This digital version of The Revised Handbook for Analyzing Jobs is a reprint of the original text printed by the U.S. Department of Labor (1991). It includes pages that were missing in the original printing (Chapter 9) by:

U.S. Government Printing Office
Superintendent of Documents. Mail Stop: SSOP. Washington, DC 20402-9328
ISBN 0-16-035877-9
STOCK NO. 029-013 00095-1

A print version of this entire publication is available from www.elliottfitzpatrick.com/pcr.html as Item B128
## CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>i</td>
</tr>
<tr>
<td>1. Job Analysis: What It Is and Its Uses</td>
<td>1-1</td>
</tr>
<tr>
<td>2. Concepts and Principles of Job Analysis</td>
<td>2-1</td>
</tr>
<tr>
<td>Determining Job Limits</td>
<td>2-1</td>
</tr>
<tr>
<td>Dimensions of a Job: The Job Analysis Components</td>
<td>2-2</td>
</tr>
<tr>
<td>Sentence Analysis</td>
<td>2-3</td>
</tr>
<tr>
<td>Machines, Tools, Equipment, and Work Aids</td>
<td>2-3</td>
</tr>
<tr>
<td>3. Worker Functions</td>
<td>3-1</td>
</tr>
<tr>
<td>Structure of Worker Functions</td>
<td>3-1</td>
</tr>
<tr>
<td>Procedure for Rating Worker Functions</td>
<td>3-2</td>
</tr>
<tr>
<td>Definitions and Examples of Worker Functions</td>
<td>3-2</td>
</tr>
<tr>
<td>4. Work Fields</td>
<td>4-1</td>
</tr>
<tr>
<td>Combination Work Fields</td>
<td>4-1</td>
</tr>
<tr>
<td>Procedure for Assigning Work Fields</td>
<td>4-1</td>
</tr>
<tr>
<td>Alphabetical Listing of Work Fields</td>
<td>4-3</td>
</tr>
<tr>
<td>Work Fields Organization</td>
<td>4-4</td>
</tr>
<tr>
<td>List of Combination Work Fields</td>
<td>4-7</td>
</tr>
<tr>
<td>Work Fields Descriptions</td>
<td>4-8</td>
</tr>
<tr>
<td>5. Materials, Products, Subject Matter, and Services</td>
<td>5-1</td>
</tr>
<tr>
<td>Organization of MPSMS</td>
<td>5-1</td>
</tr>
<tr>
<td>Procedure for Assigning MPSMS</td>
<td>5-2</td>
</tr>
<tr>
<td>MPSMS Groups</td>
<td>5-3</td>
</tr>
<tr>
<td>Classifications, Definitions, and Examples of MPSMS</td>
<td>5-5</td>
</tr>
<tr>
<td>Alphabetical Listing of MPSMS</td>
<td>5-25</td>
</tr>
<tr>
<td>6. Sentence Analysis Technique</td>
<td>6-1</td>
</tr>
<tr>
<td>7. General Educational Development</td>
<td>7-1</td>
</tr>
<tr>
<td>Divisions of GED Scale</td>
<td>7-1</td>
</tr>
<tr>
<td>Rationale for GED Scale Definitions</td>
<td>7-1</td>
</tr>
<tr>
<td>Scale of General Educational Development</td>
<td>7-2</td>
</tr>
<tr>
<td>Definitions and Examples of GED Levels</td>
<td>7-4</td>
</tr>
<tr>
<td>Procedure for Evaluating and Recording GED Requirements</td>
<td>7-13</td>
</tr>
<tr>
<td>8. Specific Vocational Preparation</td>
<td>8-1</td>
</tr>
<tr>
<td>Scale of Specific Vocational Preparation</td>
<td>8-1</td>
</tr>
<tr>
<td>Definitions and Examples of SVP Levels</td>
<td>8-2</td>
</tr>
<tr>
<td>Procedure for Evaluating and Recording SVP Requirements</td>
<td>8-10</td>
</tr>
<tr>
<td>9. Aptitudes</td>
<td>9-1</td>
</tr>
<tr>
<td>Levels of Aptitudes</td>
<td>9-2</td>
</tr>
<tr>
<td>Procedure for Rating Aptitudes</td>
<td>9-2</td>
</tr>
<tr>
<td>Definitions, Interpretive Information, and Examples of Aptitudes</td>
<td>9-3</td>
</tr>
<tr>
<td>10. Temperaments</td>
<td>10-1</td>
</tr>
<tr>
<td>Definitions and Examples of the Temperament Factors</td>
<td>10-1</td>
</tr>
<tr>
<td>Procedure for Rating Temperaments</td>
<td>10-5</td>
</tr>
<tr>
<td>11. Guide for Occupational Exploration</td>
<td>11-1</td>
</tr>
<tr>
<td>Procedure for Assigning GOE Code and Title</td>
<td>11-1</td>
</tr>
<tr>
<td>Definitions and Work Groups of GOE Interest Areas</td>
<td>11-1</td>
</tr>
</tbody>
</table>
12. Physical Demands and Environmental Conditions .......................................................... 12-1
   Physical Demands Factors, Definitions, and Examples .................................................. 12-1
   Environmental Conditions Factors, Definitions, and Examples ...................................... 12-1
   Procedure for Preparing the Physical Demands and Environmental Conditions Section of the JAR .......................................................... 12-1
   Physical Demand and Environmental Condition Symbols ............................................. 12-14
   Limits of Weights Lifted/Carried or Force Exerted ....................................................... 12-15
   Sample Physical Demands Form ...................................................................................... 12-17
   Sample Environmental Conditions Form ........................................................................ 12-18

