



NC 12502
OSP 10/05

Research Specialist

DESCRIPTION OF WORK:

Positions in this banded class plan, develop, conduct and evaluate scientific research in a laboratory, clinic, field and/or teaching environment (hereafter referred to as "laboratory"). Employees in these positions understand the context and implications of the research in order to apply and interpret theoretical knowledge necessary to conduct research in one or more scientific disciplines. The range of duties includes, but is not limited to: project planning, experimental design, developing methodology, conducting procedures, modifying procedures as needed, data collection and analysis, laboratory management, project management, preparing publications and reports, and communication and instruction. Employees demonstrate and model effective mental concentration, visual attention and manipulative skills. Work may include the training and supervision of staff, students and others in performing specific techniques/experiments.

EXAMPLES OF COMPETENCIES:

CONTRIBUTING:

- **Scientific Knowledge, Skills and Abilities -** Understands research and regulatory standards to maintain a laboratory environment. Knowledge and ability to conduct scientific literature reviews. Understands scientific principles to conduct research process.
- **Project Planning and Experimental Design -** Searches literature demonstrating an understanding of scientific, experimental and/or research theory to assist in the design of methods, procedures and/or techniques. Identifies data to be collected and documented. Identifies resources needed to conduct experiments.
- **Conducting Experiments/Procedures -** Conducts tests, experiments, and/or procedures following standard protocol; identifies and documents variations that may affect the validity of the experiment.
- **Data Analysis and Presentation of Results -** Monitors and collects data as required by research protocol. Maintains appropriate documentation of research results, as required by research protocol. Recommends revisions to experimental methods based upon observations. Assists in preparation of research findings; prepares reports.
- **Laboratory Management -** Maintains laboratory resources including supplies, equipment and facilities. Understands and executes quality assurance.
- **Communication and Instruction -** Trains others in laboratory techniques and the use of laboratory equipment. Documents how to conduct procedures; reviews and maintains correct standard operations, procedures and protocols.

JOURNEY

- **Scientific Knowledge, Skills and Abilities -** Responds to changing research conditions by modifying the research process. Knowledge and ability to adapt work process and methods based on findings and literature review with limited supervision. Understands scientific principles to modify procedures in response to changing conditions; designs and/or operates highly specialized instruments and/or equipment.
- **Data Analysis and Presentation of Results -** Collects and analyzes data for accuracy, validity and integrity. Monitors documentation of results; reviews and recognizes documentation which may lead to modification and adaptation of research methodologies; may collaborate with others. Adapts and/or modifies experimental methods based upon interpretation of data. Contributes to preparation of publications and/or reports; makes presentations within department and/or at professional conferences.

- **Project Planning and Experimental Design** - Uses the research literature to design detailed experimental methods, procedures and/or techniques. Identifies data collection methodology. Plans and documents resources needed to conduct experiments. Prepares/assists in research project budget(s). Assists in designing quality control measures.
- **Conducting Experiments/Procedures** - Identifies problems, troubleshoots and analyzes variations observed and reported in regular testing protocols; modifies, refines or adapts techniques and procedures; modifies and/or adjusts quality control measures. Coordinates multiple, concurrent assignments or a multi-faceted project.
- **Laboratory Management** - Plans and monitors resources needed to operate the laboratory; maintains inventory control; coordinates space, field, equipment and/or facilities; may monitor expenditures. Evaluates and modifies quality assurance procedures.
- **Communication and Instruction** - Trains others in the performance of complex tests and procedures and the proper use and care of specialized equipment. Documents experimental processes and results in reports and/or publications.

ADVANCED

- **Scientific Knowledge, Skills and Abilities** - Proposes alternative research methods, techniques and initiatives demonstrating knowledge of other scientific areas and related research. Knowledge and ability to independently adapt work process and methods based on findings and literature review; may contribute new knowledge and/or techniques.
- **Project Planning and Experimental Design** - Expands scope of literature search to support and/or propose alternative experimental methods, procedures and/or techniques. Collaborates with others to plan and design data collection, technology and analysis. Modifies and adjusts resources needed to conduct experiments.
- **Conducting Experiments/Procedures** - Analyzes and resolves variations in complex tests, experiments and procedures; designs and implements modifications and changes to techniques, procedures and quality control measures. Leads multiple, concurrent projects and/or multi-faceted projects; directs others in making modifications.
- **Data Analysis and Presentation of Results** - Defines standards for the collection of data; sets standards for accuracy, validity and integrity; leads others in analysis. Evaluates documentation of results; leads efforts to modify and adapt research methodologies in collaboration with others; ensures compliance with regulatory standards. Adapts experimental design based upon interpretation of data and/or literature review, in collaboration with others. Co-authors/authors manuscripts and publications; serves as primary presenter within department and/or at professional conferences.
- **Laboratory Management** - Manages laboratory resources, may include budget and personnel; establishes priorities in the use of resources including space, field, equipment and/or facilities. Manages quality assurance program.
- **Communication and Instruction** - Develops and coordinates instruction of others in the operation of specialized equipment and/or research techniques. Collaborates with research staff and colleagues to validate and/or redirect research based on documented results.

MINIMUM TRAINING AND EXPERIENCE:

Graduation from a four-year college; or an equivalent combination of training and/or related experience.

Special Note: This is a generalized representation of positions in this class and is not intended to identify essential work functions per ADA. Examples of competencies are primarily those of the majority of positions in this class, but may not be applicable to all positions.

NECESSARY SPECIAL QUALIFICATIONS:

Not Applicable.