



THE UNIVERSITY OF NORTH CAROLINA WILMINGTON

## Research Specialist *Competency Profile*

### DESCRIPTION OF WORK:

Competencies	Definition
Knowledge – Professional/ Scientific	Ability to achieve a high level of professional/scientific skill or knowledge in specific area(s) and keep up with current developments and trends in area(s) of expertise. Knowledge of the scientific principles, methods and processes (technical and/or theoretical) used to conduct a systematic and objective inquiry including study design, methods of data collection and analysis, and interpreting and reporting results; ability to operate instruments and equipment; knowledge of related information technology.
Research Design	Ability to identify and develop research objectives, methods and quality control measures based on literature searches and/or other professional resources; Ability to plan methods and techniques to meet research objectives and also may modify and/or refine procedures, methods and techniques as needed; Ability to identify and plan for project resources and methods of data collection.
Conducting Experiments/ Procedures	Ability and skill to perform tests, procedures and experiments applying specialized skills, knowledge and equipment; modifies and refines techniques and procedures to meet research objectives; Ability to manage multiple, concurrent projects or a multi-faceted project.
Data Analysis	Ability to perform appropriate analysis; interpret and evaluate results; prepare reports and/or presentations; monitor and collect research data to assess accuracy, validity and integrity.
Laboratory Management	Ability to provide oversight of technical programs and administrative activities in a research setting - research laboratories and/or research stations including quality assurance and safety programs; Ability to coordinate and manage facilities, equipment, supplies and related resources; monitor environmental risks and quality control; understands and complies with safety measures to maintain a safe environment.
Communication	Ability to clearly and concisely convey information verbally and in written form and effectively present ideas to individuals or groups to ensure that they understand the information and message. Ability to present research results and summaries, adhere to reporting requirements of research project(s) and contribute to the writing of publications and reports.
Instruction	Ability to instructs and train staff, students, faculty and/or other clients in the performance of procedures and operation of equipment.

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Competency	Contributing	Journey	Advanced
<p><b>Knowledge – Professional/ Scientific -</b> Ability to achieve a high level of professional/scientific skill or knowledge in specific area(s) and keep up with current developments and trends in area(s) of expertise. Knowledge of the scientific principles, methods and processes (technical and/or theoretical) used to conduct a systematic and objective inquiry including study design, methods of data collection and analysis, and interpreting and reporting results; ability to operate instruments and equipment; knowledge of related information technology.</p>	<p>Understands research and regulatory standards to maintain a laboratory environment.</p> <p>Knowledge and ability to conduct scientific literature reviews.</p> <p>Understands scientific principles to conduct research processes; ability to operate laboratory instruments and equipment.</p>	<p>Responds to changing research conditions by modifying the research process.</p> <p>Knowledge and ability to adapt work process and methods based on findings and literature review with limited supervision.</p> <p>Understands scientific principles to modify procedures in response to changing conditions; designs and/or operates highly-specialized instruments and/or equipment.</p>	<p>Proposes alternative research methods, techniques and initiatives demonstrating knowledge of other scientific areas and related research.</p> <p>Knowledge and ability to independently adapt work process and methods based on findings and literature review; may contribute new knowledge and/or techniques.</p> <p>Demonstrates scientific knowledge and analytical skills to design, monitor and modify the research process.</p>
<p><b>Research Design -</b> Ability to identify and develop research objectives, methods and quality control measures based on literature searches and/or other professional resources; Ability to plan methods and techniques to meet research objectives and also may modify and/or refine procedures, methods and techniques as needed; Ability to identify and plan for project resources and methods of data collection.</p>	<p>Searches professional resources demonstrating an understanding of scientific, experimental and/or research theory to assist in the design of methods, procedures and/or techniques with limited supervision.</p> <p>Identifies data to be collected and documented.</p> <p>Identifies resources, materials and equipment needed to conduct research.</p> <p>Gathers information to prepare budgets.</p> <p>Monitors and reports quality control measures.</p>	<p>Uses professional resources to design detailed experimental methods, procedures and/or techniques.</p> <p>Identifies data collection and data management protocols.</p> <p>Plans and documents resources and personnel needed to complete research.</p> <p>Assists in research project budget(s).</p> <p>Assists in designing quality control measures. Ensures compliance with regulatory standards.</p>	<p>Incorporates professional resources to expand scope to support and/or propose alternative experimental methods, procedures and/or techniques.</p> <p>Collaborates with others to plan and design data collection, technology and analysis methodology, e.g. statistical analysis software.</p> <p>Modifies and adjusts resources needed to conduct research.</p> <p>Prepares project budgets including personnel and indirect costs.</p> <p>Plans and designs specific quality control measures and procedures as part of research protocols.</p>