13. Writing Job Summaries and Descriptions of Tasks .......................................................... 13-1
    Preparing Job Summaries .............................................................................................. 13-1
    Preparing Descriptions of Tasks .................................................................................. 13-3
    Writing Descriptions of Tasks ..................................................................................... 13-4
    Style Conventions for Recording Descriptions of Tasks .............................................. 13-10
    Determining Detail Needed in Job and Task Descriptions ........................................... 13-12
    List of Frequently Used and Misspelled Words ............................................................ 13-13

14. The Job Analysis Report ................................................................................................. 14-1
    Procedure for Preparing the JAR .................................................................................. 14-1
    Procedure for Recording Establishment Job Titles and DOT Titles .............................. 14-6
    Sample Job Analysis Report Form ............................................................................... 14-7

15. Procedure for Preparing for and Conducting a Job Analysis Study ............................... 15-1
    Industry Study Planning Report .................................................................................... 15-1
    Sample ISPR Face Sheet .............................................................................................. 15-4
    Sample ISPR Segment Analysis Sheet ......................................................................... 15-7
    Procedure for Conducting a Job Analysis Study ............................................................ 15-9

16. Plant Control Card and Staffing Table ......................................................................... 16-1
    Plant Control Card ....................................................................................................... 16-1
    Procedure for Preparing A Plant Control Card ............................................................. 16-1
    Sample Plant Control Card ......................................................................................... 16-3
    Staffing Table ............................................................................................................... 16-4
    Procedure for Preparing The Staffing Table ................................................................... 16-4
    Sample Staffing Table Form ......................................................................................... 16-7
    Alphabetical List of DOT Industries and Codes ............................................................ 16-9

17. Organization and Workflow Charts ................................................................................ 17-1
    Organization Charts ...................................................................................................... 17-1
    Sample Organization Chart ......................................................................................... 17-3
    Workflow Charts ............................................................................................................ 17-4
    Sample Workflow Chart, Manufacturing Establishment ................................................ 17-5
    Sample Workflow Chart, Service Organization ............................................................. 17-6

18. The Narrative Report ...................................................................................................... 18-1
    Compiling Data .............................................................................................................. 18-1
    Organizing Materials ..................................................................................................... 18-1
    Writing the Report ......................................................................................................... 18-2
    Sample Narrative Report ............................................................................................... 18-5

Appendix A: Breaking A Job Down Into Tasks ................................................................. A-1
Appendix B: Determining Detail Needed In Job And Task Descriptions ............................ B-1
Appendix C: Machines, Tools, Equipment, And Work Aids ........................................... C-1
Appendix D: Bibliography .................................................................................................. D-1
Appendix E: Agency Identification Numbers For Occupational Analysis ........................ E-1
CHAPTER 4

WORK FIELDS

Work Fields, a component of Work Performed, are categories of technologies that reflect how work gets done and what gets done as a result of the work activities of a job: the purpose of the job. There are 96 Work Fields identified for use by the USES for classification of all jobs in the economy in terms of what gets done on the job.

