



UNIVERSITY OF NORTH CAROLINA WILMINGTON

**Scientific Diving Specialist**  
*Competency Profile*

**DESCRIPTION OF WORK:**

These positions execute research protocols in accordance with input from scientists or members of the mission team. These positions provide the principal technical expertise and assistance on a wide range of disciplines necessary to conduct advanced underwater research or academic investigations safely and efficiently and to assist scientists in accomplishing specific research goals and objectives. Responsibilities involve operation and maintenance of equipment and instrumentation used in support of diving and in support of the underwater projects. Responsibilities may include assisting in training activities necessary to the project, as well as communication with scientists and administrators.

<b>ROLE DESCRIPTIONS BY COMPETENCY LEVEL</b>		
<b>Contributing</b>	<b>Journey</b>	<b>Advanced</b>
<p>Positions at this level participate as working divers on a research team using general knowledge and technical skills to effectively and safely carry out previously determined methodologies. They understand basic research study design and general methods of data collection to implement quality control procedures. They maintain dive facilities including supplies and equipment to industry standards for life support and comply with safety measures and guidelines such as annual inspections/certifications and treatment of flammable materials and hazardous waste. Standard operations, procedures and protocols are followed for documentation and logs. They recognize and initiate emergency responses as required by safety standards and operational procedures.</p>	<p>Positions at this level apply working knowledge of scientific principles or technical skills to review dive plans associated with research proposals and communicate with researchers to ensure science objectives are met. They serve as lead diver to assume responsibility for diving activities, safely plan research dives, keep dive logs, monitor life support equipment, and serve as emergency response lead. They also operate small vessels in support of diving, remotely operated vehicles, or research instrumentation. They manage and analyze data for internal and external reporting and may evaluate or modify QA/QC procedures based on changing conditions. They ensure compliance with safety standards and operational procedures and/or equipment use. They certify others in diving related emergency response medical instruction and may have advanced certifications.</p>	<p>Positions at this level apply considerable knowledge and technical skills to plan research field work or propose alternative methods and techniques. Serves as a dive supervisor to coordinate missions and projects as the liaison with scientists, vessel personnel and technical personnel. They manage dive locker and ancillary facilities, including budget and personnel, and prioritize the use of all project resources. They manage QA/QC and compliance; prepare annual and technical reports for internal and external agencies. They collaborate with peers in professional development activities. They certify others in advanced diving techniques and/or other diving related medical instruction. They may propose changes to safety standards and operational procedures.</p>

<b>Competencies</b>	<b>Definition</b>
<b>Professional Knowledge</b>	Professional skill and knowledge of underwater diving methods and techniques applicable to scientific operations. Knowledge of the scientific and technical methods used to conduct research or accomplish various other mission objectives. Knowledge of related technology, instruments and equipment. Knowledge of safe scientific diving procedures, practices and standards in a variety of underwater environments.
<b>Planning &amp; Organizing Work</b>	Ability to serve as a working diver, lead diver or supervisor, and/or mission coordinator during air, mixed gas, decompression and/or saturation research diving operations involving a variety of diving technologies.
<b>Communication</b>	Ability to communicate with scientists, academic administrators, mission team members, vendors and the general public. Ability to complete appropriate documentation, logs, inventory and reports.
<b>Facility Management</b>	Ability to provide oversight of technical programs and administrative activities of dive lockers, ancillary equipment and facilities. Ability to coordinate and manage facilities, equipment, supplies and related resources; understands and complies with safety measures to maintain a safe working environment.
<b>Equipment Operation &amp; Maintenance</b>	Ability and knowledge of appropriate procedures for using and maintaining specific equipment or technical instruments associated with scientific diving operations that meet defined quality, quantity and industry standards in a safe, efficient and effective manner.
<b>Training/Instruction</b>	Ability to instruct and train staff, students, scientists and other personnel in diving, equipment operation, maintenance and diving procedures within the scope of their qualifications. Ability to perform demonstration quality skills for training/instructional purposes.

Note: Competency statements are progressive and not all competencies apply to every position/employee. Evaluate only those that apply.

<b>Competency</b>	<b>Contributing</b>	<b>Journey</b>	<b>Advanced</b>
<b>Knowledge - Professional -</b> Professional skill and knowledge of underwater diving methods and techniques applicable in scientific operations. Knowledge of the scientific and technical methods used to conduct research or accomplish various other mission objectives. Knowledge of related technology, instruments and equipment. Knowledge of safe diving procedures, practices and standards in a variety of underwater environments.	General knowledge and technical skills to effectively and safely carry out previously determined methodologies. Knowledge of basic study design and general diving methods of data collection applicable in scientific operations. Working knowledge of safe scientific diving procedures, practices and standards.	Considerable knowledge of scientific diving and technical skills to modify procedures in response to changing conditions. Ability to operate small vessels in support of diving, remotely operated vehicles, or research instrumentation. Considerable knowledge of safe scientific diving procedures, practices and standards.	Advanced knowledge of safe scientific diving procedures, practices and standards in the planning process for field research. Ability to propose alternative methods and techniques. Ability to adapt work processes and methods based on findings and mission objectives. Ability to collaborate with peers and participate in professional development activities.

Basic Knowledge - The span of knowledge minimally necessary to complete defined assignments.

Working Knowledge – The span of knowledge necessary to independently complete defined assignments to product an effort or activity directed toward the production or accomplishment of the research objective.

Full Knowledge – The broad scope of knowledge demonstrated on the job that is beyond journey competencies.

