Revision of O*NET Data Collection Instruments

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Addendum

*Revisions to O*NET Data Collection Instruments*

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Below is information regarding important updates to the project described in the report, *Revisions to O*NET Data Collection Instruments, Revised Version, October 2000*.

- **G** This report contains information based on O*NET 98 and refers to information presented in O*NET 98. Since the publication of this report, the O*NET 3.0 database has been developed. The major difference between this database and the O*NET 98 database is its compatibility with the 1998 Standard Occupational Classification (SOC) System.[1] By making O*NET 3.0 compatible with the SOC system, the O*NET 3.0 database contains 974 occupations. O*NET 98 contains 1,122 occupations. Note, the Office of Management and Budget has mandated that all federal agencies' occupational classification systems be compatible with the 1998 SOC system.

- **G** Specific modifications made to prototype data collection instruments that resulted in the updated questionnaires[2] are described in this report. The modified questionnaires were used in the O*NET Pretest Data Collection, and the same version will be used in future O*NET data collection efforts. However, it is important to note that the modifications to the questionnaires described in this report are not yet reflected in the database structure of O*NET 3.0. These questionnaire modifications will be incorporated into the next version of O*NET 3.0.

- **G** O*NET 3.0 and O*NET OnLine, a web-based application that allows users to view and use the O*NET 3.0 database, can be accessed via the website, www.onetcenter.org.

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[1] United States Department of Labor, Bureau of Labor Statistics. (1999). *Revising the Standard Occupational Classification System*: Washington, DC: Author.

[2] The *O*NET Data Collection Program* currently uses five questionnaires in data collection: Skills, Know ledges (which includes education, training and work style questions), Abilities, Generalized Work Activities, and Work Context.

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Table of Contents

Acknowledgments i

Executive Summary iv

Chapter 1. Introduction 1
- Historical Background 1
- O*NET Content Model 1
- Prototype O*NET Measures 3
- Revision of the Prototype Measures 4

Chapter 2. Methods for Evaluation of Prototype Instruments 5
- Introduction 5
- Cognitive Methods: Overview 5
- Expert Evaluation 6
- Expanded Interviews 9
- Group Methods 10

Chapter 3. Evaluation of Prototype Instruments and Modification of Questionnaire Design . . 11
- Overall Evaluation of Prototype Questionnaires 11
- General Evaluation of Box-Format Questionnaires 12
  - Evaluation of Instructions for Answering Box-Format Questions. 12
  - Evaluation of Box-Format Questionnaire Items. 13
- General Modification of Box-Format Questionnaire Items. 15
  - Modification of Box-Format Questionnaire Instructions. 15
  - Modification of Box-Format Questionnaire Items. 17
- Overall Evaluation of Other Questionnaires 19
  - Evaluation of Instructions for Other Questionnaires. 19
  - Evaluation of Questionnaire Items for Questionnaires. 20
- Modification of Other Questionnaires 20
  - Modification of *Background Information Questionnaire* Instructions. 20
  - Modification *of Background Information Questionnaire* Items. 20
  - Modification of the *Training, Education, Licensure, and Experience Questionnaire* Instructions. 21
  - Modification of the *Training, Education, Licensure, and Experience Questionnaire* Items. 21
  - Modification of the *Work Context Questionnaire* Instructions. 21
  - Modification of the *Work Context Questionnaire* Items. 21

Chapter 4. Revision of Instrument Content - Scale Redundancy And Reading Level 23
- Introduction 23
- General Issues Regarding Changes in Instrument Content 24
- Summary of Substantive Questionnaire Revisions 25

Chapter 5. Pilot Testing 28
Procedures 28
Results 28

References 30

Appendices

Appendix A: A-1
Appendix B: B-1
Appendix C: C-1

List of Tables

Table 1. Instrument Revision Working Group 5
Table 2. O*NET Questionnaire Item (Descriptor Variable) Revisions 25
Table 3. Completion Times for O*NET Questionnaires 29

List of Figures

Figure 1. Cognitive Model of the Survey Response Process 7
Figure 2. Example Prototype Questionnaire Item 8
Figure 3. Problems with O*NET Questions Identified by Cognitive Process Model 11
Figure 4. Example of Modified Instruction Page for Box-Format Questions 16

Executive Summary

The *Occupational Information Network (O*NET)* is a database describing the characteristics of workers and jobs. It contains information on 1,122 occupations. O*NET was designed to replace the *Dictionary of Occupational Titles (DOT)*. O*NET is the most comprehensive standard source of occupational information in the United States. O*NET will be at the center of an extensive network of occupational information used by a wide range of audiences, from individuals making career decisions, to public agencies and schools making training investment decisions, to employers making job structure and hiring decisions. O*NET will also be widely used for administration of federal programs, including employment, training and education programs of the Departments of Labor, Health and Human Services, and Education.

Information presented in O*NET is based on the O*NET Content Model (Peterson, Mumford, Borman, Jeanneret, & Fleishman, 1995). This content model covers six domains of job characteristics. Jobs can be described either by the demands placed on people doing the work (domains of Worker Characteristics, Worker Requirements, and Experience Requirements) or by the work being done (domains of Occupational Requirements, Job-Specific Requirements and Occupation characteristics). The data in O*NET describe each domain exhaustively. The data will be kept up-to-date by means of an extensive data collection program.

The O*NET data collection program uses a two-stage sample design, including a statistical sample of businesses and a sample of workers in selected occupations within the sampled businesses. These 'incumbent workers' are asked to complete the survey instruments which measure the job characteristics specified by the Content Model. The data collection program is a continuing activity to develop and maintain current job-related information. This information is crucial to the validity of O*NET.

In the initial field tests using prototype versions of the O*NET survey instruments, the response rates for incumbent workers were low. The O*NET Instrument Revision Working Group was convened to revise the prototype instruments in ways that would lead to improved survey response rates. The research reported here is an implementation of a philosophy of continuous improvement that has been adopted as an operational philosophy for all subsequent O*NET development.

This report is a summary of the methods and results of the Instrument Revision Working Group's modification of the prototype instruments. It describes:

- the cognitive methods used to evaluate the prototype instruments;
- the results of the cognitive evaluation of the prototype questionnaires. (The evaluation indicated that the questions were difficult to understand and answer, placing an unnecessary burden on respondents);
- the modifications in the design of those questionnaires made as a result of the evaluations. (The design modifications simplified the instructions and questionnaire items without altering their content);
- the revisions in the content of the prototype questionnaires. (The content revisions involve 1) reductions in the number of items, 2) reductions in the number of response scales per item, and 3) minor wording changes to specific variable definitions);
- the results of a brief laboratory pilot test of the revised instruments.

Chapter 1. Introduction

Historical Background

The *Occupational Information Network* (*O*NET*) is a new product, developed by the U.S. Department of Labor. It is designed to replace the obsolete *Dictionary of Occupational Titles* (*DOT*) and to provide additional information not previously available in the *DOT*. O*NET uses a new data structure, the Content Model, to conceptually organize occupational information, moving from the *DOT*'s over 12,000 occupations to a more manageable 974 occupations based on the *1998 Standard Occupational Classification*. O*NET's features, coupled with these compatibilities, provide a "common language" of standardized descriptors and measures about jobs for use by a variety of audiences interested in occupational information.

O*NET Content Model

The substantive domains that are to comprise the O*NET data base of occupational information were specified by the Advisory Panel for the Dictionary of Occupational Titles (APDOT, 1993). APDOT envisioned O*NET as comprehensively integrating all major types of occupational information in a systematic way. Thus, O*NET is a comprehensive database system for collecting, organizing, describing and disseminating information on job characteristics and worker attributes.

The O*NET system is based upon the O*NET Content Model (Peterson, Mumford, Borman, Jeanneret, & Fleishman, 1995). The Content Model underlying O*NET organizes job-related information into four types of cross-job descriptors:

- ***Worker Characteristics*** — abilities, interests, and work styles;
- ***Worker Requirements*** — basic skills, cross-functional skills, general knowledge and education;
- ***Experience Requirements*** — licensing, experience and training, and job-entry requirements for basic and cross-functional skills;
- ***Occupational Requirements*** — generalized work activities, organizational context, and work context.

Each domain of the Content Model contains a hierarchical structure used to group specific detailed information. For example, the *Worker Characteristics* domain contains three types of information: *Abilities, Interests* and *Work Styles*. Abilities, in turn, contains four types of

abilities, *Cognitive, Psychomotor, Physical and Sensory*. Each of these types of abilities contains further levels of detail. For example, Psychomotor abilities include *Fine Manipulative, Control Movement,* and *Reaction Time and Speed* abilities. Finally, Fine Manipulative Psychomotor Abilities contain three specific descriptors: *Arm-Hand Steadiness, Manual Dexterity,* and *Finger Dexterity*.

In addition to cross-job descriptors, the Content Model also includes:

- ***Occupation Specific Information*** — tasks that are particular to a specific occupation; and

- ***Labor Market Characteristics*** — such as pay and job openings.

The instruments used for O*NET development are designed to measure the various domains of the Content Model[1]. Information for the model domains is collected by a series of questionnaires completed by job incumbents. Respondents to O*NET data collections are guided through a series of questionnaires designed to solicit ratings of jobs or workers represented by each element:

- ***Worker Characteristics*** are measured using the *Abilities* and *Work Styles* questionnaires;

- ***Worker Requirements*** are measured using the *Skills* and *Knowledges* questionnaires;

- ***Experience Requirements*** are measured using the *Training, Education, Licensure, and Experience* questionnaire;

- ***Occupational Requirements*** are measured using the *Generalized Work Activities* questionnaire, and the *Work Context* questionnaire;

- ***Occupation Specific Requirements*** are not measured using questionnaires, but are measured by job analyst observations, job holder and supervisor descriptions elicited in group discussions, and task inventories;

- ***Occupation Characteristics*** are also not measured using questionnaires, but are provided by linkages to other databases produced by the Bureau of Labor Statistics and its cooperating state employment security agencies, the National Occupational Information Coordinating Committee, the U.S. Department of Education, the Office of Personnel Management, and others.

[1] Due to federal government data collection authority, response burden concerns, resource constraints, etc., not all portions of the Content Model (or associated questionnaires) are to be applied within every fiscal year.

Prototype O*NET Measures

The prototype O*NET questionnaires used several types of rating scales, depending on the element being measured. Most were scales for measuring Frequency, Importance, Level, or Agreement. For example, the prototype Generalized Work Activities Questionnaire elements were rated according to Level, Importance, and Frequency.

The prototype instruments have been used in three data collections:

- In the first, pilot test versions of the instruments were administered across the country to small opportunity samples at five employment service offices. Respondents were locally employed adults who volunteered to attend the sessions. The aggregate sample consisted of 209 people sampled from 20 occupations. A structured questionnaire with some open ended items was used to solicit evaluative comments about the instruments.

- In the second data collection, a mail-out survey obtained ratings on the O*NET descriptors for all domains from 15 job incumbents in each of 80 occupations. It was this survey that yielded a low return rate.
- In the third, data collection consisted of having occupational analysts rate each of the O*NET occupations on selected O*NET variables. Each occupation was rated on the basis of a definition and written task description that consisted of a representative set of job tasks (taken from the DOT codes that comprise that occupational unit).

The prototype O*NET measuring instruments were developed over a relatively short period of time. Each instrument was produced by a domain research team that surveyed the available literature and generated a taxonomy of variables that, in their judgment, best represented and synthesized the possibilities presented by the literature. The previous literature varied from extensive, in the case of "abilities" (e.g., Fleishman, 1992; Carroll, 1993), to minimal, in the case of "skills" (e.g., see Lubinski and Dawis, 1992). The decision to include and characterize constructs or variables involved some subjective decisions based on these literatures (Peterson et al, 1995; Mumford, Sager, Childs, & Whetzel, 1995; Peterson, 1997). In other words, in many instances the domain teams had to make a reasoned choice about what to include or not to include, given a lack of clear guidance from the literature.

It is for such reasons that neither the prototype model, nor the instruments developed to measure it, was viewed as the final answer. The expectation by the prototype development team was that there would be several stages of revision and improvement (Peterson et al., 1995). Such revisions and improvements would be driven by technical and scientific advances, by economic and evolutionary forces in the labor market, and by taking advantage of opportunities for improvement that arise as part of the operation of the O*NET system. Consequently, continuous improvement has been adopted as an operational philosophy for all subsequent O*NET development.

Revision of the Prototype Measures

Based on the initial assessment of the prototype instruments, and on the philosophy of continuous improvement for O*NET, the present efforts to revise the instruments were undertaken. The remainder of this report describes the methods and results of these revisions. ***Chapter 2*** describes the cognitive methods used to evaluate the prototype instruments. ***Chapter 3*** reports the results of the cognitive evaluation of the prototype questionnaires and describes the modifications in the design of those questionnaires made as a result. The evaluation indicated that the questions were difficult to understand and answer, placing an unnecessary burden on respondents. The design modifications simplified the instructions and questionnaire items without altering their content. ***Chapter 4*** describes the revisions in the content of the prototype questionnaires. Those revisions involve 1) reductions in the number of items, 2) reductions in the number of response scales per item, and 3) minor wording changes to specific variable definitions. This report concludes by providing the results of a brief laboratory pilot test of the revised instruments in ***Chapter 5***.

Chapter 2. Methods for Evaluation of Prototype Instruments

Introduction

On April 30, 1998, the Instrument Revision Working Group, (See ***Table 1***) was convened with the charge of identifying possible changes in the O*NET instrumentation. This group was charged with making changes that would reduce the respondent burden (thereby increasing response rates) while keeping intact the Content Model. These considerations encouraged thorough appraisal, candid commentary, and, where appropriate, pointed criticism of previously planned practices. In order to make decisions on what changes to consider, several alternative forms of evaluation were utilized. In this chapter we describe the methodological approach used to evaluate the prototype instruments.

Table 1. Instrument Revision Working Group

Member	**Affiliation**
Rodney McCloy	Human Resources Research Organization
John P. Campbell	Human Resources Research Organization
Michael Hubbard	Research Triangle Institute
John Nottingham	National Center for O*NET Development
Phil Lewis	National Center for O*NET Development
David Rivkin	National Center for O*NET Development
Jonathan Levine	National Center for O*NET Development

Cognitive Methods: Overview

The O*NET prototype instruments were evaluated using cognitive methods for questionnaire evaluation and design. Based on theory and methods of cognitive psychology, the cognitive approach to questionnaire design and evaluation has generated much research (Jobe & Mingay, 1991; Jobe, Tourangeau, & Smith, 1993; Lessler & Sirken, 1985). In the Federal Statistical System, the approach is applied at the National Center for Health Statistics (Royston, Bercini, Sirken & Mingay, 1986; Willis, Royston, & Bercini, 1991), at the Bureau of Labor Statistics (Dippo, 1989; Esposito & Hess, 1992) and at the Census Bureau (Campanelli, Rothgeb, & Martin, 1989; Campanelli, Martin, & Rothgeb, 1991; De Maio, Martin, & Sigman, 1987). A review of the work done at these agencies is contained in Jobe and Mingay (1991). The overall goal of cognitive evaluation is to identify those aspects of survey questions that make them easier to understand and answer.

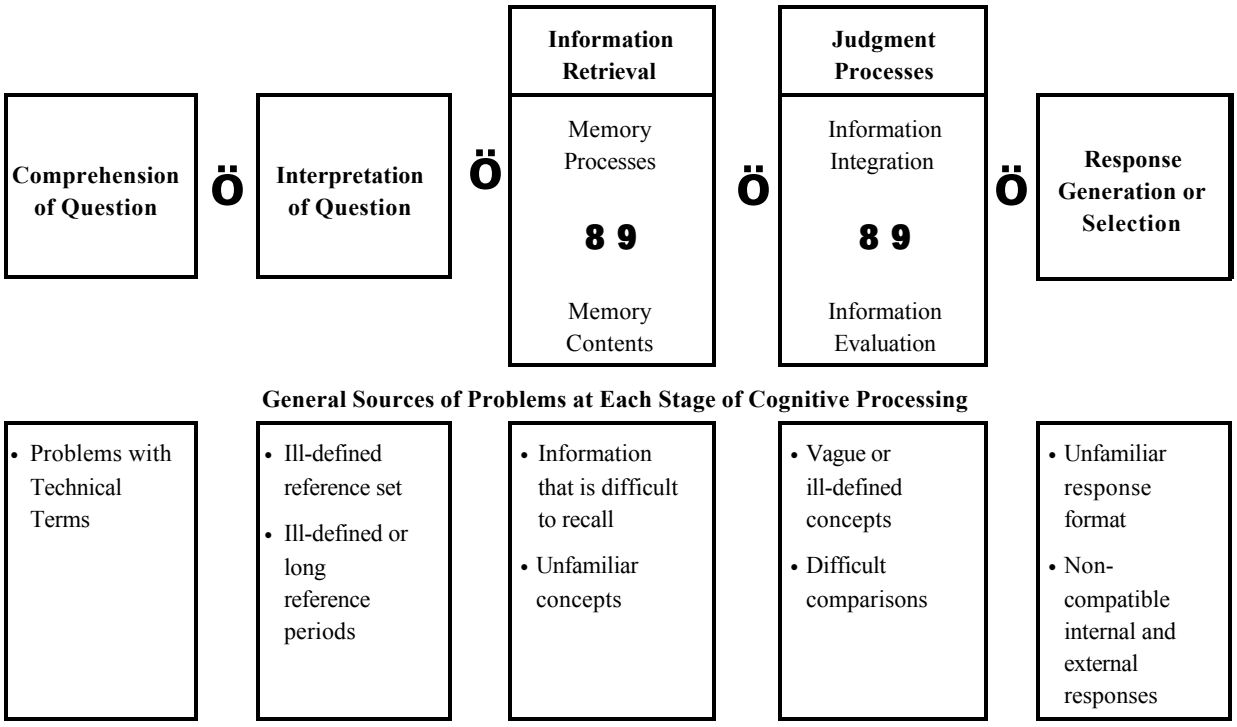
Cognitive methods focus on the questionnaire instrument, rather than on the entire survey process, and they can be applied at several points in the design process. According to Forsyth and Lessler (1991), cognitive methods can be categorized into four general types: *expert evaluation* (e.g., expert analysis or cognitive forms appraisal); *expanded interviews* (e.g., concurrent and retrospective think-aloud interviews); *targeted methods* (e.g., paraphrasing or rating tasks); and *group methods* (e.g., focus groups or group interviews). Each method has its strengths and limitations. In terms of instrument development, however, all cognitive laboratory methods share the advantage of providing information about the likely performance of the survey instrument in the field without incurring the high cost of full-scale field testing. All but the targeted methods approach were used in the evaluation of the prototype O*NET data collection instruments.

Expert Evaluation

In *expert evaluation*, a knowledgeable researcher reviews a questionnaire to gather an understanding of the response task and to note potential problems. The questionnaire's characteristics are described, including procedures for moving through the questionnaire, type of respondents, and the tasks required of the respondents. Lists are made of problems that respondents might have and types of mistakes they might make. The researcher then classifies the observations to get a general understanding of the questionnaire and specific points where difficulties may occur.

Cognitive forms appraisal (Forsyth, Lessler, & Hubbard, 1992) is one method of expert evaluation in which the appraiser systematically analyzes questions using a specific model of the response process. The survey response model used in the cognitive forms appraisal was one developed by Forsyth and Lessler (1991) (see also Forsyth, Hubbard & Lessler, 1990). It is based on cognitive models of the survey response process developed by survey methodologists (Cannell, Miller, and Oksenberg, 1981; Tourangeau & Raskinski, 1988; Willis, Royston, & Bercini, 1991) and similar to more general cognitive information processing models (Wyer & Srull, 1989; Wyer & Radvansky, 1999). ***Figure 1*** is a schematic of the response process model. ***Figure 1*** also indicates the kinds of difficulties with survey questions that are often identified by a cognitive forms appraisal.

Figure 1. Cognitive Model of the Survey Response Process



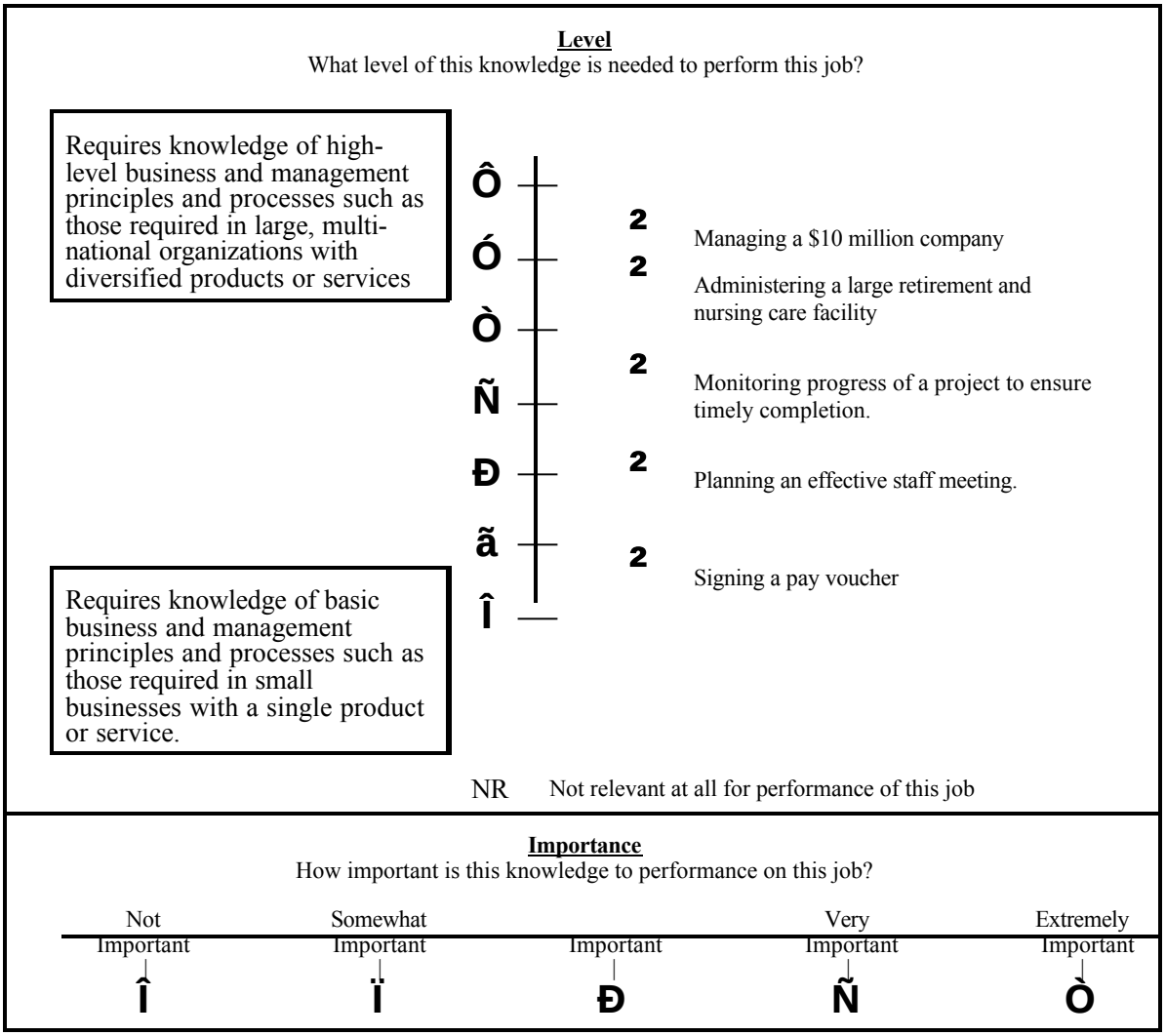
To illustrate the stages of the information processing, consider ***Figure 2*** which displays a typical questionnaire item from the prototype O*NET Knowledges questionnaire. Note that there are two questions asked on the page: the Level question in the top half of the box and the Importance question in the bottom half.

- First, the respondent must **comprehend** the question to understand what is being asked. With regard to the level question, the respondent must first find the question on the page, and understand that it asks about the level of administration and management knowledge, as defined, needed to perform his/her job. For this item, the layout of the page, the definition of the knowledge area, and the boxed descriptions of high and low levels of the knowledge area may be difficult to comprehend.
- The respondent must then **interpret** the question (form a mental representation of the target) that he or she must evaluate and decide about range of relevant concepts (the *reference set*) of the question. For the Level question, the respondent must decide how the definition of administration and management knowledge applies to his/her job in general. If the worker is, say, a beautician, she may find this step difficult, given the definition of administration and management provided.

Figure 2. Example Prototype Questionnaire Item (from Knowledges questionnaire)

1. Administration and Management

Knowledge of principles and processes involved in business and organizational planning, coordination, and execution. This includes strategic planning, resource allocation, manpower modeling, leadership techniques, and production methods



- The respondent then **retrieves information from memory** (e.g., recalls relevant instances of behavior or relevant opinions), while taking into account the relevant time frame (the *reference period*: e.g., what was done last week or last year) or else reconstruct the behavior using general knowledge or salient information. In the Level question on Figure 2, our beautician must try to remember instances of how she applied knowledge of administration and management in her work - perhaps coordinating work schedules among fellow employees.
- Next, the respondent must make a **judgment** to determine whether the remembered instances of behavior are reasonably representative and if they are relevant to their interpretation of the question. Our beautician must decide if work scheduling is really part of her job and if it counts as being administration and management. If not, she must try to recall other, more typical activities that may fall into the general category.
- Once a private (internal) judgment is formed in the respondent's mind, he or she must **respond** by communicating an answer to the researcher. To do so, he or she must fit the judgments to the response format provided as part of the question. The respondent may also edit the response, before communicating it, to make it socially desirable or appropriate to the situation. Our beautician must figure out where her coordination of work schedules falls on the dimension anchored at Managing a $10 million company (6 out of a possible 7) and signing a pay voucher (1 out of 7), and decide if she's being overly boastful or self-effacing by indicating that her administrative activities represent a 3 on that scale.

The model analyzes the answering of survey questions as a series of cognitive tasks. Although depicted as a linear, sequential process, answering a question (especially one that is hard-to-understand or hard-to-answer) can go through multiple cycles of this sequential process until a suitable answer is produced.

Expanded Interviews

Expanded interview methods use survey respondents, rather than experts, to provide information about what it's like to answer the survey questions. Expanded interview methods include concurrent and retrospective think-aloud interviews. In these interviews, the respondent verbalizes his or her thoughts while answering the question (concurrent) or recalls how he or she answered the question (retrospective). In these interviews, the interviewer may ask follow-up probe questions to explicate respondent answers, or provide memory cue tasks to encourage the respondent to encourage more complete recall. Often the follow-up probe questions and memory cue tasks are developed to verify the reality of a potential problem identified by expert evaluation. There is often a debriefing of the respondent at the end of the interview in which he or she discusses general impressions of the survey questions and what strategies were used in answering them.

O*NET data collection instruments were evaluated by Lesgold, Resnick, Katz, and Hwang at the Learning Research and Development Center, University of Pittsburgh. Their think-aloud interview protocols were directed toward respondents' ability to make valid ratings of skill levels and work/worker characteristics needed for a given job. The researchers were particularly interested in how respondents interpreted descriptions of skill and work activities, and how they used the descriptive anchors provided in the questions to make judgments about their own jobs.

Group Methods

Group methods of instrument assessment include focus groups and group interviews. A *focus group* is a small group of individuals who are convened to discuss a specific topic under the direction of a moderator who promotes interaction and assures that the discussion remains focused on the topic. A focus group produces qualitative data that provides insights into the attitudes, perceptions and opinions of its participants. These results are solicited through semi-structured group discussions during which group participants influence each other – as they may in real life. In a *group interview*, an interviewer takes a more directive role in leading discussion of the topic of interest, rather than having group members talk freely.

The O*NET data collection instruments were reviewed by a focus group of employees of Research Triangle Institute. They were provided with copies of the O*NET questions in their original format and also the same question content presented in two alternative formats. Both questions and instructions were modified in the alternative formats. After completing the instruments, a group discussion was held focusing on usability of the instruments in general, with particular emphasis on the question formatting. The group was moderated by Dr. Michael Hubbard and Ms. Connie Hobbs.

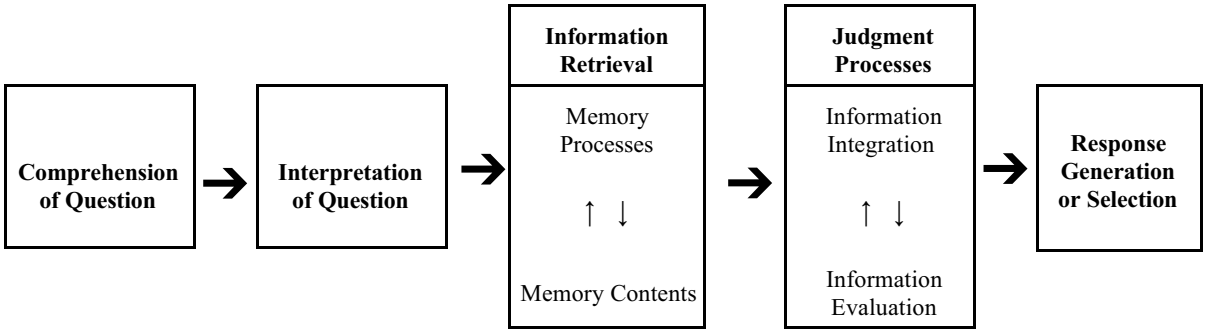
Chapter 3. Evaluation of Prototype Instruments and Modification of Questionnaire Design

Overall Evaluation of Prototype Questionnaires

All three sources of cognitive evaluation information (expert appraisal, expanded interviews and group methods) agreed in suggesting that there were potentially serious problems with the prototype O*NET instruments. They all pointed to the possibility that at least some respondents could find the questions hard to understand, interpret, and answer. This difficulty might lead respondents to refuse to complete the questionnaires, resulting in low response rates and other consequent problems.

The cognitive appraisal of the prototype instruments in general suggested that there were problems at all stages of the question-answering process. ***Figure 3*** includes a summary of the kinds of problems identified by the cognitive appraisal. Discussion of specific instruments, below, will provide more detail regarding these problems.

Figure 3. Problems with O*NET Questions Identified by Cognitive Process Model



Difficulties with O'NET Questions

Comprehension of Question	Interpretation of Question	Information Retrieval	Judgment Processes	Response Generation or Selection
• Undefined technical terms • Vague or Ambiguous technical terms • Confusing examples • Long sentences with polysyllabic words	• Many abstract concepts • Assumes knowledge of conceptual domains of interest • Vague or abstract reference set • Unspecified reference period	• Unfamiliar level of abstraction for usual activities • Novel concepts related to job characteristics	• Difficulty combining abstract concepts with unfamiliar views of own behavior	• Difficulty locating answer on unfamiliar response scales

General Evaluation of Box-Format questionnaires

The Abilities, Generalized Work Activities, Knowledge, Skills, and Work Context questionnaires, (the largest of the prototype O*NET questionnaires) share a common format that poses a common set of challenges to respondents who complete them. They all have a similar appearance on the page: concepts are defined at the top of the page and questions are placed inside boxes. Hence they are referred to here as *box-format questions*. An example of a box-format question can be seen in ***Figure 2***, the example questionnaire in ***Chapter 2***.

All box-formatted items call for respondents to understand what is often an unfamiliar, novel and often highly abstract concept. They must then evaluate their jobs (not just themselves or their behavior) and make a series of judgments as to the applicability of the concept to their job, the level of the concept embodied in their job, the importance of the concept to their job and, sometimes, another judgment (depending on which questionnaire). To do this once is a challenging cognitive task and respondents may be called on to do this up to 50 times in the process of completing the survey.

The task of answering such an item requires a fair level of verbal ability (to understand the words presented), cognitive sophistication (to conceptualize these novel concepts), and abstract thinking (to generalize from their own experiences to make judgments about people who they imagine might do their job). Respondents must also be sufficiently familiar with questionnaires to easily project their mental representation onto a rating scale that is itself complex and difficult to understand. They must also be motivated to do this repeatedly on their own time. According to the cognitive appraisal, the box-format questionnaires had several problems, both with instructions associated with them and with the questions themselves.

Evaluation of Instructions for Answering Box-Format Questions. The instructions in all of the box-format questions consist of three or four pages: one page (or two, depending on the number of boxes per page in the questionnaire) consists of written descriptions of what the scales are and how to use them to answer questions. The remaining pages are examples of questionnaires "completed by an employee in a particular/different job". The expert evaluator of the instructions found that they were written at too high a reading level: that they were overly long and unnecessarily abstract. The focus group comments were in agreement with this evaluation. Focus group participants thought the instructions had many problems: They were too long (should be only 1 page, perhaps with an additional page for an example), wordy, vague, and hard to read. Focus group members thought these problems would tend to discourage many people faced with making 30-50 more ratings as their task.

Evaluation of Box-Format Questionnaire Items. The formal cognitive appraisal of these questions identified the following areas in need of improvement:

- QUESTION STRUCTURE: Questions are complex in the way they are arrayed on the page. The pages in the Generalized Work Activities, Skills, Abilities, Work Styles, and Knowledges questionnaires present a challenging visual array, the complexity of which reflects the complexity of the questions. There are boxes within boxes, circled numbers, arrows, changes in type font, horizontal scales, vertical scales, italics, and bolding on each page. While respondents may become familiar with such pages, it requires a certain level of sophistication with forms and questionnaires — a level that may not be present in respondents with low levels of education (or very low levels of experience with such measures).

- QUESTION CONTENT: The questions call on the respondent to make judgements that are unfamiliar. Respondents are asked to rate their job in the abstract, rather than what they actually do on the job. This makes the questions more burdensome. They would be easier to answer if respondents are asked about what *they* do. This complicates the interpretation and memory tasks because the respondents must filter their memories and judge whether they are part of the job (rather than their own idiosyncratic behaviors). Many workers may have never distinguished between their personal job experiences and their job as such.

- TECHNICAL TERMS: There are many unfamiliar terms in these questions. Although they are defined and examples of them are provided, they are still often insufficiently defined or else they remain vague or ambiguous, especially for people who are unfamiliar with the relevant concepts. The fact that questions may require the respondent to think of their jobs in novel or unfamiliar ways, makes understanding/application of the terms more difficult.

- TECHNICAL TERMS: Most of the questions refer to high level abstractions of everyday activities. This makes it hard to (1) understand what the question is asking about and (2) retrieve and combine information to formulate an answer. This can result in unreliable and invalid answers. *It is likely that high levels of education - higher than high school - are necessary, due to the extensive vocabulary used in these instruments.*

- REFERENCE SET: Workers may not routinely think of jobs in terms of the level, importance, and job entry requirements of job-related skills.

- REFERENCE SET: Each **Level** question includes labels for interpreting the extreme values on the scale. For two questionnaires (Skills and Work Styles), the scales are anchored simply by HIGH and LOW. These scales are comparatively easy to rate because ratings of the level are reflections of the amount of the concept in question.