Work Fields range from the specific to the general and are organized into homogeneous groups, based on related technologies or objectives, such as the movement of materials, the fabrication of products, the use of data, and the provision of services. Each Work Field is identified by a three-digit code, a brief descriptive title, and a definition. In many cases, a comment is included which enlarges upon the definition and limits or extends the application of the Work Field. Also, cross-references are frequently included which distinguish one Work Field from other related Work Fields.

Following the definition is a list of methods verbs which illustrate the application of the Work Field. This list is not intended to be exhaustive, but merely representative, of the ways in which the objective of the Work Field can be accomplished. Note that the methods verbs listed as examples do not include those appearing in the title or definition for that Work Field, inasmuch as they are implicit in the Work Field. Some methods verbs are used as illustrative examples in more than one Work Field; however, their meanings may differ in the various listings.

It is important to understand that the concept of Work Fields involves consideration not only of the overall objective or purpose of a job, but also how the objective is attained; that is, the means by which the objective of the job is met. MTEWA are instruments and devices used by the worker to achieve the objective of the job. MTEWA are directly related to, and help describe, specific methods verbs.

The job of a worker who performs in a first-line supervisory or helper capacity is assigned the same Work Field(s) as that of the jobs of the workers supervised or helped, because the technologial objectives are the same as those of the workers supervised or helped. It is incorrect to assign Work Field 295-Administering to such supervisory jobs; or 011-Material Moving to helper jobs. For Things jobs that are machine-related, the Work Field is based upon what the machine does. For example, the job of a worker who tends a machine that smooths and polishes bores of shotgun barrels is assigned Work Field 051-Abraiding. Prefixes, such as un or re, are implicit in the definition of a Work Field. For example, Material Moving includes unloading and removing; Filling-Packing-Wrapping includes unpacking, unwrapping, etc.

COMBINATION WORK FIELDS

Combination Work Fields are general categories of Work Fields that contain combinations of Work Fields to cover jobs involving various technologies. For example, Structural Fabricating-Installing-Repairing includes combinations of such specific Work Fields as Abrading, Nailing, Riveting, and Welding. However, in some situations, the analyst may elect to assign the specific Work Fields, rather than a combination Work Field, to express the overall objective of a job.

PROCEDURE FOR ASSIGNING WORK FIELDS

The core of the procedure for assigning Work Fields is the sentence analysis technique. The object of such assignment is to formulate sentences containing words illustrative of the Work Field(s). The resulting sentence must provide an integrated picture that answers the "how" and "why" sufficiently for classification purposes. The sentence analysis technique is outlined in Chapter 6.

4-1
Experienced analysts have found the following steps to be helpful in assigning Work Fields.

Step 1. Study the job-worker situation to determine the method(s) specific to the accomplishment of the overall job objective. As has been pointed out in this section, many verbs are used to signify specific methods which relate to quite different objectives. Thus it is essential to check the particular use of the verb against the definition of the Work Field which is supposed to include it. The listing of methods verbs accompanying each Work Field definition is by no means exhaustive, and it is entirely possible that the analyst will use others. However, make certain that they have methodological value in a particular context and are not simply explanatory or reflective of the end results of the job. The analyst must always keep in mind that Work Fields are broader in scope than the intermediate objectives reflected in individual work element statements in a description of a job. The total of all the intermediate objectives contained in the Description of Tasks should lead to an understanding of the assigned Work Field(s).

Step 2. Select the Work Field that most adequately encompasses the specific methodology of the job-worker situation. Although it is possible to select more than one Work Field for almost any job-worker situation (e.g., nearly all job-worker situations involving Things require Material Moving in addition to whatever else is done), this will not be necessary if the primary Work Field is adequately comprehensive. However, there will be instances where it is necessary to assign more than one Work Field. When a combination Work Field best reflects the overall objective of the job, specific Work Fields encompassed by the Combination Work Field are not assigned.