<b>Competency</b>	<b>Contributing</b>	<b>Journey</b>	<b>Advanced</b>
<b>Planning &amp; Organizing Work –</b> Ability to serve as working diver, lead diver, dive supervisor, and/or mission coordinator during air, mixed gas, decompression and/or saturation research diving operations involving a variety of diving technologies.	Ability to serve as working diver as part of dive team to meet project goals and safety requirements. Ability to organize and prioritize research objectives. Ability to safely monitor life support sensors and equipment and follow established safe diving protocols.	Ability to serve as lead diver with responsibility for all diving activities to safely plan research and operational support dives. Ability to coordinate and manage task-loaded divers underwater to meet project goals and safety standards. Ability to keep dive logs and records. Ability to serve as first emergency response medical lead.	Ability to serve as a dive supervisor to coordinate missions and projects of varied complexity working with scientists, vessel personnel, technical personnel and others to achieve best possible scientific diving research outcomes within safety parameters. Ability to balance topside and in-water research objectives. Ability to participate in logistical planning as liaison with scientists, vessel personnel, technical personnel and others.

<b>Competency</b>	<b>Contributing</b>	<b>Journey</b>	<b>Advanced</b>
<p><b>Communication -</b> Ability to communicate with scientists, academic administrators, mission team members, vendors and the general public. Ability to complete appropriate documentation, logs, inventory and reports.</p>	<p>Ability to participate with research or operations team in daily planning to ensure understanding of project and safety guidelines. Ability to collect and document information for internal and external reporting. Ability to complete dive logs and records.</p>	<p>Ability to review research proposal and communicates with external program clients, (e.g. scientists and vendors) to ensure science or operations objectives are met within appropriate standards. Ability to organize, tabulate and analyze data for internal and external reporting or general out reach activities.</p>	<p>Ability to serve as the liaison and arbitrator between scientists, technical staff, vessel personnel and vendors; Ability to prepare annual and technical reports for internal and external agencies. Ability to prepare and presents technical documents. Ability to prepare and present presentations to professional agencies and organizations.</p>
<b>Competency</b>	<b>Contributing</b>	<b>Journey</b>	<b>Advanced</b>
<p><b>Facility Management -</b> Ability to provide oversight of technical programs, administrative and operational activities of dive lockers, ancillary equipment, and support facilities. Ability to coordinate and manage facilities, equipment supplies and related resources; understands and complies with safety measures to maintain a safe environment.</p>	<p>Ability to maintain dive facilities including supplies and equipment to industry standards. Knowledge of and ability to implement quality assurances and quality control procedures. Ability to comply with safety measures and guidelines such as annual inspections/certifications, and treatment of flammable materials and hazardous waste. Ability to operate within assigned budget and identifies potential cost savings.</p>	<p>Ability to plan and monitor resources needed to operate the dive locker and ancillary facilities. Ability to maintain inventory control and coordinate space, field equipment and facilities. Ability to evaluate and modify QA/QC procedures; Ability to coordinate and trains others to ensure compliance with safety measures and guidelines.</p>	<p>Ability to manage dive locker and ancillary facilities, including budget and personnel. Ability to establish priorities in the use of resources including space, field equipment and facilities. Ability to manage QA/QC and compliance; plans and recommend changes due to new industry standards.</p>

<b>Competency</b>	<b>Contributing</b>	<b>Journey</b>	<b>Advanced</b>
<p><b>Equipment – Operation &amp; Maintenance -</b> Ability and knowledge of appropriate procedures for using and maintaining specific equipment or technical instruments used in all aspects of diving operations that meet defined quality, quantity and industry standards in a safe, efficient and effective manner.</p>	<p>Working knowledge of and ability to operate and maintain a variety of specific and technical equipment used in scientific diving operations. Ability to perform established diving equipment maintenance and operating procedures.</p>	<p>Considerable knowledge of and experience with multiple systems required to facilitate the entire diving operations. Ability to serve as the “lead” technical person on one or more of the specific diving systems. Ability to recognize and troubleshoot unusual equipment maintenance and operation issues.</p>	<p>Extensive knowledge of and expertise in operating and maintaining systems and equipment within the entire diving operation. Ability to design, plan and implement new components for existing systems and/or designs and propose completely new systems. Ability to serve as a resource for knowledge related maintenance issues.</p>
<b>Competency</b>	<b>Contributing</b>	<b>Journey</b>	<b>Advanced</b>
<p><b>Training/Instruction -</b> Ability to instruct and train staff, students, scientists and other personnel in diving, equipment operations and maintenance including performance of procedures within the scope of the trainer’s qualifications. Ability to perform demonstration quality skills for training/instructional purposes.</p>	<p>Ability to review, maintain and document correct standard operations, procedures and protocols. Ability to perform demonstration quality skills for training/ instructional purposes.</p>	<p>Ability to train others in the performance and proper use and care of specialized equipment such as dry suits, lift bags, u/w drills, photography, scientific gear, compressors and all support equipment required for safe diving operations, as well as all aspects of required safety training. Ability to evaluate skills for training/instructional purposes.</p>	<p>Ability to certify others in advanced scuba diving, such as nitrox, trimix, rebreathers, chamber operations, saturation and other research diving specialties including diving related medical instruction including DMT-A. Ability to train others to perform training/instructional activities.</p>

**Recommended Minimum Training Guideline:** Minimum qualifications for the band: High School or equivalent and possession of or the ability to obtain certification as defined by the American Academy of Underwater Sciences (AAUS).

All degrees must be received from appropriately accredited institutions.

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