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# **New and Emerging Occupations of the 21<sup>st</sup> Century: Updating the O\*NET<sup>®</sup>-SOC Taxonomy**

## **Summary and Implementation**

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## Executive Summary

The revision of the O\*NET<sup>®</sup>-SOC occupational taxonomy (Occupational Information Network-Standard Occupational Classification) is part of the O\*NET program's continuous improvement effort. The main goal of the revision to the taxonomy is to reflect changes occurring in the world of work as a result of new technologies, innovative business practices, and the organization of work. This document provides a summary of the taxonomy revision process and describes the implementation of resulting changes. The current O\*NET-SOC taxonomy, O\*NET-SOC 2006, is to be updated with a revised O\*NET-SOC taxonomy, O\*NET-SOC 2009.

The new O\*NET-SOC 2009 taxonomy is compatible with the planned future 2010 SOC revision. This is critical to ensure that the O\*NET system can take advantage of important SOC-based information that has been collected by other government and private organizations. Although the next SOC revision has not been published or finalized, information collected by the O\*NET Center on its structure (e.g., occupational titles and definitions) have been incorporated into the new 2009 O\*NET-SOC taxonomy. Where possible, similar titles and definitions have been aligned. In the future, O\*NET-SOC occupations that are more detailed will be nested under the appropriate 2010 SOC occupations. Additionally, after the 2010 SOC is released (e.g., titles, definitions, employment numbers, education requirements), the O\*NET-SOC taxonomy will be reviewed for compatibility and appropriate modifications will be made.

The revised O\*NET-SOC 2009 taxonomy, outlined here, will include 1102 occupational titles, 965 of which represent O\*NET data-level occupations. Data-level occupations are those occupations for which the O\*NET program collects data. Data and occupational information are collected on a wide variety of variables and scales, such as occupational characteristics and worker requirements drawn from the O\*NET Content Model (<http://www.onetcenter.org/content.html>). Data are gathered from job incumbents and occupation experts for domains such as knowledges, work activities, work context, tasks, and educational requirements. Additionally, trained occupational analysts, following standardized procedures, independently conduct an analysis of occupational information provided by job incumbents to develop occupational ability and skills information. The current O\*NET-SOC 2006 taxonomy contains 949 occupational titles, 812 of which represent O\*NET data-level occupations.

The revised O\*NET-SOC 2009 taxonomy will include the addition of 153 new and emerging (N&E) occupations identified within 17 in-demand industry clusters. N&E occupations are defined as occupations that involve significantly different work from that performed by job incumbents of other occupations, and occupations that are not adequately reflected by the existing O\*NET-SOC structure (National Center for O\*NET Development, 2006). There are a total of 159 N&E occupations; 6 of which were included in the O\*NET-SOC 2006 taxonomy. N&E occupations are detailed O\*NET-SOC level occupations. Fifty-two of the 153 N&E occupations being added to the 2009 taxonomy are breakouts of SOC occupations, while 101 N&E occupations are classified under SOC residual "All Other" categories.

The scheduled June 2009 release of the O\*NET 14.0 database will represent the fourteenth update of the O\*NET database since its initial release in 1998 and the third modification to the

taxonomy. The first modification was the conversion from an Occupational Employment Statistics-based (OES-based) classification, O\*NET OU 1998, to a SOC-based classification, O\*NET-SOC 2000. The O\*NET-SOC 2006 taxonomy revisions represented the second modification to the taxonomy, where the main goal was to ensure that O\*NET data were, and continue to be, collected at the appropriate level of specificity (National Center for O\*NET Development, 2006b).

The June 2009 scheduled release of the O\*NET 14.0 database will incorporate revisions to the taxonomy described in this paper, where 153 N&E occupations from 17 in-demand industry clusters have been identified and will be added to the taxonomy. As a result of the revisions, the O\*NET database and O\*NET products will be better able to meet the needs of customers by providing access to occupational information for N&E occupations and continued easy movement between the O\*NET system and other SOC-based data resources.

It is important to note that the O\*NET-SOC taxonomy is a continual improvement effort. The changing world of work will require ongoing research efforts to ensure an up-to-date taxonomy. The National Center for O\*NET Development will monitor and evaluate the newly included emerging occupations during the course of sampling and data collection and make modifications, additions, and/or removals based on the collected O\*NET data.