Step 3. Record in Item 8 of the JAR the code number(s) and title(s) of the Work Field(s) selected that reflect(s) the analysis of the data.
ALPHABETICAL LISTING OF WORK FIELDS

051  Abrading
291  Accommodating
295  Administering
298  Advising-Counseling
002  Animal Propagating
211  Appraising
262  Artistic Painting-Drawing
141  Baking-Drying
071  Bolting-Screwing
053  Boring
153  Brushing-Spraying
034  Butchering-Meat Cutting
094  Caulking
132  Casting
052  Chipping
031  Cleaning
161  Combing-Napping
263  Composing-Choreographing
146  Cooking-Food Preparing
142  Crushing-Grinding
233  Data Processing
135  Die Sizing
202  Developing-Printing
144  Distilling
242  Drafting
111  Electrical-Electronic Fabricating-Installing-Repairing*
154  Electroplating
244  Engineering
183  Engraving
297  Entertaining
182  Etching
007  Excavating-Clearing-Foundation Building
062  Fastening
041  Filling-Packing-Wrapping
061  Fitting-Folding
082  Flame Cutting-Arc Cutting-Beam Cutting
063  Gluing-Laminating
294  Health Caring-Medical
133  Heat Conditioning
001  Hunting-Fishing
151  Immersing-Coating
192  Imprinting
282  Information Giving
212  Inspecting-Measuring-Testing
271  Investigating
165  Knitting
092  Laying-Covering
241  Laying Out
272  Litigating
004  Logging
057  Lubricating
033  Machining*
091  Masoning
011  Material Moving
121  Mechanical Fabricating-Installing-Repairing*
131  Melting
292  Merchandising-Sales
055  Milling-Turning-Planing
005  Mining-Quarrying-Earth Boring
143  Mixing
136  Molding
072  Nailing
232  Numerical Recording-Recordkeeping
095  Paving
201  Photographing
003  Plant Cultivating
134  Pressing-Forging
191  Printing
147  Processing-Compounding*
293  Protecting
014  Pumping
251  Researching
073  Riveting
152  Saturating
056  Sawing
145  Separating
171  Sewing-Tailoring
054  Shearing-Shaving
083  Soldering-Brazing
162  Spinning
021  Stationary Engineering
221  Stock Checking
102  Structural Fabricating-Installing-Repairing*
264  Styling
032  Surface Finishing
243  Surveying
281  System Communicating
296  Teaching
013  Transporting
166  Tufting
101  Upholstering*
231  Verbal Recording-Record Keeping
164  Weaving
081  Welding
163  Winding
261  Writing

*Combination Work Fields
WORK FIELDS ORGANIZATION

The Work Fields have been organized into the following groups on the basis of similar technologies. This arrangement may be helpful in ensuring the applicability of the Work Field(s) selected for the job being analyzed.