However, the concepts themselves, (e.g., *Integrity, Evaluating Information For Compliance to Standards* or *Synthesis/Reorganization)* may vary in how understandable they are. For the remaining questionnaires, the ends of the scales are identified by labels containing many words (as many as 40) and often containing numerous long, polysyllabic abstract or technical words. Thus the readability of these dimensional anchors may be poor. This makes it difficult for respondents with low levels of education to use the scales.

- REFERENCE SET: Each level question also includes examples of the concept to which the question refers. Some of these examples may be beyond the range of experience of many respondents. Even though they may be intended only to convey a general sense of the level of the concept, they can contribute to a sense that the questions are difficult, which can decrease effort on the questionnaire or completely discourage its completion.

- REFERENCE PERIOD: There is no explicit time period mentioned in the questions. While most may consider the job as it is now, others could also consider how the job was previously.

- RESPONSE SELECTION: Respondents are given a 7-point vertical scale for indicating the levels of the concepts, and 5-point horizontal scales for rating importance. They may have trouble alternating between the two scales.

The focus group comments were also critical of the box-format questionnaires. Focus group participants didn't like the (7-point vertical) scale, finding it hard to mark (it implied that marks between numbers were permissible, especially since example anchors pointed between numbers). They also didn't like numbers without verbal anchors. They found the descriptive anchors in the Level question box hard to understand. In cases where the definitions of high and low level attributes were provided in boxes within the question box (see Figure 2), focus group participants thought these definitions were hard to understand. Focus group participants sometimes found the right-side (example) anchors to be of limited utility in making a rating judgement about their job.

Focus group participants also didn't like the mixture of 5-point and 7-point scales and vertical and horizontal scales and thought that there should at most be 5 scale points on such complex rating scales (although substituting 5-point scales for 7-point scales might exacerbate the problem of example anchors pointing between numbers). They pointed out that the NR instruction (at the bottom of the box), though mentioned in the instructions, was soon forgotten or lost amid the visual complexity of the answer sheets.

General Modification of Box-Format Questionnaire Items.

Based on the evaluations of the instruments outlined above, extensive redesign of the prototype instruments was undertaken. Modifications were made that would ease the response burden on respondents without changing the content of the questions.[2] Changes in the questionnaire formatting combined (1) responses to the issues raised in the questionnaire evaluation with (2) the expert judgment of the instrumentation working group. Many different formats were considered for the box-format questions, before the final recommended version was adopted. Included here are descriptions of the final recommended questionnaire formats (and comparisons between them and the initial formats).

Modification of Box-Format Questionnaire Instructions. The modified instructions for the box-format questionnaires have been shortened to one page (except for the Knowledges Questionnaire, which requires two pages to instruct respondents how to answer three questions about each knowledge area, instead of one or two as is the case in the remaining box-format questionnaires). An attempt was made to keep the instructions to a minimum. ***Figure 4*** is an example modified instruction page: the instructions for making Skills ratings.

[2] However, the modified versions of the questionnaires were also changed for other reasons (to reduce instrument redundancy and to improve readability) which did alter the questionnaire content. These modifications are discussed in ***Chapter 4***.

Figure 4. Example of Modified Instruction Page for Box-Format Questionnaires

Instructions for Making Skills Ratings

These questions are about work-related skills. A **Skill** is the ability to perform a task well. It is usually developed over time through training or experience. A skill can be used to do work in many jobs or it can be used in learning. You will be asked about a series of different skills and how they relate to *your current job* - that is, the job you hold now.

Each skill in this questionnaire is named and defined.

For example:

Writing	**Communicating effectively in writing as appropriate for the needs of the audience.**

You are then asked to answer <u>two questions</u> about each skill:

A ***How <u>important</u> is the skill to the performance of your current job?***

For example:

How <u>important</u> is WRITING to the performance of *your current job*?

Not Important*	Somewhat Important	Important	Very Important	Extremely Important
Î	Ï	Ð	Ñ	Ò

*Mark your answer by putting an **X** through the number that represents your answer.*

Do not mark on the line between the numbers.

<u>If you rate the skill as Not Important</u> to the performance of your job, mark the one Î then <u>skip over question B</u> and proceed to the next skill.

B **What <u>level</u> of the skill is needed to perform your current job?**

To help you understand what we mean by **level**, we provide you with examples of job-related activities at different levels. For example:

In the first paragraph, the content of the questionnaire is named and defined. Then the respondent's task is described. The remainder of the instructions describe the parts of each item and how to go about answering the questions accompanying each item. Respondents are explicitly told to mark the numbers and not to mark the line connecting them.

Accompanying each description is an example of how to answer the particular type of question being described. Because the example immediately follows the description of the question, there is less demand on the respondent to remember the description of the question before being shown how to answer it. In the original versions of the instructions, longer descriptions of all question types preceded examples of how any question should be answered. If the respondent considers the characteristic as not at all important to their job, they were instructed to mark the *Not Important* box on the scale and to skip subsequent questions about that characteristic. This instruction is explained on the instructions page and repeated for every characteristic for the revised box-format questions. In the prototype instruments, the instruction to skip subsequent questions (for characteristics seen as unimportant to the respondent's job) was provided only in the instructions and not thereafter.

Modification of Box-Format Questionnaire Items. There were a number of changes in the formatting of the box-format questionnaires. Decisions about these changes were made in a series of meetings and electronic conferences in which various alternative formats were presented and discussed.

- The boxes surrounding each question, and the labels for those boxes (i.e., Level, Importance, Frequency) were eliminated. This reduced the level of visual clutter of each page by removing unnecessary distractions from the questions. The convention of numbering the characteristics while distinguishing between questions about each characteristic was retained by labeling the Level question ***A*** and the Importance question ***B***. The instructions distinguished between the two question types in a similar manner. All questions were left justified (instead of centered) to make it easier to locate the beginning of each question in the absence of the boxes.

- The name of the characteristic about which judgments are being made (e.g., the Skill, Generalized Work Activity, or Ability) was inserted into each IMPORTANCE and LEVEL question. Previously, these questions all asked about the importance or level of "this skill/activity/ability" without reminding the respondent what they were rating. This was done to reduce the memory burden on respondents in answering the survey questions.

Changes in the IMPORTANCE questions.

- The IMPORTANCE question was moved so that it would be the first question asked about each characteristic.

- The line connecting the numbers on the IMPORTANCE scale ended with the numbers Î and Ò, rather than extending beyond them as was done previously. This made the scale consistent with the LEVEL scale in this regard.

- The Not Relevant option became part of the IMPORTANCE question, represented at the extreme low-importance end of the scale. Thus, it was removed as an alternative for the LEVEL question.

- The instruction to skip subsequent LEVEL (and other questions, where appropriate) was repeated for each characteristic immediately following the IMPORTANCE question. This was done to increase the likelihood that respondents would appropriately skip unnecessary questions, thereby reducing respondent burden.

Changes in the LEVEL questions.

- The response scale was presented in a horizontal format, instead of its original orientation.

- For questions where descriptions of highest and lowest levels of the characteristic were indicated by long boxed definitions (such as in *Figure 1*) these were eliminated and the only label for the entire scale was the word *Highest Level* located below the Ô (the scale end point). This same formatting was applied to questionnaires (such as the *Skills Questionnaire*) where the ends of the level questions were labeled simply High and Low.

- The anchors providing examples of specific job-related activities were rounded to make them point to specific scale numbers, rather than between numbers as was done previously. Although this might compromise the apparent ratio level of measurement implicit in the precise placement of the arrows (which were based on results of statistical analysis from previous studies), the response task was made easier by emphasizing the use of numbers, instead of suggesting that marking between numbers was acceptable.[3] This was reinforced by the instruction not to mark on the line between the numbers. However, the difference between the 7-point LEVEL and the 5-point IMPORTANCE scale was retained. This was done to keep data from future surveys consistent with current O*NET information.

- The number of specific job-related anchors was always three, as opposed to as many as nine in the previous questionnaire. These three anchors generally pointed at scale numbers 2, 4, and 6; although in some cases other numbers were appropriate. The three anchors were chosen to be those that were most concrete understandable among those available.

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[3] The psychometric properties of these anchors will be re-visited during O*NET's pre-test phase.

Overall Evaluation of Other Questionnaires

The prototype O*NET data collection instruments included other questionnaires, in addition to the box-format instruments. These include the *Background Information Questionnaire*; the *Training, Education, Licensure, and Experience Questionnaire*; and the *Work Context Questionnaire*. These questionnaires were generally shorter than the box-format questionnaires (under 30 questions), with the exception of the *Work Context Questionnaire* which was among the longest questionnaires (107 questions). While not identical in format, they were subjected to cognitive appraisal, the results of which are discussed here. {The original set of instruments included the *Occupational Values Questionnaire*. However, this questionnaire will not be administered in the pretest}

Evaluation of Instructions for Other Questionnaires. Understanding how the questions were formatted posed less of a cognitive task than was the case for the box-format questions. As a result, the instructions were shorter. However, there were difficulties with the instructions. They were highly abstract and tended to be confusing. Instead of just telling respondents how to complete the questionnaires, they provided additional information about why the questions were being asked. This review found such information to be of questionable value. For instance:

- The instructions for the *Background Information Questionnaire* informs respondents that "In this questionnaire you will provide information about your background. ...Your responses to these questions will help to determine whether the goal of diversity is being achieved. ...Responding to these questions is optional; however, complete answers will make tracking the diversity of participants possible…" No further information was provided about what is meant by "your background" or "diversity". The remainder of the instructions contained information that belongs in a statement of informed consent. Thus, since no instructions for completing the questionnaire were provided, simply having a cover with the name of the questionnaire, followed by the questions, would suffice.
- The instructions to the *Training, Education, Licensure, and Experience Questionnaire* were comparatively brief and to the point, although they could have been even shorter without loss of information.
- Likewise, the instructions to the *Work Context Questionnaire* were brief, although needlessly verbose. These instructions mention a reference period (which the other questionnaires fail to do), but they do not consistently guide all respondents to answer in the same manner. Subjects are left free to choose the reference period, so that answers of some subjects will be referring to a different time period than those of others. While this makes the instruction less burdensome or constraining, it makes data collected by different respondents difficult to compare (to the extent that they choose to consider different reference periods). The instructions also fail to tell the respondent how to answer the questions. Since most questions are answered using a continuous line accompanied by verbal anchors and circled numbers, it is not clear which of these should be used to answer the questions. Respondents may opt for making a mark on the line, which would make data entry difficult for those questions.

Evaluation of Questionnaire Items for Questionnaires. The formatting of the *Background Information* and the *Training, Education, Licensure, and Experience* questionnaires was not overly challenging. The only real formatting challenge among these instruments was that the *Training, Education, Licensure, and Experience questionnaire* used 6 different ways of formatting the questions within the same questionnaire. The formatting of the *Work Context Questionnaire* was more problematic. Some of the questions have dangling labels which identify what the question is about, but which are not part of the question itself. (e.g., 1: Formality of Communication, 27: Decision Latitude). Sometimes, these contain important information for interpreting the questions (as in Q17-21, where definitions of terminology are provided), but usually, they contribute nothing to the question being asked and are probably more of interest to researchers than respondents.

A more serious problem with the *Work Context Questionnaire* arises from the response scales used. While most questions use horizontal response scales, they change from 7-point to 5-point scales and back numerous times. There are also frequent changes in the scale anchors, which the respondent may or may not notice. For some questions, a 7-point scale is used without a verbal anchor for what each number represents, making it difficult to make distinctions among the unlabeled numbers.

Modification of Other Questionnaires

Modification of *Background Information Questionnaire* Instructions. The prototype instructions were reorganized so that the modified instructions contain two explanatory paragraphs and a new paragraph explaining how the questions should be answered. The first paragraph addressed issues of voluntariness and privacy. The second paragraph explained the purpose of the questionnaire and its importance. In the previous instructions, these themes were present in both introductory paragraphs, making it difficult to understand them. The previous version of the instructions had no instruction about how to answer the questions.

Modification *of Background Information Questionnaire* Items. The content of the prototype *Background Information Questionnaire* was modified by deleting questions about the respondent's name, organization, and other descriptors of his or her work. Formatting modifications corresponded to the modified content. Instead, the respondent was asked to write in his or her job title and to list how long they worked at their job. The remaining questions requested demographic information: year of birth, gender, Hispanic ethnicity, race, handicap and disability status. All questions would be answered by checking boxes or by writing in a number (for year of birth) or writing on a blank line (for job title, other Hispanic group, other race or specify Indian tribe).

Modification of the *Training, Education, Licensure, and Experience Questionnaire* Instructions. The modified instructions simply said what the questionnaire was about and told respondents how to respond (put an **X** in the box). Since the questionnaire was reformatted so that responding to all questions had the same response format, it was easier to tell respondents what to do. Previously, the variety of response formats made it necessary to tell respondents to "mark" the answers without saying how.

Modification of the *Training, Education, Licensure, and Experience Questionnaire* Items. The content of the prototype *Training, Education, Licensure, and Experience* questionnaire was modified by deleting questions about Required Instructional Programs, Level of Education in Specific Subject Areas, and Licensure, Certification, and Registration. It was renamed the *Education and Experience Questionnaire*. The question about required level of education was reformatted so that it can be answered by putting an '**X**' in a box — instead on a short line before each answer option (making it consistent with marking other instruments). The experience questions were reformatted so that the set of answer options was repeated after each of the four questions. In the previous version, instructions for how to answer the questions were placed above the questions and the respondent would have to shift his or her attention repeatedly between the question and the instructions.

Modification of the *Work Context Questionnaire* Instructions. The modifications to the instructions for the *Work Context Questionnaire* involved a slight shortening of the wording. The previous version instructed respondents to consider the appropriate time frame when answering the questions. However, the wording of that instruction left so much to the discretion of the respondent that it was easier to simply eliminate it. The new instructions provided an example of a question and demonstrated how to answer it.

Modification of the *Work Context Questionnaire* Items. Modifications of the format of the *Work Context Questionnaire* were as follows:

- Questionnaire items were renumbered so that a single-level numbering scheme (all questions numbered 1, 2, etc.) was employed, rather than a two-level scheme (Sections of the questionnaire given numbers and questions within each section having lower-case letters: a, b, etc.). This involved removing the section head detached from any question (such headings are often overlooked or ignored) and making each question a unified whole that is easier to understand and think about (without searching the questionnaire for scattered pieces of the question).

- All questions were answered using horizontal 5-point scales, instead of shifting between 5-point, 6-point, 7-point, and 8-point scales as was done in the prototype questionnaire. Every scale point in the modified questionnaire had an accompanying verbal

- anchor instead of the prototype scales, some of which had as many as four of seven scale points unanchored. The only exceptions were the last two questions which used horizontal 3-point scales. These same questions were answered with the more traditional multiple choice formatting used in the previous version of the questionnaire.

This chapter presented the cognitive evaluation all of the prototype questionnaires and how they were modified to address the shortcomings identified by the evaluation. The evaluation indicated that the questions were difficult to understand and answer, placing an undue burden on respondents. This, in turn, could lead respondents to them give up because the task is too difficult or out of frustration, resulting in low response rates. The modifications suggested by the instrumentation working group were designed to alleviate the difficulties by simplifying the instructions and questionnaire items without altering their content. In ***Chapter 4***, we will describe other modifications of the prototype questionnaires that did involve changes in the content of the questionnaires.

Chapter 4. Revision of Instrument Content - Scale Redundancy And Reading Level

Introduction

O*NET Prototype Project Director, Norman Peterson, in a memorandum to the Department of Labor, dated 4/9/97, outlined a number of options for reducing burden and increasing return rate. Eliminating descriptors, combining individual descriptors into composites, eliminating scales, eliminating domains, and considering some domains as the necessary core (while data from other domains would be collected if the opportunity presented itself) were all described as possible options.

Of these, he argued that the best options involved: a) an elimination of items that have the poorest conceptual and/or empirical support and b) combining items that took advantage of conceptual and empirical redundancy. He argued that these options presented some potentially significant advantages as well. For example, the validity of the taxonomy could be enhanced if the changes resulted in a taxonomic set of descriptors that were more correspondent with current and previous research, and which presented respondents with constructs to rate that were conceptually more distinct and more meaningful.

Peterson also argued that burden could be reduced considerably if some of the response scales were eliminated and that such an option should be carefully considered. In general, he argued for keeping the level scale and opting to eliminate "frequency" and/or "importance," depending on the existing data.

The changes described here are consistent with Peterson's suggestions and priorities. The next sections will summarize the specific changes and the reasons for them. Further, the proposed changes were few in number and constitute only minimal alterations to the content of the questionnaires. No changes were made to the "Content Model," no domains were eliminated, and no changes were made to the meaning of each domain. That is, the changes that were made to the O*NET questionnaires do not alter the a priori conceptual factor structure for each domain that guided the development of the O*NET prototype (as described in Peterson, 1995).

Minimal though they were, the combined effects of small reductions in the number of items, carefully considered eliminations of some response scales, and changes in format readability have significantly reduced the sheer size of the questionnaires, altered their formidable appearance, and significantly reduced the time it takes to complete them.

General Issues Regarding Changes in Instrument Content

The next sections summarize the changes that were made. Appendix A presents the changes (between prototype and current version) in variable definition and wordings for each questionnaire. Appendix B lists the O*NET data dictionary variables that will be included in the current version of the O*NET Survey. Appendix C lists all variables from the O*NET data dictionary and indicates (a) changes in their definition or formatting, and (b) the sources of the data in the O*NET database. Before describing the changes, several general issues should be noted:

- Some of the items in all the instruments and all of the items in some of the instruments (i.e. Abilities, Styles, Skills) ask for judgments about variables — variables that may require significant time or space to fully explain to someone who is not familiar with the associated background literature. However, for practical reasons, questionnaires contain short definitions. Consequently, shortening a definition simply for the sake of reducing the reading time was not a goal for the attached items. If anything, some people could urge that definitions could be *longer*. However, reducing the amount of confusing, extraneous, or unnecessarily complex text was a goal.

- The job incumbent may not always be the most appropriate source of the ratings for abilities and styles, and perhaps skills as well. An appropriate rater would already have some knowledge of these domains in terms of what these constructs mean and how they are typically assessed (e.g., Flexibility of Closure, Perceptual Speed). Even people who have researched these characteristics of individual differences still have disagreements over what is the optimal characterization for some of them. Some job incumbents may find making judgments based on the current definitions and scale anchors to be a difficult task.

- Another issue is whether the job incumbents should describe their own personal job situation or attempt to describe what the job/occupation is like in general (i.e., for job holders in general). It is probably an easier judgment task to describe your own job situation. However, the O*NET model wants descriptions of the general characteristic nature of the occupations, and the directions for the current versions of the instruments ask the rater to use a general frame-of-reference. Asking for descriptions of the respondents' own job would be a major change to the directions for the instruments, with unknown effects. Such effects could be positive, negative, or neutral. If the sample of incumbents is reasonable, the frame-of-reference effects shouldn't be that great, but that is not known at this point. The goal is to minimize within-occupation variance and to maximize meaningful cross-occupation variance.

- The redundancy across domain questionnaires was another general issue. For example, Creativity or Idea Generation can be found in Abilities, Work Styles, Skills, and Generalized Work Activities. Problem solving can be found in Work Styles, Skills, and Generalized Work Activities. At some point the O*NET Model should get clearer about the distinctions among domains, and proceed to deal with these redundancies.

Summary of Substantive Questionnaire Revisions

Table 2 summarizes the revisions that were proposed and adopted for the seven principal taxonomies in the O*NET Content Model. Two kinds of revisions are reflected in the table: 1) reductions in the number of items and 2) reductions in the number of response scales per item. Minor wording changes were made to some of the specific variable definitions, but none of these represented substantive alterations and thus, these kinds of minor edits are not reflected in the table. In all cases, wording changes were agreed upon by the O*NET Consortium panel and DOL representatives. In ten instances (out of over 250 items), there were minor changes to the title of the variables. These changes in the descriptor title were always for the purpose of making the title more correspondent with the definition.

Table 2. O*NET Questionnaire Item (Descriptor Variable) Revisions

Measurement Questionnaire	# of Items in Revised Version	# of Items in Original Version	Response Scales
Work Values	0	21	Dropped from current O*NET questionnaire
Abilities	52	52	No changes
Knowledge	33	33	Keep Level and Importance, Drop Job Specialty Requirements
Education & Training	5	15	Drop Instructional Program Required Drop Level of Education Required in Specific Subject Areas Drop Licensure, Certification, and Registration
Work Styles	16	17	Keep Importance Scale, Drop Level Scale
Skills	35	46	Keep Level and Importance, Drop Job Entry Requirements
Generalized Work Activities	41	42	Keep Level and Importance, Drop Frequency
Work Context	57	97	Adopt consistent use of 5-point scales
TOTAL ITEMS	239	323	

There are several points to be noted about the table.

- The Occupational Values questionnaire is not being administered to job incumbents in the pretest. This questionnaire is taken directly from the Minnesota Theory of Work Adjustment (Dawis and Lofquist, 1984). When used to assess the incentive or reinforcing properties of jobs or occupations, the instrument is always completed by supervisors and yields the Occupational Reinforcer Pattern (ORP) for the occupation. When used by job incumbents, it is viewed as an indicator of individual job satisfaction (Dawis and Lofquist, 1984).

- The reduction of the number of Skill descriptors from 46 to 35 is solely a function of making certain item combinations. Job Entry Requirements were dropped from the Skills Questionnaire because job incumbents tend to be poor sources of information for this.

- The checklist of "Instructional Programs Required" and the Level of Education Required in "15 Educational Subject Areas" checklist do not appear here, as is the case with "Job Specialty Requirements" in the Knowledges Questionnaire. These data for occupations can be obtained from other sources (i.e., data collected by other organizations).

- The greatest number of item deletions were made on the Work Context Questionnaire. These will be detailed in the Work Context section. For six items, two of the three response scales were dropped. Consequently, these six are counted as six, and not 18 for purposes of representing the total number of items. The total item count in the table may not correspond precisely to other item counts. For example, in the original version, if the multiple responses per item are included the total number of judgments is 97.

- The Level scale was eliminated from the Work Styles Questionnaire due to previous findings that it was highly redundant with the Importance scale.

- The Frequency scale was dropped from the Generalized Work Activities Questionnaire because it has been found to be highly correlated with Importance and also redundant with Frequency scale ratings for tasks.

Appendix A contains documentation of the specific changes for each questionnaire. First, the original version of the item/descriptor is presented, then the modified version is shown. For some items, there were no changes, or only minor wording changes. For a smaller number of items, more substantial changes were made. For these items, the reasons/rationale for the change are given.

The outcomes of the item edits are described below.

- Appendix A presents all the variable (item) titles and definitions for Abilities, Generalized Work Activities, Knowledge, Education and Training, Work Styles, Skills, and Work Context. That is, no items are omitted. The attached versions represent the results of synthesizing the suggestions of Instrument Revision Working Group members for semantic/stylistic clarification and simplification. Some items changed a fair amount, some changed a little bit and some changed not at all. The substantive meanings were not changed, only clarified.

- The domain frame-of-reference (as in the ability to, knowledge of, etc.) was retained as part of each variable definition even though it is redundant across the items in a domain. We believe that the respondents need all the help they can get in trying to keep clear what kind of characteristic is being rated.

Chapter 5. Pilot Testing

As drafts of the revised instruments were produced, they were tested to evaluate the results of modifications. Testing also enabled the revision of estimates for the time needed to complete the various instruments. Such information was crucial to the design of an effective survey and for obtaining approval from the Office of Management and Budget (OMB) for conducting subsequent data collection.

Procedures

A small test of the questionnaires was conducted in August, 1998, to obtain completion times to individual questionnaires. The average times are based on from 2 to 7 people answering the questionnaires. Because some questionnaires were not ready until the timing tests were already under way, completion times are based on only two or three raters. Participants in the timing exercise were 11 RTI employees from a variety of trade jobs (carpenter, HVAC technician, plumber, electrician) as well as clerks and supervisors from RTI's data preparation department. Not all respondents had task lists (a suitable match could not be found for the data preparation jobs), but all completed at least 2 instruments.

Results

Table 3 contains the results of the completion time testing. Included in Table 3 are the estimated times for completion of the prototype instruments. These times were obtained from the Clearance Package submitted to the OMB for previous testing of the prototype instruments. The scope of the completion time testing did not allow rigorous testing of the instruments under field conditions. However, the shorter completion times for the revised instruments compared to the prototype instruments indicate that the revisions were successful at reducing the burden on respondents. However, only more thorough testing of the revised instruments can demonstrate that they are also effective at measuring the information necessary to meet the needs of the content model and O*NET more generally.

Table 3. Completion Times for O*NET Questionnaires *(Minutes:Seconds)*

QUESTIONNAIRE	Completion time for Prototype Instrument [1]	Number of Raters	Completion Times from Tests of Revised Instruments		
			Mean	Min	Max
Work Style	8:48	4	3:67	2:00	6:00
Work Context	23:00	3	14:33	13:00	16:00
Generalized Work Activities	20:00	4	13:50	10:00	15:00
Abilities	24:00	5	16:80	10:00	25:00
Skills	27:30	2	17:00	15:00	19:00
Knowledge	14:00	2	12:00	10:00	14:00

[1] Obtained from the Clearance Package submitted to the OMB for previous testing of the prototype instruments.

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Appendix A

Changes in Titles and Wording of Definitions in Abilities, Generalized Work Activities, Knowledge, Education and Training, Work Styles, Skills, and Work Context Questionnaires

Abilities

Original	Revision
1. Oral Comprehension The ability to listen to and understand information and ideas presented through spoken words and sentences.	**1.** No change.
2. Written Comprehension The ability to read and understand information and ideas presented in writing.	**2.** No change.
3. Oral Expression The ability to communicate information and ideas in speaking so others will understand.	**3.** No change.
4. Written Expression The ability to communicate information and ideas in writing so others will understand.	**4.** No change.
5. Fluency of Ideas The ability to come up with a number of ideas about a given topic. It concerns the number of ideas produced and <u>not</u> the quality, correctness, or creativity of the ideas.	**5. Fluency of Ideas** (Minimal) The ability to come up with a number of ideas about a topic (the *number* of ideas is important, <u>not</u> their quality, correctness, or creativity).
6. Originality The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.	**6.** No change.
7. Problem Sensitivity The ability to tell when something is wrong or is likely to go wrong. It does <u>not</u> involve solving the problem, only recognizing that there is a problem.	**7.** No change.
8. Deductive Reasoning The ability to apply general rules to specific problems to come up with logical answers. It involves deciding if an answer makes sense.	**8. Deductive Reasoning** (Minimal) The ability to apply general rules to specific problems to produce answers that make sense.

Abilities

Original	Revision
9. Inductive Reasoning The ability to combine separate pieces of information, or specific answers to problems, to form general rules or conclusions. It includes coming up with a logical explanation for why a series of seemingly unrelated events occur together.	**9. Inductive Reasoning** (Minimal) The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
10. Information Ordering The ability to correctly follow a given rule or set of rules in order to arrange things or actions in a certain order. The things or actions can include numbers, letters, words, pictures, procedures, sentences, and mathematical or logical operations.	**10. Information Ordering** (Minimal) The ability to 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).
11. Category Flexibility The ability to produce many rules so that each rule tells how to group (or combine) a set of things in a different way.	**11. Category Flexibility** (Minimal) The ability to generate or use different sets of rules for combining or grouping things in different ways.
12. Mathematical Reasoning The ability to understand and organize a problem and then to select a mathematical method or formula to solve the problem.	**12. Mathematical Reasoning** (Minimal) The ability to choose the right mathematical methods or formulas to solve a problem.
13. Number Facility The ability to add, subtract, multiply, or divide quickly and correctly.	**13.** No change.
14. Memorization The ability to remember information such as words, numbers, pictures, and procedures.	**14.** No change.
15. Speed of Closure The ability to quickly make sense of information that seems to be without meaning or organization. It involves quickly combining and organizing different pieces of information into a meaningful pattern.	**15. Speed of Closure** (Minimal) The ability to quickly make sense of, combine, and organize information into meaningful patterns.

Abilities

Original	Revision
16. Flexibility of Closure The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.	**16.** No change.
17. Perceptual Speed The ability to quickly and accurately compare letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	**17. Perceptual Speed** (Minimal) The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
18. Spatial Orientation The ability to know one's location in relation to the environment, or to know where other objects are in relation to one's self.	**18. Spatial Orientation** (Minimal) The ability to know your location in relation to the environment or to know where other objects are in relation to you.
19. Visualization The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	**19.** No change.
20. Selective Attention The ability to concentrate and not be distracted while performing a task over a period of time.	**20. Selective Attention** (Minimal) The ability to concentrate on a task over a period of time without being distracted.
21. Time Sharing The ability to efficiently shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources).	**21. Time Sharing** (Minimal) The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources).
22. Arm-Hand Steadiness The ability to keep the hand and arm steady while making an arm movement or while holding the arm and hand in one position.	**22. Arm-Hand Steadiness** (Minimal) The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.

Abilities

Original	Revision
23. Manual Dexterity The ability to quickly make coordinated movements of one hand, a hand together with the arm, or two hands to grasp, manipulate, or assemble objects.	**23. Manual Dexterity** (Minimal) The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
24. Finger Dexterity The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.	**24.** No change.
25. Control Precision The ability to quickly and repeatedly make precise adjustments in moving the controls of a machine or vehicle to exact positions.	**25. Control Precision** (Minimal) The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
26. Multilimb Coordination The ability to coordinate movements of two or more limbs together (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does <u>not</u> involve performing the activities while the body is in motion.	**26. Multilimb Coordination** (Minimal) The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does <u>not</u> involve performing the activities while the whole body is in motion.
27. Response Orientation The ability to choose quickly and correctly between *two or more movements* in response to *two or more different signals* (lights, sounds, pictures, etc.). It includes the *speed* with which the correct response is *started* with the hand, foot, or other body parts.	**27. Response Orientation** (Minimal) The ability to choose quickly between *two or more movements* in response to *two or more different signals* (lights, sounds, pictures). It includes the speed with which the correct response is *started* with the hand, foot, or other body part.
28. Rate Control The ability to time the adjustments of a movement or equipment control in anticipation of changes in the speed and/or direction of a continuously moving object or scene.	**28. Rate Control** (Minimal) The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.

Abilities

Original	Revision
29. Reaction Time The ability to quickly respond (with the hand, finger, or foot) to one signal (sound, light, picture, etc.) when it appears.	**29. Reaction Time** (Minimal) The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.
30. Wrist-Finger Speed The ability to make *fast, simple*, repeated *movements* of the *fingers, hands, and wrists.*	**30.** No change.
31. Speed of Limb Movement The ability to *quickly* move the arms or legs.	**31. Speed of Limb Movement** (Minimal) The ability to *quickly* move the arms and legs.
32. Static Strength The ability to exert maximum muscle force to lift, push, pull, or carry objects.	**32.** No change.
33. Explosive Strength The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting) or to throw an object.	**33.** No change.
34. Dynamic Strength The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	**34.** No change.
35. Trunk Strength The ability to use one's abdominal and lower back muscles to support part of the body repeatedly or continuously over time without "giving out" or fatiguing.	**35. Trunk Strength** (Minimal) The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without "giving out" or fatiguing.
36. Stamina The ability to exert one's self physically over long periods of time without getting winded or out of breath.	**36. Stamina** (Minimal) The ability to exert yourself physically over long periods of time without getting winded or out of breath.

Abilities

Original	Revision
37. Extent Flexibility The ability to bend, stretch, twist, or reach out with the body, arms, and/or legs.	**37. Extent Flexibility** (Minimal) The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.
38. Dynamic Flexibility The ability to quickly and repeatedly bend, stretch, twist, or reach out with the body, arms, and/or legs.	**38. Dynamic Flexibility** (Minimal) The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.
39. Gross Body Coordination The ability to coordinate the *movement of the arms, legs, and torso together* in activities where the whole body is in motion.	**39. Gross Body Coordination** (Minimal) The ability to coordinate the *movement of your arms, legs, and torso together* when the whole body is in motion.
40. Gross Body Equilibrium The ability to keep or regain one's body balance or stay upright when in an unstable position.	**40. Gross Body Equilibrium** (Minimal) The ability to keep or regain your body balance or stay upright when in an unstable position.
41. Near Vision The ability to see details of objects at a close range (within a few feet of the observer).	**41. Near Vision** (Minimal) The ability to see details at close range (within a few feet of the observer).
42. Far Vision The ability to see details at a distance.	**42.** No change.
43. Visual Color Discrimination The ability to match or detect differences between colors, including shades of color and brightness.	**43.** No change.
44. Night Vision The ability to see under low-light conditions.	**44.** No change.
45. Peripheral Vision The ability to see objects or movement of objects to one's side when the eyes are focused forward.	**45. Peripheral Vision** (Minimal) The ability to see objects or movement of objects to one's side when the eyes are looking ahead.

Abilities

Original	Revision
46. Depth Perception The ability to judge which of several objects is closer or farther away from the observer, or to judge the distance between an object and the observer.	**46. Depth Perception** (Minimal) The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.
47. Glare Sensitivity The ability to see objects in the presence of a glare or bright lighting.	**47.** No change.
48. Hearing Sensitivity The ability to detect or tell the difference between sounds that vary over broad ranges of pitch and loudness.	**48. Hearing Sensitivity** (Minimal) The ability to detect or tell the differences between sounds that vary in pitch and loudness.
49. Auditory Attention The ability to focus on a single source of auditory (hearing) information in the presence of other distracting sounds.	**49. Auditory Attention** (Minimal) The ability to focus on a single source of sound in the presence of other distracting sounds.
50. Sound Localization The ability to tell the direction from which a sound originated.	**50.** No change.
51. Speech Recognition The ability to identify and understand the speech of another person.	**51.** No change.
52. Speech Clarity The ability to speak clearly so that it is understandable to a listener.	**52. Speech Clarity** (Minimal) The ability to speak clearly so others can understand you.

Generalized Work Activities

Original	Revision
1. Getting Information Needed to Do the Job Observing, receiving, and otherwise obtaining information from all relevant sources.	**1. Getting Information** (Minimal) Observing, receiving, and otherwise obtaining information from all relevant sources.
2. Identifying Objects, Actions, and Events Identifying information received by making estimates or categorizations, recognizing differences or similarities, or sensing changes in circumstances or events.	**2. Identifying Objects, Actions, and Events** (Minimal) Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.
3. Monitoring Processes, Materials, or Surroundings Monitoring and reviewing information from materials, events, or the environment, often to detect problems or to find out when things are finished.	**3. Monitoring Processes, Materials, or Surroundings** (Minimal) Monitoring and reviewing information from materials, events, or the environment, to detect or assess problems.
4. Inspecting Equipment, Structures, or Materials Inspecting or diagnosing equipment, structures, or materials to identify the causes of errors or other problems or defects.	**4. Inspecting Equipment, Structures, or Materials** (Minimal) Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.
5. Estimating the Characteristics of Materials, Products, Events, or Information Estimating sizes, distances, and quantities, or determining time, costs, resources, or materials needed to perform a work activity.	**5. Estimating the Quantifiable Characteristics of Products, Events, or Information** (Minimal) Estimating sizes, distances, and quantities; or determining time, costs, resources, or materials needed to perform a work activity.
6. Judging the Qualities of Objects, Services, or Persons Making judgments about or assessing the value, importance, or quality of things or people.	**6. Judging the Qualities of Objects, Services, or People** (Minimal) Assessing the value, importance, or quality of things or people.