The O\*NET system was designed to adapt to changes in the world of work. With the inclusion of N&E occupations in the O\*NET-SOC 2009 taxonomy and the continued identification of N&E occupations, the correspondence between the O\*NET system and the world of work promises to grow even stronger while meeting the immediate demand for more extensive occupational information within rapidly changing in-demand industry clusters.

## Introduction

The revision of the O\*NET-SOC occupational taxonomy (Occupational Information Network-Standard Occupational Classification) is part of the O\*NET program's continuous improvement effort. The O\*NET-SOC is based on the Standard Occupational Classification [(SOC); Office of Management and Budget, 2000] system. In some cases, the O\*NET-SOC describes occupations at a more detailed level than does the SOC to reflect needed occupational specificity. In developing the 2009 O\*NET-SOC taxonomy, efforts were made to ensure its compatibility with the yet completed 2010 SOC. This includes incorporating and aligning definitions and titles. In the future, the O\*NET-SOC taxonomy will be reviewed in light of the release of the new SOC. This document provides a summary of the taxonomy revision process and describes the implementation of the third modification to the taxonomy. The current taxonomy, O\*NET-SOC 2006, is being updated with a revised taxonomy, O\*NET-SOC 2009.

The main goal of the revision to the taxonomy is the inclusion of 153 new and emerging (N&E) occupations from 17 in-demand industry clusters. N&E occupations are described as occupations that involve significantly different work from that performed by job incumbents of other occupations, and occupations that are not adequately reflected by the existing O\*NET-SOC structure (National Center for O\*NET Development, 2006). Identification of N&E occupations within in-demand industry clusters is a result of the O\*NET system's ability to adapt to changes in the world of work. There are a total of 159 N&E occupations; 6 of which were included in the O\*NET-SOC 2006 taxonomy.

The revision of the O\*NET-SOC taxonomy has progressed in two phases. In the first phase, the detailed O\*NET-SOC occupations were reviewed to identify any overlap, redundancy, or gaps in the way they represent the SOC occupations to which they are linked. Phase I of the revision process was completed with the O\*NET-SOC 2006 taxonomy. The O\*NET-SOC 2006 taxonomy reflected an updated SOC-based classification with increased correspondence between the O\*NET-SOC and 2000 SOC (National Center for O\*NET Development, 2006b). In the second, current, phase of revisions, N&E occupations from 17 in-demand industry clusters have been identified and will be added to the taxonomy as detailed O\*NET-SOC occupations. Additional research of in-demand industry clusters and resultant N&E occupations will be included in future revisions.

As a result of the revisions to the O\*NET-SOC taxonomy, the O\*NET database and O\*NET products are better able to meet the needs of customers, who will be able to gain access to occupational information for N&E occupations and continue to move easily between the O\*NET system and other SOC-based data resources (National Center for O\*NET Development, 2006b).

The O\*NET system was designed to adapt to changes in the world of work. With the inclusion of N&E occupations in the O\*NET-SOC 2009 taxonomy and the continued identification of N&E occupations in the future, the correspondence between the O\*NET system and the world of work promises to grow even stronger while meeting the immediate demand for more extensive occupational information within rapidly changing in-demand industry clusters.

As a frame of reference, the next section provides more detail about the O\*NET-SOC taxonomy to enable comparison to the revision and the implementation of the O\*NET-SOC 2009 taxonomy.

## Current O\*NET-SOC 2006 Taxonomy

The current O\*NET taxonomy, O\*NET-SOC 2006, represents a revised version of the previous O\*NET-SOC 2000 taxonomy, which encompassed the transition from the former Occupational Units (OUs) of O\*NET 98 to the SOC (Levine, Nottingham, Paige, & Lewis, 2000). Revisions to the O\*NET-SOC 2000 taxonomy, resulting in the current O\*NET-SOC 2006 taxonomy, ensured that O\*NET data continues to be collected at the appropriate level of specificity, balancing the needs of cost efficiency, sampling precision, data quality, and product utility (National Center for O\*NET Development, 2006b). The Office of Management and Budget (OMB) mandates that all government agencies collect occupation-related information via a classification compatible with the SOC. From a customer perspective, this allows movement from various information systems or data products with greater ease, while facilitating the integration of different types of information within systems.