<table>
<thead>
<tr>
<th>ORGANIZATION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>001 Hunting-Fishing</td>
<td>Securing, producing, and cultivating raw materials, products, and animals (livestock or game) on and below the surface of the earth; usually outdoor work.</td>
</tr>
<tr>
<td>002 Animal Propagating</td>
<td></td>
</tr>
<tr>
<td>003 Plant Cultivating</td>
<td></td>
</tr>
<tr>
<td>004 Logging</td>
<td></td>
</tr>
<tr>
<td>005 Mining-Quarrying-Earth Boring</td>
<td></td>
</tr>
<tr>
<td>007 Excavating-Clearing-Foundation Building</td>
<td>Grading surfaces and building foundations.</td>
</tr>
<tr>
<td>011 Material Moving</td>
<td>Moving materials and people by hand and machine power.</td>
</tr>
<tr>
<td>013 Transporting</td>
<td></td>
</tr>
<tr>
<td>014 Pumping</td>
<td></td>
</tr>
<tr>
<td>021 Stationary Engineering</td>
<td>Producing and distributing heat, power, and conditioned air.</td>
</tr>
<tr>
<td>031 Cleaning</td>
<td>Industrial, commercial, and domestic cleaning.</td>
</tr>
<tr>
<td>032 Surface Finishing</td>
<td>Shaping, pressing, and stretching articles, usually with heat and steam, under tension or pressure.</td>
</tr>
<tr>
<td>033 Lubricating</td>
<td>Coating objects with liquid or dry lubricants.</td>
</tr>
<tr>
<td>034 Butchering-Meat Cutting</td>
<td>Slaughtering livestock and preparing meats for marketing.</td>
</tr>
<tr>
<td>041 Filling-Packaging-Wrapping</td>
<td>Packaging materials and products for distribution and storage.</td>
</tr>
<tr>
<td>051 Abrading</td>
<td>Working with machines and handtools to cut and shape materials and objects usually made from wood, metal, and plastics. Can also involve assembly of objects.</td>
</tr>
<tr>
<td>052 Chipping</td>
<td></td>
</tr>
<tr>
<td>053 Boring</td>
<td></td>
</tr>
<tr>
<td>054 Shearing-Shaving</td>
<td></td>
</tr>
<tr>
<td>055 Milling-Turning-Planing</td>
<td></td>
</tr>
<tr>
<td>056 Sawing</td>
<td></td>
</tr>
<tr>
<td>057 Machining</td>
<td></td>
</tr>
<tr>
<td>061 Fitting-Folding</td>
<td>Folding and assembling parts and materials, usually light, by means of fitting together or joining with sticky compounds and fastening devices, such as staples, grommets, and snaps.</td>
</tr>
<tr>
<td>062 Fastening</td>
<td></td>
</tr>
<tr>
<td>063 Gluing-Laminating</td>
<td></td>
</tr>
<tr>
<td>071 Bolting-Screwing</td>
<td>Assembling parts and materials, usually of metal, wood, and plastics, by means of screws, nails, rivets, or other fasteners.</td>
</tr>
<tr>
<td>072 Nailing</td>
<td></td>
</tr>
<tr>
<td>073 Riveting</td>
<td></td>
</tr>
<tr>
<td>081 Welding</td>
<td>Joining or cutting materials by means of a gas flame, electric arc, laser beam, combination welding process, and soldering.</td>
</tr>
<tr>
<td>082 Flame Cutting-Arc Cutting-Beam Cutting</td>
<td></td>
</tr>
<tr>
<td>083 Soldering-Brazing</td>
<td></td>
</tr>
<tr>
<td>Code</td>
<td>Organization</td>
</tr>
<tr>
<td>------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>091</td>
<td>Masoning</td>
</tr>
<tr>
<td>092</td>
<td>Laying-Covering</td>
</tr>
<tr>
<td>094</td>
<td>Caulking</td>
</tr>
<tr>
<td>095</td>
<td>Paving</td>
</tr>
<tr>
<td>101</td>
<td>Upholstering</td>
</tr>
<tr>
<td>102</td>
<td>Structural Fabricating-Installing-Repairing</td>
</tr>
<tr>
<td>111</td>
<td>Electrical-Electronic Fabricating-Installing-Repairing</td>
</tr>
<tr>
<td>121</td>
<td>Mechanical Fabricating-Installing-Repairing</td>
</tr>