Generalized Work Activities

Original	Revision
7. Evaluating Information for Compliance to Standards Evaluating information against a set of standards and verifying that it is correct.	**7. Evaluating Information to Determine Compliance with Standards** (Moderate) Using relevant information and individual judgment to determine whether events or processes comply with laws, regulations, or standards.
8. Processing Information Compiling, coding, categorizing, calculating, tabulating, auditing, verifying, or processing information or data.	**8. Processing Information** (Minimal) Compiling, coding, categorizing, calculating, tabulating, auditing, or verifying information or data.
9. Analyzing Data or Information Identifying underlying principles, reasons, or facts by breaking down information or data into separate parts.	**9. Analyzing Data or Information** (Minimal) Identifying the underlying principles, reasons, or facts of information by breaking down information or data into separate parts.
10. Making Decisions and Solving Problems Combining, evaluating, and reasoning with information and data to make decisions and solve problems. These processes involve making decisions about the relative importance of information and choosing the best solution.	**10. Making Decisions and Solving Problems** (Minimal) Analyzing information and evaluating results to choose the best solution and solve problems.
11. Thinking Creatively Originating, inventing, designing, or creating new applications, ideas, relationships, systems, or products, including artistic contributions.	**11. Thinking Creatively** (Minimal) Developing, designing, or creating new applications, ideas, relationships, systems, or products, including artistic contributions.
12. Updating and Using Job-Relevant Knowledge Keeping up-to-date technically and knowing one's own jobs' and related jobs' functions.	**12. Updating and Using Relevant Knowledge** (Moderate) Keeping up-to-date technically and applying new knowledge to your job.

Generalized Work Activities

Original	Revision
13. Developing Objectives and Strategies Establishing long-range objectives and specifying the strategies and actions to achieve these objectives.	**13. Developing Objectives and Strategies** (Minimal) Establishing long-range objectives and specifying the strategies and actions to achieve them.
14. Scheduling Work and Activities Scheduling events, programs, activities, as well as the work of others.	**14. Scheduling Work and Activities** (Minimal) Scheduling events, programs, and activities, as well as the work of others.
15. Organizing, Planning, and Prioritizing Work Developing plans to accomplish work, and prioritize and organizing one's own work.	**15. Organizing, Planning, and Prioritizing Work** (Minimal) Developing specific goals and plans to prioritize, organize, and accomplish your work.
16. Performing General Physical Activities Performing physical activities that require moving one's whole body, such as in climbing, lifting, balancing, walking, stooping, where the activities often also require considerable use of the arms and legs, such as in the physical handling of materials.	**16. Performing General Physical Activities** (Minimal) Performing physical activities that require considerable use of your arms and legs and moving your whole body, such as climbing, lifting, balancing, walking, stooping, and handling of materials.
17. Handling and Moving Objects Using one's own hands and arms in handling, installing, positioning, and moving materials, or in manipulating things, including the use of keyboards.	**17. Handling and Moving Objects** (Minimal) Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things.
18. Controlling Machines and Processes Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles).	**18.** No change.

Generalized Work Activities

Original	Revision
19. Interacting with Computers Controlling computer functions by using programs, setting up functions, writing software, or otherwise communicating with computer systems.	**19. Working with Computers** (Minimal) Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.
20. Operating Vehicles, Mechanized Devices, or Equipment Running, maneuvering, navigating, or driving vehicles or mechanized equipment, such as forklifts, passenger vehicles, aircraft, or water craft.	**20.** No change.
21. Drafting, Laying-Out, and Specifying Technical Devices, Parts, or Equipment Providing documentation, detailed instructions, drawings, or specifications to inform others about how devices, parts, equipment, or structures are to be fabricated, constructed, assembled, modified, maintained, or used.	**21. Drafting, Laying Out, and Specifying Technical Devices, Parts, and Equipment** (Minimal) Providing documentation, detailed instructions, drawings, or specifications to tell others about how devices, parts, equipment, or structures are to be fabricated, constructed, assembled, modified, maintained, or used.
22. Implementing Ideas, Programs, Systems, or Products Carrying out work activities using one's own ideas or directions and instructions from others to install, prepare, deliver, construct, or complete products or systems.	Delete.
23. Repairing and Maintaining Mechanical Equipment Fixing, servicing, aligning, setting up, adjusting, and testing machines, devices, moving parts, and equipment that operate primarily on the basis of mechanical (not electronic) principles.	**22. Repairing and Maintaining Mechanical Equipment** (Minimal) Servicing, repairing, adjusting, and testing machines, devices, moving parts, and equipment that operate primarily on the basis of mechanical (not electronic) principles.

Generalized Work Activities

Original	Revision
24. Repairing and Maintaining Electronic Equipment Fixing, servicing, adjusting, regulating, calibrating, fine-tuning, or testing machines, devices, and equipment that operate primarily on the basis of electrical or electronic (not mechanical) principles.	**23. Repairing and Maintaining Electronic Equipment** (Minimal) Servicing, repairing, calibrating, regulating, fine-tuning, or testing machines, devices, and equipment that operate primarily on the basis of electrical or electronic (not mechanical) principles.
25. Documenting/Recording Information Entering, transcribing, recording, storing, or maintaining information in either written form or by electronic/magnetic recording.	**24. Documenting/Recording Information** (Minimal) Entering, transcribing, recording, storing, or maintaining information in written or electronic/magnetic form.
26. Interpreting the Meaning of Information for Others Translating or explaining what information means and how it can be understood or used to support responses or feedback to others.	**25. Interpreting the Meaning of Information for Others** (Minimal) Translating or explaining what information means and how it can be used.
27. Communicating with Supervisors, Peers, or Subordinates Providing information to supervisors, fellow workers, and subordinates. This information can be exchanged face-to-face, in writing, or via telephone/electronic transfer.	**26. Communicating with Supervisors, Peers, or Subordinates** (Minimal) Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
28. Communicating with Persons Outside the Organization Communicating with persons outside the organization, representing the organization to customers, the public, government, and other external sources. This information can be exchanged face-to-face, in writing, or via telephone/electronic transfer.	**27. Communicating with People Outside the Organization** (Minimal) Communicating with people outside the organization, representing the organization to customers, the public, government, and other external sources. This information can be exchanged in person, in writing, or by telephone or e-mail.

Generalized Work Activities

Original	Revision
29. Establishing and Maintaining Interpersonal Relationships Developing constructive and cooperative working relationships with others.	**28. Establishing and Maintaining Interpersonal Relationships** (Minimal) Developing constructive and cooperative working relationships with others, and maintaining them over time.
30. Assisting and Caring for Others Providing assistance or personal care to others.	**29. Assisting and Caring for Others** (Moderate) Providing personal assistance, medical attention, emotional support, or other personal care to others such as coworkers, customers, or patients.
31. Selling or Influencing Others Convincing others to buy merchandise/goods, or otherwise changing their minds or actions.	**30. Selling or Influencing Others** (Minimal) Convincing others to buy merchandise/goods or to otherwise change their minds or actions.
32. Resolving Conflicts and Negotiating with Others Handling complaints, arbitrating disputes, and resolving grievances, or otherwise negotiating with others.	**31. Resolving Conflicts and Negotiating with Others** (Minimal) Handling complaints, settling disputes, and resolving grievances and conflicts, or otherwise negotiating with others.
33. Performing for or Working Directly with the Public Performing for people or dealing directly with the public, including serving persons in restaurants and stores, and receiving clients or guests.	**32. Performing for or Working Directly with the Public** (Minimal) Performing for people or dealing directly with the public. This includes serving customers in restaurants and stores, and receiving clients or guests.
34. Coordinating the Work and Activities of Others Coordinating members of a work group to accomplish tasks.	**33. Coordinating the Work and Activities of Others** (Minimal) Getting members of a group to work together to accomplish tasks.
35. Developing and Building Teams Encouraging and building mutual trust, respect, and cooperation among team members.	**34.** No change.

Generalized Work Activities

Original	Revision
36. Teaching Others Identifying educational needs, developing formal training programs or classes, and teaching or instructing others.	**35. Training and Teaching Others** (Minimal) Identifying the educational needs of others, developing formal educational or training programs or classes, and teaching or instructing others.
37. Guiding, Directing, and Motivating Subordinates Providing guidance and direction to subordinates, including setting performance standards and monitoring subordinates.	**36. Guiding, Directing, and Motivating Subordinates** (Minimal) Providing guidance and direction to subordinates, including setting performance standards and monitoring performance.
38. Coaching and Developing Others Identifying developmental needs of others and coaching or otherwise helping others to improve their knowledge or skills.	**37. Coaching and Developing Others** (Minimal) Identifying the developmental needs of others and coaching, mentoring, or otherwise helping others to improve their knowledge or skills.
39. Providing Consultation and Advice to Others Providing consultation and expert advice to management or other groups on technical, systems-related, or process-related topics.	**38. Providing Consultation and Advice to Others** (Minimal) Providing guidance and expert advice to management or other groups on technical, systems-, or process-related topics.
40. Performing Administrative Activities Approving requests, handling paperwork, and performing day-to-day administrative tasks.	**39. Performing Administrative Activities** (Minimal) Performing day-to-day administrative tasks such as maintaining information files and processing paperwork.
41. Staffing Organizational Units Recruiting, interviewing, selecting, hiring, and promoting persons for an organization.	**40. Staffing Organizational Units** (Minimal) Recruiting, interviewing, selecting, hiring, and promoting employees in an organization.
42. Monitoring and Controlling Resources Monitoring and controlling resources and overseeing the spending of money.	**41.** No change.

Knowledge

Original	Revision
1. Administration and Management Knowledge of principles and processes involved in business and organizational planning, coordination, and execution. This includes strategic planning, resource allocation, manpower modeling, leadership techniques, and production methods.	**1. Administration and Management** (Minimal) Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.
2. Clerical Knowledge of administrative and clerical procedures and systems such as word processing systems, filing and records management systems, stenography and transcription, forms design principles, and other office procedures and terminology.	**2. Clerical** (Minimal) Knowledge of administrative and clerical procedures and systems such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.
3. Economics and Accounting Knowledge of economic and accounting principles and practices, the financial markets, banking and the analysis and reporting of financial data.	**3.** No change.
4. Sales and Marketing Knowledge of principles and methods involved in showing, promoting, and selling products or services. This includes marketing strategies and tactics, product demonstration and sales techniques, and sales control systems.	**4. Sales and Marketing** (Minimal) Knowledge of principles and methods for showing, promoting, and selling products or services. This includes marketing strategy and tactics, product demonstration, sales techniques, and sales control systems.
5. Customer and Personal Service Knowledge of principles and processes for providing customer and personal services including needs assessment techniques, quality service standards, alternative delivery systems, and customer satisfaction evaluation techniques.	**5. Customer and Personal Service** (Minimal) Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.

Knowledge

Original	Revision
6. Personnel and Human Resources Knowledge of policies and practices involved in personnel/human resource functions. This includes recruitment, selection, training, and promotion regulations and procedures; compensation and benefits packages; labor relations and negotiation strategies; and personnel information systems.	**6. Personnel and Human Resources** (Minimal) Knowledge of principles and procedures for personnel recruitment, selection, training, compensation and benefits, labor relations and negotiation, and personnel information systems.
7. Production and Processing Knowledge of inputs, outputs, raw materials, waste, quality control, costs, and techniques for maximizing the manufacture and distribution of goods.	**7. Production and Processing** (Minimal) Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.
8. Food Production Knowledge of techniques and equipment for planting, growing, and harvesting of food for consumption including crop rotation methods, animal husbandry, and food storage/handling techniques.	**8. Food Production** (Minimal) Knowledge of techniques and equipment for planting, growing, and harvesting food products (both plant and animal) for consumption, including storage/handling techniques.
9. Computers and Electronics Knowledge of electric circuit boards, processors, chips, and computer hardware and software, including applications and programming.	**9. Computers and Electronics** (Minimal) Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.
10. Engineering and Technology Knowledge of equipment, tools, mechanical devices, and their uses to produce motion, light, power, technology, and other applications.	**10. Engineering and Technology** (Moderate) Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.

Knowledge

Original	Revision
11. Design Knowledge of design techniques, principles, tools and instruments involved in the production and use of precision technical plans, blueprints, drawings, and models.	**11. Design** (Minimal) Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.
12. Building and Construction Knowledge of materials, methods, and the appropriate tools to construct objects, structures, and buildings.	**12. Building and Construction** (Minimal) Knowledge of materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.
13. Mechanical Knowledge of machines and tools, including their designs, uses, benefits, repair, and maintenance.	**13. Mechanical** (Minimal) Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
14. Mathematics Knowledge of numbers, their operations, and interrelationships including arithmetic, algebra, geometry, calculus, statistics, and their applications.	**14. Mathematics** (Minimal) Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
15. Physics Knowledge and prediction of physical principles, laws, and applications including air, water, material dynamics, light, atomic principles, heat, electric theory, earth formations, and meteorological and related natural phenomena.	**15. Physics** (Minimal) Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic, and sub- atomic structures and processes.
16. Chemistry Knowledge of the composition, structure, and properties of substances and of the chemical processes and transformations that they undergo. This includes uses of chemicals and their interactions, danger signs, production techniques, and disposal methods.	**16. Chemistry** (Minimal) Knowledge of the chemical composition, structure, and properties of substances and of the chemical processes and transformations that they undergo. This includes uses of chemicals and their interactions, danger signs, production techniques, and disposal methods.

Knowledge

Original	Revision
17. Biology Knowledge of plant and animal living tissue, cells, organisms, and entities, including their functions, interdependencies, and interactions with each other and the environment.	**17. Biology** (Minimal) Knowledge of plant and animal organisms, their tissues, cells, functions, interdependencies, and interactions with each other and the environment.
18. Psychology Knowledge of human behavior and performance, mental processes, psychological research methods, and the assessment and treatment of behavioral and affective disorders.	**18. Psychology** (Minimal) Knowledge of human behavior and performance; individual differences in ability, personality, and interests; learning and motivation; psychological research methods; and the assessment and treatment of behavioral and affective disorders.
19. Sociology and Anthropology Knowledge of group behavior and dynamics, societal trends and influences, cultures, their history, migrations, ethnicity, and origins.	**19. Sociology and Anthropology** (Minimal) Knowledge of group behavior and dynamics, societal trends and influences, human migrations, ethnicity, cultures and their history and origins.
20. Geography Knowledge of various methods for describing the location and distribution of land, sea, and air masses including their physical locations, relationships, and characteristics.	**20. Geography** (Minimal) Knowledge of principles and methods for describing the features of land, sea, and air masses, including their physical characteristics, locations, interrelationships, and distribution of plant, animal, and human life.
21. Medicine and Dentistry Knowledge of the information and techniques needed to diagnose and treat injuries, diseases, and deformities. This includes symptoms, treatment alternatives, drug properties and interactions, and preventive health-care measures.	**21. Medicine and Dentistry** (Minimal) Knowledge of the information and techniques needed to diagnose and treat human injuries, diseases, and deformities. This includes symptoms, treatment alternatives, drug properties and interactions, and preventive health-care measures.

Knowledge

Original	Revision
22. Therapy and Counseling Knowledge of information and techniques needed to rehabilitate physical and mental ailments, and to provide career guidance including alternative treatments, rehabilitation equipment and its proper use, and methods to evaluate treatment effects.	**22. Therapy and Counseling** (Minimal) Knowledge of principles, methods, and procedures for diagnosis, treatment, and rehabilitation of physical and mental dysfunctions, and for career counseling and guidance.
23. Education and Training Knowledge of instructional methods and training techniques including curriculum design principles, learning theory, group and individual teaching techniques, design of individual development plans, and test design principles.	**23. Education and Training** (Minimal) Knowledge of principles and methods for curriculum and training design, teaching and instruction for individuals and groups, and the measurement of training effects.
24. English Language Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.	**24.** No change.
25. Foreign Language Knowledge of the structure and content of a foreign (non-English) language including the meaning and spelling of words, rules of composition and grammar, and pronunciation.	**25.** No change.
26. Fine Arts Knowledge of theory and techniques required to produce, compose, and perform works of music, dance, visual arts, drama, and sculpture.	**26. Fine Arts** (Minimal) Knowledge of the theory and techniques required to compose, produce, and perform works of music, dance, visual arts, drama, and sculpture.
27. History and Archeology Knowledge of past historical events and their causes, indicators, and impact on particular civilizations and cultures.	**27. History and Archeology** (Minimal) Knowledge of historical events and their causes, indicators, and effects on civilizations and cultures.

Knowledge

Original	Revision
28. Philosophy and Theology Knowledge of different philosophical systems and religions, including their basic principles, values, ethics, ways of thinking, customs, and practices, and their impact on human culture.	**28. Philosophy and Theology** (Minimal) Knowledge of different philosophical systems and religions. This includes their basic principles, values, ethics, ways of thinking, customs, practices, and their impact on human culture.
29. Public Safety and Security Knowledge of weaponry, public safety, and security operations, rules, regulations, precautions, prevention, and the protection of people, data, and property.	**29. Public Safety and Security** (Minimal) Knowledge of relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.
30. Law, Government and Jurisprudence Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.	**30. Law and Government** (Minimal) Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.
31. Telecommunications Knowledge of transmission, broadcasting, switching, control, and operation of telecommunications systems.	**31.** No change.
32. Communications and Media Knowledge of media production, communication, and dissemination techniques and methods including alternative ways to inform and entertain via written, oral, and visual media.	**32. Communications and Media** (Minimal) Knowledge of media production, communication, and dissemination techniques and methods. This includes alternative ways to inform and entertain via written, oral, and visual media.
33. Transportation Knowledge of principles and methods for moving people or goods by air, rail, sea, or road, including their relative costs, advantages, and limitations.	**33. Transportation** (Minimal) Knowledge of principles and methods for moving people or goods by air, rail, sea, or road, including the relative costs and benefits.

Knowledge

Original	Revision
	34 - 38. Note that the revised Education and Training items, 1 - 5, were added to the end of the revised Knowledge Questionnaire used in the *O*NET Data Collection Program*.
	39 - 54. Note that the revised Work Styles items, 1 - 16, were added to the end of the revised Knowledge Questionnaire used in the *O*NET Data Collection Program.*

Education and Training

Original

Part 1. LEVEL OF EDUCATION REQUIRED TO PERFORM THIS JOB
Please place an "X" next to the level of education required to perform this job. Note that this does not mean the education that you personally have obtained.

a. **Less than a High School Diploma**
b. **High School Diploma** (or High School Equivalence Certificate)
c. **Post-Secondary Certificate** - awarded for training completed after high school (e.g., in Personal Services, Engineering-Related Technologies, Vocational Home Economics, Construction Trades, Mechanics and Repairers, Precision Production Trades)
d. **Some College Courses**
e. **Associate's Degree** (or other 2-year degree)
f. **Bachelor's Degree**
g. **Post-Baccalaureate Certificate** - awarded for completion of an organized program of study requiring 30 credit hours beyond the Bachelor's degree; designed for persons who have completed a Baccalaureate degree, but do not meet the requirements of academic degrees carrying the title of Master.
h. **Master's Degree**
i. **Post-Master's Certificate** - awarded for completion of an organized program of study of 60 credit hours beyond the Master's degree, but does not meet the requirements of academic degrees at the Doctoral level.
j. **First Professional Degree** - awarded for completion of a program that:
   - ! requires at least 2 years of college work before entrance into the program,
   - ! includes a total of at least 6 academic years of college work to complete, and
   - ! provides all remaining academic requirements to begin practice in a profession

k. **Doctoral Degree**
l. **Post-Doctoral Certificate**

Revision

1. REQUIRED LEVEL OF EDUCATION
Please indicate the level of education required to perform this job. (*Note that this does **not** mean the level of education that you personally have achieved*.)

- G **Less than a High School Diploma**
- G **High School Diploma** (or GED or High School Equivalence Certificate)
- G **Post-Secondary Certificate** - awarded for training completed after high school (e.g., in Personal Services, Engineering-Related Technologies, Vocational Home Economics, Construction Trades, Mechanics and Repairers, Precision Production Trades)
- G **Some College Courses**
- G **Associate's Degree** (or other 2-year degree)
- G **Bachelor's Degree**
- G **Post-Baccalaureate Certificate** - awarded for completion of an organized program of study requiring 30 credits beyond the Bachelor's degree; designed for people who have completed a Baccalaureate degree, but do not meet the requirements of academic degrees carrying the title of Master.
- G **Master's Degree**
- G **Post-Master's Certificate** - awarded for completion of an organized program of study requiring 60 credit hours beyond the Master's degree, but does not meet the requirements of academic degrees at the doctoral level.
- G **First Professional Degree** - awarded for completion of a program that
  - ! requires at least 2 years of college work before entrance into the program,
  - ! includes a total of at least 6 academic years of work to complete, and
  - ! provides all remaining academic requirements to begin practice in a profession
- G **Doctoral Degree**
- G **Post-Doctoral Degree**

Education and Training

Original	Revision
Part 2. INSTRUCTIONAL PROGRAM REQUIRED Please indicate the instructional program that is required for this job by placing an "X" next to the appropriate area.	Delete.
Part 3. LEVEL OF EDUCATION REQUIRED IN SPECIFIC SUBJECT AREAS	Delete.
Part 4. LICENSURE, CERTIFICATION, AND REGISTRATION	Delete.
Part 5. EXPERIENCE If someone were being hired to perform this job, how much of the following would be required? • Determine the level of experience that is required for this job. Use the following scale: 0 = not applicable or none 1 = up to and including 1 month 2 = over 1 month, up to and including 3 months 3 = over 3 months, up to and including 6 months 4 = over 6 months, up to and including 1 year 5 = over 1 year, up to and including 2 years 6 = over 2 years, up to and including 4 years 7 = over 4 years, up to and including 6 years 8 = over 6 years, up to and including 8 years 9 = over 8 years, up to and including 10 years 10 = over 10 years • Place an "X" over the most appropriate value.	

Education and Training

Original

1. **RELATED WORK EXPERIENCE** (other jobs that prepared you for this job)

Revision

2. If someone were being hired to perform this job, how much RELATED WORK EXPERIENCE would be required? (That is, having other jobs that prepare the worker for the job)

G None
G Up to and including 1 month
G Over 1 month, up to and including 3 months
G Over 3 months, up to and including 6 months
G Over 6 months, up to and including 1 year
G Over 1 year, up to and including 2 years
G Over 2 years, up to and including 4 years
G Over 4 years, up to and including 6 years
G Over 6 years, up to and including 8 years
G Over 8 years, up to and including 10 years
G Over 10 years

2. **ON-SITE OR IN-PLANT TRAINING** (organized classroom study provided by the employer)

3. If someone were being hired to perform this job, how much ON-SITE OR IN-PLANT TRAINING would be required? (That is, organized classroom study provided by the employer)

G None
G Up to and including 1 month
G Over 1 month, up to and including 3 months
G Over 3 months, up to and including 6 months
G Over 6 months, up to and including 1 year
G Over 1 year, up to and including 2 years
G Over 2 years, up to and including 4 years
G Over 4 years, up to and including 6 years
G Over 6 years, up to and including 8 years
G Over 8 years, up to and including 10 years
G Over 10 years

Education and Training

Original

3. **ON-THE-JOB TRAINING (OJT)** (serving as a learner or trainee on the job under the instruction of a more experienced worker)

4. **APPRENTICESHIP** (having served in a registered US Department of Labor apprenticeship program and received a certificate of completion)

Revision

4. If someone were being hired to perform this job, how much ON-THE-JOB TRAINING would be required? (That is, serving as a learner or trainee on the job under instruction of a more experienced worker)

- **G** None
- **G** Up to and including 1 month
- **G** Over 1 month, up to and including 3 months
- **G** Over 3 months, up to and including 6 months
- **G** Over 6 months, up to and including 1 year
- **G** Over 1 year, up to and including 2 years
- **G** Over 2 years, up to and including 4 years
- **G** Over 4 years, up to and including 6 years
- **G** Over 6 years, up to and including 8 years
- **G** Over 8 years, up to and including 10 years
- **G** Over 10 years

5. If someone were being hired to perform this job, how much APPRENTICESHIP would be required? (That is, having served in a registered US Department of Labor apprenticeship program and received a certificate of completion)

- **G** None
- **G** Up to and including 1 month
- **G** Over 1 month, up to and including 3 months
- **G** Over 3 months, up to and including 6 months
- **G** Over 6 months, up to and including 1 year
- **G** Over 1 year, up to and including 2 years
- **G** Over 2 years, up to and including 4 years
- **G** Over 4 years, up to and including 6 years
- **G** Over 6 years, up to and including 8 years
- **G** Over 8 years, up to and including 10 years
- **G** Over 10 years

Work Styles

Original	Revision
1. Achievement/Effort Job requires establishing and maintaining personally challenging achievement goals and exerting effort toward mastering tasks.	**1.** No change.
2. Persistence Job requires persistence in the face of obstacles on the job.	**2. Persistence** (Minimal) Job requires persistence in the face of obstacles.
3. Initiative Job requires being willing to take on responsibilities and challenges.	**3. Initiative** (Minimal) Job requires a willingness to take on responsibilities and challenges.
4. Energy Job requires the energy and stamina to accomplish work tasks.	Delete
5. Leadership Orientation Job requires a willingness to lead, take charge and offer opinions and direction.	**4. Leadership** (Minimal) Job requires a willingness to lead, take charge, and offer opinions and direction.
6. Cooperation Job requires being pleasant with others on the job and displaying a good-natured, cooperative attitude.	**5.** No change.
7. Concern for Others Job requires being sensitive to others' needs and feelings and being understanding and helpful to others on the job.	**6.** No change.
8. Social Orientation Job requires preferring to work with others rather than alone, and being personally connected with others on the job.	**7.** No change.
9. Self-Control Job requires maintaining composure, keeping emotions in check, controlling anger, and avoiding aggressive behavior, even in very difficult situations.	**8.** No change.

Work Styles

Original	Revision
10. Stress Tolerance Job requires accepting criticism and dealing calmly and effectively with high-stress situations.	**9.** No change.
11. Adaptability/Flexibility Job requires being open to change (positive or negative) and to considerable variety in the workplace.	**10.** No change.
12. Dependability Job requires being reliable, responsible, and dependable, and fulfilling obligations.	**11.** No change.
13. Attention to Detail Job requires being careful about details and thorough in completing tasks.	**12.** No change.
14. Integrity Job requires being honest and avoiding unethical behavior.	**13.** Integrity (Minimal) Job requires being honest and ethical.
15. Independence Job requires developing one's own ways of doing things, guiding oneself with little or no supervision, and depending on oneself to get things done.	**14.** No change.
16. Innovation Job requires creativity and alternative thinking to come up with new ideas for and answers to work-related problems.	**15. Innovation** (Minimal) Job requires creativity and alternative thinking to develop new ideas for and answers to work-related problems.
17. Analytical Thinking Job requires analyzing information, and using logic to address work or job issues and problems.	**16. Analytical Thinking** (Minimal) Job requires analyzing information and using logic to address work-related issues and problems.

Skills

Original	Revision
1. Reading Comprehension Understanding written sentences and paragraphs in work-related documents.	**1.** No change.
2. Active Listening Listening to what other people are saying and asking questions as appropriate.	**2. Active Listening** (Moderate) Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

The modified definition is more congruent with listening skill as it is defined in the interpersonal skills literature.

3. Writing Communicating effectively with others in writing as indicated by the needs of the audience.	**3. Writing** (Minimal) Communicating effectively in writing as appropriate for the needs of the audience.
4. Speaking Talking to others to effectively convey information.	**4. Speaking** (Minimal) Talking to others to convey information effectively.
5. Mathematics Using mathematics to solve problems.	**5.** No change.
6. Science Using scientific methods to solve problems.	**6. Science** (Minimal) Using scientific rules and methods to solve problems.
7. Critical Thinking Using logic and analysis to identify the strengths and weaknesses of different approaches.	**7. Critical Thinking** (Minimal) Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
8. Active Learning Working with new material or information to grasp its implications.	**8. Active Learning** (Moderate) Understanding the implications of new information for both current and future problem-solving and decision-making.

Skills

Original	Revision
9. Learning Strategies Using multiple approaches when learning or teaching new things.	**9. Learning Strategies** (Moderate) Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.
10. Monitoring Assessing how well one is doing when learning or doing something.	**10. Monitoring** (Moderate) Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.
11. Social Perceptiveness Being aware of others' reactions and understanding why they react the way they do.	**11. Social Perceptiveness** (Minimal) Being aware of others' reactions and understanding why they react as they do.
12. Coordination Adjusting actions in relation to others' actions.	**12.** No change.
13. Persuasion Persuading others to approach things differently.	**13. Persuasion** (Minimal) Persuading others to change their minds or behavior.
14. Negotiation Bringing others together and trying to reconcile differences.	**14.** No change.
15. Instructing Teaching others how to do something.	**15.** No change.
16. Service Orientation Actively looking for ways to help people.	**16.** No change.

Skills

Original	Revision
17. Problem Identification Identifying the nature of problems. **18. Information Gathering** Knowing how to find information and identifying essential information. **19. Information Organization** Finding ways to structure or classify multiple pieces of information. **20. Synthesis/Reorganization** Reorganizing information to get a better approach to problems or tasks. **21. Idea Generation** Generating a number of different approaches to problems. **22. Idea Evaluation** Evaluating the likely success of an idea in reaction to the demands of the situation. **23. Implementation Planning** Developing approaches for implementing an idea. **24. Solution Appraisal** Observing and evaluating the outcomes of a problem solution to identify lessons learned or redirect efforts.	**17. Complex Problem Solving** (Combination of original items 17-24) Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.
25. Operations Analysis Analyzing needs and product requirements to create a design.	**18.** No change.
26. Technology Design Generating or adapting equipment and technology to serve user needs.	**19.** No change.
27. Equipment Selection Determining the kind of tools and equipment needed to do a job.	**20.** No change.
28. Installation Installing equipment, machines, wiring, or programs to meet specifications.	**21.** No change.
29. Programming Writing computer programs for various purposes.	**22.** No change.

Skills

Original	Revision
30. Testing Conducting tests to determine whether equipment, software, or procedures are operating as expected. **33. Product Inspection** Inspecting and evaluating the quality of products.	**23. Quality Control Analysis** (Combination of original items 30 and 33) Conducting tests and inspections of products, services, or processes to evaluate quality or performance.
31. Operation Monitoring Watching gauges, dials, or other indicators to make sure a machine is working properly.	**24. Operations Monitoring** (Minimal) Watching gauges, dials, or other indicators to make sure a machine is working properly.
32. Operation and Control Controlling operations of equipment or systems.	**25.** No change.
34. Equipment Maintenance Performing routine maintenance and determining when and what kind of maintenance is needed.	**26. Equipment Maintenance** (Minimal) Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.
35. Troubleshooting Determining what is causing an operating error and deciding what to do about it.	**27. Troubleshooting** (Minimal) Determining causes of operating errors and deciding what to do about it.
36. Repairing Repairing machines or systems using the needed tools.	**28.** No change.
37. Visioning Developing an image of how a system should work under ideal conditions. **38. Systems Perceptions** Determining when important changes have occurred in a system or are likely to occur. **39. Identification of Downstream Consequences** Determining the long-term outcomes of a change in operations.	**29. Systems Analysis** (Combination of original items 37-39) Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.

Skills

Original	Revision
40. Identification of Key Causes Identifying the things that must be changed to achieve a goal. **42. Systems Evaluation** Looking at many indicators of system performance, taking into account their accuracy.	**30. Systems Evaluation** (Combination of original items 40 and 42) Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.
41. Judgment and Decision Making Weighing the relative costs and benefits of a potential action.	**31. Judgment and Decision Making** (Minimal) Considering the relative costs and benefits of potential actions to choose the most appropriate one.
43. Time Management Managing one's own time and the time of others.	**32.** No change.
44. Management of Financial Resources Determining how money will be spent to get the work done, and accounting for these expenditures.	**33.** No change.
45. Management of Material Resources Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.	**34.** No change.
46. Management of Personnel Resources Motivating, developing, and directing people as they work, identifying the best people for the job.	**35.** No change.

Work Context

Original	Revision
1. Formality of Communication How formal is most of the job-related information that the worker gives and receives on this job?	Delete
2. Communication Methods. How frequently does the job require the use of the following communication methods?	
a. Face-to-Face (individuals)**.**	a. (Combined with b in Revised item 1.)
b. Face-to-Face (group/team meetings).	**1. How often does *your current job* require face-to-face discussions with individuals and within teams?**
c. Public Speaking.	**2. How frequently does *your current job* require public speaking?** (one speaker with an audience)
d. Video Conference.	Delete.
e. Voice Mail.	Delete.
f. Telephone**.**	**3. How frequently does *your current job* require telephone conversation?**
g. Interactive (same-time) computer communication.	Delete.
h. Electronic Mail.	**4. How frequently does *your current job* require electronic mail?**
i. Handwritten Notes of Messages.	Delete.
j. Letters and Memos.	**5. How frequently does *your current job* require written letters and memos?**
k. Written Reports.	Delete.
3. Objectivity vs. Subjectivity of Information Communicated. How objective or subjective is the information communicated in this job?	Delete.