The structure of the SOC system includes four levels of aggregation: 23 major groups, 96 minor groups, 449 broad occupations and 821 detailed occupations. All SOC occupations are assigned a six-digit code. The first and second digits represent the major group; the third digit represents the minor group; the fourth and fifth digits represent the broad occupation; and the sixth digit represents the detailed occupation. The 23 major groups of the SOC include:

- 11-0000 Management Occupations
- 13-0000 Business and Financial Operations Occupations
- 15-0000 Computer and Mathematical Occupations
- 17-0000 Architecture and Engineering Occupations
- 19-0000 Life, Physical, and Social Science Occupations
- 21-0000 Community and Social Services Occupations
- 23-0000 Legal Occupations
- 25-0000 Education, Training, and Library Occupations
- 27-0000 Arts, Design, Entertainment, Sports, and Media Occupations
- 29-0000 Healthcare Practitioners and Technical Occupations
- 31-0000 Healthcare Support Occupations
- 33-0000 Protective Service Occupations
- 35-0000 Food Preparation and Serving Related Occupations
- 37-0000 Building and Grounds Cleaning and Maintenance Occupations
- 39-0000 Personal Care and Service Occupations
- 41-0000 Sales and Related Occupations
- 43-0000 Office and Administrative Support Occupations
- 45-0000 Farming, Fishing, and Forestry Occupations
- 47-0000 Construction and Extraction Occupations
- 49-0000 Installation, Maintenance, and Repair Occupations

- 51-0000 Production Occupations
- 53-0000 Transportation and Material Moving Occupations
- 55-0000 Military Specific Occupations

SOC minor groups, broad occupations, and detailed occupations are assigned codes related to the corresponding major groups. For example:

- 19-0000 Life, Physical, and Social Science Occupations (SOC major group)
- 19-4000 Life, Physical and Social Science Technicians (SOC minor group)
- 19-4050 Nuclear Technicians (SOC broad occupation)
- 19-4051 Nuclear Technicians (SOC detailed occupation)

In the O\*NET-SOC taxonomy, an occupation that is directly adopted from the SOC system is assigned the six-digit SOC code, along with a .00 extension. If directly adopted from the SOC, the SOC title and definition are also used. Hereafter, these are referred to as SOC-level occupations.

If the O\*NET-SOC occupation is more detailed than the original SOC detailed occupation, it is assigned the six-digit SOC code from which it originated, along with a two-digit extension starting with .01, then .02, .03 and so on, depending on the number of detailed O\*NET-SOC occupations linked to the particular SOC detailed occupation.

For example, Nuclear Technicians is a SOC detailed occupation to which two detailed O\*NET-SOC occupations are linked. See the occupational codes and titles for this example below.

- 19-4051.00 Nuclear Technicians (SOC-level)
- 19-4051.01 Nuclear Equipment Operation Technicians (detailed O\*NET-SOC occupation)
- 19-4051.02 Nuclear Monitoring Technicians (detailed O\*NET-SOC occupation)

Both 19-4051.01 Nuclear Equipment Operation Technicians and 19-4051.02 Nuclear Monitoring Technicians are data-level occupations in the taxonomy. O\*NET data-level occupations are those occupations for which the O\*NET program collects data. Data and occupational information are collected on a wide variety of variables and scales, such as occupational characteristics and worker requirements drawn from the O\*NET Content Model (<http://www.onetcenter.org/content.html>). O\*NET data are gathered from job incumbents and occupation experts for domains such as knowledges, work activities, work context, tasks, and educational requirements. Additionally, trained occupational analysts, following standardized procedures, independently conduct an analysis of occupational information provided by job incumbents to develop occupational ability and skills information.

In the example above, the two detailed O\*NET-SOC occupations, 19-4051.01 Nuclear Equipment Operation Technicians and 19-4051.02 Nuclear Monitoring Technicians, are data-level occupations, whereas the SOC detailed occupation, 19-4051.00 Nuclear Technicians, is not an O\*NET data-level occupation.

## O\*NET-SOC 2009 Taxonomy

The major goal of revising the current O\*NET-SOC 2006 taxonomy is to ensure the O\*NET-SOC taxonomy reflects changes occurring in the world of work, resulting from changes in technologies, business practices, and the organization of work. The resultant O\*NET-SOC 2009 taxonomy will include 153 newly classified N&E occupations identified within 17 in-demand industry clusters to increase correspondence between the O\*NET system and the rapidly changing world of work. The 2006 taxonomy included 6 N&E occupations, bringing the current total of N&E occupations to 159. All N&E occupations are detailed O\*NET-SOC level occupations. Fifty-two of the 153 N&E occupations being added to the 2009 taxonomy are breakouts of SOC occupations, while 101 N&E occupations are classified under SOC residual “All Other” categories. The 6 N&E occupations included in the O\*NET-SOC 2006 taxonomy were classified under one of the SOC residual “All Other” categories. In the following sections, the identification of N&E occupations is described, in-demand industry clusters identified by the U.S. Department of Labor (DOL) are defined, and the process for classifying N&E occupations is presented.