<tr>
<td>131</td>
<td>Melting</td>
</tr>
<tr>
<td>132</td>
<td>Casting</td>
</tr>
<tr>
<td>133</td>
<td>Heat Conditioning</td>
</tr>
<tr>
<td>134</td>
<td>Pressing-Forging</td>
</tr>
<tr>
<td>135</td>
<td>Die Sizing</td>
</tr>
<tr>
<td>136</td>
<td>Molding</td>
</tr>
<tr>
<td>141</td>
<td>Baking-Drying</td>
</tr>
<tr>
<td>142</td>
<td>Crushing-Grinding</td>
</tr>
<tr>
<td>143</td>
<td>Mixing</td>
</tr>
<tr>
<td>144</td>
<td>Distilling</td>
</tr>
<tr>
<td>145</td>
<td>Separating</td>
</tr>
<tr>
<td>146</td>
<td>Cooking-Food Preparing</td>
</tr>
<tr>
<td>147</td>
<td>Processing-Compounding</td>
</tr>
<tr>
<td>151</td>
<td>Immersing-Coating</td>
</tr>
<tr>
<td>152</td>
<td>Saturating</td>
</tr>
<tr>
<td>153</td>
<td>Brushing-Spraying</td>
</tr>
<tr>
<td>154</td>
<td>Electroplating</td>
</tr>
<tr>
<td>161</td>
<td>Combing-Napping</td>
</tr>
<tr>
<td>162</td>
<td>Spinning</td>
</tr>
<tr>
<td>163</td>
<td>Winding</td>
</tr>
<tr>
<td>164</td>
<td>Weaving</td>
</tr>
<tr>
<td>165</td>
<td>Knitting</td>
</tr>
<tr>
<td>166</td>
<td>Tufting</td>
</tr>
<tr>
<td>171</td>
<td>Sewing-Tailoring</td>
</tr>
<tr>
<td>182</td>
<td>Etching</td>
</tr>
<tr>
<td>183</td>
<td>Engraving</td>
</tr>
<tr>
<td>191</td>
<td>Printing</td>
</tr>
<tr>
<td>192</td>
<td>Imprinting</td>
</tr>
<tr>
<td>201</td>
<td>Photographing</td>
</tr>
<tr>
<td>202</td>
<td>Developing-Printing</td>
</tr>
<tr>
<td>211</td>
<td>Appraising</td>
</tr>
<tr>
<td>212</td>
<td>Inspecting-Measuring-Testing</td>
</tr>
<tr>
<td>ORGANIZATION</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>221 Stock Checking</td>
<td>Receiving, storing, issuing, shipping, requisitioning, and accounting for stores of materials.</td>
</tr>
<tr>
<td>231 Verbal Recording-Record Keeping 232 Numerical Recording-Record Keeping</td>
<td>Preparing and maintaining verbal and numerical records.</td>
</tr>
<tr>
<td>233 Data Processing</td>
<td>Planning, developing, testing, evaluating, and executing a systematic sequence of activities or operations to process alphabetic, numeric, and symbolic data or to solve problems by means of computer systems.</td>
</tr>
<tr>
<td>241 Laying Out 242 Drafting 243 Surveying 244 Engineering</td>
<td>Plotting, tracing, and drawing diagrams and other directive graphic information for use in design and production; designing and constructing machinery, structures, and systems.</td>
</tr>
<tr>
<td>251 Researching</td>
<td>Controlled exploration of fundamental areas of knowledge, by means of critical and exhaustive investigation and experimentation.</td>
</tr>
<tr>
<td>261 Writing 262 Artistic Painting-Drawing 263 Composing-Choreographing 264 Styling</td>
<td>Creating, expressing, or depicting one’s own ideas in various media.</td>
</tr>
<tr>
<td>271 Investigating 272 Litigating</td>
<td>Obtaining and evaluating data for purposes of completing business and legal procedures.</td>
</tr>
<tr>
<td>281 System Communicating 282 Information Giving</td>
<td>Providing and effecting the transmission of information to other persons, indirectly (by electrical or electronic media) and directly (by voice or written statement).</td>
</tr>
<tr>
<td>291 Accommodating 292 Merchandising-Sales 293 Protecting 294 Health Caring-Medical 295 Administering 296 Teaching 297 Entertaining 298 Advising-Counseling</td>
<td>Dealing with people to provide services of various types.</td>
</tr>
</tbody>
</table>
LIST OF COMBINATION WORK FIELDS

