

MISCELLANEOUS OCCUPATIONAL GROUP [193]**SCIENTIST (WATER ECOLOGY)****General Statement of Duties and Responsibilities**

This is a professional class of positions involving the field and laboratory study, evaluation, planning and management of water ecology and its impact on the water quality of the City's water systems, utilizing manual and automated techniques. There are three Assignment Levels within this class of positions. Personnel may drive a motor vehicle from site to site in the performance of these duties. All personnel perform related work.

Assignment Level I

Under supervision, with some latitude for the exercise of independent initiative and judgment, performs routine water ecology and water quality testing and analyses, and may assist in performing moderately complex testing and analyses, employing standard controls and utilizing manual or automated techniques.

Examples of Typical Tasks

Collects water samples and other environmental data in the field, to support water ecology research; monitors storm events; makes and records scientific/technical observations and evaluations; enters data; and reviews information for accuracy. Participates in loading and unloading and transporting equipment and samples.

Assists in conducting data and statistical analyses, using computer software and mathematical models.

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Performs routine maintenance and calibration of scientific instruments.

Assists in report writing and answering general correspondence.

Assists in the procurement process by obtaining price quotes and other relevant information for the purchase of scientific equipment; assists in maintaining equipment inventory.

Assignment Level II

Under general supervision, with latitude for the exercise of independent initiative and judgment, in addition to performing the tasks described above under Assignment Level I, supervises Assignment Level I Scientists and/or Trainees in the field. In addition, performs tasks such as the following:

Examples of Typical Tasks

Supervises data/information collection efforts in the field and provides instruction and training on scientific instruments and equipment; assists in coordinating field activities.

Performs tests employing standard controls and stipulated procedures; analyzes reports and records results; prepares and submits written reports.

Evaluates research findings; utilizes software/models to analyze data; prepares written reports of moderate complexity, including recommendations for further study or action.

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SCIENTIST (WATER ECOLOGY) (continued)Assignment Level II (continued)Examples of Typical Tasks (continued)

Prepares scientific studies and research papers of moderate complexity.

Repairs scientific instruments and equipment.

Assists in the design and review of data collection efforts and research.

Assists in utilizing or running steady state and time varying water quality and other mathematical models.

Assists in ensuring that documentation, observation, and calibration of scientific instruments in the field conform to standard operating procedures and quality assurance protocols.

Assignment Level IIIExamples of Typical Tasks

Under direction, with wide latitude for independent initiative and judgment, supervises teams of Scientists (Water Ecology) Assignment Levels I and II, and Trainees; or performs complex water ecology and water quality investigation.

Supervises and assigns research teams to conduct field investigations and verification studies.

Oversees the installation and operation of scientific and monitoring equipment used in water quality monitoring.

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SCIENTIST (WATER ECOLOGY) (continued)Assignment Level III (continued)Examples of Typical Tasks (continued)

Instructs Scientists (Water Ecology) Assignment Levels I and II, as well as Trainees, in research and testing methods and techniques.

Conducts complex analyses and research utilizing data and samplings collected in the field.

Conducts tests and prepares evaluations of the environmental impact of new technology on water and wastewater quality.

Conducts surveys regarding installing equipment to measure quality and quantity of water and wastewater; assists in the preparation of related maps.

Uses water quality sampling programs to determine what water quality programs are needed; prepares and reviews environmental assessment statements.

Utilizes and reviews mathematical models, including steady state and time varying water quality models and steady state one-dimensional and two-dimensional models, to conduct environmental assessment work.

Reviews technological and structural alternatives to solving water quality problems and makes recommendations to management.

Reviews water quality standards in relation to water quality model data and makes projections; performs cost-benefit analyses of approaches to meeting water quality standards.

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SCIENTIST (WATER ECOLOGY) (continued)Assignment Level III (continued)Examples of Typical Tasks (continued)

Assists in the preparation of land pollutant loading models using land-use patterns and sampling.

Assists in selection, installation and operation of water, wastewater and harbor water sampling equipment.

Prepares scientific papers on research experiments and findings related to water ecology, water quality and the environment.

Qualification Requirements

1. A master's degree from an accredited college in one of the following areas of study: environmental or chemical engineering, limnology, environmental science, marine science, geology, biology, earth science, chemistry, physics, or health science; or
2. A baccalaureate degree from an accredited college with 24 semester credits in one or a combination of the areas of study described in "1" above, at least 12 of which must have been in one of these areas of study; and at least one year of satisfactory full-time experience, which may not have been part of graduate or undergraduate course work, working in the field of water quality planning, management or research or performing environmental laboratory analyses, and/or environmental field sampling of water; or

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SCIENTIST (WATER ECOLOGY) (continued)Qualification Requirements (continued)

3. An associate degree from an accredited college including or supplemented by 24 semester credits in one or a combination of the areas of study described in "1" above, at least 12 of which must have been in one of these areas of study; and at least three years of satisfactory full-time experience as described in "2" above.

Additional Requirements

To be assigned to Assignment Levels II or III, all candidates must have a baccalaureate degree from an accredited college as described in "2" above and must have additional experience as follows:

For Assignment to Level II

To be assigned to Assignment Level II, candidates must have one additional year of the experience described in "2" above for a total of two years of experience.

For Assignment to Level III

To be assigned to Assignment Level III, candidates must have two additional years of the experience as described in "2" above for a total of three years of experience.

Special Note

A master's degree from an accredited college in one of the areas described in "1" above may be substituted for up to two years of the required experience.

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SCIENTIST (WATER ECOLOGY) (continued)

License Requirement

Must possess a motor vehicle driver license valid in the State of New York. This license must be maintained for the duration of employment.

Direct Lines of Promotion

From: None

To: None