### Identification of New and Emerging (N&E) Occupations

The O\*NET system is designed with the capacity to reflect on-going developments in workforce needs. It is responsive to current developments in technology, social organization, business practices, and government regulations. Incorporating N&E occupations into the O\*NET system in a timely manner is important for meeting the many needs of both public- and private-sector users.

An occupation is added to the O\*NET taxonomy if it meets the following two criteria:

- The occupation involves significantly different work than that performed by job incumbents of other occupations.
- The occupation is not adequately reflected by the existing O\*NET-SOC structure.

As did the 6 N&E occupations in the O\*NET-SOC 2006 taxonomy, the 153 N&E occupations being added to the taxonomy for O\*NET-SOC 2009 meet both of these criteria. Proposed occupations that did not require work that is significantly different from the work of existing O\*NET-SOC occupations were not considered N&E occupations.

In addition to information specific to the above criteria, background information for each occupation, such as the history of the development of the occupation, employment, education, licensure, and professional associations the occupation supports were considered. This additional information helped to identify and support the existence of the N&E occupations:

- The occupation has a significant number of employees working in the occupation.
- The occupation has a positive growth rate.

- The occupation has developed due to changes in technology, society, law, or business practices.
- The occupation has licensure or certification requirements.
- The occupation offers education or credentials to its employees.
- The occupation has related professional associations.
- The occupation has related journals or professional publications.
- The occupation has a supporting O\*NET-SOC structure or has supporting existing O\*NET-SOC occupations.

Proposed N&E candidates that did not meet these criteria were not considered good candidates for O\*NET data collection. Most N&E occupations have developed relatively recently, but this may not always be the case. Some occupations classified as N&E may have existed for some time, but have evolved and changed significantly and/or only recently have reached employment numbers sufficient to make them practical for inclusion in the O\*NET taxonomy. Information such as employment, projected growth, and professional association membership are considered jointly to determine whether employment exists in sufficient numbers to support O\*NET data collection.

The identification of N&E occupations followed a 7-step process by which N&E occupations were identified, evaluated, and incorporated into the O\*NET system. A complete description of the 7 steps presented below is outlined in the N&E Methodology Report (National Center for O\*NET Development, 2006).

- Step 1: Develop list of potential N&E occupations in in-demand industry clusters.
- Step 2: DOL/ETA review and approval of proposed N&E occupations.
- Step 3: Develop task lists for approved N&E occupations.
- Step 4: Finalize occupation profiles.
- Step 5: Create occupation profiles and submit to DOL/ETA for approval.
- Step 6: Initiate data collection.
- Step 7: Refine criteria and methodology (continuous).

It is important to note that the O\*NET-SOC taxonomy is a continual improvement effort. The changing world of work will require ongoing research efforts to ensure an up-to-date taxonomy. The National Center for O\*NET Development will monitor and evaluate the newly included emerging occupations during the course of sampling and data collection and make modifications, additions, and/or removals based on the collected O\*NET data.

### **In-Demand Industry Clusters**

In-demand industry clusters are industries identified by DOL that are economically critical, projected to add substantial numbers of new jobs, and being transformed by technology and innovations. The in-demand industry clusters served as the primary focus of the search for N&E occupations (see [www.careervoyages.gov](http://www.careervoyages.gov) for more information on in-demand industry clusters). Detailed research was conducted on each of these in-demand industry clusters to determine which critical, in-demand N&E occupations would be added to the O\*NET taxonomy. Currently, 17 in-demand industry clusters were researched for the inclusion of N&E occupations in the

O\*NET system. Additional research of in-demand industry clusters will be conducted in the future to help maintain the currency of the O\*NET-SOC taxonomy. The 17 in-demand industry clusters researched for the purpose of identifying N&E occupations for the O\*NET-SOC 2009 taxonomy are presented below.