Work Context

Original	Revision
4. Job Required Social Interaction. How much does this job require the worker to be in contact (face-to-face, by telephone, or otherwise) with others in order to perform it?	**6. How much <u>contact with others</u> (by telephone, face-to-face, or otherwise) is required to perform *your current job*?**
5. Privacy of Communications. To what extent can an individual's work materials and communications (face-to-face, phone, fax, E-mail, etc.) be monitored by others?	Delete.
6. Job Interactions. How <u>important</u> are interactions requiring the worker to:	
a. Supervise, coach, train, or develop other employees?	Delete.
b. Persuade someone to a course of action (informally) or influence others to buy something (to sell)?	Delete.
c. Provide a service to others (e.g., customers)?	Delete.
d. Take a position opposed to coworkers or others?	Delete.
e. Work with or contribute to a work group or team to perform this job?	**7. How important are interactions that require you to <u>work with or contribute to a work group or team</u> to perform *your current job*?**
f. Deal with external customers (e.g., retail sales) or the public in general (e.g., police work)?	**8. In *your current job*, how important are interactions that require you to <u>deal</u> <u>with external customers</u> (as in retail sales) <u>or the public in general</u> (as in police work)?**

Work Context

Original	Revision
g. Coordinate or lead others in accomplishing work activities (not supervision)?	**9. In *your current job*, how important are interactions that require you to coordinate or lead others in accomplishing work activities?** *(not as a supervisor or team leader)*
7. Responsibility for Others' Health and Safety. How responsible is the worker for others' health and safety on this job?	**10. How responsible are you for the health and safety of other workers on *your current job*?**
8. Responsibility for Work Outcomes and Results. How responsible is the worker for work outcomes and results of other workers?	**11. How responsible are you for work outcomes and results of other workers on *your current job*?**
9. How frequently do the job requirements place the worker in conflict situations?	**12. How often are conflict situations a part of *your current job*?**
10. How frequently does the worker have to deal with unpleasant, angry, or discourteous individuals as part of the job requirements?	**13. How often is dealing with unpleasant, angry or discourteous people a part of *your current job*?**
11. How frequently does this job require the worker to deal with physical aggression of violent individuals?	**14. How often is dealing with violent or physically aggressive people a part of *your current job*?**
12. Work Setting. How frequently does this job require the worker to work:	
a. Indoors, environmentally controlled?	**15. How often does *your current job* require you to work indoors in an environmentally controlled environment (like a warehouse with air conditioning)?**
b. Indoors, not environmentally controlled (e.g., warehouse without air conditioning)?	**16. How often does *your current job* require you to work in an environment that is not environmentally controlled (like a warehouse without air conditioning)?**
c. Outdoors, exposed to all weather conditions?	**17. How often does *your current job* require you to work outdoors, exposed to all weather conditions?**

Work Context

Original	Revision
d. Outdoors, under cover (e.g., open shed)?	**18. How often does *your current job* require you to work <u>outdoors, under cover</u> (like in an open shed)?**
e. In an open vehicle or operating open equipment (e.g., tractor)?	**19. How often does *your current job* require you to work <u>in an open vehicle or operating equipment</u> (like a tractor)?**
f. In an enclosed vehicle or operating enclosed equipment (e.g., automobile)?	**20. How often does *your current job* require you to work <u>in a closed vehicle or operate enclosed equipment</u> (like a car)?**
13. Privacy of Work Area. How private is the work area for this job?	Delete.
14. Physical Proximity. To what extent does this job require the worker to perform job tasks in close physical proximity to other people?	**21. How <u>physically close to other people</u> are you when you perform *your current job*?**
15. Environmental Conditions. How often during a usual work period is the worker exposed to the following conditions:	
a. Sounds and noise levels that are distracting and uncomfortable?	**22. In *your current job*, how often are you exposed to <u>sounds and noise levels that are distracting and uncomfortable</u>?**
b. Very hot (above 90° F) or very cold (under 32° F) temperatures?	**23. In *your current job*, how often are you exposed to <u>very hot</u> (above 90° F) <u>or very cold</u> (under 32° F) temperatures?**
c. Extremely bright or inadequate lighting conditions?	**24. In *your current job*, how often are you exposed to <u>extremely bright or inadequate lighting conditions</u>?**
d. Contaminants (pollutants, gases, dust, odors, etc.)?	**25. In *your current job*, how often are you exposed to <u>contaminants</u> (such as pollutants, gases, dust or odors)?**
e. Cramped work space that requires getting into awkward positions?	**26. In *your current job*, how often are you exposed to <u>cramped work space that requires getting into awkward positions</u>?**

Work Context

Original	Revision
f. Whole body vibration (e.g., operating a jackhammer or earth-moving equipment)?	**27. In *your current job*, how often are you exposed to <u>whole body vibration</u> (like operating a jackhammer or earth moving equipment)?**
16. Exposure to Radiation.	
a. <u>Frequency</u>. How often does this job require the worker to be exposed to radiation?	**28. How often does *your current job* require that you be <u>exposed to radiation</u>?**
b. <u>Likelihood of Injury</u>. What is the likelihood that the worker would be injured as a result of being exposed to radiation while performing this job?	Delete.
c. <u>Degree of Injury</u>. If injury, due to exposure to radiation, were to occur while performing this job, how serious would be the likely outcome?	Delete.
17. Exposure to Diseases/Infections (e.g., patient care, some laboratory work, sanitation control, etc.)	
a. <u>Frequency</u>. How often does this job require the worker to be exposed to diseases/infections?	**29. How often does *your current job* require that you be <u>exposed to diseases or infection</u>?** This can happen with workers in patient care, some laboratory work, sanitation control, etc.
b. <u>Likelihood of Injury</u>. What is the likelihood that the worker would be injured as a result of being exposed to diseases/infections while performing this job?	Delete.
c. <u>Degree of Injury</u>. If injury, due to exposure to diseases/infections, were to occur while performing this job, how serious would be the likely outcome?	Delete.

Work Context

Original	Revision
18. Exposure to High Places (e.g., heights above 8 feet on ladders, poles, scaffolding, catwalks, etc.)	
a. Frequency. How often does this job require the worker to be exposed to high places?	**30. How often does *your current job* require that you be exposed to high places?** This can happen for workers who work on poles, scaffolding, catwalks, or ladders longer than 8 feet in length.
b. Likelihood of Injury. What is the likelihood that the worker would be injured as a result of being exposed to high places while performing this job?	Delete.
c. Degree of Injury. If injury, due to exposure to high places, were to occur while performing this job, how serious would be the likely outcome?	Delete.
19. Exposure to Hazardous Conditions (e.g., high voltage electricity, combustibles, explosives, chemicals; do not include hazardous equipment or situations - see questions 20 and 21).	
a. Frequency. How often does this job require the worker to be exposed to hazardous conditions?	**31. How often does *your current job* require that you be exposed to hazardous conditions?** This can happen when working with high voltage electricity, flammable material, explosives, or chemicals. Do not include working with hazardous equipment.
b. Likelihood of Injury. What is the likelihood that the worker would be injured as a result of being exposed to hazardous conditions while performing this job?	Delete.
c. Degree of Injury. If injury, due to exposure to hazardous conditions, were to occur while performing this job, how serious would be the likely outcome?	Delete.

Work Context

Original	Revision
20. Exposure to Hazardous Equipment (e.g., saws, machinery/mechanical parts; include exposure to vehicular traffic, but not driving a vehicle).	
a. Frequency. How often does this job require the worker to be exposed to hazardous equipment?	**32. How often does *your current job* require that you be exposed to hazardous equipment?** This includes working with saws, close to machinery with exposed moving parts, or working near vehicular traffic (but not including driving a vehicle).
b. Likelihood of Injury. What is the likelihood that the worker would be injured as a result of being exposed to hazardous equipment while performing this job?	Delete.
c. Degree of Injury. If injury, due to exposure to hazardous equipment, were to occur while performing this job, how serious would be the likely outcome?	Delete.
21. Exposure to Hazardous Situations involving likely cuts, bites, stings, or minor burns	
a. Frequency. How often does this job require the worker to be exposed to hazardous situations?	**33. How often does *your current job* require that you be exposed to minor burns, cuts, bites, or stings?**
b. Likelihood of Injury. What is the likelihood that the worker would be injured as a result of being exposed to hazardous situations while performing this job?	Delete.
c. Degree of Injury. If injury, due to exposure to hazardous situations, were to occur while performing this job, how serious would be the likely outcome?	Delete.
22. Body Positioning. How much time in a usual work period does the worker spend:	

Work Context

Original	Revision
a. Sitting?	**34. How much time in *your current job* do you spend <u>sitting</u>?**
b. Standing?	**35. How much time in *your current job* do you spend <u>standing</u>?**
c. Climbing ladders, scaffolds, poles, etc.?	**36. How much time in *your current job* do you spend <u>climbing ladders, scaffolds, poles, etc.</u>?**
d. Walking or running?	**37. How much time in *your current job* do you spend <u>walking or running</u>?**
e. Kneeling, crouching, stooping, or crawling?	**38. How much time in *your current job* do you spend <u>kneeling, crouching, stooping, or crawling</u>?**
f. Keeping or regaining balance?	**39. How much time in *your current job* do you spend <u>keeping or regaining your balance</u>?**
g. Using hands to handle, control, or feel objects, tools, or controls?	**40. How much time in *your current job* do you spend <u>using your hands to handle, control, or feel objects, tools, or controls</u>?**
h. Bending or twisting the body?	**41. How much time in *your current job* do you spend <u>bending or twisting your body</u>?**
i. Making repetitive motions?	**42. How much time in *your current job* do you spend <u>making repetitive motions</u>?**

23. Work Attire.
How often does the worker wear:

a. Business clothes, such as neckties and dresses that are often worn in offices?	Delete.
b. A special uniform, such as that of a commercial pilot, nurse, police officer, or military personnel?	Delete.
c. Work clothing such as that worn by production or maintenance workers?	Delete.

Work Context

Original	Revision
d. Common protective or safety attire, such as safety shoes, glasses, gloves, hearing protection, hard-hat, or personal flotation device?	**43. In *your current job*, how often do you wear common <u>protective or safety equipment</u> such as safety shoes, glasses, gloves, hearing protection, hard hats, or life jackets?**
e. Specialized protective or safety attire, such as a breathing apparatus, safety harness, full protection suit, or radiation protection?	**44. In *your current job*, how often do you wear <u>specialized protective or safety equipment</u>, such as breathing apparatus, safety harness, full protection suits, or radiation protection?**
24. Consequences of Error. How serious would the result usually be if the worker made a mistake that was not readily correctable?	**45. <u>How serious a mistake</u> can you make on *your current job* (one you can't easily correct)?**
25. Impact of Decisions.	
a. Level What results do the worker's decision usually have on other people, the financial resources, and/or the image or reputation of the organization?	**46. In *your current job*, <u>what results do your decisions usually have</u> on other people or the image or reputation or financial resources of your employer?**
b. Frequency How frequently is the worker required to make decisions that affect other people, the financial resources, and/or the image and reputation of the organization?	**47. In *your current job*, how often do your <u>decisions affect</u> other people or the image or reputation or financial resources of your employer?**
26. Responsibility/Accountability. To what extent is this job assigned accountability for final work outcomes or results?	Delete.
27. Decision Latitude. Indicate the amount of freedom the worker has to make decisions without supervision.	**48. In *your current job*, how much <u>freedom</u> do you have to make decisions without supervision?**

Work Context

Original	Revision
28. Frustrating Circumstances. To what extent do frustrating circumstances ("road blocks" to work that are beyond the worker's control) hinder the accomplishment of this job?	Delete.
29. Degree of Automation. Indicate the level of automation of this job.	**49. How <u>automated</u> is *your current job*?**
30. Task Clarity. To what extent is the worker clear about what is to be done on this job and how work performance is to be evaluated?	Delete.
31. How important is being very exact or highly accurate in performing this job?	**50. How important to *your current job* is being <u>very exact or highly accurate</u>?**
32. How important is it to be sure that all the details of this job are performed and everything is done completely?	Delete.
33. How important is being constantly aware of either frequently changing events (e.g., security guard watching for shoplifters) or infrequent events (e.g., radar operator watching for tornadoes) to performing this job?	Delete.
34. How important is repeating the same physical activities (e.g., key entry) or mental activities (e.g., checking entries in a ledger) over and over, without stopping, to performing this job?	**51. How important to *your current job* are <u>continuous, repetitious physical activities</u> (like key entry) or <u>mental activities</u> (like checking entries in a ledger)?**
35. Structured vs. Unstructured Work. To what extent is this job structured for the worker, rather than allowing the worker to determine tasks, priorities, and goals?	**52. How much freedom do you have to <u>determine the tasks, priorities or goals of</u> *your current job*?**
36. Level of Competition. To what extent does this job require the worker to compete or to be aware of competitive pressures?	**53. How <u>competitive</u> is *your current job*?**

Work Context

Original	Revision
37. Time Pressure. Frequency. How often does this job require the worker to meet strict deadlines?	**54. How often does *your current job* require you to meet strict deadlines?**
38. How important is working under frequent distractions or interruptions to performing this job?	Delete.
39. How important is it to this job that the pace is determined by the speed of equipment or machinery? (This does not refer to keeping busy at all times on this job.)	**55. How important to *your current job* is keeping a pace set by machinery or equipment?**
40. Please check the usual work schedule for this job. (Check only one.) a. Regular Work (established routine, with set schedule) b. Irregular Work (subject to weather conditions, production demands, contract duration) c. Seasonal Basis (only work during certain times of the year)	**56. How regular is your work schedule on *your current job*?**
41. Please check the usual work shift for this job. (Check only one.) a. Day Shift b. Other than Day Shift (i.e., evening shift or night shift) c. Split or Variable Shift (work busy times or shift changes due to staffing demands) d. Rotating Shift (rotate days, evenings, nights)	Delete.
42. Please check the usual work shift duration. (Check only one.) a. Paid for less than 8 hours b. Paid for 8 hours c. Paid for more than 8 hours	Delete.

Work Context

Original	Revision
43. Please check the usual overtime work. (Check all that apply.) a. None b. Overtime at request of employer c. Available for call-in to work d. Weekend work (not part of regular shift)	Delete.
44. Please check the number of hours typically worked in one week. (Check only one.) a. Less than 40 hours b. 40 hours c. More than 40 hours	**57. How many hours do you work in a typical week on *your current job*?**
45. Please check the usual work cycle for this job. (Check only one.) a. 1 week b. 2 weeks c. 1 month (28 or more days)	Delete.
46. Please check the number of days usually worked in the cycle. (Check only one.) a. Less than 3 b. 3 c. 4 d. 5 e. 6 f. 7 g. 8-10 h. 11-14 i. 15-20 j. More than 20	Delete.

Note: For the revised Work Context items that were not deleted, all changes that have occurred were slight wording and formatting changes and are considered minimal.

Appendix B

Listing of O*NET Data Dictionary Variables in the Prototype and Current Versions of the O*NET Survey

ABILITIES		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
A01LV00M A01IM00M	I.A.1.a.1	Oral Comprehension	Level Importance	Oral Comprehension	Level Importance
A02LV00M A02IM00M	I.A.1.a.2	Written Comprehension	Level Importance	Written Comprehension	Level Importance
A03LV00M A03IM00M	I.A.1.a.3	Oral Expression	Level Importance	Oral Expression	Level Importance
A04LV00M A04IM00M	I.A.1.a.4	Written Expression	Level Importance	Written Expression	Level Importance
A05LV00M A05IM00M	I.A.1.b.1	Fluency of Ideas	Level Importance	Fluency of Ideas	Level Importance
A06LV00M A06IM00M	I.A.1.b.2	Originality	Level Importance	Originality	Level Importance
A07LV00M A07IM00M	I.A.1.b.3	Problem Sensitivity	Level Importance	Problem Sensitivity	Level Importance
A08LV00M A08IM00M	I.A.1.b.4	Deductive Reasoning	Level Importance	Deductive Reasoning	Level Importance
A09LV00M A09IM00M	I.A.1.b.5	Inductive Reasoning	Level Importance	Inductive Reasoning	Level Importance
A10LV00M A10IM00M	I.A.1.b.6	Information Ordering	Level Importance	Information Ordering	Level Importance
A11LV00M A11IM00M	I.A.1.b.7	Category Flexibility	Level Importance	Category Flexibility	Level Importance
A12LV00M A12IM00M	I.A.1.c.1	Mathematical Reasoning	Level Importance	Mathematical Reasoning	Level Importance
A13LV00M A13IM00M	I.A.1.c.2	Number Facility	Level Importance	Number Facility	Level Importance
A14LV00M A14IM00M	I.A.1.d.1	Memorization	Level Importance	Memorization	Level Importance
A15LV00M A15IM00M	I.A.1.e.1	Speed of Closure	Level Importance	Speed of Closure	Level Importance
A16LV00M A16IM00M	I.A.1.e.2	Flexibility of Closure	Level Importance	Flexibility of Closure	Level Importance
A17LV00M A17IM00M	I.A.1.e.3	Perceptual Speed	Level Importance	Perceptual Speed	Level Importance
A18LV00M A18IM00M	I.A.1.f.1	Spatial Orientation	Level Importance	Spatial Orientation	Level Importance
A19LV00M A19IM00M	I.A.1.f.2	Visualization	Level Importance	Visualization	Level Importance
A20LV00M A20IM00M	I.A.1.g.1	Selective Attention	Level Importance	Selective Attention	Level Importance

ABILITIES		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
A21LV00M A21IM00M	I.A.1.g.2	Time Sharing	Level Importance	Time Sharing	Level Importance
A22LV00M A22IM00M	I.A.2.a.1	Arm-Hand Steadiness	Level Importance	Arm-Hand Steadiness	Level Importance
A23LV00M A23IM00M	I.A.2.a.2	Manual Dexterity	Level Importance	Manual Dexterity	Level Importance
A24LV00M A24IM00M	I.A.2.a.3	Finger Dexterity	Level Importance	Finger Dexterity	Level Importance
A25LV00M A25IM00M	I.A.2.b.1	Control Precision	Level Importance	Control Precision	Level Importance
A26LV00M A26IM00M	I.A.2.b.2	Multilimb Coordination	Level Importance	Multilimb Coordination	Level Importance
A27LV00M A27IM00M	I.A.2.b.3	Response Orientation	Level Importance	Response Orientation	Level Importance
A28LV00M A28IM00M	I.A.2.b.4	Rate Control	Level Importance	Rate Control	Level Importance
A29LV00M A29IM00M	I.A.2.c.1	Reaction Time	Level Importance	Reaction Time	Level Importance
A30LV00M A30IM00M	I.A.2.c.2	Wrist-Finger Speed	Level Importance	Wrist-Finger Speed	Level Importance
A31LV00M A31IM00M	I.A.2.c.3	Speed of Limb Movement	Level Importance	Speed of Limb Movement	Level Importance
A32LV00M A32IM00M	I.A.3.a.1	Static Strength	Level Importance	Static Strength	Level Importance
A33LV00M A33IM00M	I.A.3.a.2	Explosive Strength	Level Importance	Explosive Strength	Level Importance
A34LV00M A34IM00M	I.A.3.a.3	Dynamic Strength	Level Importance	Dynamic Strength	Level Importance
A35LV00M A35IM00M	I.A.3.a.4	Trunk Strength	Level Importance	Trunk Strength	Level Importance
A36LV00M A36IM00M	I.A.3.b.1	Stamina	Level Importance	Stamina	Level Importance

ABILITIES		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
A37LV00M A37IM00M	I.A.3.c.1	Extent Flexibility	Level Importance	Extent Flexibility	Level Importance
A38LV00M A38IM00M	I.A.3.c.2	Dynamic Flexibility	Level Importance	Dynamic Flexibility	Level Importance
A39LV00M A39IM00M	I.A.3.c.3	Gross Body Coordination	Level Importance	Gross Body Coordination	Level Importance
A40LV00M A40IM00M	I.A.3.c.4	Gross Body Equilibrium	Level Importance	Gross Body Equilibrium	Level Importance
A41LV00M A41IM00M	I.A.4.a.1	Near Vision	Level Importance	Near Vision	Level Importance
A42LV00M A42IM00M	I.A.4.a.2	Far Vision	Level Importance	Far Vision	Level Importance
A43LV00M A43IM00M	I.A.4.a.3	Visual Color Discrimination	Level Importance	Visual Color Discrimination	Level Importance
A44LV00M A44IM00M	I.A.4.a.4	Night Vision	Level Importance	Night Vision	Level Importance
A45LV00M A45IM00M	I.A.4.a.5	Peripheral Vision	Level Importance	Peripheral Vision	Level Importance
A46LV00M A46IM00M	I.A.4.a.6	Depth Perception	Level Importance	Depth Perception	Level Importance
A47LV00M A47IM00M	I.A.4.a.7	Glare Sensitivity	Level Importance	Glare Sensitivity	Level Importance
A48LV00M A48IM00M	I.A.4.b.1	Hearing Sensitivity	Level Importance	Hearing Sensitivity	Level Importance
A49LV00M A49IM00M	I.A.4.b.2	Auditory Attention	Level Importance	Auditory Attention	Level Importance
A50LV00M A50IM00M	I.A.4.b.3	Sound Localization	Level Importance	Sound Localization	Level Importance
A51LV00M A51IM00M	I.A.4.b.4	Speech Recognition	Level Importance	Speech Recognition	Level Importance
A52LV00M A52IM00M	I.A.4.b.5	Speech Clarity	Level Importance	Speech Clarity	Level Importance

GENERALIZED WORK ACTIVITIES

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
G01LV00M	IV.A.1.a.1	Getting Information Needed To Do the Job	Level	Getting Information	Level
G01IM00M G01FR00M			Importance Frequency		Importance
G02LV00M	IV.A.1.b.1	Identifying Objects, Actions, and Events	Level	Identifying Objects, Actions, and Events	Level
G02IM00M G02FR00M			Importance Frequency		Importance
G03LV00M	IV.A.1.a.2	Monitoring Processes, Materials or Surroundings	Level	Monitoring Processes, Materials or Surroundings	Level
G03IM00M G03FR00M			Importance Frequency		Importance
G04LV00M	IV.A.1.b.2	Inspecting Equipment, Structures or Materials	Level	Inspecting Equipment, Structures or Materials	Level
G04IM00M G04FR00M			Importance Frequency		Importance
G05LV00M	IV.A.1.b.3	Estimating the Characteristics of Materials, Products, Events, or Information	Level	Estimating the Quantifiable Characteristics of Products, Events, or Information	Level
G05IM00M G05FR00M			Importance Frequency		Importance
G06LV00M	IV.A.2.a.1	Judging the Qualities of Objects, Services, or Persons	Level	Judging the Qualities of Objects, Services, or People	Level
G06IM00M G06FR00M			Importance Frequency		Importance
G07LV00M	IV.A.2.a.3	Evaluating Information for Compliance to Standards	Level	Evaluating Information to Determine Compliance with Standards	Level
G07IM00M G07FR00M			Importance Frequency		Importance

GENERALIZED WORK ACTIVITIES

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
G08LV00M	IV.A.2.a.2	Processing Information	Level	Processing Information	Level
G08IM00M			Importance		Importance
G08FR00M			Frequency		
G09LV00M	IV.A.2.a.4	Analyzing Data or Information	Level	Analyzing Data or Information	Level
G09IM00M			Importance		Importance
G09FR00M			Frequency		
G10LV00M	IV.A.2.b.1	Making Decisions and Solving Problems	Level	Making Decisions and Solving Problems	Level
G10IM00M			Importance		Importance
G10FR00M			Frequency		
G11LV00M	IV.A.2.b.2	Thinking Creatively	Level	Thinking Creatively	Level
G11IM00M			Importance		Importance
G11FR00M			Frequency		
G12LV00M	IV.A.2.b.3	Updating and Using Job-Relevant Knowledge	Level	Updating and Using Relevant Knowledge	Level
G12IM00M			Importance		Importance
G12FR00M			Frequency		
G13LV00M	IV.A.2.b.4	Developing Objectives and Strategies	Level	Developing Objectives and Strategies	Level
G13IM00M			Importance		Importance
G13FR00M			Frequency		
G14LV00M	IV.A.2.b.5	Scheduling Work and Activities	Level	Scheduling Work and Activities	Level
G14IM00M			Importance		Importance
G14FR00M			Frequency		
G15LV00M	IV.A.2.b.6	Organizing, Planning, and Prioritizing Work	Level	Organizing, Planning, and Prioritizing Work	Level
G15IM00M			Importance		Importance
G15FR00M			Frequency		
G16LV00M	IV.A.3.a.1	Performing General Physical Activities	Level	Performing General Physical Activities	Level
G16IM00M			Importance		Importance
G16FR00M			Frequency		
G17LV00M	IV.A.3.a.2	Handling and Moving Objects	Level	Handling and Moving Objects	Level
G17IM00M			Importance		Importance

GENERALIZED WORK ACTIVITIES

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
G17FR00M			Frequency		
G18LV00M	IV.A.3.a.3	Controlling Machines and Processes	Level	Controlling Machines and Processes	Level
G18IM00M			Importance		Importance
G18FR00M			Frequency		
G19LV00M	IV.A.3.b.1	Interacting with Computers	Level	Working with Computers	Level
G19IM00M			Importance		Importance
G19FR00M			Frequency		
G20LV00M	IV.A.3.a.4	Operating Vehicles, Mechanized Devices, or Equipment	Level	Operating Vehicles, Mechanized Devices, or Equipment	Level
G20IM00M			Importance		Importance
G20FR00M			Frequency		
G21LV00M	IV.A.3.b.2	Drafting, Laying-Out, and Specifying Technical Devices, Parts or Equipment	Level	Drafting, Laying Out, and Specifying Technical Devices, Parts and Equipment	Level
G21IM00M			Importance		Importance
G21FR00M			Frequency		
G22LV00M	IV.A.3.b.3	Implementing Ideas, Programs Systems or Products	Level	(item has been deleted)	
G22IM00M			Importance		
G22FR00M			Frequency		
G23LV00M	IV.A.3.b.4	Repairing and Maintaining Mechanical Equipment	Level	Repairing and Maintaining Mechanical Equipment	Level
G23IM00M			Importance		Importance
G23FR00M			Frequency		
G24LV00M	IV.A.3.b.5	Repairing and Maintaining Electronic Equipment	Level	Repairing and Maintaining Electronic Equipment	Level
G24IM00M			Importance		Importance
G24FR00M			Frequency		

GENERALIZED WORK ACTIVITIES

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
G25LV00M	IV.A.3.b.6	Documenting/ Recording Information	Level	Documenting/ Recording Information	Level
G25IM00M G25FR00M			Importance Frequency		Importance
G26LV00M	IV.A.4.a.1	Interpreting the meaning of Information for Others	Level	Interpreting the Meaning of Information for Others	Level
G26IM00M G26FR00M			Importance Frequency		Importance
G27LV00M	IV.A.4.a.2	Communication with Supervisors, Peers, or Subordinates	Level	Communication with Supervisors, Peers, or Subordinates	Level
G27IM00M G27FR00M			Importance Frequency		Importance
G28LV00M	IV.A.4.a.3	Communicating with Persons Outside the Organizations	Level	Communicating with People Outside the Organization	Level
G28IM00M G28FR00M			Importance Frequency		Importance
G29LV00M	IV.A.4.a.4	Establishing and Maintaining Interpersonal Relationships	Level	Establishing and Maintaining Interpersonal Relationships	Level
G29IM00M G29FR00M			Importance Frequency		Importance
G30LV00M	IV.A.4.a.5	Assisting and Caring for Others	Level	Assisting and Caring for Others	Level
G30IM00M G30FR00M			Importance Frequency		Importance
G31LV00M	IV.A.4.a.6	Selling or Influencing Others	Level	Selling or Influencing Others	Level
G31IM00M G31FR00M			Importance Frequency		Importance
G32LV00M	IV.A.4.a.7	Resolving Conflicts and Negotiating with Others	Level	Resolving Conflicts and Negotiating with Others	Level
G32IM00M G32FR00M			Importance Frequency		Importance

GENERALIZED WORK ACTIVITIES

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
G33LV00M	IV.A.4.a.8	Performing For or Working Directly With the Public	Level	Performing for or Working Directly With the Public	Level
G33IM00M			Importance		Importance
G33FR00M			Frequency		
G34LV00M	IV.A.4.b.1	Coordinating the Work and Activities of Others	Level	Coordinating the Work and Activities of Others	Level
G34IM00M			Importance		Importance
G34FR00M			Frequency		
G35LV00M	IV.A.4.b.2	Developing and Building Teams	Level	Developing and Building Teams	Level
G35IM00M			Importance		Importance
G35FR00M			Frequency		
G36LV00M	IV.A.4.b.3	Teaching Others	Level	Training and Teaching Others	Level
G36IM00M			Importance		Importance
G36FR00M			Frequency		
G37LV00M	IV.A.4.b.4	Guiding, Directing, and Motivating Subordinates	Level	Guiding, Directing, and Motivating Subordinates	Level
G37IM00M			Importance		Importance
G37FR00M			Frequency		
G38LV00M	IV.A.4.b.5	Coaching and Developing Others	Level	Coaching and Developing Others	Level
G38IM00M			Importance		Importance
G38FR00M			Frequency		
G39LV00M	IV.A.4.b.6	Providing Consultation and Advice to Others	Level	Providing Consultation and Advice to Others	Level
G39IM00M			Importance		Importance
G39FR00M			Frequency		
G40LV00M	IV.A.4.c.1	Performing Administrative Activities	Level	Performing Administrative Activities	Level
G40IM00M			Importance		Importance
G40FR00M			Frequency		
G41LV00M	IV.A.4.c.2	Staffing Organizational Units	Level	Staffing Organizational Units	Level
G41IM00M			Importance		Importance
G41FR00M			Frequency		

GENERALIZED WORK ACTIVITIES

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
G42LV00M	IV.A.4.c.3	Monitoring and Controlling Resources	Level	Monitoring and Controlling Resources	Level
G42IM00M			Importance		Importance
G42FR00M			Frequency		

KNOWLEDGES		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
K01LV00M	II.C.1.a	Administration and Management	Level	Administration and Management	Level
K01IM00M			Importance		Importance
K01JS01P		Business Administration	Job Specialty Requirements		
K01JS02P		Construction Management	Job Specialty Requirements		
K01JS03P		Engineering, Mathematical, and Sciences Management	Job Specialty Requirements		
K01JS04P		Food Service and Lodging Management	Job Specialty Requirements		
K01JS05P		Medical Service Management	Job Specialty Requirements		
K01JS06P		Personnel and Human Resources management	Job Specialty Requirements		
K01JS07P		Public Administration	Job Specialty Requirements		
K02LV00M	II.C.1.b	Clerical	Level	Clerical	Level
K02IM00M			Importance		Importance
K02JS01P		Banking Support	Job Specialty Requirements		
K02JS02P		Bookkeeping	Job Specialty Requirements		
K02JS03P		Computer Operations	Job Specialty Requirements		
K02JS04P		Data Entry	Job Specialty Requirements		
K02JS05P		Health Unit Coordinating	Job Specialty Requirements		
K02JS06P		Legal Secretarial	Job Specialty Requirements		
K02JS07P		Medical Secretarial	Job Specialty Requirements		
K02JS08P		Office Clerical	Job Specialty Requirements		
K02JS09P		Receptionist	Job Specialty Requirements		
K02JS010P		Stenography	Job Specialty Requirements		
K02JS011P		Stock and Warehousing	Job Specialty Requirements		
K03LV00M	II.C.1.c	Economics and Accounting	Level	Economics and Accounting	Level

KNOWLEDGES		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
K03IM00M			Importance		Importance
K03JS01P		Accounting	Job Specialty Requirements		
K03JS02P		Economics and Accounting	Job Specialty Requirements		
K03JS03P		Financial Management	Job Specialty Requirements		
K03JS04P		Securities and Investments	Job Specialty Requirements		
K04LV00M	II.C.1.d	Sales and Marketing	Level	Sales and Marketing	Level
K04IM00M			Importance		Importance
K04JS01P		Advertising and Public Relations	Job Specialty Requirements		
K04JS02P		Fashion and Apparel	Job Specialty Requirements		
K04JS03P		Food Marketing	Job Specialty Requirements		
K04JS04P		Insurance	Job Specialty Requirements		
K04JS05P		Purchasing	Job Specialty Requirements		
K04JS06P		Real Estate	Job Specialty Requirements		
K04JS07P		Retailing and Wholesaling	Job Specialty Requirements		
K04JS08P		Vehicle Sales	Job Specialty Requirements		
K05LV00M	II.C.1.e	Customer and Personal Service	Level	Customer and Personal Service	Level
K05IM00M			Importance		Importance
K05JS01P		Barbering and Cosmetology	Job Specialty Requirements		
K05JS02P		Bartending	Job Specialty Requirements		
K05JS03P		Cashiering	Job Specialty Requirements		
K05JS04P		Child Care and Home Management	Job Specialty Requirements		
K05JS05P		Flight Attending	Job Specialty Requirements		
K05JS06P		Food Preparation	Job Specialty Requirements		
K05JS07P		Food Service	Job Specialty Requirements		
K05JS08P		Hospitality Service	Job Specialty Requirements		

KNOWLEDGES		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
K05JS09P		Housekeeping and Custodial	Job Specialty Requirements		
K05JS010P		Laundry and Dry Cleaning	Job Specialty Requirements		
K05JS011P		Meatcutting and Butchering	Job Specialty Requirements		
K05JS12P		Travel Service	Job Specialty Requirements		
K06LV00M	II.C.1.f	Personnel and Human Resources	Level	Personnel and Human Resources	Level
K06IM00M			Importance		Importance
K06JS01P		Human Resource Management	Job Specialty Requirements		
K06JS02P		Interviewing and Hiring	Job Specialty Requirements		
K06JS03P		Labor Relations	Job Specialty Requirements		
K06JS04P		Management Analysis	Job Specialty Requirements		
K06JS05P		Personnel Research	Job Specialty Requirements		
K06JS06P		Training	Job Specialty Requirements		
K07LV00M	II.C.2.a	Production and Processing	Level	Production and Processing	Level
K07IM00M			Importance		Importance
K07JS01P		Clothing Production	Job Specialty Requirements		
K07JS02P		Food Processing and Production	Job Specialty Requirements		
K07JS03P		Home Furnishing Production	Job Specialty Requirements		
K07JS04P		Line Supervision	Job Specialty Requirements		
K07JS05P		Metal Production and Processing	Job Specialty Requirements		
K07JS06P		Printing and Publishing	Job Specialty Requirements		
K07JS07P		Quality Control and Inspection	Job Specialty Requirements		
K08LV00M	II.C.2.b	Food Production	Level	Food Production	Level
K08IM00M			Importance		Importance
K08JS01P		Agricultural and Business Management	Job Specialty Requirements		
K08JS02P		Agricultural Sciences	Job Specialty Requirements		

KNOWLEDGES		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
K08JS03P		Animal Husbandry and Production	Job Specialty Requirements		
K08JS04P		Animal Sciences	Job Specialty Requirements		
K08JS05P		Crop Production	Job Specialty Requirements		
K08JS06P		Fishing and Wildlife Management	Job Specialty Requirements		
K08JS07P		Food Sciences	Job Specialty Requirements		
K09LV00M	II.C.3.a	Computers and Electronics	Level	Computers and Electronics	Level
K09IM00M			Importance		Importance
K09JS01P		Computer Programming	Job Specialty Requirements		
K09JS02P		Computer Science	Job Specialty Requirements		
K09JS03P		Computer Technology	Job Specialty Requirements		
K09JS04P		Electrical and Electronics Technology	Job Specialty Requirements		
K09JS05P		Systems Analysis	Job Specialty Requirements		
K10LV00M	II.C.3.b	Engineering and Technology	Level	Engineering and Technology	Level
K10IM00M			Importance		Importance
K10JS01P		Aeronautical and Astronautical Engineering	Job Specialty Requirements		
K10JS02P		Chemical Engineering	Job Specialty Requirements		
K10JS03P		Civil Engineering	Job Specialty Requirements		
K10JS04P		Electrical Engineering	Job Specialty Requirements		
K10JS05P		Industrial Engineering	Job Specialty Requirements		
K10JS06P		Material Engineering	Job Specialty Requirements		
K10JS07P		Mechanical Engineering	Job Specialty Requirements		
K10JS08P		Mining, Petroleum, and Nuclear Engineering	Job Specialty Requirements		
K10JS09P		Surveying	Job Specialty Requirements		
K11LV00M	II.C.3.c	Design	Level	Design	Level

