



**Code: 3178**  
Family: Health and Human Services  
Service: Health and Welfare  
Group: Medical and Social Service  
Series: Medical Technician and Laboratory

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## **CLASS TITLE: MICROBIOLOGIST III**

### **CHARACTERISTICS OF THE CLASS**

Under supervision, performs at the fully functional level conducting microbiological testing and analysis functions, and performs related duties as required

### **ESSENTIAL DUTIES**

- Prepares specimens for microscopic viewing using staining materials
- Performs complex microbiological tests on raw and treated water samples to identify pollution, bacteria, algae, and toxins
- Assesses water quality using samples collected from source water, water mains, purification plants, and water quality investigations
- Performs microscopic examinations of water to isolate, identify, assess, and study microorganisms
- Maintains records of research findings and prepares related reports
- Calculates, analyzes, and interprets tests results
- Conducts specialized research on water conditions
- Maintains and prepares biochemical substances used in analyses
- Transfers and incubates bacteria cultures for further study
- Acts as the team leader on special testing projects, as required
- Sterilizes and maintains laboratory equipment, instruments, and materials according to accepted standards, as required
- Demonstrates laboratory procedures at public educational exhibits, as required

**NOTE:** *The list of essential duties is not intended to be inclusive; there may be other duties that are essential to particular positions within the class.*

### **MINIMUM QUALIFICATIONS**

#### **Education, Training, and Experience**

- Graduation from an accredited college or university with a Bachelor's Degree in Microbiology, Bacteriology, Biology, or a directly related field, plus one year of experience in microbiological analysis; or an equivalent combination of education, training and experience provided that the minimum degree requirement is met

#### **Licensure, Certification, or Other Qualifications**

- Employees are required to obtain Illinois Department of Public Health Laboratory Certification–Registry #17506 upon 6 months of employment

### **WORKING CONDITIONS**

- Exposure to hazardous chemicals
- Exposure to microorganisms and infectious waste
- Exposure to fumes or dust

## EQUIPMENT

- Standard office equipment (e.g., telephone, printer, photocopier, fax machine, calculator)
- Computers and peripheral equipment (e.g., personal computer, computer terminals, hand-held computer)
- Safety equipment
- Testing or monitoring equipment
- Microbiology equipment (e.g., microscopes, scientific calculators)
- Biological and chemical testing equipment (e.g., electron microscopes, light microscopes, x-ray analyzers)
- Laboratory equipment (e.g., sterilizers, scales, centrifuges)

## PHYSICAL REQUIREMENTS

- Some moving or lifting laboratory equipment and supplies

## KNOWLEDGE, SKILLS, ABILITIES, AND OTHER WORK REQUIREMENTS

### Knowledge

Moderate knowledge of:

- applicable federal, state, local laws, regulations, and guidelines
- \*laboratory practices and methodology
- \*applicable computer software packages and applications
- \*microbiological equipment, instruments, materials, and supplies
- \*microbiological testing, research, and analytical practices and procedures
- \*Biology

Knowledge of applicable City and department policies, procedures, rules, and regulations

Other knowledge as required for successful performance in the Microbiologist II class

### Skills

- \*ACTIVE LEARNING - Understand the implications of new information for both current and future problem-solving and decision-making
- \*ACTIVE LISTENING - Give full attention to what other people are saying, take time to understand the points being made, ask questions as appropriate, and not interrupt at inappropriate times
- \*CRITICAL THINKING - Use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems
- \*MATHEMATICS - Use mathematics to solve problems
- \*SCIENCE - Use scientific rules and methods to solve problems
- \*COMPLEX PROBLEM SOLVING – Identify complex problems and review related information to develop and evaluate options and implement solutions
- \*COORDINATION WITH OTHERS - Adjust actions in relation to others' actions
- \*QUALITY CONTROL ANALYSIS - Conduct tests and inspections of products, services, or processes to evaluate quality or performance

- \*EQUIPMENT MAINTENANCE - Perform routine maintenance on equipment and determine when and what kind of maintenance is needed
  - \*EQUIPMENT SELECTION - Determine the kind of tools and equipment needed to do a job
- Other skills as required for successful performance in the Microbiologist II class

**Abilities**

- COMPREHEND ORAL INFORMATION - Listen to and understand information and ideas presented through spoken words and sentences
- SPEAK - Communicate information and ideas in speaking so others will understand
- COMPREHEND WRITTEN INFORMATION - Read and understand information and ideas presented in writing
- WRITE - Communicate information and ideas in writing so others will understand
- RECOGNIZE PROBLEMS - Tell when something is wrong or is likely to go wrong
- REASON MATHEMATICALLY - Choose the right mathematical methods or formulas to solve a problem
- MAKE SENSE OF INFORMATION - Quickly make sense of, combine, and organize information into meaningful patterns
- ORGANIZE INFORMATION - Arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations)

Other skills as required for successful performance in the Microbiologist II class

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All employees of the City of Chicago must demonstrate commitment to and compliance with applicable state and federal laws, and City ordinances and rules; the City's Ethics standards; and other City policies and procedures.

The City of Chicago will consider equivalent foreign degrees, accreditations, and credentials in evaluating qualifications.

\* May be required at entry.

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City of Chicago  
Department of Human Resources  
July, 2014