- Advanced Manufacturing
- Aerospace
- Automotive
- Biotechnology
- Construction
- Education
- Energy
- Financial Services
- Geospatial Technology
- Green Economy
- Health Care
- Homeland Security
- Hospitality
- Information Technology
- Nanotechnology
- Retail Trade
- Transportation

Identification of N&E occupations within in-demand industry clusters will lead to an O\*NET database and O\*NET products that will better meet the needs of many customers, as well as more accurately reflect the current world of work. Individuals seeking new careers or new pathways within existing careers will benefit from the identification of N&E occupations. Other beneficiaries include educational institutions developing training programs to meet workforce demands and companies writing job descriptions for workers in a changing environment.

### **Classification of N&E Occupations**

Occupational titles in the O\*NET-SOC taxonomy fall into three categories: SOC-level occupations, detailed O\*NET-SOC level occupations, and exceptional cases. Table 1 illustrates the number of occupational titles in each of these categories for both the 2006 and 2009 O\*NET-SOC taxonomies. As mentioned, the O\*NET-SOC 2009 taxonomy will include 153 N&E occupations identified within 17 in-demand industry clusters. All N&E occupations are detailed O\*NET-SOC level occupations. Fifty-two of these 153 N&E occupations are breakouts of SOC occupations, and the remaining 101 occupations are classified under SOC residual “All Other” categories (see Table 2).

When applicable, N&E occupations were coded under SOC occupations when the N&E occupation was considered to be a breakout of the SOC occupation. N&E occupations that could not be classified as a breakout of a SOC occupation were placed under a SOC residual “All Other” category.

Coding of O\*NET-SOC residual categories will be changed from a .99 extension to a .00 extension in the 2009 taxonomy. Because there are a number of occupations that are being nested under SOC residual “All Other” categories, changing from a .99 extension to a .00 extension allows for greater clarity in ordered listings of these occupations. For example, the SOC residual of 11-9199 Managers, All Other, previously was coded in the O\*NET system as 11-9199.99. In the 2009 taxonomy, 11-9199 Managers, All Other will be coded as 11-9199.00, with the detailed

O\*NET-SOC occupations that are listed below it following in sequential order (e.g., 11-9199.01, 11-9199.02).

Table 1 provides a comparison summary of occupational titles from the O\*NET-SOC 2006 taxonomy and the O\*NET-SOC 2009 taxonomy. The detailed O\*NET-SOC level occupational count includes N&E occupations.

**Table 1. Summary of O\*NET-SOC 2006 and the O\*NET-SOC 2009 Taxonomies**

Type of Occupational Title	O*NET-SOC 2006	O*NET-SOC 2009
<b>SOC-Level</b>	821	821
<b>Exceptional Cases*</b>	2	2
<b>Detailed O*NET-SOC Level</b>	126**	279***
<b>Total</b>	949	1102

\* Two occupations that correspond with higher level SOC occupations are included in the taxonomy. These exceptional cases include 11-3040.00 Human Resource Managers and 19-1020.01 Biologists.

\*\* These 126 occupations are linked to 52 SOC-level occupations

\*\*\*These 279 occupations are linked to 107 SOC-level occupations

Table 2 provides a summary of the classification of the detailed O\*NET-SOC level occupations in the O\*NET-SOC 2009 taxonomy. Detailed O\*NET-SOC level occupations that are breakouts of SOC occupations include previously identified breakouts or N&E occupations. Only N&E occupations that could not be classified as a breakout under a SOC occupation are included in SOC residual “All Other” categories.

**Table 2. Summary of Detailed O\*NET-SOC Level Occupations**

Type of Occupational Title	SOC-level	O*NET-SOC 2009
<b>Breakout of SOC occupation</b>	83	172
<b>SOC residual “All Other”</b>	24	107
<b>Total</b>	107	279

## Objectives of the Revision

In summary, by revising the O\*NET-SOC taxonomy as described above, several objectives is achieved:

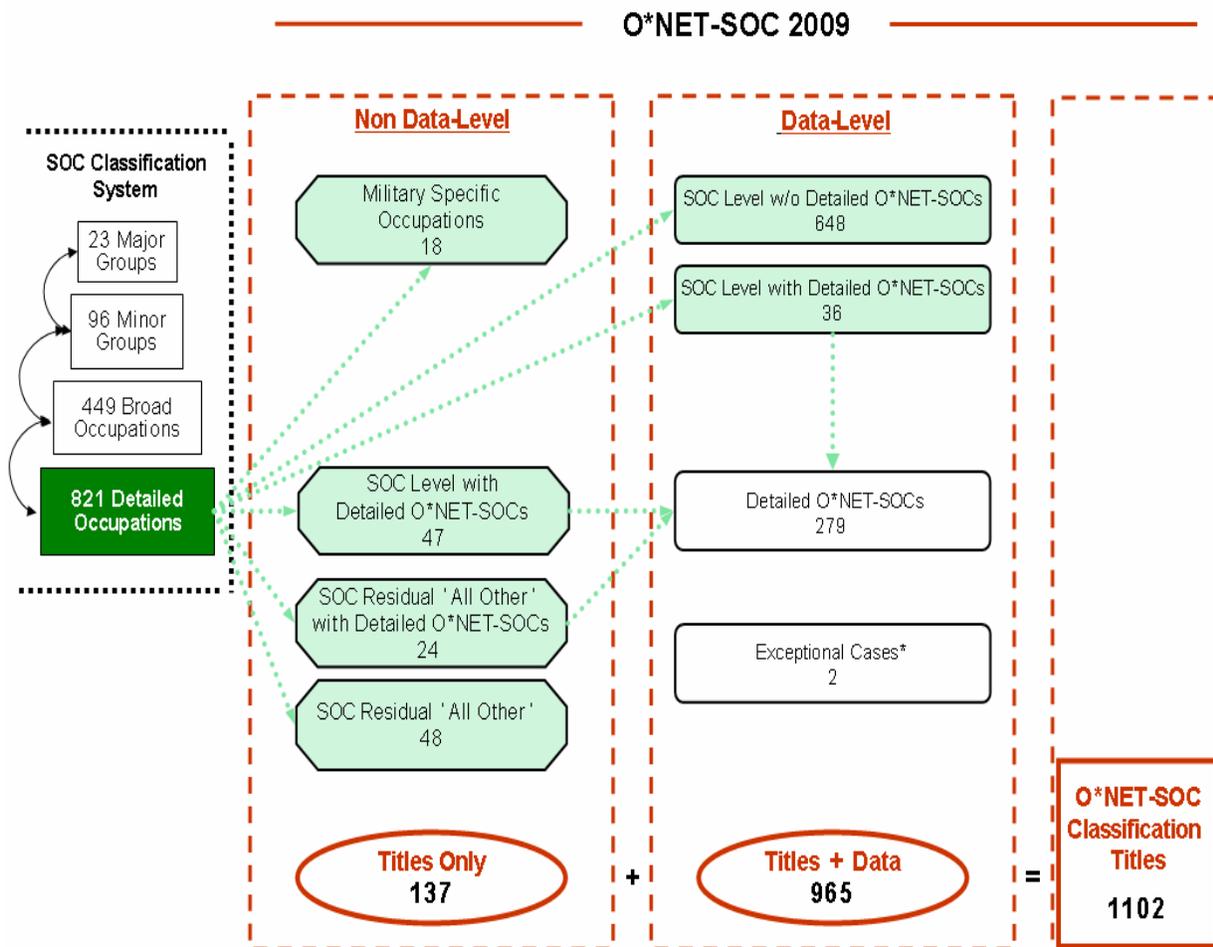
- The O\*NET-SOC taxonomy and database meet the demand for more extensive occupational information for workforce investment activities within rapidly changing in-demand industry clusters.
- In a rapidly changing economy, the revised classification more accurately reflects the many occupations found in today's world of work through the inclusion of N&E occupations.
- The sampling of occupations in the O\*NET program continues to be efficient and precise, due to the use of SOC-based occupation employment statistics produced by the U.S. Bureau of Labor Statistics and the states.
- O\*NET data continue to have an increased correspondence with employment projections and other labor market information used in career exploration and other applications.

The June 2009 scheduled release of the O\*NET 14.0 database will incorporate the 153 N&E occupations identified within 17 in-demand industry clusters to the taxonomy. Future updates will include additional N&E occupations found through continuous research efforts conducted on in-demand industry clusters.

## O\*NET Data Collection

As shown in Figure 1, the O\*NET-SOC 2009 taxonomy contains 1102 occupational titles, 965 of which represent data-level occupations. Of the 965 data-level occupations, 648 are SOC-level occupations adapted directly from the SOC, 36 are SOC-level occupations adapted directly from the SOC and also contain more detailed O\*NET-SOC occupations, 279 are detailed O\*NET-SOC occupations, and 2 occupations are exceptional cases. The remaining 137 are non-data level occupations (occupational titles only): 18 military occupational titles, 48 SOC residual “All Other” occupational titles, 24 SOC residual “All Other” occupational titles to which more detailed O\*NET-SOCs are linked, and 47 SOC detailed occupations to which more detailed O\*NET-SOC occupations are linked.