KNOWLEDGES		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
K11IM00M			Importance		Importance
K11JS01P		Architecture	Job Specialty Requirements		
K11JS02P		Drafting	Job Specialty Requirements		
K11JS03P		Industrial Design	Job Specialty Requirements		
K11JS04P		Interior Design	Job Specialty Requirements		
K11JS05P		Technical Theater Design	Job Specialty Requirements		
K12LV00M	II.C.3.d	Building and Construction	Level	Building and Construction	Level
K12IM00M			Importance		Importance
K12JS01P		Bricklaying	Job Specialty Requirements		
K12JS02P		Carpentry	Job Specialty Requirements		
K12JS03P		Concrete	Job Specialty Requirements		
K12JS04P		Construction and Building Inspection	Job Specialty Requirements		
K12JS05P		Construction Equipment Operations	Job Specialty Requirements		
K12JS06P		Drywall and Plaster	Job Specialty Requirements		
K12JS07P		Electrical Power	Job Specialty Requirements		
K12JS08P		Painting and Paperhanging	Job Specialty Requirements		
K12JS09P		Plumbing	Job Specialty Requirements		
K12JS010P		Structural Metal	Job Specialty Requirements		

KNOWLEDGES		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
K13LV00M K13IM00M	II.C.3.e	Mechanical	Level Importance	Mechanical	Level Importance
K13JS01P		Agricultural Mechanics	Job Specialty Requirements		
K13JS02P		Aircraft Mechanics	Job Specialty Requirements		
K13JS03P		Appliance Repair	Job Specialty Requirements		
K13JS04P		Automobile Mechanics	Job Specialty Requirements		
K13JS05P		Building Maintenance	Job Specialty Requirements		
K13JS06P		Engine Repair	Job Specialty Requirements		
K13JS07P		Heavy Equipment Repair	Job Specialty Requirements		
K13JS08P		Instrument Repair	Job Specialty Requirements		
K13JS09P		Light Equipment Repair	Job Specialty Requirements		
K14LV00M K14IM00M	II.C.4.a	Mathematics	Level Importance	Mathematics	Level Importance
K14JS01P		Accounting	Job Specialty Requirements		
K14JS02P		Actuarial Science	Job Specialty Requirements		
K14JS03P		Applied Mathematics	Job Specialty Requirements		
K14JS04P		Operations Research	Job Specialty Requirements		
K14JS05P		Statistics	Job Specialty Requirements		
K15LV00M K15IM00M	II.C.4.b	Physics	Level Importance	Physics	Level Importance
K15JS01P		Astronomy	Job Specialty Requirements		
K15JS02P		Astrophysics	Job Specialty Requirements		
K15JS03P		Atmospheric Sciences and Meteorology	Job Specialty Requirements		
K15JS04P		Earth and Planetary Sciences	Job Specialty Requirements		
K15JS05P		General Physics	Job Specialty Requirements		
K15JS06P		Geology	Job Specialty Requirements		

KNOWLEDGES		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
K15JS07P		Nuclear Physics	Job Specialty Requirements		
K15JS08P		Oceanography	Job Specialty Requirements		
K15JS09P		Optics and Acoustics	Job Specialty Requirements		
K16LV00M	II.C.4.c	Chemistry	Level	Chemistry	Level
K16IM00M			Importance		Importance
K16JS01P		Analytical Chemistry	Job Specialty Requirements		
K16JS02P		Biochemistry	Job Specialty Requirements		
K16JS03P		Inorganic Chemistry	Job Specialty Requirements		
K16JS04P		Medicinal and Pharmaceutical Chemistry	Job Specialty Requirements		
K16JS05P		Organic Chemistry	Job Specialty Requirements		
K16JS06P		Physical and Theoretical Chemistry	Job Specialty Requirements		
K16JS07P		Polymer Chemistry	Job Specialty Requirements		
K17LV00M	II.C.4.d	Biology	Level	Biology	Level
K17IM00M			Importance		Importance
K17JS01P		Biochemistry	Job Specialty Requirements		
K17JS02P		Botany	Job Specialty Requirements		
K17JS03P		Cell and Molecular Biology	Job Specialty Requirements		
K17JS04P		Ecology	Job Specialty Requirements		
K17JS05P		Genetics	Job Specialty Requirements		
K17JS06P		Marine and Aquatic Biology	Job Specialty Requirements		
K17JS07P		Microbiology and Bacteriology	Job Specialty Requirements		
K17JS08P		Nutritional Science	Job Specialty Requirements		
K17JS09P		Physiology	Job Specialty Requirements		
K17JS10P		Zoology	Job Specialty Requirements		
K18LV00M	II.C.4.e	Psychology	Level	Psychology	Level

KNOWLEDGES		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
K18IM00M			Importance		Importance
K18JS01P		Clinical Psychology	Job Specialty Requirements		
K18JS02P		Cognitive Psychology	Job Specialty Requirements		
K18JS03P		Community Psychology	Job Specialty Requirements		
K18JS04P		Counseling Psychology	Job Specialty Requirements		
K18JS05P		Developmental Psychology	Job Specialty Requirements		
K18JS06P		Experimental Psychology	Job Specialty Requirements		
K18JS07P		Industrial/Organizational Psychology	Job Specialty Requirements		
K18JS08P		Physiological/Biological Psychology	Job Specialty Requirements		
K18JS09P		Social Psychology	Job Specialty Requirements		
K19LV00M	II.C.4.f	Sociology and Anthropology	Level	Sociology and Anthropology	Level
K19IM00M			Importance		Importance
K19JS01P		Anthropology	Job Specialty Requirements		
K19JS02P		Archeology	Job Specialty Requirements		
K19JS03P		Criminology	Job Specialty Requirements		
K19JS04P		Demography and Population	Job Specialty Requirements		
K19JS05P		Sociology	Job Specialty Requirements		
K19JS06P		Urban Affairs	Job Specialty Requirements		
K20LV00M	II.C.4.g	Geography	Level	Geography	Level
K20IM00M			Importance		Importance
K20JS01P		Cartography	Job Specialty Requirements		
K20JS02P		Geography	Job Specialty Requirements		
K21LV00M	II.C.5.a	Medicine and Dentistry	Level	Medicine and Dentistry	Level
K21IM00M			Importance		Importance
K21JS01P		Chiropractic	Job Specialty Requirements		

KNOWLEDGES		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
K21JS02P		Community and Home Health	Job Specialty Requirements		
K21JS03P		Dentistry	Job Specialty Requirements		
K21JS04P		Medicine	Job Specialty Requirements		
K21JS05P		Nursing	Job Specialty Requirements		
K21JS06P		Pharmacology	Job Specialty Requirements		
K21JS07P		Psychiatry	Job Specialty Requirements		
K21JS08P		Speech Pathology and Audiology	Job Specialty Requirements		
K21JS09P		Surgery	Job Specialty Requirements		
K21JS10P		Veterinary Medicine	Job Specialty Requirements		
K22LV00M	II.C.5.b	Therapy and Counseling	Level	Therapy and Counseling	Level
K22IM00M			Importance		Importance
K22JS01P		Educational Counseling	Job Specialty Requirements		
K22JS02P		Occupational Therapy	Job Specialty Requirements		
K22JS03P		Physical Therapy	Job Specialty Requirements		
K22JS04P		Psychiatric and Mental Health Counseling	Job Specialty Requirements		
K22JS05P		Recreational Therapy	Job Specialty Requirements		
K22JS06P		Speech Pathology and Audiology	Job Specialty Requirements		
K22JS07P		Social Work	Job Specialty Requirements		
K22JS08P		Vocational Counseling	Job Specialty Requirements		
K23LV00M	II.C.6	Education and Training	Level	Education and Training	Level
K23IM00M			Importance		Importance
K23JS01P		Educational Administration	Job Specialty Requirements		
K23JS02P		Instructional Design	Job Specialty Requirements		
K23JS03P		Pre-school Education	Job Specialty Requirements		

KNOWLEDGES		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
K23JS04P		Elementary Education	Job Specialty Requirements		
K23JS05P		Secondary and Vocational Education	Job Specialty Requirements		
K23JS06P		College and University Education	Job Specialty Requirements		
K23JS07P		Special Education	Job Specialty Requirements		
K23JS08P		Adult and Continuing Education	Job Specialty Requirements		
K23JS09P		Professional Training	Job Specialty Requirements		
K24LV00M K24IM00M	II.C.7.a	English Language	Level Importance	English Language	Level Importance
K24JS01P		Editing	Job Specialty Requirements		
K24JS02P		English Literature	Job Specialty Requirements		
K24JS03P		Creative Writing	Job Specialty Requirements		
K24JS04P		Journalistic Writing	Job Specialty Requirements		
K24JS05P		Linguistics	Job Specialty Requirements		
K24JS06P		Technical and Business Writing	Job Specialty Requirements		
K25LV00M K25IM00M	II.C.7.b	Foreign Language	Level Importance	Foreign Language	Level Importance
K25JS01P		Foreign Language Interpretation	Job Specialty Requirements		
K25JS02P		Foreign Language Literature	Job Specialty Requirements		
K25JS03P		Foreign Language Translation	Job Specialty Requirements		
K25JS04P		Linguistics	Job Specialty Requirements		
K26LV00M K26IM00M	II.C.7.c	Fine Arts	Level Importance	Fine Arts	Level Importance
K26JS01P		Arts and Crafts	Job Specialty Requirements		
K26JS02P		Dance	Job Specialty Requirements		
K26JS03P		Dramatic and Theatrical Arts	Job Specialty Requirements		
K26JS04P		Film-Video Making and Cinematography	Job Specialty Requirements		

KNOWLEDGES		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
K26JS05P		Music	Job Specialty Requirements		
K26JS06P		Photography	Job Specialty Requirements		
K27LV00M	II.C.7.d	History and Archeology	Level	History and Archeology	Level
K27IM00M			Importance		Importance
K27JS01P		African History	Job Specialty Requirements		
K27JS02P		American History	Job Specialty Requirements		
K27JS03P		Archeology	Job Specialty Requirements		
K27JS04P		Asian History	Job Specialty Requirements		
K27JS05P		European History	Job Specialty Requirements		
K27JS06P		General History	Job Specialty Requirements		
K27JS07P		History of Science and Technology	Job Specialty Requirements		
K28LV00M	II.C.7.e	Philosophy and Theology	Level	Philosophy and Theology	Level
K28IM00M			Importance		Importance
K28JS01P		Ministry	Job Specialty Requirements		
K28JS02P		Missions and Missionary Studies	Job Specialty Requirements		
K28JS03P		Pastoral Counseling	Job Specialty Requirements		
K28JS04P		Philosophy	Job Specialty Requirements		
K28JS05P		Religious Education	Job Specialty Requirements		
K28JS06P		Theology	Job Specialty Requirements		
K29LV00M	II.C.8.a	Public Safety and Security	Level	Public Safety and Security	Level
K29IM00M			Importance		Importance
K29JS01P		Corrections	Job Specialty Requirements		
K29JS02P		Criminal Investigation	Job Specialty Requirements		
K29JS03P		Fire Fighting	Job Specialty Requirements		

KNOWLEDGES		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
K29JS04P		Fire Inspection and Investigation	Job Specialty Requirements		
K29JS05P		Military Technologies	Job Specialty Requirements		
K29JS06P		Police Patrol	Job Specialty Requirements		
K29JS07P		Security Services	Job Specialty Requirements		
K30LV00M	II.C.8.b	Law, Government and Jurisprudence	Level	Law and Government	Level
K30IM00M			Importance		Importance
K30JS01P		Jurisprudence	Job Specialty Requirements		
K30JS02P		Legal Representation	Job Specialty Requirements		
K30JS03P		Paralegal and Legal Support Services	Job Specialty Requirements		
K30JS04P		Political Science and Government	Job Specialty Requirements		
K31LV00M	II.C.9.a	Telecommunications	Level	Telecommunications	Level
K31IM00M			Importance		Importance
K31JS01P		Central Office and Switches	Job Specialty Requirements		
K31JS02P		Electrical and Electronics Engineering	Job Specialty Requirements		
K31JS03P		Radio and Television Broadcasting Technology	Job Specialty Requirements		
K31JS04P		System Installation and Repair	Job Specialty Requirements		
K32LV00M	II.C.9.b	Communications and Media	Level	Communications and Media	Level
K32IM00M			Importance		Importance
K32JS01P		Archival Science	Job Specialty Requirements		
K32JS02P		Creative Writing	Job Specialty Requirements		
K32JS03P		Journalism	Job Specialty Requirements		
K32JS04P		Library Science	Job Specialty Requirements		
K32JS05P		Printing and Publishing	Job Specialty Requirements		
K32JS06P		Radio and Television Broadcasting	Job Specialty Requirements		

KNOWLEDGES		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
K32JS07P		Technical and Business Writing	Job Specialty Requirements		
K33LV00M K33IM00M	II.C.10	Transportation	Level Importance	Transportation	Level Importance
K33JS01P		Airplane Piloting	Job Specialty Requirements		
K33JS02P		Air Traffic Control	Job Specialty Requirements		
K33JS03P		Railroad Operations	Job Specialty Requirements		
K33JS04P		Truck and Bus Transportation	Job Specialty Requirements		
K33JS05P		Water Transportation	Job Specialty Requirements		

TRAINING, EDUCATION, LICENSURE & EXPERIENCE

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
E01CO01P	II.D.1	The level of education required to perform this job	Less than a High School Diploma	The level of education required to perform this job	Less than a High School Diploma
E01CO02P			High School Diploma (or High School Equivalence Certificate)		High School Diploma (or GED or High School Equivalence Certificate)
E01CO03P			Post-Secondary Certificate		Post-Secondary Certificate
E01CO04P			Some College Courses		Some College Courses
E01CO05P			Associate's or other 2-year degree		Associate's or other 2-year degree
E01CO06P			Bachelor's Degree		Bachelor's Degree
E01CO07P			Post-Baccalaureate Certificate		Post-Baccalaureate Certificate
E01CO08P			Master's Degree		Master's Degree
E01CO09P			Post-Master's Certificate		Post-Master's Certificate
E01CO10P			First Professional Degree		First Professional Degree
E01CO11P			Doctoral Degree		Doctoral Degree
E01CO12P			Post-Doctoral Certificate		Post-Doctoral Degree

TRAINING, EDUCATION, LICENSURE & EXPERIENCE

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
E02CA01P	II.D.2	Instructional program required	Agricultural Business and Production	(item has been deleted)	
E02CA02P			Agricultural Sciences		
E02CA03P			Architecture and Related Programs		
E02CA04P			Area, Ethnic, and Cultural Studies		
E02CA05P			Biological Sciences/Life Sciences		
E02CA06P			Business Management & Admin. Services		
E02CA07P			Communications		
E02CA08P			Communications Technologies		
E02CA09P			Computer and Information Sciences		
E02CA10P			Conservation & Renewable Natural Resrce		
E02CA11P			Construction Trades		
E02CA12P			Education		
E02CA13P			Engineering		
E02CA14P			Engineering-Related Technologies		

TRAINING, EDUCATION, LICENSURE & EXPERIENCE

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
E02CA15P			English Language and Literature/Letters		
E02CA16P			Foreign Languages and Literatures		
E02CA17P			Health Professions and Related Sciences		
E02CA18P			Home Economics, General		
E02CA19P			Law and Legal Studies		
E02CA20P			Liberal Arts and Sciences		
E02CA21P			Library Science		
E02CA22P			Marketing Operations		
E02CA23P			Mathematics		
E02CA24P			Mechanics and Repairers		
E02CA25P			Military Technologies		
E02CA26P			Multi/ interdisciplinary Studies		
E02CA27P			Parks, Recreation, Leisure, Fitness Studies		

TRAINING, EDUCATION, LICENSURE & EXPERIENCE

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
E02CA28P			Personal and Miscellaneous Services		
E02CA29P			Philosophy and Religion		
E02CA30P			Physical Sciences		
E02CA31P			Precision Production Trades		
E02CA32P			Protective Services		
E02CA33P			Psychology		
E02CA34P			Public Administration and Services		
E02CA35P			Reserve Officers' Training Corps (ROTC)		
E02CA36P			Science Technologies		
E02CA37P			Social Sciences and History		
E02CA38P			Theological Studies & Religious Vocations		
E02CA39P			Transportation and Materials Moving		
E02CA40P			Visual and Performing Arts		

TRAINING, EDUCATION, LICENSURE & EXPERIENCE

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
E02CA41P			Vocational Home Economics		
E02CA99P			No specific major required or preferred		
E03CO01P	II.D.3.a	Technical Vocational	not required	(item has been deleted)	
E03CO02P			high school		
E03CO03P			post-secondary technical training		
E03CO05P			college		
E03CO05P			graduate school or other post undergrad		
E04CO01P	II.D.3.b	Business Vocational	not required	(item has been deleted)	
E04CO02P			high school		
E04CO03P			post-secondary technical training		
E04CO04P			college		
E04CO05P			graduate school or other post undergrad		
REMOVE	II.D.3.c	English/Language Arts	not required	(item has been deleted)	
E05CO02P			high school		
E05CO03P			post-secondary technical training		
E05CO04P			college		

TRAINING, EDUCATION, LICENSURE & EXPERIENCE

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
E05CO05P			graduate school or other post undergrad		
E06CO01P	II.D.3.d	Oral Communication	not required	(item has been deleted)	
E06CO02P			high school		
E06CO03P			post-secondary technical training		
E06CO04P			college		
E06CO05P			graduate school or other post undergrad		
E07CO01P	II.D.3.e	Languages	not required	(item has been deleted)	
E07CO02P			high school		
E07CO03P			post-secondary technical training		
E07CO04P			college		
E07CO05P			graduate school or other post undergrad		
E08CO01P	II.D.3.f	Basic Math	not required	(item has been deleted)	
E08CO02P			high school		
E08CO03P			post-secondary technical training		
E08CO04P			college		
E08CO05P			graduate school or other post undergrad		
E09CO01P	II.D.3.g	Advanced Math	not required	(item has been deleted)	

TRAINING, EDUCATION, LICENSURE & EXPERIENCE

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
E09CO02P			high school		
E09CO03P			post-secondary technical training		
E09CO04P			college		
E09CO05P			graduate school or other post undergrad		
E10CO01P	II.D.3.h	Physical Science	not required	(item has been deleted)	
E10CO02P			high school		
E10CO03P			post-secondary technical training		
E10CO04P			college		
E10CO05P			graduate school or other post undergrad		
E11CO01P	II.D.3.i	Computer Science	not required	(item has been deleted)	
E11CO02P			high school		
E11CO03P			post-secondary technical training		
E11CO04P			college		
E11CO05P			graduate school or other post undergrad		
E12CO01P	II.D.3.j	Biological Science	not required	(item has been deleted)	
E12CO02P			high school		
E12CO03P			post-secondary technical training		

TRAINING, EDUCATION, LICENSURE & EXPERIENCE

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
E12CO04P			college		
E12CO05P			graduate school or other post undergrad		
E13CO01P	II.D.3.k	Applied Science	not required	(item has been deleted)	
E13CO02P			high school		
E13CO03P			post-secondary technical training		
E13CO04P			college		
E13CO05P			graduate school or other post undergrad		
E14CO01P	II.D.3.l	Social Science	not required	(item has been deleted)	
E14CO02P			high school		
E14CO03P			post-secondary technical training		
E14CO04P			college		
E14CO05P			graduate school or other post undergrad		
E15CO01P	II.D.3.m	Arts	not required	(item has been deleted)	
E15CO02P			high school		
E15CO03P			post-secondary technical training		
E15CO04P			college		
E15CO05P			graduate school or other post undergrad		

TRAINING, EDUCATION, LICENSURE & EXPERIENCE

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
E16CO01P	II.D.3.n	Humanities	not required	(item has been deleted)	
E16CO02P			high school		
E16CO03P			post-secondary technical training		
E16CO04P			college		
E16CO05P			graduate school or other post undergrad		
E17CO01P	II.D.3.o	Physical Education	not required	(item has been deleted)	
E17CO02P			high school		
E17CO03P			post-secondary technical training		
E17CO04P			college		
E17CO05P			graduate school or other post undergrad		
X01CO01P	III.A.1	Related work experience - required amount	None	Related work experience - required amount	None
X01CO02P			up to and including 1 month		up to and including 1 month
X01CO03P			over 1 month, up to & including 3 months		over 1 month, up to & including 3 months
X01CO04P			over 3 months, up to & including 6 months		over 3 months, up to & including 6 months

TRAINING, EDUCATION, LICENSURE & EXPERIENCE

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
X01CO05P			over 6 months, up to & including 1 year		over 6 months, up to & including 1 year
X01CO06P			over 1 year, up to & including 2 years		over 1 year, up to & including 2 years
X01CO07P			over 2 years, up to & including 4 years		over 2 years, up to & including 4 years
X01CO08P			over 4 years, up to & including 6 years		over 4 years, up to & including 6 years
X01CO09P			over 6 years, up to & including 8 years		over 6 years, up to & including 8 years
X01CO10P			over 8 years, up to & including 10 years		over 8 years, up to & including 10 years
X01CO11P			over 10 years		over 10 years
X02CO01P	III.A.2	On-Site or In-Plant Training	None	Related work experience - required amount	None
X02CO02P			up to and including 1 month		up to and including 1 month
X02CO03P			over 1 month, up to & including 3 months		over 1 month, up to & including 3 months

TRAINING, EDUCATION, LICENSURE & EXPERIENCE

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
X02CO04P			over 3 months, up to & including 6 months		over 3 months, up to & including 6 months
X02CO05P			over 6 months, up to & including 1 year		over 6 months, up to & including 1 year
X02CO06P			over 1 year, up to & including 2 years		over 1 year, up to & including 2 years
X02CO07P			over 2 years, up to & including 4 years		over 2 years, up to & including 4 years
X02CO08P			over 4 years, up to & including 6 years		over 4 years, up to & including 6 years
X02CO09P			over 6 years, up to & including 8 years		over 6 years, up to & including 8 years
X02CO10P			over 8 years, up to & including 10 years		over 8 years, up to & including 10 years
X02CO11P			over 10 years		over 10 years

TRAINING, EDUCATION, LICENSURE & EXPERIENCE

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
X03CO01P	III.A.3	On-the-Job Training-Required Amount	None	On-the-Job Training-Required Amount	None
X03CO02P			up to and including 1 month		up to and including 1 month
X03CO03P			over 1 month, up to & including 3 months		over 1 month, up to & including 3 months
X03CO04P			over 3 months, up to & including 6 months		over 3 months, up to & including 6 months
X03CO05P			over 6 months, up to & including 1 year		over 6 months, up to & including 1 year
X03CO06P			over 1 year, up to & including 2 years		over 1 year, up to & including 2 years
X03CO07P			over 2 years, up to & including 4 years		over 2 years, up to & including 4 years
X03CO08P			over 4 years, up to & including 6 years		over 4 years, up to & including 6 years
X03CO09P			over 6 years, up to & including 8 years		over 6 years, up to & including 8 years
X03CO10P			over 8 years, up to & including 10 years		over 8 years, up to & including 10 years

TRAINING, EDUCATION, LICENSURE & EXPERIENCE

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
X03CO11P			over 10 years		over 10 years

TRAINING, EDUCATION, LICENSURE & EXPERIENCE

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
X04CO01P	III.A.4	Apprenticeship-Required Amount	None	Apprenticeship-Required Amount	None
X04CO02P			up to and including 1 month		up to and including 1 month
X04CO03P			over 1 month, up to & including 3 months		over 1 month, up to & including 3 months
X04CO04P			over 3 months, up to & including 6 months		over 3 months, up to & including 6 months
X04CO05P			over 6 months, up to & including 1 year		over 6 months, up to & including 1 year
X04CO06P			over 1 year, up to & including 2 years		over 1 year, up to & including 2 years
X04CO07P			over 2 years, up to & including 4 years		over 2 years, up to & including 4 years
X04CO08P			over 4 years, up to & including 6 years		over 4 years, up to & including 6 years
X04CO09P			over 6 years, up to & including 8 years		over 6 years, up to & including 8 years

TRAINING, EDUCATION, LICENSURE & EXPERIENCE

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
X04CO10P			over 8 years, up to & including 10 years		over 8 years, up to & including 10 years
X04CO11P			over 10 years		over 10 years

TRAINING, EDUCATION, LICENSURE & EXPERIENCE

		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
L01CY01P	III.D.1	License, Certificate or Reg. Required		(item has been deleted)	
L02CY00P	III.D.2.a	Post-Secondary Degree Required		(item has been deleted)	
L03CY00P	III.D.2.b	Graduate Degree Required		(item has been deleted)	
L04CY00M	III.D.2.c	On-the-Job Training Required		(item has been deleted)	
L05CY00M	III.D.2.d	Examination Required		(item has been deleted)	
L06CY00M	III.D.2.e	Character References		(item has been deleted)	
L07CY00M	III.D.4	Additional Education and Training		(item has been deleted)	
L08CY00M	III.D.5.a	Legal Requirement		(item has been deleted)	
L09CY00M	III.D.5.b	Employer Requirement		(item has been deleted)	
L10CY00P	III.D.5.c	Union, Guild, or Professional Assoc. Required		(item has been deleted)	

WORK STYLES		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
S01LV00M S01IM00M	I.C.1.a	Achievement/Effort	Level Importance	Achievement/Effort	 Importance
S02LV00M S02IM00M	I.C.1.b	Persistence	Level Importance	Persistence	 Importance
S03LV00M S03IM00M	I.C.1.c	Initiative	Level Importance	Initiative	 Importance
S04LV00M S04IM00M	I.C.2.a	Energy	Level Importance	(item has been deleted)	
S05LV00M S05IM00M	I.C.2.b	Leadership Orientation	Level Importance	Leadership	 Importance
S06LV00M S06IM00M	I.C.3.a	Cooperation	Level Importance	Cooperation	 Importance
S07LV00M S07IM00M	I.C.3.b	Concern for Others	Level Importance	Concern for Others	 Importance
S08LV00M S08IM00M	I.C.3.c	Social Orientation	Level Importance	Social Orientation	 Importance
S09LV00M S09IM00M	I.C.4.a	Self-Control	Level Importance	Self-Control	 Importance
S10LV00M S10IM00M	I.C.4.b	Stress Tolerance	Level Importance	Stress Tolerance	 Importance
S11LV00M S11IM00M	I.C.4.c	Adaptability/ Flexibility	Level Importance	Adaptability/ Flexibility	 Importance
S12LV00M S12IM00M	I.C.5.a	Dependability	Level Importance	Dependability	 Importance
S13LV00M S13IM00M	I.C.5.b	Attention to Detail	Level Importance	Attention to Detail	 Importance
S14LV00M S14IM00M	I.C.5.c	Integrity	Level Importance	Integrity	 Importance
S15LV00M S15IM00M	I.C.6	Independence	Level Importance	Independence	 Importance
S16LV00M S16IM00M	I.C.7.a	Innovation	Level Importance	Innovation	 Importance
S17LV00M S17IM00M	I.C.7.b	Analytical Thinking	Level Importance	Analytical Thinking	 Importance

SKILLS		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
B01LV00M	II.A.1.a	Reading Comprehension	Level	Reading Comprehension	Level
B01IM00M			Importance		Importance
B01JE00P	III. B.1.a		Job Entry Requirement		
B02LV00M	II.A.1.b	Active Listening	Level	Active Listening	Level
B02IM00M			Importance		Importance
B02JE00P	III. B.1.b		Job Entry Requirement		
B03LV00M	II.A.1.c	Writing	Level	Writing	Level
B03IM00M			Importance		Importance
B03JE00P	III. B.1.c		Job Entry Requirement		
B04LV00M	II.A.1.d	Speaking	Level	Speaking	Level
B04IM00M			Importance		Importance
B04JE00P	III. B.1.d		Job Entry Requirement		
B05LV00M	II.A.1.e	Mathematics	Level	Mathematics	Level
B05IM00M			Importance		Importance
B05JE00P	III. B.1.e		Job Entry Requirement		
B06LV00M	II.A.1.f	Science	Level	Science	Level
B06IM00M			Importance		Importance
B06JE00P	III. B.1.f		Job Entry Requirement		
B07LV00M	II.A.2.a	Critical Thinking	Level	Critical Thinking	Level
B07IM00M			Importance		Importance
B07JE00P	III.B.2.a		Job Entry Requirement		
B08LV00M	II.A.2.b	Active Learning	Level	Active Learning	Level
B08IM00M			Importance		Importance
B08JE00P	III.B.2.b		Job Entry Requirement		
B09LV00M	II.A.2.c	Learning Strategies	Level	Learning Strategies	Level
B09IM00M			Importance		Importance
B09JE00P	III.B.2.c		Job Entry Requirement		
B10LV00M	II.A.2.d	Monitoring	Level	Monitoring	Level
B10IM00M			Importance		Importance
B10JE00P	III.B.2.d		Job Entry Requirement		
C01LV00M	II.B.1.a	Social Perceptiveness	Level	Social Perceptiveness	Level
C01IM00M			Importance		Importance

SKILLS		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
C01JE00P	III.C.1.a		Job Entry Requirement		
C02LV00M	II.B.1.b	Coordination	Level	Coordination	Level
C02IM00M			Importance		Importance
C02JE00P	III.C.1.b		Job Entry Requirement		
C03LV00M	II.B.1.c	Persuasion	Level	Persuasion	Level
C03IM00M			Importance		Importance
C03JE00P	III.C.1.c		Job Entry Requirement		
C04LV00M	II.B.1.d	Negotiation	Level	Negotiation	Level
C04IM00M			Importance		Importance
C04JE00P	III.C.1.d		Job Entry Requirement		
C05LV00M	II.B.1.e	Instructing	Level	Instructing	Level
C05IM00M			Importance		Importance
C05JE00P	III.C.1.e		Job Entry Requirement		
C06LV00M	II.B.1.f	Service Orientation	Level	Service Orientation	Level
C06IM00M			Importance		Importance
C06JE00P	III.C.1.f		Job Entry Requirement		
C07LV00M	II.B.2.a	Problem Identification	Level	Complex Problem Solving	Level
C07IM00M			Importance		Importance
C07JE00P	III.C.2.a		Job Entry Requirement		
C08LV00M	II.B.2.b	Information Gathering	Level	(item has been combined with above)	
C08IM00M			Importance		
C08JE00P	III.C.2.b		Job Entry Requirement		
C09LV00M	II.B.2.c	Information Organization	Level	(item has been combined with above)	
C09IM00M			Importance		
C09JE00P	III.C.2.c		Job Entry Requirement		
C10LV00M	II.B.2.d	Synthesis/ Reorganization	Level	(item has been combined with above)	
C10IM00M			Importance		
C10JE00P	III.C.2.d		Job Entry Requirement		

SKILLS		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
C11LV00M	II.B.2.e	Idea Generation	Level	(item has been combined with above)	
C11IM00M			Importance		
C11JE00P	III.C.2.e		Job Entry Requirement		
C12LV00M	II.B.2.f	Idea Evaluation	Level	(item has been combined with above)	
C12IM00M			Importance		
C12JE00P	III.C.2.f		Job Entry Requirement		
C13LV00M	II.B.2.g	Implementation Planning	Level	(item has been combined with above)	
C13IM00M			Importance		
C13JE00P	III.C.2.g		Job Entry Requirement		
C14LV00M	II.B.2.h	Solution Appraisal	Level	(item has been combined with above)	
C14IM00M			Importance		
C14JE00P	III.C.2.h		Job Entry Requirement		
C15LV00M	II.B.3.a	Operations Analysis	Level	Operations Analysis	Level
C15IM00M			Importance		Importance
C15JE00P	III.C.3.a		Job Entry Requirement		
C16LV00M	II.B.3.b	Technology Design	Level	Technology Design	Level
C16IM00M			Importance		Importance
C16JE00P	III.C.3.b		Job Entry Requirement		
C17LV00M	II.B.3.c	Equipment Selection	Level	Equipment Selection	Level
C17IM00M			Importance		Importance
C17JE00P	III.C.3.c		Job Entry Requirement		
C18LV00M	II.B.3.d	Installation	Level	Installation	Level
C18IM00M			Importance		Importance
C18JE00P	III.C.3.d		Job Entry Requirement		
C19LV00M	II.B.3.e	Programming	Level	Programming	Level
C19IM00M			Importance		Importance

SKILLS		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
C19JE00P	III.C.3.e		Job Entry Requirement		
C20LV00M	II.B.3.f	Testing	Level	Quality Control Analysis	Level
C20IM00M			Importance		Importance
C20JE00P	III.C.3.f		Job Entry Requirement		
C23LV00M	II.B.3.i	Product Inspection	Level	(item has been combined with above)	
C23IM00M			Importance		
C23JE00P	III.C.3.i		Job Entry Requirement		
C21LV00M	II.B.3.g	Operation Monitoring	Level	Operations Monitoring	Level
C21IM00M			Importance		Importance
C21JE00P	III.C.3.g		Job Entry Requirement		
C22LV00M	II.B.3.h	Operation and Control	Level	Operation and Control	Level
C22IM00M			Importance		Importance
C22JE00P	III.C.3.h		Job Entry Requirement		
C24LV00M	II.B.3.j	Equipment Maintenance	Level	Equipment Maintenance	Level
C24IM00M			Importance		Importance
C24JE00P	III.C.3.j		Job Entry Requirement		
C25LV00M	II.B.3.k	Troubleshooting	Level	Troubleshooting	Level
C25IM00M			Importance		Importance
C25JE00P	III.C.3.k		Job Entry Requirement		
C26LV00M	II.B.3.l	Repairing	Level	Repairing	Level
C26IM00M			Importance		Importance
C26JE00P	III.C.3.l		Job Entry Requirement		
C27LV00M	II.B.4.a	Visioning	Level	Systems Analysis	Level
C27IM00M			Importance		Importance
C27JE00P	III.C.4.a		Job Entry Requirement		
C28LV00M	II.B.4.b	Systems Perceptions	Level	(item has been combined with above)	
C28IM00M			Importance		
C28JE00P	III.C.4.b		Job Entry Requirement		

