accountability

REPORTS TO: Superintendent

SUPERVISES: Data Management, Grant Writer and other program staff

JOB FUNCTION: Facilitates data management, analysis, evaluation, and planning of district programs. Conducts training and educational seminars for employees and the community on matters related to the effective use of data; supports schools in the development and implementation of curriculum by supporting with necessary data analysis and evaluation.

DUTIES AND RESPONSIBILITIES:

- Directs district data management, data analysis, and evaluation programming.

- Trains professional staff on effective data use.

- Develops and coordinates the evaluation of academic programs related to school and district improvement plans.

- Surveys educational research findings to communicate salient points to system leadership.

- Serves as a consultant in developing, administering and reporting statistical studies and analyses made in the district.

- Attends and participates in school board meetings regarding curriculum, assessment, and school- and district-level program evaluation.

- Develops and conducts professional development activities for counselors, principals, and appropriate central staff on data, research, and evaluation.

DIRECTOR OF DATA, RESEARCH AND ACCOUNTABILITY

- Provides assessment data to research and school staffs.

- Speaks to PTA and civic groups regarding data analysis and school-level program evaluation.

- Oversees the conduct of research requested by staff and assists in survey development and analysis as related to school and district improvement plans.

- Conducts professional development activities and other communications as appropriate.

- Communicates to appropriate staff definitions, timelines, formats, etc., for compiling data.

- Assists teachers, principals, and counselors with questions, problems, and concerns regarding data request and analyses processes.

- Facilitates the implementation of all data management and strategic planning activities throughout the district.

- Takes responsibility for coordinating staff development programs for principals, counselors, teachers, and parents in understanding data analysis and in understanding, interpreting, and using assessment results.

- Performs other duties assigned by the Superintendent and the Chief Operating Officer.

- Maintains regular attendance.

PHYSICAL DEMANDS:

- Work is performed while standing, sitting and/or walking
- Requires the ability to communicate effectively using speech, vision and hearing
- Requires the use of hands for simple grasping and fine manipulations
- Requires bending, squatting, crawling, climbing, reaching
- Requires the ability to lift, carry, push or pull light weights

DIRECTOR OF DATA, RESEARCH AND ACCOUNTABILITY

EDUCATION AND EXPERIENCE:

- Master's Degree and/or Rank 1
- PhD (preferred)
- Five (5) years' experience in the areas of data analysis, assessment, curriculum, and school improvement planning.

LICENSES AND OTHER REQUIREMENTS:

Kentucky Teaching Certification (preferred)
Kentucky Administrative Certification (preferred)

Original Date: 12/2014
Revision Date: 05/2015
Revision Date: 09/2016

DATA SCIENTIST

TITLE: Data Scientist

REPORTS TO: Director of Data, Research and Accountability

SUPERVISES: N/A

JOB FUNCTION: Develop, program, and maintain data products for internal and external audiences; work with District, School, and program office leadership to identify analytic and reporting needs; program and develop tools to automate data management and analytic tasks; provide training on data analysis and interpretation to internal staff.

DUTIES AND RESPONSIBILITIES:

- Use best practices for replicable research for all work, to include the use of version control systems and documenting source code.

- Data munging and management across internal and external data systems.

- Work with program offices to design program evaluation plans, define the soundest methodological/statistical design to support causal inference, and provide reports for technical and non-technical audiences.

- Design and program packages to standardize ETL and analytical processes.

- Develop processes for the collection and review of business rules from data owners.

- Maintain current knowledge and training in statistical methodology and programming needed to gain efficiency and efficacy in position.

- Support data governance efforts across the District.

- Maintain current understanding of FERPA, HIPPA, and any/all other regulatory requirements regarding the protection of individually identifiable data.

- Lead analysis for internal and external research projects.

- Mentor and support professional development of Jr Data Scientists.

- Implements Software Development Life Cycle methodologies as appropriate.

- Support internal research priorities and pursue independent research opportunities within the district.

- Other duties as assigned.

