C-XI

CODE NO. 21538

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.

Performs routine maintenance and calibration of scientific instruments.

Assists in report writing and answering general correspondence.

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SCIENTIST (WATER ECOLOGY) (continued)

Assignment Level I (continued)

Examples of Typical Tasks (continued)

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.

Prepares scientific studies and research papers of moderate complexity.

SCIENTIST (WATER ECOLOGY) (continued)

Assignment Level II (continued)

Examples of Typical Tasks (continued)

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 III

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.

Examples of Typical Tasks

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.

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.

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 baccalaureate degree from an accredited college with 24 semester credits 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; 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; or

2. An associate degree from an accredited college with 24 semester credits in one of the areas of study described in "1" above, and at least three years of satisfactory full-time experience as described "1" above.

SCIENTIST (WATER ECOLOGY) (continued)

Additional Requirements

To be assigned to Assignment Levels II or III all candidates must have a baccalaureate degree.

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.

For Assignment to Level II

In addition to meeting the Qualification Requirement described in "1" above, to be assigned to Assignment Level II candidates must have one additional year of the experience described in "1" above for a total of two years of experience.

For Assignment to Level III

In addition to meeting the Qualification Requirement described in "1" above, to be assigned to Assignment Level III candidates must have two additional years of the experience as described in "1" above for a total of three years of experience.

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

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MISCELLANEOUS OCCUPATIONAL
GROUP [193]

CODE NO. 21537

SCIENTIST (WATER ECOLOGY) TRAINEE

General Statement of Duties and Responsibilities

Under direct supervision, is trained in and assists in the field and laboratory in the study, evaluation, planning and management of the City's water systems; may perform basic water ecology work; performs related work.

Examples of Typical Tasks

Is trained and assists in: the collection of water samples, monitoring of storm events and the collection of other environmental data to support water ecology research.

Is trained in and assists in conducting surveys and water quality studies.

Is trained in assists in maintaining and calibrating scientific instruments.

Is trained in and assists in the loading, unloading and transporting of equipment and samples needed to conduct field work.

May drive a motor vehicle from site to site in the performance of these tasks.

Qualification Requirements

A baccalaureate degree from an accredited college with 24 semester credits 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.

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.

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SCIENTIST (WATER ECOLOGY) TRAINEE (continued)

Direct Lines of Promotion

None. This is a trainee class of positions subject to Rule 5.8.1 of the Personnel Rules and Regulations of the City of New York, with a probationary period of 24 months. Upon the satisfactory completion of 12 months of service, permanent employees in this class of positions will advance, without further examination to the title of Scientist (Water Ecology) (21538). The Trainee service may be extended to a maximum of 18 months and the probationary period may also be extended for a corresponding duration. The last 12 months of probationary service will be served in the higher title.