SKILLS		Prototype Instrument		Current Instrument	
DD Var_Name	Content Model Key	Content Model Element	Content Model Scale	Content Model Element	Content Model Scale
C29LV00M	II.B.4.c	Identification of Downstream Consequences	Level	(item has been combined with above)	
C29IM00M			Importance		
C29JE00P	III.C.4.c		Job Entry Requirement		
C30LV00M	II.B.4.d	Identification of Key Causes	Level	Systems Evaluation	Level
C30IM00M			Importance		Importance
C30JE00P	III.C.4.d		Job Entry Requirement		
C32LV00M	II.B.4.f	Systems Evaluation	Level	(item has been combined with above)	
C32IM00M			Importance		
C32JE00P	III.C.4.f		Job Entry Requirement		
C31LV00M	II.B.4.e	Judgment and Decision Making	Level	Judgment and Decision Making	Level
C31IM00M			Importance		Importance
C31JE00P	III.C.4.e		Job Entry Requirement		
C33LV00M	II.B.5.a	Time Management	Level	Time Management	Level
C33IM00M			Importance		Importance
C33JE00P	III.C.5.a		Job Entry Requirement		
C34LV00M	II.B.5.b	Management of Financial Resources	Level	Management of Financial Resources	Level
C34IM00M			Importance		Importance
C34JE00P	III.C.5.b		Job Entry Requirement		
C35LV00M	II.B.5.c	Management of Material Resources	Level	Management of Material Resources	Level
C35IM00M			Importance		Importance
C35JE00P	III.C.5.c		Job Entry Requirement		
C36LV00M	II.B.5.d	Management of Personnel Resources	Level	Management of Personnel Resources	Level
C36IM00M			Importance		Importance
C36JE00P	III.C.5.d		Job Entry Requirement		

WORK CONTEXT **Prototype Instrument** **Current Instrument**

DD Var_Name	Content Model Key	Content Model Element Label	Content Model Element Label
W01FL00M	IV.C.1.a.1	1. Formality of Communication	(item has been deleted)
W02CM00M	IV.C.1.a.2.a	2a. Communicate-face-to-face: individuals	1. Communicate-face-to-face with individuals and within teams
W03CM00M	IV.C.1.a.2.b	2b. Communicate-face-to-face: groups	(item has been combined with above)
W04CM00M	IV.C.1.a.2.c	2c. Communicate-public speaking	2. Communicate-public speaking
W05CM00M	IV.C.1.a.2.d	2d. Communicate-video conference	(item has been deleted)
W06CM00M	IV.C.1.a.2.e	2e. Communicate-voice mail	(item has been deleted)
W07CM00M	IV.C.1.a.2.f	2f. Communicate-telephone	3. Communicate-telephone conversation
W08CM00M	IV.C.1.a.2.g	2g. Communicate-interactive computer	(item has been deleted)
W09CM00M	IV.C.1.a.2.h	2h. Communicate-electronic mail	4. Communicate-electronic mail
W10CM00M	IV.C.1.a.2.i	2i. Communicate-handwritten notes/messages	(item has been deleted)
W11CM00M	IV.C.1.a.2.j	2j. Communicate-letters and memos	5. Communicate- written letters and memos
W12CM00M	IV.C.1.a.2.k	2k. Communicate-written reports	(item has been deleted)
W13OS00M	IV.C.1.a.3	3. Objectivity/subjectivity of information	(item has been deleted)
W14CN00M	IV.C.1.a.4	4. Job-required social interaction	6. Required contact with others (by telephone, face-to-face, or otherwise)
W15PV00M	IV.C.1.a.5	5. Privacy of communication	(item has been deleted)
W16IJ00M	IV.C.1.b.1.a	6a. Importance of:supervise, coach, train, or develop others	(item has been deleted)
W17IJ00M	IV.C.1.b.1.b	6b. Importance of:persuade or influence others	(item has been deleted)
W18IJ00M	IV.C.1.b.1.c	6c. Importance of:provide service	(item has been deleted)
W19IJ00M	IV.C.1.b.1.d	6d. Importance of:take a position opposed to others	(item has been deleted)
W20IJ00M	IV.C.1.b.1.e	6e. Importance of:work with/contribute to group/team	7. Importance of: work with or contribute to a work group or team
W21IJ00M	IV.C.1.b.1.f	6f. Importance of:deal with public or external customers	8. Importance of: deal with external customers or public in general
W22IJ00M	IV.C.1.b.1.g	6g. Importance of:coordinate others' work	9. Importance of: coordinate or lead others in accomplishing work activities
W23HS00M	IV.C.1.c.1	7. Responsibilty for others' health & safety	10. Responsibilty for others' health & safety
W24RE00M	IV.C.1.c.2	8. Responsibility for others' work outcomes and results	11. Responsibility for others' work outcomes and results
W25CF00M	IV.C.1.d.1	9. Frequency of conflict situations	12. Frequency of conflict situations
W26CF00M	IV.C.1.d.2	10. Frequency dealing with unpleasant, angry, or discourteous people	13. Frequency dealing with unpleasant, angry, or discourteous people

WORK CONTEXT		Prototype Instrument	Current Instrument
DD Var_Name	Content Model Key	Content Model Element Label	Content Model Element Label
W27CF00M	IV.C.1.d.3	11. Frequency dealing with violence physical aggression of violent individuals	14. Frequency dealing with violence or physically aggressive people
W28FW00M	IV.C.2.a.1.a	12a. Work setting:indoors-environmentally controlled	15. Work setting:indoors-environmentally controlled
W29FW00M	IV.C.2.a.1.b	12b. Work setting:indoors-not environmentally controlled	16. Work setting:indoors-not environmentally controlled
W30FW00M	IV.C.2.a.1.c	12c. Work setting:outdoors - exposed to all weather conditions	17. Work setting:outdoors - exposed to all weather conditions
W31FW00M	IV.C.2.a.1.d	12d. Work setting: outdoors, under cover	18. Work setting: outdoors, under cover
W32FW00M	IV.C.2.a.1.e	12e. Work setting:open vehicle or operating open equipment	19. Work setting:open vehicle or operating open equipment
W33FW00M	IV.C.2.a.1.f	12f. Work setting:enclosed vehicle or operating enclosed equipment	20. Work setting:enclosed vehicle or operating enclosed equipment
W34PA00M	IV.C.2.a.2	13. Privacy of work area	(item has been deleted)
W35PX00M	IV.C.2.a.3	14. Physical Proximity to other people	21. Physically close to other people
W36FW00M	IV.C.2.b.1.a	15a. Enviromental Conditions: distracting and uncomfortable sound and noise	22. Enviromental Conditions: distracting and uncomfortable sound and noise
W37FW00M	IV.C.2.b.1.b	15b. Environmental Conditions: very hot or very cold	23. Environmental Conditions: very hot or very cold
W38FW00M	IV.C.2.b.1.c	15c. Environmental Conditions: extremely bright or inadequate light	24. Environmental Conditions: extremely bright or inadequate light
W39FW00M	IV.C.2.b.1.d	15d. Environmental Conditions: contaminants	25. Environmental Conditions: contaminants
W40FW00M	IV.C.2.b.1.e	15e. Environmental Conditions: cramped workspace/awkward positions	26. Environmental Conditions: cramped workspace/awkward positions
W41FW00M	IV.C.2.b.1.f	15f. Environmental Conditions: whole body vibration	27. Environmental Conditions: whole body vibration
W42FW00M	IV.C.2.c.1.a	16a. Exposure to Radiation: Frequency	28. Exposure to Radiation: Frequency
W42LI00M	IV.C.2.c.2.a	16b. Exposure to Radiation: Injury likelihood	(item has been deleted)
W42DI00M	IV.C.2.c.3.a	16c. Exposure to Radiation: Injury degree	(item has been deleted)
W43FW00M	IV.C.2.c.1.b	17a. Exposure to Diseases/Infections: Frequency	29. Exposure to Disease or Infection: Frequency
W43LI00M	IV.C.2.c.2.b	17b. Exposure to Diseases/Infections: Injury Likelihood	(item has been deleted)
W43DI00M	IV.C.2.c.3.b	17c. Exposure to Diseases/Infections: Injury Degree	(item has been deleted)

WORK CONTEXT		Prototype Instrument	Current Instrument
DD Var_Name	Content Model Key	Content Model Element Label	Content Model Element Label
W44FW00M	IV.C.2.c.1.c	18a. Exposure to High Places: Frequency	30. Exposed to High Places: Frequency
W44LI00M	IV.C.2.c.2.c	18b. Exposure to High Places: Injury Likelihood	(item has been deleted)
W44DI00M	IV.C.2.c.3.c	18c. Exposure to High Places: Injury Degree	(item has been deleted)
W45FW00M	IV.C.2.c.1.d	19a. Exposure to Hazard Conditions: Frequency	31. Exposed to Hazard Conditions: Frequency
W45LI00M	IV.C.2.c.2.d	19b. Exposure to Hazard Conditions: Injury Likelihood	(item has been deleted)
W45DI00M	IV.C.2.c.3.d	19c. Exposure toHazard Conditions: Injury Degree	(item has been deleted)
W46FW00M	IV.C.2.c.1.e	20a. Exposure to Hazard Equipment: Frequency	32. Exposed to Hazard Equipment: Frequency
W46LI00M	IV.C.2.c.2.e	20b. Exposure to Hazard Equipment: Injury Likelihood	(item has been deleted)
W46DI00M	IV.C.2.c.3.e	20c. Exposure to Hazard Equipment: Injury Degree	(item has been deleted)
W47FW00M	IV.C.2.c.1.f	21a. Exposure to Hazard Situation: Frequency	33. Exposed to Hazard Situation: Frequency
W47LI00M	IV.C.2.c.2.f	21b. Exposure to Hazard Situation: Injury Likelihood	(item has been deleted)
W47DI00M	IV.C.2.c.3.f	21c. Exposure to Hazard Situation: Injury Degree	(item has been deleted)
W60PS00M	IV.C.2.d.1.a	22a. Sitting	34. Sitting
W61PS00M	IV.C.2.d.1.b	22b. Standing	35. Standing
W62PS00M	IV.C.2.d.1.c	22c. Climbing	36. Climbing
W63PS00M	IV.C.2.d.1.d	22d. Walking/running	37. Walking/running
W64PS00M	IV.C.2.d.1.e	22e. Kneeling/crouching/stooping	38. Kneeling/crouching/stooping
W65PS00M	IV.C.2.d.1.f	22f. Keeping balance	39. Keeping balance
W66PS00M	IV.C.2.d.1.g	22g. Handling/feeling/controlling objects,tools,controls	40. Handling/feeling/controlling objects,tools,controls
W67PS00M	IV.C.2.d.1.h	22h. Bending or twisting	41. Bending or twisting
W68PS00M	IV.C.2.d.1.i	22i. Repetitive motions	42. Repetitive motions
W69AT00M	IV.C.2.e.1.a	23a. Wear business clothes	(item has been deleted)
W70AT00M	IV.C.2.e.1.b	23b. Wear uniform	(item has been deleted)
W71AT00M	IV.C.2.e.1.c	23c. Wear work clothing	(item has been deleted)
W72FW00M	IV.C.2.e.1.d	23d. Wear common protective or safety attire	43. Wear common protective or safety equipment
W73FW00M	IV.C.2.e.1.e	23e. Wear specialized protective or safety attire	44. Wear Specialized protective or safety equipment
W74SR00M	IV.C.3.a.1	24. Consequences of error	45. How serious a mistake
W75IP00M	IV.C.3.a.2.a	25a. Level: impact of decisions	46. Level: impact of decisions
W76FW00M	IV.C.3.a.2.b	25b. Frequency: impact of decisions	47. Frequency: impact of decisions
W77AN00M	IV.C.3.a.3	26. Responsibility/Accountability	(item has been deleted)

WORK CONTEXT **Prototype Instrument** **Current Instrument**

DD Var_Name	Content Model Key	Content Model Element Label	Content Model Element Label
W78FM00M	IV.C.3.a.4	27. Decision Latitude	48. Decision freedom
W79FC00M	IV.C.3.b.1	28. Frustrating circumstances	(item has been deleted)
W80AO00M	IV.C.3.b.2	29. Degree of automation	49. Degree of automation
W81CL00M	IV.C.3.b.3	30. Task clarity	(item has been deleted)
W82IJ00M	IV.C.3.b.4	31. Importance: very exact or highly accurate	50. Importance: very exact or highly accurate
W83IJ00M	IV.C.3.b.5	32. Importance of details	(item has been deleted)
W84IJ00M	IV.C.3.b.6	33. Importance of being aware	(item has been deleted)
W85IJ00M	IV.C.3.b.7	34. Importance of repetitive physical or mental activities	51. Importance of continuous, repetitious physical or mental activities
W86ST00M	IV.C.3.b.8	35. Structured vs. Unstructured work	52. Structured vs. Unstructured work
W87LC00M	IV.C.3.c.1	36. Level of competition	53. Level of competition
W88FW00M	IV.C.3.d.1	37. Time Pressure Frequency	54. Time Pressure Frequency
W89II00M	IV.C.3.d.2	38. Distractions/interruptions	(item has been deleted)
W90IJ00M	IV.C.3.d.3	39. Paced by machinery	55. Paced by machinery
W91CO01P	IV.C.3.d.4	40.a. Work schedule - REGULAR	56. Regularity of Work schedule
W91CO02P	IV.C.3.d.4	40.b. Work schedule - IRREGULAR	(item has been combined with above)
W91CO03P	IV.C.3.d.4	40.c. Work schedule - SEASONAL	(item has been combined with above)
W92CO01P	IV.C.3.d.5	41.a. Work shift - DAY	(item has been deleted)
W92CO02P	IV.C.3.d.5	41.b. Work shift - OTHER THAN	(item has been deleted)
W92CO03P	IV.C.3.d.5	41.c. Work shift - SPLIT OR VARIABLE	(item has been deleted)
W92CO04P	IV.C.3.d.5	41.d. Work shift - ROTATING	(item has been deleted)
W93CO01P	IV.C.3.d.6	42.a. Shift duration - PAID LESS THAN 8 HOURS	(item has been deleted)
W93CO02P	IV.C.3.d.6	42.b. Shift duration - PAID FOR 8 HOURS	(item has been deleted)
W93CO03P	IV.C.3.d.6	42.c. Shift duration - PAID MORE THAN 8 HOURS	(item has been deleted)
W94CA01P	IV.C.3.d.7	43.a. Usual overtime - NONE	(item has been deleted)
W94CA02P	IV.C.3.d.7	43.b. Usual overtime - EMPLOYER REQUEST	(item has been deleted)
W94CA03P	IV.C.3.d.7	43.c. Usual overtime - AVAILABLE FOR CALL-IN	(item has been deleted)
W94CA04P	IV.C.3.d.7	43.d. Usual overtime - WEEKEND	(item has been deleted)

WORK CONTEXT		Prototype Instrument	Current Instrument
DD Var_Name	Content Model Key	Content Model Element Label	Content Model Element Label
W95CO01P	IV.C.3.d.8	44.a. Hours in typical work week- LESS THAN 40 HOURS	57. Hours in typical work week
W95CO02P	IV.C.3.d.8	44.b. Hours in typical work week- 40 HOURS	(item has been combined with above)
W95CO03P	IV.C.3.d.8	44.c. Hours in typical work week- MORE THAN 40 HOURS	(item has been combined with above)
W96CO01P	IV.C.3.d.9	45.a. Work cycle - 1 WEEK	(item has been deleted)
W96CO02P	IV.C.3.d.9	45.b. Work cycle - 2 WEEKS	(item has been deleted)
W96CO03P	IV.C.3.d.9	45.c. Work cycle - 1 MONTH	(item has been deleted)
W97CO01P	IV.C.3.d.10	46.a. Days in work cycle - LESS THAN 3	(item has been deleted)
W97CO02P	IV.C.3.d.10	46.b. Days in work cycle - 3	(item has been deleted)
W97CO03P	IV.C.3.d.10	46.c. Days in work cycle - 4	(item has been deleted)
W97CO04P	IV.C.3.d.10	46.d. Days in work cycle - 5	(item has been deleted)
W97CO05P	IV.C.3.d.10	46.e. Days in work cycle - 6	(item has been deleted)
W97CO06P	IV.C.3.d.10	46.f. Days in work cycle - 7	(item has been deleted)
W97CO07P	IV.C.3.d.10	46.g. Days in work cycle - 8-10	(item has been deleted)
W97CO08P	IV.C.3.d.10	46.h. Days in work cycle - 11-14	(item has been deleted)
W97CO09P	IV.C.3.d.10	46.i. Days in work cycle - 15-20	(item has been deleted)
W97CO10P	IV.C.3.d.10	46.j. Days in work cycle - MORE THAN 20	(item has been deleted)

OCCUPATIONAL VALUES

		Prototype Instrument	Current Instrument
DD Var_Name	Content Model Key	Content Model Element Label	Content Model Element Label
V01EN00M	I.B.2.a.1	Workers on this job make use of their individual abilities	(All items have been deleted)
V02EN00M	I.B.2.a.2	Workers on this job get a feeling of accomplishment	
V03EN00M	I.B.2.b.1	Workers busy all the time	
V04EN00M	I.B.2.c.1	Workers can advance	
V05EN00M	I.B.2.c.3	Workers give instructions	
V06EN00M	I.B.2.e.1	Workers treated fairly	
V07EN00M	I.B.2.b.4	Workers paid relatively well	
V08EN00M	I.B.2.d.1	Workers' coworkers easy to get along with	
V09EN00M	I.B.2.f.1	Workers try out own ideas	
V10EN00M	I.B.2.b.2	Workers work alone	
V11EN00M	I.B.2.d.3	Workers not pressured to do wrong	
V12EN00M	I.B.2.c.2	Workers get recognition for achievement	
V13EN00M	I.B.2.f.2	Workers make own decisions	
V14EN00M	I.B.2.b.5	Workers have steady employment	
V15EN00M	I.B.2.d.2	Workers do things for others	
V16EN00M	I.B.2.c.4	Workers looked up to	
V17EN00M	I.B.2.e.2	Workers backed up by management	
V18EN00M	I.B.2.e.3	Workers well trained by supervisors	
V19EN00M	I.B.2.b.3	Workers do different things every day	
V20EN00M	I.B.2.b.6	Workers have good working conditions	
V21EN00M	I.B.2.f.3	Workers plan own work	

Appendix C

Listing of O*NET Data Dictionary Variables in the Prototype and Current Versions with Indications of:

Changes in Definition or Formatting and the Sources of the Data in the O*NET Database

LEGEND

Column Heading	
Row #	Row number (used for cross-references within the table)
DD Var_Name	O*NET Data Dictionary Variable Name (e.g., A01LV00M)
Key	Content Model Key (e.g., I.A.1.a.1)
Element Label	Content Model Element Label (e.g., Oral Comprehension)
Scale Label	Content Model Scale Label (e.g., Level)
A	**1**=Item has been Deleted, **0** = Item has not been Deleted
B	**1** = No change in item name, definition, Stem, Anchor or Scale, **0**=Item Changed
C	**1** = Change in wording of item Name, **0** = No Change
D	Change in wording of item Definition (**0** = No change, **1** = Minimal Change, **2** = Moderate Change)
E	**1** = Any Change in wording of question Stem, **0** = No Change,
F	**1** = Any Change in Scale Anchors, **0** = No Change {changes involve wording and location of anchors}
G	**1** = Any Change in Scale Formatting, **0** = No Change {changes generally involve changing the number of scale points}
H	**1** = New variable - Not a roll-up, **0** = Not a new variable
I	**1** = Variable created as roll-up {Content of several previous items included in another item}, **0** = Not a New Variable
J	**1** = Variable Eliminated: now part of roll-up {Item content included with content of other items in a single question}, **0** = Not Rolled-up
K	**1** = Analyst data available in O*NET 98, **0** = No Analyst data available in O*NET 98
L	**1** = Incumbent data collected in Survey Pretest, **0** = No Incumbent data collected in Survey Pretest

For those spreadsheet cells where a 1 indicates a roll-up -- a parenthetical number (or set of numbers) appears inside that cell indicating the row number or numbers of the rolled-up descriptors

For those cells where a 1 indicates that a item has been rolled-up, then parenthetical numbers indicate table row of variable now containing the item content

New variables (including those created by a roll-up) have no content model key until the model has been updated to accommodate tham

Level * Indicates that the O*NET 98 LEVEL question was changed in several ways in the O*NET Survey Pretest (in this questionnaire):

- The order of the LEVEL and IMPORTANCE questions was reversed, with LEVEL question asked after the IMPORTANCE question in the Survey Pretest
- The NR (Not Relevant) answer was deleted from the LEVEL question and offered as a Not Important option for corresponding IMPORTANCE questions
- The LEVEL question was changed from a vertical scale to a horizontal scale
- The ends of the level scales from the prototype instruments were anchored by either examples of extreme levels or the words HIGH and LOW. These have been eliminated and the words "highest level" are placed under the number 7 for each scale

Importance * Indicates that the O*NET 98 IMPORTANCE question was changed in several ways in the O*NET Survey Pretest (in this questionnaire):

- The order of the LEVEL and IMPORTANCE questions was reversed, with LEVEL question asked after the IMPORTANCE question in the Survey Pretest
- When variable rated NOT IMPORTANT, the Level question for that variable is skipped
- When variable rated NOT IMPORTANT, the Level question for that variable is skipped

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
	ABILITIES															
1	A01LV00M	I.A.1.a.1	Oral Comprehension	Level *	0	0	0	0	1	1	0	0	0	0	1	1
2	A01IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
3	A02LV00M	I.A.1.a.2	Written Comprehension	Level *	0	0	0	0	1	1	0	0	0	0	1	1
4	A02IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
5	A03LV00M	I.A.1.a.3	Oral Expression	Level *	0	0	0	0	1	1	0	0	0	0	1	1
6	A03IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
7	A04LV00M	I.A.1.a.4	Written Expression	Level *	0	0	0	0	1	1	0	0	0	0	1	1
8	A04IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
9	A05LV00M	I.A.1.b.1	Fluency of Ideas	Level *	0	0	0	1	1	1	0	0	0	0	1	1
10	A05IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
11	A06LV00M	I.A.1.b.2	Originality	Level *	0	0	0	0	1	1	0	0	0	0	1	1
12	A06IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
13	A07LV00M	I.A.1.b.3	Problem Sensitivity	Level *	0	0	0	0	1	1	0	0	0	0	1	1
14	A07IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
15	A08LV00M	I.A.1.b.4	Deductive Reasoning	Level *	0	0	0	1	1	1	0	0	0	0	1	1
16	A08IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
17	A09LV00M	I.A.1.b.5	Inductive Reasoning	Level *	0	0	0	1	1	1	0	0	0	0	1	1
18	A09IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
19	A10LV00M	I.A.1.b.6	Information Ordering	Level *	0	0	0	1	1	1	0	0	0	0	1	1
20	A10IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
21	A11LV00M	I.A.1.b.7	Category Flexibility	Level *	0	0	0	1	1	1	0	0	0	0	1	1
22	A11IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
23	A12LV00M	I.A.1.c.1	Mathematical Reasoning	Level *	0	0	0	1	1	1	0	0	0	0	1	1
24	A12IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
25	A13LV00M	I.A.1.c.2	Number Facility	Level *	0	0	0	0	1	1	0	0	0	0	1	1
26	A13IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
27	A14LV00M	I.A.1.d.1	Memorization	Level *	0	0	0	0	1	1	0	0	0	0	1	1
28	A14IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
29	A15LV00M	I.A.1.e.1	Speed of Closure	Level *	0	0	0	1	1	1	0	0	0	0	1	1
30	A15IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
31	A16LV00M	I.A.1.e.2	Flexibility of Closure	Level *	0	0	0	0	1	1	0	0	0	0	1	1
32	A16IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
33	A17LV00M	I.A.1.e.3	Perceptual Speed	Level *	0	0	0	1	1	1	0	0	0	0	1	1

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
34	A17IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
35	A18LV00M	I.A.1.f.1	Spatial Orientation	Level *	0	0	0	1	1	1	0	0	0	0	1	1
36	A18IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
37	A19LV00M	I.A.1.f.2	Visualization	Level *	0	0	0	0	1	1	0	0	0	0	1	1
38	A19IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
39	A20LV00M	I.A.1.g.1	Selective Attention	Level *	0	0	0	1	1	1	0	0	0	0	1	1
40	A20IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
41	A21LV00M	I.A.1.g.2	Time Sharing	Level *	0	0	0	1	1	1	0	0	0	0	1	1
42	A21IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
43	A22LV00M	I.A.2.a.1	Arm-Hand Steadiness	Level *	0	0	0	1	1	1	0	0	0	0	1	1
44	A22IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
45	A23LV00M	I.A.2.a.2	Manual Dexterity	Level *	0	0	0	1	1	1	0	0	0	0	1	1
46	A23IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
47	A24LV00M	I.A.2.a.3	Finger Dexterity	Level *	0	0	0	0	1	1	0	0	0	0	1	1
48	A24IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
49	A25LV00M	I.A.2.b.1	Control Precision	Level *	0	0	0	1	1	1	0	0	0	0	1	1
50	A25IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
51	A26LV00M	I.A.2.b.2	Multilimb Coordination	Level *	0	0	0	1	1	1	0	0	0	0	1	1
52	A26IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
53	A27LV00M	I.A.2.b.3	Response Orientation	Level *	0	0	0	1	1	1	0	0	0	0	1	1
54	A27IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
55	A28LV00M	I.A.2.b.4	Rate Control	Level *	0	0	0	1	1	1	0	0	0	0	1	1
56	A28IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
57	A29LV00M	I.A.2.c.1	Reaction Time	Level *	0	0	0	1	1	1	0	0	0	0	1	1
58	A29IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
59	A30LV00M	I.A.2.c.2	Wrist-Finger Speed	Level *	0	0	0	0	1	1	0	0	0	0	1	1
60	A30IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
61	A31LV00M	I.A.2.c.3	Speed of Limb Movement	Level *	0	0	0	1	1	1	0	0	0	0	1	1
62	A31IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
63	A32LV00M	I.A.3.a.1	Static Strength	Level *	0	0	0	0	1	1	0	0	0	0	1	1
64	A32IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
65	A33LV00M	I.A.3.a.2	Explosive Strength	Level *	0	0	0	0	1	1	0	0	0	0	1	1
66	A33IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
67	A34LV00M	I.A.3.a.3	Dynamic Strength	Level *	0	0	0	0	1	1	0	0	0	0	1	1
68	A34IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
69	A35LV00M	I.A.3.a.4	Trunk Strength	Level *	0	0	0	1	1	1	0	0	0	0	1	1
70	A35IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
71	A36LV00M	I.A.3.b.1	Stamina	Level *	0	0	0	1	1	1	0	0	0	0	1	1
72	A36IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
73	A37LV00M	I.A.3.c.1	Extent Flexibility	Level *	0	0	0	1	1	1	0	0	0	0	1	1
74	A37IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
75	A38LV00M	I.A.3.c.2	Dynamic Flexibility	Level *	0	0	0	1	1	1	0	0	0	0	1	1
76	A38IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
77	A39LV00M	I.A.3.c.3	Gross Body Coordination	Level *	0	0	0	1	1	1	0	0	0	0	1	1
78	A39IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
79	A40LV00M	I.A.3.c.4	Gross Body Equilibrium	Level *	0	0	0	1	1	1	0	0	0	0	1	1
80	A40IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
81	A41LV00M	I.A.4.a.1	Near Vision	Level *	0	0	0	1	1	1	0	0	0	0	1	1
82	A41IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
83	A42LV00M	I.A.4.a.2	Far Vision	Level *	0	0	0	0	1	1	0	0	0	0	1	1
84	A42IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
85	A43LV00M	I.A.4.a.3	Visual Color Discrimination	Level *	0	0	0	0	1	1	0	0	0	0	1	1
86	A43IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
87	A44LV00M	I.A.4.a.4	Night Vision	Level *	0	0	0	0	1	1	0	0	0	0	1	1
88	A44IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
89	A45LV00M	I.A.4.a.5	Peripheral Vision	Level *	0	0	0	1	1	1	0	0	0	0	1	1
90	A45IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
91	A46LV00M	I.A.4.a.6	Depth Perception	Level *	0	0	0	1	1	1	0	0	0	0	1	1
92	A46IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
93	A47LV00M	I.A.4.a.7	Glare Sensitivity	Level *	0	0	0	0	1	1	0	0	0	0	1	1
94	A47IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
95	A48LV00M	I.A.4.b.1	Hearing Sensitivity	Level *	0	0	0	1	1	1	0	0	0	0	1	1
96	A48IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
97	A49LV00M	I.A.4.b.2	Auditory Attention	Level *	0	0	0	1	1	1	0	0	0	0	1	1
98	A49IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
99	A50LV00M	I.A.4.b.3	Sound Localization	Level *	0	0	0	0	1	1	0	0	0	0	1	1
100	A50IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
101	A51LV00M	I.A.4.b.4	Speech Recognition	Level *	0	0	0	0	1	1	0	0	0	0	1	1
102	A51IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
103	A52LV00M	I.A.4.b.5	Speech Clarity	Level *	0	0	0	1	1	1	0	0	0	0	1	1

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
104	A52IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
	SKILLS															
105	B01LV00M	II.A.1.a	Reading Comprehension	Level *	0	0	0	0	1	1	0	0	0	0	1	1
106	B01IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
107	B01JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
108	B02LV00M	II.A.1.b	Active Listening	Level *	0	0	0	2	1	1	0	0	0	0	1	1
109	B02IM00M			Importance *	0	0	0	2	1	0	0	0	0	0	1	1
110	B02JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
111	B03LV00M	II.A.1.c	Writing	Level *	0	0	0	1	1	1	0	0	0	0	1	1
112	B03IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
113	B03JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
114	B04LV00M	II.A.1.d	Speaking	Level *	0	0	0	1	1	1	0	0	0	0	1	1
115	B04IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
116	B04JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
117	B05LV00M	II.A.1.e	Mathematics	Level *	0	0	0	0	1	1	0	0	0	0	1	1
118	B05IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
119	B05JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
120	B06LV00M	II.A.1.f	Science	Level *	0	0	0	1	1	1	0	0	0	0	1	1
121	B06IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
122	B06JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
123	B07LV00M	II.A.2.a	Critical Thinking	Level *	0	0	0	1	1	1	0	0	0	0	1	1
124	B07IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
125	B07JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
126	B08LV00M	II.A.2.b	Active Learning	Level *	0	0	0	2	1	1	0	0	0	0	1	1
127	B08IM00M			Importance *	0	0	0	2	1	0	0	0	0	0	1	1
128	B08JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
129	B09LV00M	II.A.2.c	Learning Strategies	Level *	0	0	0	2	1	1	0	0	0	0	1	1
130	B09IM00M			Importance *	0	0	0	2	1	0	0	0	0	0	1	1
131	B09JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
132	B10LV00M	II.A.2.d	Monitoring	Level *	0	0	0	2	1	1	0	0	0	0	1	1
133	B10IM00M			Importance *	0	0	0	2	1	0	0	0	0	0	1	1
134	B10JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
135	C01LV00M	II.B.1.a	Social Perceptiveness	Level *	0	0	0	1	1	1	0	0	0	0	1	1
136	C01IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
137	C01JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
138	C02LV00M	II.B.1.b	Coodination	Level *	0	0	0	0	1	1	0	0	0	0	1	1
139	C02IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
140	C02JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
141	C03LV00M	II.B.1.c	Persuasion	Level *	0	0	0	1	1	1	0	0	0	0	1	1
142	C03IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
143	C03JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
144	C04LV00M	II.B.1.d	Negotiation	Level *	0	0	0	0	1	1	0	0	0	0	1	1
145	C04IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
146	C04JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
147	C05LV00M	II.B.1.e	Instructing	Level *	0	0	0	0	1	1	0	0	0	0	1	1
148	C05IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
149	C05JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
150	C06LV00M	II.B.1.f	Service Orientation	Level *	0	0	0	0	1	1	0	0	0	0	1	1
151	C06IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
152	C06JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
153	C07LV00M	II.B.2.a	Problem Identification	Level *	0	0	0	0	0	0	0	0	0	1 (177)	1	0
154	C07IM00M			Importance *	0	0	0	0	0	0	0	0	0	1 (178)	1	0
155	C07JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
156	C08LV00M	II.B.2.b	Information Gathering	Level *	0	0	0	0	0	0	0	0	0	1 (177)	1	0
157	C08IM00M			Importance *	0	0	0	0	0	0	0	0	0	1 (178)	1	0
158	C08JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
159	C09LV00M	II.B.2.c	Information Organization	Level *	0	0	0	0	0	0	0	0	0	1 (177)	1	0
160	C09IM00M			Importance *	0	0	0	0	0	0	0	0	0	1 (178)	1	0
161	C09JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
162	C10LV00M	II.B.2.d	Syntheses/Reorganization	Level *	0	0	0	0	0	0	0	0	0	1 (177)	1	0
163	C10IM00M			Importance *	0	0	0	0	0	0	0	0	0	1 (178)	1	0
164	C10JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
165	C11LV00M	II.B.2.e	Idea Generation	Level *	0	0	0	0	0	0	0	0	0	1 (177)	1	0
166	C11IM00M			Importance *	0	0	0	0	0	0	0	0	0	1 (178)	1	0
167	C11JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
168	C12LV00M	II.B.2.f	Idea Evaluation	Level *	0	0	0	0	0	0	0	0	0	1 (177)	1	0
169	C12IM00M			Importance *	0	0	0	0	0	0	0	0	0	1 (178)	1	0
170	C12JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
171	C13LV00M	II.B.2.g	Implementation Planning	Level *	0	0	0	0	0	0	0	0	0	1 (177)	1	0
172	C13IM00M			Importance *	0	0	0	0	0	0	0	0	0	1 (178)	1	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
173	C13JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
174	C14LV00M	II.B.2.h	Solution Appraisal	Level *	0	0	0	0	0	0	0	0	0	1 (177)	1	0
175	C14IM00M			Importance *	0	0	0	0	0	0	0	0	0	1 (178)	1	0
176	C14JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
177			Complex Problem Solving	Level	0	0	0	0	0	0	0	0	1 (153 156 159 162 165 168 171 174)	0	0	1
178				Importance	0	0	0	0	0	0	0	0	1 (154 157 160 163 166 169 172 175)	0	0	1
179	C15LV00M	II.B.3.a	Operations Analysis	Level *	0	0	0	0	1	1	0	0	0	0	1	1
180	C15IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
181	C15JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
182	C16LV00M	II.B.3.b	Technology design	Level *	0	0	0	0	1	1	0	0	0	0	1	1
183	C16IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
184	C16JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
185	C17LV00M	II.B.3.c	Equipment Selection	Level *	0	0	0	0	1	1	0	0	0	0	1	1
186	C17IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
187	C17JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
188	C18LV00M	II.B.3.d	Installation	Level *	0	0	0	0	1	1	0	0	0	0	1	1
189	C18IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
190	C18JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
191	C19LV00M	II.B.3.e	Programming	Level *	0	0	0	0	1	1	0	0	0	0	1	1
192	C19IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
193	C19JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
194	C20LV00M	II.B.3.f	Testing	Level *	0	0	0	0	0	0	0	0	0	1 (206)	1	0
195	C20IM00M			Importance *	0	0	0	0	0	0	0	0	0	1 (207)	1	0
196	C20JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
197	C21LV00M	II.B.3.g	Operation Monitoring	Level *	0	0	0	1	1	1	0	0	0	0	1	1
198	C21IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
199	C21JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
200	C22LV00M	II.B.3.h	Operation and Control	Level *	0	0	0	0	1	1	0	0	0	0	1	1
201	C22IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
202	C22JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
203	C23LV00M	II.B.3.i	Product Inspection	Level *	0	0	0	0	0	0	0	0	0	1 (206)	1	0
204	C23IM00M			Importance *	0	0	0	0	0	0	0	0	0	1 (207)	1	0
205	C23JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
206			Quality Control Analysis	Level	0	0	0	0	0	0	0	0	1 (194 203)	0	0	1
207				Importance	0	0	0	0	0	0	0	0	1 (195 204)	0	0	1
208	C24LV00M	II.B.3.j	Equipment Maintenance	Level *	0	0	0	1	1	1	0	0	0	0	1	1
209	C24IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
210	C24JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
211	C25LV00M	II.B.3.k	Troubleshooting	Level *	0	0	0	1	1	1	0	0	0	0	1	1
212	C25IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
213	C25JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
214	C26LV00M	II.B.3.l	Repairing	Level *	0	0	0	0	1	1	0	0	0	0	1	1
215	C26IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
216	C26JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
217	C27LV00M	II.B.4.a	Visioning	Level *	0	0	0	0	0	0	0	0	0	1 (226)	1	0
218	C27IM00M			Importance *	0	0	0	0	0	0	0	0	0	1 (227)	1	0
219	C27JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
220	C28LV00M	II.B.4.b	System Perceptions	Level *	0	0	0	0	0	0	0	0	0	1 (226)	1	0
221	C28IM00M			Importance *	0	0	0	0	0	0	0	0	0	1 (227)	1	0
222	C28JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
223	C29LV00M	II.B.4.c	Identification of Downstream Consequences	Level *	0	0	0	0	0	0	0	0	0	1 (226)	1	0
224	C29IM00M			Importance *	0	0	0	0	0	0	0	0	0	1 (227)	1	0
225	C29JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
226			Systems Analysis	Level	0	0	0	0	0	0	0	0	1 (217 220 223)	0	0	1
227				Importance	0	0	0	0	0	0	0	0	1 (218 221 224)	0	0	1
228	C30LV00M	II.B.4.d	Identification of Key Causes	Level *	0	0	0	0	0	0	0	0	0	1 (236)	1	0
229	C30IM00M			Importance *	0	0	0	0	0	0	0	0	0	1 (237)	1	0
230	C30JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
231	C31LV00M	II.B.4.e	Judgment and Decision Making	Level *	0	0	0	1	1	1	0	0	0	0	1	1