<p><b>Conducting Experiments/ Procedures</b> - Ability and skill to perform tests, procedures and experiments applying specialized skills, knowledge and equipment; modifies and refines techniques and procedures to meet research objectives; Ability to manage multiple, concurrent projects or a multi-faceted project.</p>	<p>Conducts tests, experiments, and procedures following standard protocol; identifies and documents variations that may affect the validity of the experiment. Maintains calibration of instrumentation.</p> <p>Coordinates one or more projects.</p> <p>Masters basic proficiency of a specialized technique or procedure.</p>	<p>Identifies problems, troubleshoots and analyzes variations observed and reported in regular testing protocols; modifies, refines or adapts techniques and procedures; modifies and/or adjusts procedures' quality control measures.</p> <p>Leads project or coordinates multiple, concurrent projects or a multi-faceted project.</p> <p>Serves as an expert in conducting a specialized technique or procedure.</p>	<p>Analyzes and resolves variations in complex tests, experiments and procedures; designs and implements modifications and changes to techniques, procedures and quality control measures.</p> <p>Leads multiple, concurrent projects and/or a multi-faceted project; directs others in making modifications.</p> <p>Serves as an expert in a general research discipline to influence research conclusions.</p>
<p><b>Competency</b></p>	<p><b>Contributing</b></p>	<p><b>Journey</b></p>	<p><b>Advanced</b></p>
<p><b>Data Analysis</b> - Ability to perform appropriate analysis; interpret and evaluate results; prepare reports and/or presentations; monitor and collect research data to assess accuracy, validity and integrity.</p>	<p>Monitors and collects data as required by research protocol.</p> <p>Maintains appropriate documentation of research results, as required by research protocol.</p> <p>Recommends revisions to experimental methods based upon observations.</p> <p>Assists in preparation of appropriate data figures and tables.</p>	<p>Collects and analyzes data for accuracy, validity and integrity.</p> <p>Monitors and may interpret results; reviews and recognizes documentation which may lead to modification and adaptation of research methodologies; may collaborate with others; ensures compliance with regulatory standards.</p> <p>Adapts and/or modifies experimental methods based upon interpretation of data.</p> <p>Prepares data figures and tables with minimal supervision.</p>	<p>Defines standards for the collection of data; sets standards for accuracy, validity and integrity; leads others in analysis.</p> <p>Adapts experimental design based upon interpretation of data, professional resources and/or advanced knowledge, in collaboration with others.</p> <p>Identifies data figures and tables to be prepared.</p>

<b>Competency</b>	<b>Contributing</b>	<b>Journey</b>	<b>Advanced</b>
<p><b>Laboratory Management</b> - Ability to provide oversight of technical programs and administrative activities in a research setting - research laboratories and/or research stations including quality assurance and safety programs; Ability to coordinate and manage facilities, equipment, supplies and related resources; monitor environmental risks and quality control; understands and complies with safety measures to maintain a safe environment.</p>	<p>Maintains laboratory resources including supplies, equipment and facilities.</p> <p>Understands and implements quality assurance and quality control procedures.</p> <p>Complies with safety measures and guidelines such as hazardous waste/materials.</p>	<p>Plans and monitors resources needed to operate the laboratory; maintains inventory control; coordinates space, field, equipment and/or facilities; may monitor expenditures.</p> <p>Evaluates and modifies quality assurance and quality control procedures.</p> <p>Coordinates and trains others to ensure compliance with safety measures and guidelines such as hazardous waste/materials.</p>	<p>Manages laboratory resources, including budget and personnel; establishes priorities in the use of resources including space, field, equipment and/or facilities.</p> <p>Manages quality assurance and quality control program.</p> <p>Manages compliance with safety measures and guidelines such as hazardous waste/materials and interfaces with appropriate department or agencies.</p>
<b>Competency</b>	<b>Contributing</b>	<b>Journey</b>	<b>Advanced</b>
<p><b>Communication</b> - Ability to clearly and concisely convey information verbally and in written form and effectively present ideas to individuals or groups to ensure that they understand the information and message. Ability to present research results and summaries, adhere to reporting requirements of research project(s) and contribute to the writing of publications and reports.</p>	<p>Communicates detailed outcomes and results of research; ability to convey basic research goals. Oral or written.</p> <p>Assists in preparation of research findings; prepares reports.</p> <p>Collects information for grant writing and reporting.</p> <p>Maintains electronic archives and webpage.</p>	<p>Leads exchange of research information to a variety of audiences, through demonstration and instruction.</p> <p>Contributes to preparation of publications and/or reports; makes presentations within department and/or at professional conferences.</p> <p>Assists in grant writing and proposal development.</p> <p>Updates electronic archives and WebPages.</p>	<p>Leads, consults and makes recommendations in the area of research through effective communication about the research project(s).</p> <p>Co-authors/authors manuscripts and publications; serves as primary presenter within department and/or at professional conferences.</p> <p>Collaborates in the conception and design of original research; writes grants and proposals.</p> <p>Develops electronic resources and access procedures; identifies appropriate electronic archives.</p>

<b>Competency</b>	<b>Contributing</b>	<b>Journey</b>	<b>Advanced</b>
<b>Instruction</b> - Ability to instructs and train staff, students, faculty and/or other clients in the performance of procedures and operation of equipment.	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.	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.	Develops and coordinates instruction of others in the operation of specialized equipment and/or research techniques.  Collaborates with research staff and colleagues to develop strategies for instructional programs.
<b>Training and Education</b>	Minimum Training and Education at the entry level: Combination of training and experience necessary to perform the work.		
	<b>Contributing</b> 4-year degree; or an equivalent combination of training and/or related experience and certifications.	<b>Journey</b> 4-year degree and one year directly related experience; or an equivalent combination of training and/or related experience.	<b>Advanced</b> 4-year degree and three years of directly related experience; or an equivalent combination of training and/or related experience.

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Diplomas or degrees must be received from appropriately accredited institutions.