KNOWLEDGE AND ABILITIES:

KNOWLEDGE OF:
- Reproducible reporting using programs such as LaTeX, Markdown, Sweave, Knitr, or other tools/technologies.
- Advanced experience using Stata, R, Python, Julia, or other languages for data analysis/visualization.
- Tableau, Qlik, D3.js, or other tools/technologies used to develop data visualizations, dashboards, or reporting functionality.
- Git and/or GitHub/GitLab.
- Statistics, machine learning, psychometrics, econometrics, and/or analytical methods needed to fulfill duties and responsibilities.
- Specialized experience in one or more of the following areas: biostatistics, statistics, machine learning, psychometrics, econometrics, latent variable modeling, and/or other advanced data analysis methods.
- Agile SDLC methodology

ABILITY TO:
- Learn federal, state, and local regulatory reporting requirements for school and district accountability, assessment, and special programs.
- Learn new programming languages/techniques, computing skills, software lifecycle development, and analytical methods to develop robust, efficient, and effective workflows.
- Determine best analytical approach for research and program evaluation projects.
- Work collaboratively on research, evaluation, and reporting projects.
- Effectively plan workflows to meet project deadlines and milestones.
- Train others in the District in area of expertise.
- Communicate in writing and verbally to all stakeholder groups.
- Publish original research with other team members.
- Present work at professional conferences with other team members and independently.

EDUCATION AND EXPERIENCE:
- Minimum of a Bachelor's degree in a program that includes a strong quantitative component (Required)
- Master's degree in discipline with strong quantitative analysis component and significant experience with data analysis (Preferred)
- PhD in discipline with strong quantitative analysis component (Preferred)

LICENSES AND OTHER REQUIREMENTS:

Original Date: Sept. 2016

DATA STRATEGIST

TITLE: Data Strategist

REPORTS TO: Director of Data, Research and Accountability

SUPERVISES: N/A

JOB FUNCTION: Develop, program, and maintain data products for internal and external audiences; work with District, School, and program office leadership to identify analytic and reporting needs; program and develop tools to automate data management and analytic tasks; provide training on data analysis and interpretation to internal and school staff; pursues and leads research opportunities within the district.

DUTIES AND RESPONSIBILITIES:

- Use best practices for replicable research for all work, to include the use of version control systems and documenting source code.

- Data munging and management across internal and external data systems.

- Work with program offices to design program evaluation plans, define the soundest methodological/statistical design to support causal inference, and provide reports for technical and non-technical audiences.

- Design and program packages to standardize ETL and analytical processes.

- Develop processes for the collection and review of business rules from data owners.

- Maintain current knowledge and training in statistical methodology and programming needed to gain efficiency and efficacy in position.

- Support data governance efforts across the District.

- Maintain current understanding of FERPA, HIPPA, and any/all other regulatory requirements regarding the protection of individually identifiable data.

- Lead analysis for internal and external research projects.

- Mentor and support professional development of Data Scientists.

- Implements Software Development Life Cycle methodologies as appropriate.

- Support internal research priorities and pursue independent research opportunities within the district.

- Other duties as assigned.

PHYSICAL DEMANDS:

- Work is performed while standing, sitting and/or walking
- Requires the ability to communicate effectively using speech, vision and hearing
- Requires the use of hands for simple grasping and fine manipulations
- Requires bending, squatting, crawling, climbing, reaching
- Requires the ability to lift, carry, push or pull light weights

KNOWLEDGE AND ABILITIES:

KNOWLEDGE OF:
- Reproducible reporting using programs such as LaTeX, Markdown, Sweave, Knitr, or other tools/technologies.
- Expertise using Stata, R, Python, Julia, or other languages for data analysis/visualization.
- Advanced knowledge using Tableau, Qlik, D3.js, or other tools/technologies to develop data visualizations, dashboards, or reporting functionality.
- Use of Git and/or GitHub/GitLab to maintain project source code and to collaborate on programming tasks.
- Statistics, machine learning, psychometrics, econometrics, and/or analytical methods needed to fulfill duties and responsibilities.
- Specialized experience in one or more of the following areas: biostatistics, statistics, machine learning, psychometrics, econometrics, latent variable modeling, and/or other advanced data analysis methods.
- Agile SDLC methodology