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
232	C31IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
233	C31JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
234	C32LV00M	II.B.4.f	System Evaluation	Level *	0	0	0	2	1	1	0	0	0	1 (237)	1	0
235	C32IM00M			Importance *	0	0	0	2	1	1	0	0	0	1 (238)	1	0
236	C32JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
237			System Evaluation	Level	0	0	0	0	0	0	0	0	1(228 234)		0	1
238				Importance	0	0	0	0	0	0	0	0	1(229 235)		0	1
239	C33LV00M	II.B.5.a	Time Management	Level *	0	0	0	0	1	1	0	0	0	0	1	1
240	C33IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
241	C33JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
242	C34IM00M	II.B.5.b	Management of Financial Resources	Level *	0	0	0	0	1	1	0	0	0	0	1	1
243	C34IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
244	C34JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
245	C35LV00M	II.B.5.c	Management of Material Resources	Level *	0	0	0	0	1	1	0	0	0	0	1	1
246	C35IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
247	C35JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0
248	C36LV00M	II.B.5.d	Management of Personnel Resources	Level *	0	0	0	0	1	1	0	0	0	0	1	1
249	C36IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
250	C36JE00P			Job Entry Requirement	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
GENERALIZED WORK ACTIVITIES																
251	G01LV00M	IV.A.1.a.1	Getting Information Needed To Do the Job	Level *	0	0	1	0	1	1	0	0	0	0	1	1
252	G01IM00M			Importance *	0	0	1	0	1	0	0	0	0	0	1	1
253	G01FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
254	G02LV00M	IV.A.1.b.1	Identifying Objects, Actions, and Events	Level *	0	0	0	1	1	1	0	0	0	0	1	1
255	G02IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
256	G02FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
257	G03LV00M	IV.A.1.a.2	Monitoring Processes, Materials or Surroundings	Level *	0	0	0	1	1	1	0	0	0	0	1	1
258	G03IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
259	G03FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
260	G04LV00M	IV.A.1.b.2	Inspecting Equipment, Structures or Materials	Level *	0	0	0	1	1	1	0	0	0	0	1	1
261	G04IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
262	G04FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
263	G05LV00M	IV.A.1.b.3	Estimating the Characteristics of Materials, Products, Events, or Information	Level *	0	0	1	1	1	1	0	0	0	0	1	1
264	G05IM00M			Importance *	0	0	1	1	1	0	0	0	0	0	1	1
265	G05FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
266	G06LV00M	IV.A.2.a.1	Judging the Qualities of Objects, Services, or Persons	Level *	0	0	1	1	1	1	0	0	0	0	1	1
267	G06IM00M			Importance *	0	0	1	1	1	0	0	0	0	0	1	1
268	G06FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
269	G07LV00M	IV.A.2.a.3	Evaluating Information for Compliance to Standards	Level *	0	0	1	2	1	1	0	0	0	0	1	1
270	G07IM00M			Importance *	0	0	1	2	1	0	0	0	0	0	1	1
271	G07FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
272	G08LV00M	IV.A.2.a.2	Processing Information	Level *	0	0	0	1	1	1	0	0	0	0	1	1
273	G08IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
274	G08FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
275	G09LV00M	IV.A.2.a.4	Analyzing Data or Information	Level *	0	0	0	1	1	1	0	0	0	0	1	1
276	G09IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
277	G09FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
278	G10LV00M	IV.A.2.b.1	Making Decisions and Solving Problems	Level *	0	0	0	2	1	1	0	0	0	0	1	1
279	G10IM00M			Importance *	0	0	0	2	1	0	0	0	0	0	1	1
280	G10FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
281	G11LV00M	IV.A.2.b.2	Thinking Creatively	Level *	0	0	0	1	1	1	0	0	0	0	1	1
282	G11IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
283	G11FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
284	G12LV00M	IV.A.2.b.3	Updating and Using Job-Relevant Knowledge	Level *	0	0	1	2	1	1	0	0	0	0	1	1
285	G12IM00M			Importance *	0	0	1	2	1	0	0	0	0	0	1	1
286	G12FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
287	G13LV00M	IV.A.2.b.4	Developing Objectives and Strategies	Level *	0	0	0	0	1	1	0	0	0	0	1	1
288	G13IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
289	G13FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
290	G14LV00M	IV.A.2.b.5	Scheduling Work and Activities	Level *	0	0	0	0	1	1	0	0	0	0	1	1
291	G14IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
292	G14FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
293	G15LV00M	IV.A.2.b.6	Organizing, Planning, and Prioritizing Work	Level *	0	0	0	1	1	1	0	0	0	0	1	1
294	G15IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
295	G15FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
296	G16LV00M	IV.A.3.a.1	Performing General Physical Activities	Level *	0	0	0	1	1	1	0	0	0	0	1	1
297	G16IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
298	G16FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
299	G17LV00M	IV.A.3.a.2	Handling and Moving Objects	Level *	0	0	0	1	1	1	0	0	0	0	1	1
300	G17IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
301	G17FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
302	G18LV00M	IV.A.3.a.3	Controlling and Machining Processes	Level *	0	0	0	0	1	1	0	0	0	0	1	1
303	G18IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
304	G18FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
305	G19LV00M	IV.A.3.b.1	Interacting with Computers	Level *	0	0	1	1	1	1	0	0	0	0	1	1
306	G19IM00M			Importance *	0	0	1	1	1	0	0	0	0	0	1	1
307	G19FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
308	G20LV00M	IV.A.3.a.4	Operating Vehicles, Mechanized Devices, or Equipment	Level *	0	0	0	0	1	1	0	0	0	0	1	1
309	G20IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
310	G20FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
311	G21LV00M	IV.A.3.b.2	Drafting, Laying-Out, and Specifying Technical Devices, Parts or Equipment	Level *	0	0	0	1	1	1	0	0	0	0	1	1
312	G21IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
313	G21FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
314	G22LV00M	IV.A.3.b.3	Implementing Ideas, Programs Systems or Products	Level *	1	0	0	0	0	0	0	0	0	0	1	0
315	G22IM00M			Importance *	1	0	0	0	0	0	0	0	0	0	1	0
316	G22FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
317	G23LV00M	IV.A.3.b.4	Repairing and Maintaining Mechanical Equipment	Level *	0	0	0	1	1	1	0	0	0	0	1	1
318	G23IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
319	G23FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
320	G24LV00M	IV.A.3.b.5	Repairing and Maintaining Electronic Equipment	Level *	0	0	0	1	1	1	0	0	0	0	1	1
321	G24IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
322	G24FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
323	G25LV00M	IV.A.3.b.6	Documenting/Recording Information	Level *	0	0	0	1	1	1	0	0	0	0	1	1
324	G25IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
325	G25FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
326	G26LV00M	IV.A.4.a.1	Interpreting the meaning of Information to Others	Level *	0	0	0	1	1	1	0	0	0	0	1	1
327	G26IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
328	G26FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
329	G27LV00M	IV.A.4.a.2	Communication with Supervisors, Peers, or Subordinates	Level *	0	0	0	1	1	1	0	0	0	0	1	1
330	G27IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
331	G27FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
332	G28LV00M	IV.A.4.a.3	Communicating with Persons Outside the Organizations	Level *	0	0	0	1	1	1	0	0	0	0	1	1
333	G28IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
334	G28FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
335	G29LV00M	IV.A.4.a.4	Establishing and Maintaining Interpersonal Relationships	Level *	0	0	0	1	1	1	0	0	0	0	1	1
336	G29IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
337	G29FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
338	G30LV00M	IV.A.4.a.5	Assisting and Caring for Others	Level *	0	0	0	1	1	1	0	0	0	0	1	1
339	G30IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
340	G30FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
341	G31LV00M	IV.A.4.a.6	Selling or Influencing Others	Level *	0	0	0	1	1	1	0	0	0	0	1	1
342	G31IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
343	G31FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
344	G32LV00M	IV.A.4.a.7	Resolving Conflicts and Negotiating with Others	Level *	0	0	0	1	1	1	0	0	0	0	1	1
345	G32IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
346	G32FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
347	G33LV00M	IV.A.4.a.8	Performing For or Working Directly With the Public	Level *	0	0	0	1	1	1	0	0	0	0	1	1
348	G33IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
349	G33FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
350	G34LV00M	IV.A.4.b.1	Coordinating the Work and Activities of Others	Level *	0	0	0	1	1	1	0	0	0	0	1	1
351	G34IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
352	G34FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
353	G35LV00M	IV.A.4.b.2	Developing and Building Teams	Level *	0	0	0	0	1	1	0	0	0	0	1	1
354	G35IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
355	G35FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
356	G36LV00M	IV.A.4.b.3	Teaching Others	Level *	0	0	1	1	1	1	0	0	0	0	1	1
357	G36IM00M			Importance *	0	0	1	1	1	0	0	0	0	0	1	1
358	G36FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
359	G37LV00M	IV.A.4.b.4	Guiding, Directing, and Motivating Subordinates	Level *	0	0	0	1	1	1	0	0	0	0	1	1
360	G37IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
361	G37FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
362	G38LV00M	IV.A.4.b.5	Coaching and Developing Others	Level *	0	0	0	1	1	1	0	0	0	0	1	1
363	G38IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
364	G38FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
365	G39LV00M	IV.A.4.b.6	Providing Consultation and Advice to Others	Level *	0	0	0	1	1	1	0	0	0	0	1	1
366	G39IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
367	G39FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
368	G40LV00M	IV.A.4.c.1	Performing Administrative Activities	Level *	0	0	0	1	1	1	0	0	0	0	1	1
369	G40IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
370	G40FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
371	G41LV00M	IV.A.4.c.2	Staffing Organizational Units	Level *	0	0	0	1	1	1	0	0	0	0	1	1
372	G41IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
373	G41FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0
374	G42LV00M	IV.A.4.c.3	Monitoring and Controlling Resources	Level *	0	0	0	0	1	1	0	0	0	0	1	1
375	G42IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
376	G42FR00M			Frequency	1	0	0	0	0	0	0	0	0	0	1	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
	KNOWLEDGE															
377	K01LV00M	II.C.1.a	Administration and Management	Level *	0	0	0	1	1	1	0	0	0	0	1	1
378	K01IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
379	K01JS01P		Business Administration	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
380	K01JS02P		Construction Management	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
381	K01JS03P		Engineering, Mathematical, and Sciences Management	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
382	K01JS04P		Food Service and Lodging Management	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
383	K01JS05P		Medical Service Management	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
384	K01JS06P		Personnel and Human Resources management	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
385	K01JS07P		Public Administration	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
386	K02LV00M	II.C.1.b	Clerical	Level *	0	0	0	0	1	1	0	0	0	0	1	1
387	K02IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
388	K02JS01P		Banking Support	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
389	K02JS02P		Bookkeeping	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
390	K02JS03P		Computer Operations	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
391	K02JS04P		Data Entry	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
392	K02JS05P		Health Unit Coordinating	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
393	K02JS06P		Legal Secretarial	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
394	K02JS07P		Medical Secretarial	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
395	K02JS08P		Office Clerical	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
396	K02JS09P		Receptionist	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
397	K02JS010P		Stenography	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
398	K02JS011P		Stock and Warehousing	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
399	K03LV00M	II.C.1.c	Economics and Accounting	Level *	0	0	0	0	1	1	0	0	0	0	1	1
400	K03IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
401	K03JS01P		Accounting	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
402	K03JS02P		Economics and Accounting	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
403	K03JS03P		Financial Management	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
404	K03JS04P		Securities and Investments	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
405	K04LV00M	II.C.1.d	Sales and Marketing	Level *	0	0	0	1	1	1	0	0	0	0	1	1
406	K04IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
407	K04JS01P		Advertising and Public Relations	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
408	K04JS02P		Fashion and Apparel	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
409	K04JS03P		Food Marketing	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
410	K04JS04P		Insurance	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
411	K04JS05P		Purchasing	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
412	K04JS06P		Real Estate	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
413	K04JS07P		Retailing and Wholesaling	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
414	K04JS08P		Vehicle Sales	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
415	K05LV00M	II.C.1.e	Customer and Personal Service	Level *	0	0	0	1	1	1	0	0	0	0	1	1
416	K05IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
417	K05JS01P		Barbering and Cosmetology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
418	K05JS02P		Bartending	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
419	K05JS03P		Cashiering	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
420	K05JS04P		Child Care and Home Management	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
421	K05JS05P		Flight Attending	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
422	K05JS06P		Food Preparation	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
423	K05JS07P		Food Service	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
424	K05JS08P		Hospitality Service	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
425	K05JS09P		Housekeeping and Custodial	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
426	K05JS010P		Laundry and Dry Cleaning	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
427	K05JS011P		Meatcutting and Butchering	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
428	K05JS12P		Travel Service	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
429	K06LV00M	II.C.1.f	Personnel and Human Resources	Level *	0	0	0	1	1	1	0	0	0	0	1	1
430	K06IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
431	K06JS01P		Human Resource Management	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
432	K06JS02P		Interviewing and Hiring	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
433	K06JS03P		Labor Relations	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
434	K06JS04P		Management Analysis	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
435	K06JS05P		Personnel Research	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
436	K06JS06P		Training	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
437	K07LV00M	II.C.2.a	Production and Processing	Level *	0	0	0	1	1	1	0	0	0	0	1	1
438	K07IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
439	K07JS01P		Clothing Production	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
440	K07JS02P		Food Processing and Production	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
441	K07JS03P		Home Furnishing Production	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
442	K07JS04P		Line Supervision	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
443	K07JS05P		Metal Production and Processing	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
444	K07JS06P		Printing and Publishing	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
445	K07JS07P		Quality Control and Inspection	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
446	K08LV00M	II.C.2.b	Food Production	Level *	0	0	0	1	1	1	0	0	0	0	1	1
447	K08IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
448	K08JS01P		Agricultural and Business Management	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
449	K08JS02P		Agricultural Sciences	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
450	K08JS03P		Animal Husbandry and Production	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
451	K08JS04P		Animal Sciences	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
452	K08JS05P		Crop Production	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
453	K08JS06P		Fishing and Wildlife Management	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
454	K08JS07P		Food Sciences	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
455	K09LV00M	II.C.3.a	Computers and Electronics	Level *	0	0	0	1	1	1	0	0	0	0	1	1
456	K09IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
457	K09JS01P		Computer Programming	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
458	K09JS02P		Computer Science	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
459	K09JS03P		Computer Technology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
460	K09JS04P		Electrical and Electronics Technology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
461	K09JS05P		Systems Analysis	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
462	K10LV00M	II.C.3.b	Engineering and Technology	Level *	0	0	0	2	1	1	0	0	0	0	1	1
463	K10IM00M			Importance *	0	0	0	2	1	0	0	0	0	0	1	1
464	K10JS01P		Aeronautical and Astronautical Engineering	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
465	K10JS02P		Chemical Engineering	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
466	K10JS03P		Civil Engineering	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
467	K10JS04P		Electrical Engineering	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
468	K10JS05P		Industrial Engineering	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
469	K10JS06P		Material Engineering	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
470	K10JS07P		Mechanical Engineering	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
471	K10JS08P		Mining, Petroleum, and Nuclear Engineering	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
472	K10JS09P		Surveying	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
473	K11LV00M	II.C.3.c	Design	Level *	0	0	0	1	1	1	0	0	0	0	1	1
474	K11IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
475	K11JS01P		Architecture	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
476	K11JS02P		Drafting	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
477	K11JS03P		Industrial Design	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
478	K11JS04P		Interior Design	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
479	K11JS05P		Technical Theater Design	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
480	K12LV00M	II.C.3.d	Building and Construction	Level *	0	0	0	1	1	1	0	0	0	0	1	1
481	K12IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
482	K12JS01P		Bricklaying	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
483	K12JS02P		Carpentry	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
484	K12JS03P		Concrete	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
485	K12JS04P		Construction and Building Inspection	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
486	K12JS05P		Construction Equipment Operations	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
487	K12JS06P		Drywall and Plaster	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
488	K12JS07P		Electrical Power	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
489	K12JS08P		Painting and Paperhanging	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
490	K12JS09P		Plumbing	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
491	K12JS10P		Structural Metal	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
492	K13LV00M	II.C.3.e	Mechanical	Level *	0	0	0	1	1	1	0	0	0	0	1	1
493	K13IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
494	K13JS01P		Agricultural Mechanics	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
495	K13JS02P		Aircraft Mechanics	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
496	K13JS03P		Appliance Repair	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
497	K13JS04P		Automobile Mechanics	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
498	K13JS05P		Building Maintenance	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
499	K13JS06P		Engine Repair	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
500	K13JS07P		Heavy Equipment Repair	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
501	K13JS08P		Instrument Repair	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
502	K13JS09P		Light Equipment Repair	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
503	K14LV00M	II.C.4.a	Mathematics	Level *	0	0	0	1	1	1	0	0	0	0	1	1
504	K14IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
505	K14JS01P		Accounting	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
506	K14JS02P		Actuarial Science	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
507	K14JS03P		Applied Mathematics	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
508	K14JS04P		Operations Research	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
509	K14JS05P		Statistics	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
510	K15LV00M	II.C.4.b	Physics	Level *	0	0	0	1	1	1	0	0	0	0	1	1
511	K15IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
512	K15JS01P		Astronomy	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
513	K15JS02P		Astrophysics	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
514	K15JS03P		Atmospheric Sciences and Meteorology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
515	K15JS04P		Earth and Planetary Sciences	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
516	K15JS05P		General Physics	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
517	K15JS06P		Geology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
518	K15JS07P		Nuclear Physics	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
519	K15JS08P		Oceanography	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
520	K15JS09P		Optics and Acoustics	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
521	K16LV00M	II.C.4.c	Chemistry	Level *	0	0	0	1	1	1	0	0	0	0	1	1
522	K16IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
523	K16JS01P		Analytical Chemistry	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
524	K16JS02P		Biochemistry	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
525	K16JS03P		Inorganic Chemistry	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
526	K16JS04P		Medicinal and Pharmaceutical Chemistry	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
527	K16JS05P		Organic Chemistry	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
528	K16JS06P		Physical and Theoretical Chemistry	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
529	K16JS07P		Polymer Chemistry	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
530	K17LV00M	II.C.4.d	Biology	Level *	0	0	0	1	1	1	0	0	0	0	1	1
531	K17IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
532	K17JS01P		Biochemistry	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
533	K17JS02P		Botany	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
534	K17JS03P		Cell and Molecular Biology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
535	K17JS04P		Ecology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
536	K17JS05P		Genetics	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
537	K17JS06P		Marine and Aquatic Biology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
538	K17JS07P		Microbiology and Bacteriology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
539	K17JS08P		Nutritional Science	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
540	K17JS09P		Physiology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
541	K17JS10P		Zoology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
542	K18LV00M	II.C.4.e	Psychology	Level *	0	0	0	1	1	1	0	0	0	0	1	1
543	K18IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
544	K18JS01P		Clinical Psychology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
545	K18JS02P		Cognitive Psychology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
546	K18JS03P		Community Psychology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
547	K18JS04P		Counseling Psychology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
548	K18JS05P		Developmental Psychology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
549	K18JS06P		Experimental Psychology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
550	K18JS07P		Industrial/Organizational Psychology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
551	K18JS08P		Physiological/Biological Psychology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
552	K18JS09P		Social Psychology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
553	K19LV00M	II.C.4.f	Sociology and Anthropology	Level *	0	0	0	1	1	1	0	0	0	0	1	1
554	K19IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
555	K19JS01P		Anthropology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
556	K19JS02P		Archeology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
557	K19JS03P		Criminology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
558	K19JS04P		Demography and Population	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
559	K19JS05P		Sociology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
560	K19JS06P		Urban Affairs	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
561	K20LV00M	II.C.4.g	Geography	Level *	0	0	0	1	1	1	0	0	0	0	1	1
562	K20IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
563	K20JS01P		Cartography	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
564	K20JS02P		Geography	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
565	K21LV00M	II.C.5.a	Medicine and Dentistry	Level *	0	0	0	1	1	1	0	0	0	0	1	1

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
566	K21IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
567	K21JS01P		Chiropractic	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
568	K21JS02P		Community and Home Health	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
569	K21JS03P		Dentistry	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
570	K21JS04P		Medicine	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
571	K21JS05P		Nursing	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
572	K21JS06P		Pharmacology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
573	K21JS07P		Psychiatry	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
574	K21JS08P		Speech Pathology and Audiology	Job Specialty Requirements	1	0	0	1	0	0	0	0	0	0	0	0
575	K21JS09P		Surgery	Job Specialty Requirements	1	0	0	1	0	0	0	0	0	0	0	0
576	K21JS10P		Veterinary Medicine	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
577	K22LV00M	II.C.5.b	Therapy and Counseling	Level *	0	0	0	1	1	1	0	0	0	0	1	1
578	K22IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
579	K22JS01P		Educational Counseling	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
580	K22JS02P		Occupational Therapy	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
581	K22JS03P		Physical Therapy	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
582	K22JS04P		Psychiatric and Mental Health Counseling	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
583	K22JS05P		Recreational Therapy	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
584	K22JS06P		Speech Pathology and Audiology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
585	K22JS07P		Social Work	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
586	K22JS08P		Vocational Counseling	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
587	K23LV00M	II.C.6	Education and Training	Level *	0	0	0	1	1	1	0	0	0	0	1	1
588	K23IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
589	K23JS01P		Educational Administration	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
590	K23JS02P		Instructional Design	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
591	K23JS03P		Pre-school Education	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
592	K23JS04P		Elementary Education	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
593	K23JS05P		Secondary and Vocational Education	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
594	K23JS06P		College and University Education	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
595	K23JS07P		Special Education	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
596	K23JS08P		Adult and Continuing Education	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
597	K23JS09P		Professional Training	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
598	K24LV00M	II.C.7.a	English Language	Level *	0	0	0	0	1	1	0	0	0	0	1	1
599	K24IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
600	K24JS01P		Editing	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
601	K24JS02P		English Literature	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
602	K24JS03P		Creative Writing	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
603	K24JS04P		Journalistic Writing	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
604	K24JS05P		Linguistics	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
605	K24JS06P		Technical and Business Writing	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
606	K25LV00M	II.C.7.b	Foreign Language	Level *	0	0	0	0	1	1	0	0	0	0	1	1
607	K25IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
608	K25JS01P		Foreign Language Interpretation	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
609	K25JS02P		Foreign Language Literature	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
610	K25JS03P		Foreign Language Translation	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
611	K25JS04P		Linguistics	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
612	K26LV00M	II.C.7.c	Fine Arts	Level *	0	0	0	0	1	1	0	0	0	0	1	1
613	K26IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
614	K26JS01P		Arts and Crafts	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
615	K26JS02P		Dance	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
616	K26JS03P		Dramatic and Theatrical Arts	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
617	K26JS04P		Film-Video Making and Cinematography	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
618	K26JS05P		Music	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
619	K26JS06P		Photography	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
620	K27LV00M	II.C.7.d	History and Archeology	Level *	0	0	0	1	1	1	0	0	0	0	1	1
621	K27IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
622	K27JS01P		African History	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
623	K27JS02P		American History	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
624	K27JS03P		Archeology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
625	K27JS04P		Asian History	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
626	K27JS05P		European History	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
627	K27JS06P		General History	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
628	K27JS07P		History of Science and Technology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
629	K28LV00M	II.C.7.e	Philosophy and Theology	Level *	0	0	0	1	1	1	0	0	0	0	1	1
630	K28IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
631	K28JS01P		Ministry	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
632	K28JS02P		Missions and Missionary Studies	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
633	K28JS03P		Pastoral Counseling	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
634	K28JS04P		Philosophy	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
635	K28JS05P		Religious Education	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
636	K28JS06P		Theology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
637	K29LV00M	II.C.8.a	Public Safety and Security	Level *	0	0	0	1	1	1	0	0	0	0	1	1
638	K29IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
639	K29JS01P		Corrections	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
640	K29JS02P		Criminal Investigation	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
641	K29JS03P		Fire Fighting	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
642	K29JS04P		Fire Inspection and Investigation	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
643	K29JS05P		Military Technologies	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
644	K29JS06P		Police Patrol	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
645	K29JS07P		Security Services	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
646	K30LV00M	II.C.8.b	Law, Government and Jurisprudence	Level *	0	0	1	1	1	1	0	0	0	0	1	1
647	K30IM00M			Importance *	0	0	1	1	1	0	0	0	0	0	1	1
648	K30JS01P		Jurisprudence	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
649	K30JS02P		Legal Representation	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
650	K30JS03P		Paralegal and Legal Support Services	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
651	K30JS04P		Political Science and Government	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
652	K31LV00M	II.C.9.a	Telecommunications	Level *	0	0	0	0	1	1	0	0	0	0	1	1
653	K31IM00M			Importance *	0	0	0	0	1	0	0	0	0	0	1	1
654	K31JS01P		Central Office and Switches	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
655	K31JS02P		Electrical and Electronics Engineering	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
656	K31JS03P		Radio and Television Broadcasting Technology	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
657	K31JS04P		System Installation and Repair	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
658	K32LV00M	II.C.9.b	Communications and Media	Level *	0	0	0	1	1	1	0	0	0	0	1	1
659	K32IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
660	K32JS01P		Archival Science	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
661	K32JS02P		Creative Writing	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
662	K32JS03P		Journalism	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
663	K32JS04P		Library Science	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
664	K32JS05P		Printing and Publishing	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
665	K32JS06P		Radio and Television Broadcasting	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
666	K32JS07P		Technical and Business Writing	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
667	K33LV00M	II.C.10	Transportation	Level *	0	0	0	1	1	1	0	0	0	0	1	1
668	K33IM00M			Importance *	0	0	0	1	1	0	0	0	0	0	1	1
669	K33JS01P		Airplane Piloting	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
670	K33JS02P		Air Traffic Control	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
671	K33JS03P		Railroad Operations	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
672	K33JS04P		Truck and Bus Transportation	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0
673	K33JS05P		Water Transportation	Job Specialty Requirements	1	0	0	0	0	0	0	0	0	0	0	0

The following Training, Education, Licensure, and Experience (TELE) items are in the same revised instrument as the Knowledge items above. The TELE items that were deleted are at the end of this appendix.

674	E01CO01P	II.D.1	The level of education required to perform a job	Less than a High School Diploma	0	0	1	0	1	0	0	0	0	0	0	1
675	E01CO02P			High School Diploma - (or High School Equivalence Certificate)	0	1	0	0	0	0	0	0	0	0	0	1
676	E01CO03P			Post-Secondary Certificate	0	1	0	0	0	0	0	0	0	0	0	1
677	E01CO04P			Some College Courses	0	1	0	0	0	0	0	0	0	0	0	1
678	E01CO05P			Associate's or other 2-year degree	0	1	0	0	0	0	0	0	0	0	0	1
679	E01CO06P			Bachelor's Degree	0	1	0	0	0	0	0	0	0	0	0	1

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
680	E01CO07P			Post-Baccalaureate Certificate	0	1	0	0	0	0	0	0	0	0	0	1
681	E01CO08P			Master's Degree	0	1	0	0	0	0	0	0	0	0	0	1
682	E01CO09P			Post-Master's Certificate	0	1	0	0	0	0	0	0	0	0	0	1
683	E01CO10P			First Professional Degree	0	1	0	0	0	0	0	0	0	0	0	1
684	E01CO11P			Doctoral Degree	0	1	0	0	0	0	0	0	0	0	0	1
685	E01CO12P			Post-Doctoral Certificate	0	1	0	0	0	0	0	0	0	0	0	1
686	X01CO01P	III.A.1	Related work experience - required amount	None	0	0	0	1	1	0	1	0	0	0	0	1
687	X01CO02P			up to and including 1 month	0	0	0	1	1	0	1	0	0	0	0	1
688	X01CO03P			over 1 month, up to & including 3 months	0	0	0	1	1	0	1	0	0	0	0	1
689	X01CO04P			over 3 months,up to & including 6 months	0	0	0	1	1	0	1	0	0	0	0	1
690	X01CO05P			over 6 months, up to & including 1 year	0	0	0	1	1	0	1	0	0	0	0	1
691	X01CO06P			over 1 year, up to & including 2 years	0	0	0	1	1	0	1	0	0	0	0	1
692	X01CO07P			over 2 years, up to & including 4 years	0	0	0	1	1	0	1	0	0	0	0	1
693	X01CO08P			over 4 years, up to & including 6 years	0	0	0	1	1	0	1	0	0	0	0	1
694	X01CO09P			over 6 years, up to & including 8 years	0	0	0	1	1	0	1	0	0	0	0	1
695	X01CO10P			over 8 years, up to & including 10 years	0	0	0	1	1	0	1	0	0	0	0	1
696	X01CO11P			over 10 years	0	0	0	1	1	0	1	0	0	0	0	1
697	X02CO01P	III.A.2	On-Site or In-Plant Training	None	0	0	0	1	1	0	1	0	0	0	0	1
698	X02CO02P			up to and including 1 month	0	0	0	1	1	0	1	0	0	0	0	1
699	X02CO03P			over 1 month, up to & including 3 months	0	0	0	1	1	0	1	0	0	0	0	1
700	X02CO04P			over 3 months,up to & including 6 months	0	0	0	1	1	0	1	0	0	0	0	1
701	X02CO05P			over 6 months, up to & including 1 year	0	0	0	1	1	0	1	0	0	0	0	1

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
702	X02CO06P			over 1 year, up to & including 2 years	0	0	0	1	1	0	1	0	0	0	0	1
703	X02CO07P			over 2 years, up to & including 4 years	0	0	0	1	1	0	1	0	0	0	0	1
704	X02CO08P			over 4 years, up to & including 6 years	0	0	0	1	1	0	1	0	0	0	0	1
705	X02CO09P			over 6 years, up to & including 8 years	0	0	0	1	1	0	1	0	0	0	0	1
706	X02CO10P			over 8 years, up to & including 10 years	0	0	0	1	1	0	1	0	0	0	0	1
707	X02CO11P			over 10 years	0	0	0	1	1	0	1	0	0	0	0	1
708	X03CO01P	III.A.3	On-the-Job Training-Required Amount	None	0	0	0	1	1	0	1	0	0	0	0	1
709	X03CO02P			up to and including 1 month	0	0	0	1	1	0	1	0	0	0	0	1
710	X03CO03P			over 1 month, up to & including 3 months	0	0	0	1	1	0	1	0	0	0	0	1
711	X03CO04P			over 3 months,up to & including 6 months	0	0	0	1	1	0	1	0	0	0	0	1
712	X03CO05P			over 6 months, up to & including 1 year	0	0	0	1	1	0	1	0	0	0	0	1
713	X03CO06P			over 1 year, up to & including 2 years	0	0	0	1	1	0	1	0	0	0	0	1
714	X03CO07P			over 2 years, up to & including 4 years	0	0	0	1	1	0	1	0	0	0	0	1
715	X03CO08P			over 4 years, up to & including 6 years	0	0	0	1	1	0	1	0	0	0	0	1
716	X03CO09P			over 6 years, up to & including 8 years	0	0	0	1	1	0	1	0	0	0	0	1
717	X03CO10P			over 8 years, up to & including 10 years	0	0	0	1	1	0	1	0	0	0	0	1
718	X03CO11P			over 10 years	0	0	0	1	1	0	1	0	0	0	0	1
719	X04CO01P	III.A.4	Apprenticeship-Required Amount	None	0	0	0	1	1	0	1	0	0	0	0	1
720	X04CO02P			up to and including 1 month	0	0	0	1	1	0	1	0	0	0	0	1