**Figure 1. Summary of the O\*NET-SOC 2009 Taxonomy**



\*Figure 1 Note. The 2 exceptional cases include detailed O\*NET-SOC occupations subsumed under broad-level SOC occupations

The O\*NET Data Collection Program is collecting and publishing updated data for 965 of the 1102 occupational titles contained within the O\*NET-SOC 2009 taxonomy. The majority of these occupations are SOC-level occupations (i.e., 648 SOC-level occupations compared to 279 detailed O\*NET-SOC occupations). There are 36 SOC-level occupations at the data-level that also contain more detailed O\*NET-SOCs for which data is also collected. Two occupations for which data are collected, 11-3040.00 Human Resource Managers and 19-1020.01 Biologists, are exceptional cases because they are drawn from broad-level SOC occupations. The remaining 137 occupations of the 1102 occupations are at the non-data level (occupational titles only).

Legislators (11-1031.00) and Mathematical Technicians (15-2091.00) are included in the 965 occupations with data. However, the updates for these two occupations will be limited to tasks, interests, work values and job zone information. Legislators, while listed as an occupational classification in the SOC, is a high-level elected office in state and federal government. Collecting new data for this occupation would provide little value-added information to users of O\*NET data, such as job seekers. Mathematical Technicians, as defined in the SOC, could not be found in sufficient numbers to support data collection. Further research indicated that this occupation has undergone dramatic change due to the impact of information technology. Much of the analysis formerly done by Mathematical Technicians is now done by engineers and life, physical, and social scientists and associated technicians, using data analysis software. The remaining few job incumbents who specialize in mathematical analysis and were once classified as Mathematical Technicians, may now more appropriately be classified under 15-1099 Computer Specialists, All Other.

## The O\*NET Taxonomy and O\*NET Database Releases

The June 2009 release of the O\*NET 14.0 database represents the fourteenth update of the O\*NET database since its initial release in 1998. However, the O\*NET-SOC 2009 taxonomy represents only the third modification to the taxonomy. The initial O\*NET 98 release was based on the occupational classification used by the BLS Occupational Employment Statistics (OES) program at that time. The OES program has since also moved to a SOC basis.

The O\*NET taxonomy underwent its first broad change with the publication of the 2000 SOC by converting to a SOC-based taxonomy following the mandate of the Office of Management and Budget. This occurred with the O\*NET 3.0 database release, which was the first on a SOC basis.

Table 3 provides an overview of the correspondence of the O\*NET database releases and the O\*NET taxonomy.

**Table 3. O\*NET Database Releases and the O\*NET Taxonomy**

Database Release	Release Date	O*NET Taxonomy
O*NET 98	October, 1998	O*NET OU 1998 (OES-based)
O*NET 3.0	August, 2000	O*NET-SOC 2000 (SOC-based)
O*NET 3.1	June, 2001	
O*NET 4.0	June, 2002	
O*NET 5.0	April, 2003	
O*NET 5.1	November, 2003	
O*NET 6.0*	July, 2004	
O*NET 7.0	December, 2004	
O*NET 8.0	June, 2005	
O*NET 9.0	December, 2005	
O*NET 10.0	June, 2006	O*NET-SOC 2006 (SOC-based)
O*NET 11.0	December, 2006	
O*NET 12.0	June, 2007	
O*NET 13.0	June, 2008	
O*NET 14.0	June, 2009	O*NET-SOC 2009 (SOC-based)

\* A single O\*NET-SOC occupation was added to the O\*NET-SOC 2000 taxonomy (i.e., 39-9011.01 Nannies).

## Conclusion

In summary, the addition of N&E occupations to be included in O\*NET data collection meets the demand for more extensive occupational information within rapidly changing in-demand industry clusters. The O\*NET system was designed to adapt to changes in the world of work. Thus, as O\*NET data collection continues, N&E occupations will be evaluated and modified as new data is obtained. This update of the O\*NET-SOC taxonomy demonstrates the adaptability of the O\*NET system, as it seeks to accurately reflect the occupations found in the United States economy. As the O\*NET program continues to identify new and emerging occupations, the correspondence between the O\*NET system and the world of work promises to grow even stronger.

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