

BIOSTATISTICS

O*NET OnLine

O*NET OnLine is a resource that maintains detailed descriptions of an extensive list of occupations. You can use this resource for career exploration and job analysis as you seek to determine your future career path.

The numbers presented in this guide are O*NET-SOC codes for the corresponding profession title or similar profession on onetonline.org. Enter the code in the occupation search on the home page to take you to a wealth of information about the profession, including more specific job titles, required skills, credentialing, and salary.

Additional career exploration resources can be found on our [website](#).

Areas of Employment

- Academic organizations
 - Clinical trials
- Federal/state/city government
- Health Departments
 - Cities and county
- Industry
 - Pharmaceutical companies
 - Medical device manufacturers
- Non-profits
- Private organizations

Possible Job Titles

- Data Scientist
- Bioinformatics Scientist (19-1029.01)
- Biomedical researcher
- Biostatistician (15-2041.01)
- Clinical Data Manager (15-2041.02)
- Database Administrator
- Epidemiologist (19-1041.00)
- Genetics researcher
- Statistician (15-2041.00)
- Systems Analyst
 - See also: Data Analyst

With Doctoral Training

- Professor, Biostatistics (25-1022.00)
- Program Director (27-2012.03)

Primary Competencies

- Describe the roles biostatistics serves in public health
- Apply statistical methods and descriptive techniques for summarizing public health data
- Interpret and present results from application of statistical techniques

MS Specific

- Demonstrate understanding of statistical inferences for public health, biomedical, or bioinformatics datasets across a variety of research designs
- Demonstrate ability to use appropriate computational skills to solve a problem
- Demonstrate ability to work in collaborative setting with public health investigators

MPH Specific

- Apply statistical methods for inference, using appropriate statistical software, and make proper interpretations based on the output
- Describe preferred methodological alternatives to commonly used statistical methods when assumptions are not met
- Develop written presentations based on statistical analyses for both public health professionals and educated lay audiences

PhD Specific

- Specify a research question and obtain the data for the model using appropriate computational skills
- Develop innovative design and analytical and simulated models in public health, biomedical, or biological arenas
- Report research results through scientific publication, presentation, and teaching

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Top Skills Preferred by Employers

- Appropriate use of statistical software packages
- Clear and concise verbal and written communication
- Database administration and programming
- Informatics problem solving
- Liaison between biologists and computer scientists during design of data analysis
- Filtering information
- Work independently and in team

Professional Associations

- American Public Health Association (APHA)
- American Mathematical Society
- American Statistical Association
- Bioinformatics Organization
- Institute of Mathematical Statistics
- International Biometric Society
- International Society for Clinical Biostatistics
- International Society for Computational Biology
- Mathematical Association of America (MAA)
- National Science Foundation (NSF) Section for Mathematics and Physical Sciences
- Society for Industrial and Applied Mathematics

Examples of Employers

Texas

- Baylor College of Medicine, Houston
- Cytel Corporation, Austin
- General Dynamics Information Technology, Fort Sam Houston
- Harris County Public Health
- The Henry M. Jackson Foundation, San Antonio
- Houston Health and Human Services

National

- Centers for Disease Control and Prevention (CDC), main campus in Atlanta, GA
- City of Cincinnati, Cincinnati, OH
- CyberCoders, Kalamazoo, MI
- National Institutes of Health (NIH), main campus in Bethesda, MD
- PPD, National
- State of Michigan, Lansing, MI