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
721	X04CO03P			over 1 month, up to & including 3 months	0	0	0	1	1	0	1	0	0	0	0	1
722	X04CO04P			over 3 months,up to & including 6 months	0	0	0	1	1	0	1	0	0	0	0	1
723	X04CO05P			over 6 months, up to & including 1 year	0	0	0	1	1	0	1	0	0	0	0	1
724	X04CO06P			over 1 year, up to & including 2 years	0	0	0	1	1	0	1	0	0	0	0	1
725	X04CO07P			over 2 years, up to & including 4 years	0	0	0	1	1	0	1	0	0	0	0	1
726	X04CO08P			over 4 years, up to & including 6 years	0	0	0	1	1	0	1	0	0	0	0	1
727	X04CO09P			over 6 years, up to & including 8 years	0	0	0	1	1	0	1	0	0	0	0	1
728	X04CO10P			over 8 years, up to & including 10 years	0	0	0	1	1	0	1	0	0	0	0	1
729	X04CO11P			over 10 years	0	0	0	1	1	0	1	0	0	0	0	1
730	L01CY01P	III.D.1	License, Certificate or Reg. Required - Vehicle		1	0	0	0	0	0	0	0	0	0	0	0
731	L01CY02P	III.D.1	License,Certification or Reg. Required - Non-vehicle		1	0	0	0	0	0	0	0	0	0	0	0
732	L02CY00P	III.D.2.a	Post-Secondary Degree Required		1	0	0	0	0	0	0	0	0	0	0	0
733	L03CY00P	III.D.2.b	Graduate Degree Required		1	0	0	0	0	0	0	0	0	0	0	0
734	L04CY00M	III.D.2.c	On-the-Job Training Required		1	0	0	0	0	0	0	0	0	0	0	0
735	L05CY00M	III.D.2.d	Examination Required		1	0	0	0	0	0	0	0	0	0	0	0
736	L06CY00M	III.D.2.e	Character References		1	0	0	0	0	0	0	0	0	0	0	0
737	L07CY00M	III.D.4	Additional Education and Training		1	0	0	0	0	0	0	0	0	0	0	0
738	L08CY00M	III.D.5.a	Legal Requirement		1	0	0	0	0	0	0	0	0	0	0	0
739	L09CY00M	III.D.5.b	Employer Requirement		1	0	0	0	0	0	0	0	0	0	0	0
740	L10CY00P	III.D.5.c	Union, Guild, or Professional Assoc. Required		1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
	WORK CONTEXT															
741	W01FL00M	IV.C.1.a.1	Formality of Communication		1	0	0	0	0	0	0	0	0	0	0	0
742	W02CM00M	IV.C.1.a.2.a	Communications Methods	face-to-face: individuals	1	0	0	0	0	0	0	0	0	1(743)	0	0
743	W03CM00M	IV.C.1.a.2.b		face-to-face: groups	0	0	0	0	1	1	1	0	1(742 743)	0	0	1
744	W04CM00M	IV.C.1.a.2.c		public speaking	0	0	0	0	1	1	1	0	0	0	0	1
745	W05CM00M	IV.C.1.a.2.d		video conference	1	0	0	0	0	0	0	0	0	0	0	0
746	W06CM00M	IV.C.1.a.2.e		voice mail	1	0	0	0	0	0	0	0	0	0	0	0
747	W07CM00M	IV.C.1.a.2.f		telephone	0	0	0	0	1	1	1	0	0	0	0	1
748	W08CM00M	IV.C.1.a.2.g		interactive computer	1	0	0	0	0	0	0	0	0	0	0	0
749	W09CM00M	IV.C.1.a.2.h		electronic mail	0	0	0	0	1	1	1	0	0	0	0	1
750	W10CM00M	IV.C.1.a.2.i		handwritten notes/messages	1	0	0	0	0	0	0	0	0	0	0	0
751	W11CM00M	IV.C.1.a.2.j		letters and memos	0	0	0	0	1	1	1	0	0	0	0	1
752	W12CM00M	IV.C.1.a.2.k		written reports	1	0	0	0	0	0	0	0	0	0	0	0
753	W13OS00M	IV.C.1.a.3	Objectivity/subjectivity of information		1	0	0	0	0	0	0	0	0	0	1	0
754	W14CN00M	IV.C.1.a.4	Job-required social interaction		0	0	0	0	1	1	1	0	0	0	1	1
755	W15PV00M	IV.C.1.a.5	Privacy of communication		1	0	0	0	0	0	0	0	0	0	0	0
756	W16IJ00M	IV.C.1.b.1.a	Importance of interactions requiring:	supervising, coaching, training others	1	0	0	0	0	0	0	0	0	0	1	0
757	W17IJ00M	IV.C.1.b.1.b		persuading or influencing others	1	0	0	0	0	0	0	0	0	0	1	0
758	W18IJ00M	IV.C.1.b.1.c		providing service	1	0	0	0	0	0	0	0	0	0	1	0
759	W19IJ00M	IV.C.1.b.1.d		taking a position opposed to others	1	0	0	0	0	0	0	0	0	0	1	0
760	W20IJ00M	IV.C.1.b.1.e		working with/contributing to group/team	0	0	0	0	1	1	1	0	0	0	0	1
761	W21IJ00M	IV.C.1.b.1.f		dealing with public or external customers	0	0	0	0	1	1	1	0	0	0	1	1
762	W22IJ00M	IV.C.1.b.1.g		coordinating others' work	0	0	0	0	1	1	1	0	0	0	1	1
763	W23HS00M	IV.C.1.c.1	Responsibilty for others' health & safety		0	0	0	0	1	1	1	0	0	0	1	1

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
764	W24RE00M	IV.C.1.c.2	Responsibility for others' work outcomes		0	0	0	0	1	1	1	0	0	0	1	1
765	W25CF00M	IV.C.1.d.1	Frequency of conflict		0	0	0	0	1	1	1	0	0	0	1	1
766	W26CF00M	IV.C.1.d.2	Frequency dealing with unpleasant people		0	0	0	0	1	1	1	0	0	0	1	1
767	W27CF00M	IV.C.1.d.3	Frequency dealing with violence/aggression		0	0	0	0	1	1	1	0	0	0	1	1
768	W28FW00M	IV.C.2.a.1.a	Work setting:indoors-controlled env.	indoors-controlled env.	0	0	0	0	1	1	1	0	0	0	0	1
769	W29FW00M	IV.C.2.a.1.b		indoors-uncontrolled enf.	0	0	0	0	1	1	1	0	0	0	0	1
770	W30FW00M	IV.C.2.a.1.c		outdoors - exposed	0	0	0	0	1	1	1	0	0	0	0	1
771	W31FW00M	IV.C.2.a.1.d		under cover	0	0	0	0	1	1	1	0	0	0	0	1
772	W32FW00M	IV.C.2.a.1.e		open vehicle	0	0	0	0	1	1	1	0	0	0	0	1
773	W33FW00M	IV.C.2.a.1.f		enclosed vehicle	0	0	0	0	1	1	1	0	0	0	0	1
774	W34PA00M	IV.C.2.a.2	Privacy of work area		1	0	0	0	0	0	0	0	0	0	0	0
775	W35PX00M	IV.C.2.a.3	Proximity to others		0	0	0	0	1	1	1	0	0	0	0	1
776	W36FW00M	IV.C.2.b.1.a	Environmental Conditions	loud noise	0	0	0	0	1	1	1	0	0	0	1	1
777	W37FW00M	IV.C.2.b.1.b		very hot/cold	0	0	0	0	1	1	1	0	0	0	1	1
778	W38FW00M	IV.C.2.b.1.c		high or low light	0	0	0	0	1	1	1	0	0	0	1	1
779	W39FW00M	IV.C.2.b.1.d		contaminants	0	0	0	0	1	1	1	0	0	0	1	1
780	W40FW00M	IV.C.2.b.1.e		cramped space	0	0	0	0	1	1	1	0	0	0	1	1
781	W41FW00M	IV.C.2.b.1.f		whole body vibration	0	0	0	0	1	1	1	0	0	0	1	1
782	W42FW00M	IV.C.2.c.1.a	Exposure to Radiation	Frequency	0	0	0	0	1	1	1	0	0	0	1	1
783	W42LI00M	IV.C.2.c.2.a		Injury likelihood	1	0	0	0	0	0	0	0	0	0	1	0
784	W42DI00M	IV.C.2.c.3.a		Injury degree	1	0	0	0	0	0	0	0	0	0	1	0
785	W43FW00M	IV.C.2.c.1.b	Exposure to Disease		0	0	0	0	1	1	1	0	0	0	1	1
786	W43LI00M	IV.C.2.c.2.b			1	0	0	0	0	0	0	0	0	0	1	0
787	W43DI00M	IV.C.2.c.3.b			1	0	0	0	0	0	0	0	0	0	1	0
788	W44FW00M	IV.C.2.c.1.c	Exposure to High Places		0	0	0	0	1	1	1	0	0	0	1	1
789	W44LI00M	IV.C.2.c.2.c			1	0	0	0	0	0	0	0	0	0	1	0
790	W44DI00M	IV.C.2.c.3.c			1	0	0	0	0	0	0	0	0	0	1	0
791	W45FW00M	IV.C.2.c.1.d	Exposure to Hazard Cond		0	0	0	0	1	1	1	0	0	0	1	1
792	W45LI00M	IV.C.2.c.2.d			1	0	0	0	0	0	0	0	0	0	1	0
793	W45DI00M	IV.C.2.c.3.d			1	0	0	0	0	0	0	0	0	0	1	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
794	W46FW00M	IV.C.2.c.1.e	Exposure to Hazard Equipment		0	0	0	0	1	1	1	0	0	0	1	1
795	W46LI00M	IV.C.2.c.2.e			1	0	0	0	0	0	0	0	0	0	1	0
796	W46DI00M	IV.C.2.c.3.e			1	0	0	0	0	0	0	0	0	0	1	0
797	W47FW00M	IV.C.2.c.1.f	Exposure to Hazard Situation		0	0	0	0	1	1	1	0	0	0	1	1
798	W47LI00M	IV.C.2.c.2.f			1	0	0	0	0	0	0	0	0	0	1	0
799	W47DI00M	IV.C.2.c.3.f			1	0	0	0	0	0	0	0	0	0	1	0
800	W60PS00M	IV.C.2.d.1.a	Time in work period spent:	Sitting	0	0	0	0	1	1	1	0	0	0	1	1
801	W61PS00M	IV.C.2.d.1.b		Standing	0	0	0	0	1	1	1	0	0	0	1	1
802	W62PS00M	IV.C.2.d.1.c		Climbing	0	0	0	0	1	1	1	0	0	0	1	1
803	W63PS00M	IV.C.2.d.1.d		Walking/running	0	0	0	0	1	1	1	0	0	0	1	1
804	W64PS00M	IV.C.2.d.1.e		Kneeling/crouching	0	0	0	0	1	1	1	0	0	0	1	1
805	W65PS00M	IV.C.2.d.1.f		Keeping balance	0	0	0	0	1	1	1	0	0	0	1	1
806	W66PS00M	IV.C.2.d.1.g		Handling/feeling objects/tools/controls	0	0	0	0	1	1	1	0	0	0	1	1
807	W67PS00M	IV.C.2.d.1.h		Bending twisting	0	0	0	0	1	1	1	0	0	0	1	1
808	W68PS00M	IV.C.2.d.1.i		Repetitive motion	0	0	0	0	1	1	1	0	0	0	1	1
809	W69AT00M	IV.C.2.e.1.a	How often does worker wear:	Wear business clothes	1	0	0	0	0	0	0	0	0	0	0	0
810	W70AT00M	IV.C.2.e.1.b		Wear uniform	1	0	0	0	0	0	0	0	0	0	1	0
811	W71AT00M	IV.C.2.e.1.c		Wear work clothing	1	0	0	0	0	0	0	0	0	0	0	0
812	W72FW00M	IV.C.2.e.1.d		Wear protective clothing	0	0	0	0	1	1	1	0	0	0	1	1
813	W73FW00M	IV.C.2.e.1.e		Wear Specialized safety clothing	0	0	0	0	1	1	1	0	0	0	1	1
814	W74SR00M	IV.C.3.a.1	Consequences of error		0	0	0	0	1	1	1	0	0	0	1	1
815	W75IP00M	IV.C.3.a.2.a	Level of decisions		0	0	0	0	1	1	1	0	0	0	0	1
816	W76FW00M	IV.C.3.a.2.b	Frequency of decisions		0	0	0	0	1	1	1	0	0	0	0	1
817	W77AN00M	IV.C.3.a.3	Responsibility/accountability		1	0	0	0	0	0	0	0	0	0	0	0
818	W78FM00M	IV.C.3.a.4	Decision Latitude		0	0	0	0	1	1	1	0	0	0	0	1
819	W79FC00M	IV.C.3.b.1	Frustrating circumstances		1	0	0	0	0	0	0	0	0	0	1	0
820	W80AO00M	IV.C.3.b.2	Degree of automation		0	0	0	0	1	1	1	0	0	0	1	1
821	W81CL00M	IV.C.3.b.3	Task clarity		1	0	0	0	0	0	0	0	0	0	0	0
822	W82IJ00M	IV.C.3.b.4	Importance of accuracy		0	0	0	0	1	1	1	0	0	0	1	1
823	W83IJ00M	IV.C.3.b.5	Importance of details		1	0	0	0	0	0	0	0	0	0	1	0
824	W84IJ00M	IV.C.3.b.6	Importance of vigilance		1	0	0	0	0	0	0	0	0	0	1	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
825	W85IJ00M	IV.C.3.b.7	Importance of repetitive activity		0	0	0	0	1	1	1	0	0	0	1	1
826	W86ST00M	IV.C.3.b.8	Structured vs. Unstructured work		0	0	0	0	1	1	1	0	0	0	0	1
827	W87LC00M	IV.C.3.c.1	Level of competition		0	0	0	0	1	1	1	0	0	0	0	1
828	W88FW00M	IV.C.3.d.1	Time Pressure		0	0	0	0	1	1	1	0	0	0	0	1
829	W89II00M	IV.C.3.d.2	Distraction/interruption		1	0	0	0	0	0	0	0	0	0	0	0
830	W90IJ00M	IV.C.3.d.3	Paced by machinery		0	0	0	0	1	1	1	0	0	0	1	1
831	W91CO01P	IV.C.3.d.4	Work schedule	Regular	0	0	0	0	1	1	1	0	0	0	0	1
832	W91CO02P			Irregular	0	0	0	0	1	1	1	0	0	0	0	1
833	W91CO03P			Seasonal	0	0	0	0	1	1	1	0	0	0	0	1
834	W92CO01P	IV.C.3.d.5	Work Shift	Day	1	0	0	0	0	0	0	0	0	0	0	0
835	W92CO02P			Other than day	1	0	0	0	0	0	0	0	0	0	0	0
836	W92CO03P			Split or variable	1	0	0	0	0	0	0	0	0	0	0	0
837	W92CO04P			Rotating	1	0	0	0	0	0	0	0	0	0	0	0
838	W93CO01P	IV.C.3.d.6	Shift Duration: Paid for	Less than 8 hrs	1	0	0	0	0	0	0	0	0	0	0	0
839	W93CO02P			8 Hours	1	0	0	0	0	0	0	0	0	0	0	0
840	W93CO03P			More than 8 hrs	1	0	0	0	0	0	0	0	0	0	0	0
841	W94CA01P	IV.C.3.d.7	Usual Overtime	None	1	0	0	0	0	0	0	0	0	0	0	0
842	W94CA02P			Employer request	1	0	0	0	0	0	0	0	0	0	0	0
843	W94CA03P			On Call	1	0	0	0	0	0	0	0	0	0	0	0
844	W94CA04P			Weekend	1	0	0	0	0	0	0	0	0	0	0	0
845	W95CO01P	IV.C.3.d.8	Hours in typical work week	less than 40 hrs	0	0	0	0	1	1	1	0	0	0	0	1
846	W95CO02P			40 hours	0	0	0	0	1	1	1	0	0	0	0	1
847	W95CO03P			More than 40 hrs	0	0	0	0	1	1	1	0	0	0	0	1
848	W96CO01P	IV.C.3.d.9	Work Cycle	1 week	1	0	0	0	0	0	0	0	0	0	0	0
849	W96CO02P			2 weeks	1	0	0	0	0	0	0	0	0	0	0	0
850	W96CO03P			1 month	1	0	0	0	0	0	0	0	0	0	0	0
851	W97CO01P	IV.C.3.d.10	Days in work cycle	Less than 3 days	1	0	0	0	0	0	0	0	0	0	0	0
852	W97CO02P			3 days	1	0	0	0	0	0	0	0	0	0	0	0
853	W97CO03P			4 days	1	0	0	0	0	0	0	0	0	0	0	0
854	W97CO04P			5 days	1	0	0	0	0	0	0	0	0	0	0	0
855	W97CO05P			6 days	1	0	0	0	0	0	0	0	0	0	0	0
856	W97CO06P			7 days	1	0	0	0	0	0	0	0	0	0	0	0
857	W97CO07P			8-10 days	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
858	W97CO08P			11-14 days	1	0	0	0	0	0	0	0	0	0	0	0
859	W97CO09P			15-20 days	1	0	0	0	0	0	0	0	0	0	0	0
860	W97CO10P			More than 20 days	1	0	0	0	0	0	0	0	0	0	0	0
	The two following items are not in the original and revised Instruments, however, they were in the instrument used in collecting the analyst data.															
861	W98FN00M	IV.C.2.a.1.g		Indoors	1	0	0	0	0	0	0	0	0	0	1	0
862	W99FN00M	IV.C.2.a.1.h		Outdoors	1	0	0	0	0	0	0	0	0	0	1	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
	WORK STYLES															
863	S01LV00M	I.C.1.a	Achievement/Effort	Level	1	0	0	0	0	0	0	0	0	0	0	0
864	S01IM00M			Importance	0	0	0	0	1	0	0	0	0	0	0	1
865	S02LV00M	I.C.1.b	Persistence	Level	1	0	0	0	0	0	0	0	0	0	0	0
866	S02IM00M			Importance	0	0	0	1	1	0	0	0	0	0	0	1
867	S03LV00M	I.C.1.c	Initiative	Level	1	0	0	0	0	0	0	0	0	0	0	0
868	S03IM00M			Importance	0	0	0	1	1	0	0	0	0	0	0	1
869	S04LV00M	I.C.2.a	Energy	Level	1	0	0	0	0	0	0	0	0	0	0	0
870	S04IM00M			Importance	1	0	0	0	0	0	0	0	0	0	0	0
871	S05LV00M	I.C.2.b	Leadership Orientation	Level	1	0	0	0	0	0	0	0	0	0	0	0
872	S05IM00M			Importance	0	0	1	1	1	0	0	0	0	0	0	1
873	S06LV00M	I.C.3.a	Cooperation	Level	1	0	0	0	0	0	0	0	0	0	0	0
874	S06IM00M			Importance	0	0	0	0	1	0	0	0	0	0	0	1
875	S07LV00M	I.C.3.b	Concern for Others	Level	1	0	0	0	0	0	0	0	0	0	0	0
876	S07IM00M			Importance	0	0	0	0	1	0	0	0	0	0	0	1
877	S08LV00M	I.C.3.c	Social Orientation	Level	1	0	0	0	0	0	0	0	0	0	0	0
878	S08IM00M			Importance	0	0	0	0	1	0	0	0	0	0	0	1
879	S09LV00M	I.C.4.a	Self-Control	Level	1	0	0	0	0	0	0	0	0	0	0	0
880	S09IM00M			Importance	0	0	0	0	1	0	0	0	0	0	0	1
881	S10LV00M	I.C.4.b	Stress Tolerance	Level	1	0	0	0	0	0	0	0	0	0	0	0
882	S10IM00M			Importance	0	0	0	0	1	0	0	0	0	0	0	1
883	S11LV00M	I.C.4.c	Adaptability/Flexibility	Level	1	0	0	0	0	0	0	0	0	0	0	0
884	S11IM00M			Importance	0	0	0	0	1	0	0	0	0	0	0	1
885	S12LV00M	I.C.5.a	Dependability	Level	1	0	0	0	0	0	0	0	0	0	0	0
886	S12IM00M			Importance	0	0	0	0	1	0	0	0	0	0	0	1
887	S13LV00M	I.C.5.b	Attention to Detail	Level	1	0	0	0	0	0	0	0	0	0	0	0
888	S13IM00M			Importance	0	0	0	0	1	0	0	0	0	0	0	1
889	S14LV00M	I.C.5.c	Integrity	Level	1	0	0	0	0	0	0	0	0	0	0	0
890	S14IM00M			Importance	0	0	0	1	1	0	0	0	0	0	0	1
891	S15LV00M	I.C.6	Independence	Level	1	0	0	0	0	0	0	0	0	0	0	0
892	S15IM00M			Importance	0	0	0	0	1	0	0	0	0	0	0	1
893	S16LV00M	I.C.7.a	Innovation	Level	1	0	0	0	0	0	0	0	0	0	0	0
894	S16IM00M			Importance	0	0	0	1	1	0	0	0	0	0	0	1
895	S17LV00M	I.C.7.b	Analytical Thinking	Level	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
896	S17IM00M			Importance	0	0	0	0	1	0	0	0	0	0	0	1

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
OCCUPATIONAL VALUES																
897	V01EN00M	I.B.2.a.1	Workers on this job make use of their individual abilities		1	0	0	0	0	0	0	0	0	0	1	0
898	V02EN00M	I.B.2.a.2	Workers on this job get a feeling of accomplishment		1	0	0	0	0	0	0	0	0	0	1	0
899	V03EN00M	I.B.2.b.1	Workers busy all the time		1	0	0	0	0	0	0	0	0	0	1	0
900	V04EN00M	I.B.2.c.1	Workers can advance		1	0	0	0	0	0	0	0	0	0	1	0
901	V05EN00M	I.B.2.c.3	Workers give instructions		1	0	0	0	0	0	0	0	0	0	1	0
902	V06EN00M	I.B.2.e.1	Workers treated fairly		1	0	0	0	0	0	0	0	0	0	1	0
903	V07EN00M	I.B.2.b.4	Workers paid relatively well		1	0	0	0	0	0	0	0	0	0	1	0
904	V08EN00M	I.B.2.d.1	Workers' coworkers easy to get along with		1	0	0	0	0	0	0	0	0	0	1	0
905	V09EN00M	I.B.2.f.1	Workers try out own ideas		1	0	0	0	0	0	0	0	0	0	1	0
906	V10EN00M	I.B.2.b.2	Workers work alone		1	0	0	0	0	0	0	0	0	0	1	0
907	V11EN00M	I.B.2.d.3	Workers not pressured to do wrong		1	0	0	0	0	0	0	0	0	0	1	0
908	V12EN00M	I.B.2.c.2	Workers get recognition for achievement		1	0	0	0	0	0	0	0	0	0	1	0
909	V13EN00M	I.B.2.f.2	Workers make own decisions		1	0	0	0	0	0	0	0	0	0	1	0
910	V14EN00M	I.B.2.b.5	Workers have steady employment		1	0	0	0	0	0	0	0	0	0	1	0
911	V15EN00M	I.B.2.d.2	Workers do things for others		1	0	0	0	0	0	0	0	0	0	1	0
912	V16EN00M	I.B.2.c.4	Workers looked up to		1	0	0	0	0	0	0	0	0	0	1	0
913	V17EN00M	I.B.2.e.2	Workers backed up by management		1	0	0	0	0	0	0	0	0	0	1	0
914	V18EN00M	I.B.2.e.3	Workers well trained by supervisors		1	0	0	0	0	0	0	0	0	0	1	0
915	V19EN00M	I.B.2.b.3	Workers do different things every day		1	0	0	0	0	0	0	0	0	0	1	0
916	V20EN00M	I.B.2.b.6	Workers have good working conditions		1	0	0	0	0	0	0	0	0	0	1	0
917	V21EN00M	I.B.2.f.3	Workers plan own work		1	0	0	0	0	0	0	0	0	0	1	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
TRAINING, EDUCATION, LICENSURE, and EXPERIENCE																
All of the following items have been deleted from the revised instrument. The TELE items that were retained are in the Knowledge Domain.																
918	E02CA01P	II.D.2	Instructional program required	Agricultural Business and Production	1	0	0	0	0	0	0	0	0	0	0	0
919	E02CA02P			Agricultural Sciences	1	0	0	0	0	0	0	0	0	0	0	0
920	E02CA03P			Architecture and Related Programs	1	0	0	0	0	0	0	0	0	0	0	0
921	E02CA04P			Area, Ethnic, and Cultural Studies	1	0	0	0	0	0	0	0	0	0	0	0
922	E02CA05P			Biological Sciences/Life Sciences	1	0	0	0	0	0	0	0	0	0	0	0
923	E02CA06P			Business Management & Admin. Services	1	0	0	0	0	0	0	0	0	0	0	0
924	E02CA07P			Communications	1	0	0	0	0	0	0	0	0	0	0	0
925	E02CA08P			Communications Technologies	1	0	0	0	0	0	0	0	0	0	0	0
926	E02CA09P			Computer and Information Sciences	1	0	0	0	0	0	0	0	0	0	0	0
927	E02CA10P			Conservation & Renewable Natural Resources	1	0	0	0	0	0	0	0	0	0	0	0
928	E02CA11P			Construction Trades	1	0	0	0	0	0	0	0	0	0	0	0
929	E02CA12P			Education	1	0	0	0	0	0	0	0	0	0	0	0
930	E02CA13P			Engineering	1	0	0	0	0	0	0	0	0	0	0	0
931	E02CA14P			Engineering-Related Technologies	1	0	0	0	0	0	0	0	0	0	0	0
932	E02CA15P			English Language and Literature/Letters	1	0	0	0	0	0	0	0	0	0	0	0
933	E02CA16P			Foreign Languages and Literatures	1	0	0	0	0	0	0	0	0	0	0	0
934	E02CA17P			Health Professions and Related Sciences	1	0	0	0	0	0	0	0	0	0	0	0
935	E02CA18P			Home Economics, General	1	0	0	0	0	0	0	0	0	0	0	0
936	E02CA19P			Law and Legal Studies	1	0	0	0	0	0	0	0	0	0	0	0
937	E02CA20P			Liberal Arts and Sciences	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
938	E02CA21P			Library Science	1	0	0	0	0	0	0	0	0	0	0	0
939	E02CA22P			Marketing Operations	1	0	0	0	0	0	0	0	0	0	0	0
940	E02CA23P			Mathematics	1	0	0	0	0	0	0	0	0	0	0	0
941	E02CA24P			Mechanics and Repairers	1	0	0	0	0	0	0	0	0	0	0	0
942	E02CA25P			Military Technologies	1	0	0	0	0	0	0	0	0	0	0	0
943	E02CA26P			Multi/interdisciplinary Studies	1	0	0	0	0	0	0	0	0	0	0	0
944	E02CA27P			Parks,Recreation,Leisure,Fitness Studies	1	0	0	0	0	0	0	0	0	0	0	0
945	E02CA28P			Personal and Miscellaneous Services	1	0	0	0	0	0	0	0	0	0	0	0
946	E02CA29P			Philosophy and Religion	1	0	0	0	0	0	0	0	0	0	0	0
947	E02CA30P			Physical Sciences	1	0	0	0	0	0	0	0	0	0	0	0
948	E02CA31P			Precision Production Trades	1	0	0	0	0	0	0	0	0	0	0	0
949	E02CA32P			Protective Services	1	0	0	0	0	0	0	0	0	0	0	0
950	E02CA33P			Psychology	1	0	0	0	0	0	0	0	0	0	0	0
951	E02CA34P			Public Administration and Services	1	0	0	0	0	0	0	0	0	0	0	0
952	E02CA35P			Reserve Officers' Training Corps (ROTC)	1	0	0	0	0	0	0	0	0	0	0	0
953	E02CA36P			Science Technologies	1	0	0	0	0	0	0	0	0	0	0	0
954	E02CA37P			Social Sciences and History	1	0	0	0	0	0	0	0	0	0	0	0
955	E02CA38P			Theological Studies &Religious Vocations	1	0	0	0	0	0	0	0	0	0	0	0
956	E02CA39P			Transportation and Materials Moving	1	0	0	0	0	0	0	0	0	0	0	0
957	E02CA40P			Visual and Performing Arts	1	0	0	0	0	0	0	0	0	0	0	0
958	E02CA41P			Vocational Home Economics	1	0	0	0	0	0	0	0	0	0	0	0
959	E02CA99P			No specific major required or preferred	1	0	0	0	0	0	0	0	0	0	0	0
960	E03CO01P	II.D.3.a	Technical Vocational	not required	1	0	0	0	0	0	0	0	0	0	0	0
961	E03CO02P			high school	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
962	E03CO03P			post-secondary technical training	1	0	0	0	0	0	0	0	0	0	0	0
963	E03CO05P			college	1	0	0	0	0	0	0	0	0	0	0	0
964	E03CO05P			graduate school or other post undergrad	1	0	0	0	0	0	0	0	0	0	0	0
965	E04CO01P	II.D.3.b	Business Vocational	not required	1	0	0	0	0	0	0	0	0	0	0	0
966	E04CO02P			high school	1	0	0	0	0	0	0	0	0	0	0	0
967	E04CO03P			post-secondary technical training	1	0	0	0	0	0	0	0	0	0	0	0
968	E04CO04P			college	1	0	0	0	0	0	0	0	0	0	0	0
969	E04CO05P			graduate school or other post undergrad	1	0	0	0	0	0	0	0	0	0	0	0
970	E05CO01P	II.D.3.c	English/Language Arts	not required	1	0	0	0	0	0	0	0	0	0	0	0
971	E05CO02P			high school	1	0	0	0	0	0	0	0	0	0	0	0
972	E05CO03P			post-secondary technical training	1	0	0	0	0	0	0	0	0	0	0	0
973	E05CO04P			college	1	0	0	0	0	0	0	0	0	0	0	0
974	E05CO05P			graduate school or other post undergrad	1	0	0	0	0	0	0	0	0	0	0	0
975	E06CO01P	II.D.3.d	Oral Communication	not required	1	0	0	0	0	0	0	0	0	0	0	0
976	E06CO02P			high school	1	0	0	0	0	0	0	0	0	0	0	0
977	E06CO03P			post-secondary technical training	1	0	0	0	0	0	0	0	0	0	0	0
978	E06CO04P			college	1	0	0	0	0	0	0	0	0	0	0	0
979	E06CO05P			graduate school or other post undergrad	1	0	0	0	0	0	0	0	0	0	0	0
980	E07CO01P	II.D.3.e	Languages	not required	1	0	0	0	0	0	0	0	0	0	0	0
981	E07CO02P			high school	1	0	0	0	0	0	0	0	0	0	0	0
982	E07CO03P			post-secondary technical training	1	0	0	0	0	0	0	0	0	0	0	0
983	E07CO04P			college	1	0	0	0	0	0	0	0	0	0	0	0
984	E07CO05P			graduate school or other post undergrad	1	0	0	0	0	0	0	0	0	0	0	0
985	E08CO01P	II.D.3.f	Basic Math	not required	1	0	0	0	0	0	0	0	0	0	0	0
986	E08CO02P			high school	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
987	E08CO03P			post-secondary technical training	1	0	0	0	0	0	0	0	0	0	0	0
988	E08CO04P			college	1	0	0	0	0	0	0	0	0	0	0	0
989	E08CO05P			graduate school or other post undergrad	1	0	0	0	0	0	0	0	0	0	0	0
990	E09CO01P	II.D.3.g	Advanced Math	not required	1	0	0	0	0	0	0	0	0	0	0	0
991	E09CO02P			high school	1	0	0	0	0	0	0	0	0	0	0	0
992	E09CO03P			post-secondary technical training	1	0	0	0	0	0	0	0	0	0	0	0
993	E09CO04P			college	1	0	0	0	0	0	0	0	0	0	0	0
994	E09CO05P			graduate school or other post undergrad	1	0	0	0	0	0	0	0	0	0	0	0
995	E10CO01P	II.D.3.h	Physical Science	not required	1	0	0	0	0	0	0	0	0	0	0	0
996	E10CO02P			high school	1	0	0	0	0	0	0	0	0	0	0	0
997	E10CO03P			post-secondary technical training	1	0	0	0	0	0	0	0	0	0	0	0
998	E10CO04P			college	1	0	0	0	0	0	0	0	0	0	0	0
999	E10CO05P			graduate school or other post undergrad	1	0	0	0	0	0	0	0	0	0	0	0
1000	E11CO01P	II.D.3.i	Computer Science	not required	1	0	0	0	0	0	0	0	0	0	0	0
1001	E11CO02P			high school	1	0	0	0	0	0	0	0	0	0	0	0
1002	E11CO03P			post-secondary technical training	1	0	0	0	0	0	0	0	0	0	0	0
1003	E11CO04P			college	1	0	0	0	0	0	0	0	0	0	0	0
1004	E11CO05P			graduate school or other post undergrad	1	0	0	0	0	0	0	0	0	0	0	0
1005	E12CO01P	II.D.3.j	Biological Science	not required	1	0	0	0	0	0	0	0	0	0	0	0
1006	E12CO02P			high school	1	0	0	0	0	0	0	0	0	0	0	0
1007	E12CO03P			post-secondary technical training	1	0	0	0	0	0	0	0	0	0	0	0
1008	E12CO04P			college	1	0	0	0	0	0	0	0	0	0	0	0
1009	E12CO05P			graduate school or other post undergrad	1	0	0	0	0	0	0	0	0	0	0	0
1010	E13CO01P	II.D.3.k	Applied Science	not required	1	0	0	0	0	0	0	0	0	0	0	0
1011	E13CO02P			high school	1	0	0	0	0	0	0	0	0	0	0	0

Row #	DD Var_Name	Key	Element Label	Scale Label	A	B	C	D	E	F	G	H	I	J	K	L
1012	E13CO03P			post-secondary technical training	1	0	0	0	0	0	0	0	0	0	0	0
1013	E13CO04P			college	1	0	0	0	0	0	0	0	0	0	0	0
1014	E13CO05P			graduate school or other post undergrad	1	0	0	0	0	0	0	0	0	0	0	0
1015	E14CO01P	II.D.3.l	Social Science	not required	1	0	0	0	0	0	0	0	0	0	0	0
1016	E14CO02P			high school	1	0	0	0	0	0	0	0	0	0	0	0
1017	E14CO03P			post-secondary technical training	1	0	0	0	0	0	0	0	0	0	0	0
1018	E14CO04P			college	1	0	0	0	0	0	0	0	0	0	0	0
1019	E14CO05P			graduate school or other post undergrad	1	0	0	0	0	0	0	0	0	0	0	0
1020	E15CO01P	II.D.3.m	Arts	not required	1	0	0	0	0	0	0	0	0	0	0	0
1021	E15CO02P			high school	1	0	0	0	0	0	0	0	0	0	0	0
1022	E15CO03P			post-secondary technical training	1	0	0	0	0	0	0	0	0	0	0	0
1023	E15CO04P			college	1	0	0	0	0	0	0	0	0	0	0	0
1024	E15CO05P			graduate school or other post undergrad	1	0	0	0	0	0	0	0	0	0	0	0
1025	E16CO01P	II.D.3.n	Humanities	not required	1	0	0	0	0	0	0	0	0	0	0	0
1026	E16CO02P			high school	1	0	0	0	0	0	0	0	0	0	0	0
1027	E16CO03P			post-secondary technical training	1	0	0	0	0	0	0	0	0	0	0	0
1028	E16CO04P			college	1	0	0	0	0	0	0	0	0	0	0	0
1029	E16CO05P			graduate school or other post undergrad	1	0	0	0	0	0	0	0	0	0	0	0
1030	E17CO01P	II.D.3.o	Physical Education	not required	1	0	0	0	0	0	0	0	0	0	0	0
1031	E17CO02P			high school	1	0	0	0	0	0	0	0	0	0	0	0
1032	E17CO03P			post-secondary technical training	1	0	0	0	0	0	0	0	0	0	0	0
1033	E17CO04P			college	1	0	0	0	0	0	0	0	0	0	0	0
1034	E17CO05P			graduate school or other post undergrad	1	0	0	0	0	0	0	0	0	0	0	0
															0	