OMB Control Number: **0925-0648**
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SURVEY INTRODUCTION:
Your voluntary responses to this Data Science General Information Survey will be used to better understand the data science skills and training needs of NLM's workforce in order to inform and improve the delivery of these customer services for our multiple stakeholders.

Select one Skill Development Profile from the list below.

- Data Science Support
- Data Science Facilitation
- Generalized Data Science Application
- Data Life Cycle Management
- Data Visualization & Information Design
- Systems & Data Operations
- Intermediate Data Science
- Advanced Data Science

Directions: Please read the proficiency levels in the table below. For each competency in the matrix table, please read the definition and select the proficiency which ***most closely*** represents your knowledge, skill, and abilities in that area.

TECHNICAL PROFICIENY DEFINTIONS	
No Experience	Individual has no awareness of the fundamental concepts, activities, or processes associated with this competency. Individual cannot engage in conversation about this competency.
Comprehension	Individual is seen as someone who understands the fundamental concepts, activities, or processes associated with this competency. Individual can engage in general conversation about this competency.
Basic	Individual is seen as someone who has begun to apply knowledge of fundamental concepts, activities, or processes associated with this competency to work activities. Individual is capable of demonstrating some parts of this competency after being given specific instructions or guidance.
Foundational	Individual is seen as someone who can perform work in activities requiring this competency, often under the supervision of others. Individual is capable of demonstrating this competency after being given specific instructions and guidance. Individual can engage in general conversation about this competency.
Full Performance	Individual is considered someone who has the capability to perform work that requires application of this competency independently. Individual is capable of demonstrating this competency in straightforward and routine situations and can contribute knowledge of new ideas in applying this competency.
Expert	Individual is looked at as mastering this competency. Others view this individual as a role model and capable of leading or teaching others in this area and consult with him/her for assistance or guidance with work requiring this competency.

	No Experience	Comprehension	Basic	Foundational	Full Performance	Expert
Advanced Mathematics Understands and applies mathematical techniques, concepts, and theory (e.g., discrete math, matrix computation) to address data science problems.	0	0	0	0	0	0
Computer Science Demonstrates the relationship between the scientific and practical approaches to computation and its applications. Creates technical environments in which data-driven hypotheses are tested and applied.	0	0	0	0	0	0
Data Mining & Integration Employs an interdisciplinary approach to break down data sets into usable information and to discover new patterns and behaviors (e.g., cluster analysis, anomaly detection, dependencies).	0	0	0	0	0	0
Data Visualization Designs and showcases visual representations of data findings via visualization tools(e.g., Flare, Google Visualization API) to ensure understanding of core business users to facilitate corporate decision-making.	0	0	0	0	0	0
Database Science Applies knowledge of special-purpose programming language such as structured query language (SQL) to design and manage relational and non-relational database systems.	0	0	0	0	0	0

	No Experience	Comprehension	Basic	Foundational	Full Performance	Expert
Machine Learning Demonstrates the ability to use machines (i.e., computers) to develop and improve algorithms without being explicitly programmed in order to improve their own performance through artificial intelligence.	0	0	0	0	0	0
Operations Research Employs operations research (OR) theory, mindset, and techniques, such as LP, IP, GP, logistics, inventory control and advanced modelling, to arrive at optimal or near-optimal solutions to complex decision-making problems.	0	0	0	0	0	0
Programming & Scripting Creates, modifies, and tests computer code, forms, and script to ensure operability of applications. Analyzes user needs to recommend software solutions and designs. Uses programming language to develop and write computer programs to store, locate, and retrieve specific documents, data, and information.	0	0	0	0	0	0
Research Design Develops and defines a systematic plan to study a scientific problem. Identifies the type of study (e.g., descriptive, experimental, review), research question, hypothesis, variables, design, data collection, and subsequent statistical analysis plan.	0	0	0	0	0	0
Statistical Modeling Understands and applies mathematical techniques, concepts, and theory (e.g. discrete math, matrix computation) to address data science problems.	0	0	0	0	0	0

END OF SURVEY RESPONSES

Thank you for completing this questionnaire!