ABILITY TO:
- Learn federal, state, and local regulatory reporting requirements for school and district accountability, assessment, and special programs.
- Learn new programming languages/techniques, computing skills, software lifecycle development, and analytical methods to develop robust, efficient, and effective workflows.
- Determine best analytical approach for research and program evaluation projects.
- Work collaboratively on research, evaluation, and reporting projects.
- Effectively plan workflows to meet project deadlines and milestones.
- Train others in the District in area of expertise.
- Communicate in writing and verbally to all stakeholder groups.
- Publish original research with other team members and indepedently.
- Present work at professional conferences with other team members and independently.

EDUCATION AND EXPERIENCE:

- Minimum of a Bachelor's degree in a program that includes a strong quantitative component (required)
- Master's degree in discipline with strong quantitative analysis component and significant experience with data analysis (preferred)
- PhD in discipline with strong quantitative analysis component (preferred)

LICENSES AND OTHER REQUIREMENTS:

Original Date: Sept. 2016

DATA ENGINEER

TITLE: Data Engineer

REPORTS TO: Director of Data, Research and Accountability

SUPERVISES: N/A

JOB FUNCTION: Develops mission critical processes to ensure district compliance with local, state, and federal regulations and requirements; Creates and maintains requested student information system reports for school and district personnel; Leads efforts around data management, validation, storage, and collection; Increases efficient and consistent access to data by developing queries, functions, and stored procedures

DUTIES AND RESPONSIBILITIES:
- Uses version control systems and documentation to maintain and distribute source code.
- Maintains business rules and technical documentation for data systems.
- Leads processes to ingest student assessment data from vendors and ensure data integrity and validity in the student information system.
- Develops reports for district and school personnel from student information system.
- Manages processes and requirements to fulfill Civil Rights Data Collection reporting requirements.
- Develops, maintains, and extends data models to store, manage, and access data efficiently.
- Works with program offices, school leaders, and IT staff to identify, specify, and manage data collection requirements and processes.
- Develop queries, functions, and stored procedures to ensure consistent and efficient data access for team members.
- Maintains knowledge of current data storage, management, and access technologies.
- Selects appropriate technologies for data storage, maintenance, and application development.
- Maintains current understanding of FERPA, HIPPA, and any/all other regulatory requirements regarding the protection of individually identifiable data.
- Develops and maintains reports in Business Intelligence platform.
- Implements Software Development Life Cycle methodologies as appropriate.
- Other duties as assigned.

KNOWLEDGE AND ABILITIES:

KNOWLEDGE OF:
- Agile SDLC methodology.
- Developing queries, functions, and stored procedures in SQL-based relational database management systems.
- Database performance tuning.
- Data system architectures, including the use of NoSQL technologies.
- Logical and physical data modeling.
- Business Intelligence and reporting tools.
- Git and/or GitHub/GitLab.
- Data governance.
- Use of SQL for data retrieval.

ABILITY TO:
- Learn federal, state, and local regulatory reporting requirements for school and district accountability, assessment, and special programs.
- Learn new programming languages/techniques, computing skills, software lifecycle development, and analytical methods to develop robust, efficient, and effective workflows.
- Determine best tools and technologies to use for data management and storage.
- Help business owners define business rules and processes used to manage the data systems.
- Effectively plan workflows to meet project deadlines and milestones.
- Train others in the District in area of expertise.
- Communicate in writing and verbally to all stakeholder groups.
- Support publication of research with team members.
- Present work at professional conferences with other team members or independently.

EDUCATION AND EXPERIENCE:

- Minimum of a Bachelor's degree and demonstrated experience using SQL for data management and reporting. (Required)

- Bachelor's Degree or higher in a program that included significant training in information systems, data architecture, data engineering, information technology, or computer science. (Preferred)

LICENSES AND OTHER REQUIREMENTS:

Original Date: Sept. 2016