The following is a list of combination Work Fields and the corresponding component Work Fields of which they are comprised.

<table>
<thead>
<tr>
<th>COMBINATION WORK FIELDS</th>
<th>COMPONENT WORK FIELDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>057 Machining</td>
<td>Abrading (051), Boring (053), Chipping (052), Milling-Turning-Planing (055), Sawing (056), and Shearing-Shaving (054).</td>
</tr>
<tr>
<td>101 Upholstering</td>
<td>Bolting-Screwing (071), Gluing-Laminating (063), Nailing (072), Sewing-Tailoring (171), and Shearing-Shaving (054).</td>
</tr>
<tr>
<td>102 Structural Fabricating-Installing-Repairing</td>
<td>Abrading (051), Bolting-Screwing (071), Boring (053), Brushing-Spraying (153), Caulking (094), Chipping (052), Fastening (062), Fitting-Folding (061), Flame Cutting-Arc Cutting-Beam Cutting (082), Gluing-Laminating (063), Immersing-Coating (151), Laying-Covering (092), Masoning (091), Milling-Turning-Planing (055), Molding (136), Nailing (072), Paving (095), Sawing (056), Sewing-Tailoring (171), Shearing-Shaving (054), Soldering-Brazing (083), and Welding (081).</td>
</tr>
<tr>
<td>111 Electrical-Electronic Fabricating-Installing-Repairing</td>
<td>Abrading (051), Bolting-Screwing (071), Boring (053), Fitting-Folding (061), Nailing (072), Riveting (073), Soldering-Brazing (083), Welding (081), and Winding (163).</td>
</tr>
<tr>
<td>121 Mechanical Fabricating-Installing-Repairing</td>
<td>Abrading (051), Bolting-Screwing (071), Boring (053), Brushing-Spraying (153), Chipping (052), Fastening (062), Fitting-Folding (061), Flame Cutting-Arc Cutting-Beam Cutting (082), Gluing-Laminating (063), Immersing-Coating (151), Milling-Turning-Planing (055), Nailing (072), Pressing-Forging (134), Riveting (073), Sawing (056), Sewing-Tailoring (171), Shearing-Shaving (054), Soldering-Brazing (083), and Welding (081).</td>
</tr>
<tr>
<td>147 Processing-Compounding</td>
<td>Baking-Drying (141), Distilling (144), Heat Conditioning (133), Melting (131), Mixing (143), Saturating (152), and Separating (145).</td>
</tr>
</tbody>
</table>
**001 HUNTING-FISHING**

Capturing and killing wild land and marine animals for such purposes as bounty, conservation, research, and for their value as meat or skin.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Dredging</th>
<th>Seining</th>
<th>Tonging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baiting</td>
<td>Hooking</td>
<td>Shooting</td>
<td>Trapping</td>
</tr>
<tr>
<td>Dipping</td>
<td>Raking</td>
<td>Spearing</td>
<td>Trawling</td>
</tr>
</tbody>
</table>

**Typical Occupations:** Fisher; Trapper; Dredger; Fishing-Boat Captain; Deckhand.

**002 ANIMAL PROPAGATING**

Raising and caring for livestock, poultry, fish, and other animal life and collecting eggs, milk, wool, honey, and other animal products by methods which may include those specific to other work fields.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Feeding</th>
<th>Netting</th>
<th>Spawning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bailing</td>
<td>Fumigating</td>
<td>Pelting (mink)</td>
<td>Sterilizing</td>
</tr>
<tr>
<td>Branding</td>
<td>Grooming</td>
<td>Rounding Up</td>
<td>Training</td>
</tr>
<tr>
<td>Candling</td>
<td>Hatching</td>
<td>Separating</td>
<td>Vaccinating</td>
</tr>
<tr>
<td>Castrating</td>
<td>Herding</td>
<td>Sexing (poultry)</td>
<td>Washing (eggs)</td>
</tr>
<tr>
<td>Castrateing</td>
<td>Incubating</td>
<td>Shearing (sheep)</td>
<td>Watering</td>
</tr>
<tr>
<td>Debeaking</td>
<td>Inseminating</td>
<td>Shoaling (horses)</td>
<td></td>
</tr>
<tr>
<td>Dehorning</td>
<td>Milking</td>
<td>Skinning</td>
<td></td>
</tr>
<tr>
<td>Disinfecting</td>
<td>Milting</td>
<td>Sowing</td>
<td></td>
</tr>
<tr>
<td>Dredging (shellfish)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Typical Occupations:** Animal Breeder; Dairy Farmer; Poultry-Farm Worker; Beekeeper; Artificial Inseminator; Milker; Animal Herder.

**003 PLANT CULTIVATING**

Planting, nurturing, harvesting, and otherwise caring for plant life by methods which may include those specific to other work fields.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Fertilizing</th>
<th>Plowing</th>
<th>Stringing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bailing</td>
<td>Gathering</td>
<td>Potting</td>
<td>Thinning</td>
</tr>
<tr>
<td>Budding</td>
<td>Grading</td>
<td>Propagating</td>
<td>Threshing</td>
</tr>
<tr>
<td>Conditioning (soil)</td>
<td>Grafting</td>
<td>Pruning</td>
<td>Tilling</td>
</tr>
<tr>
<td>Culling</td>
<td>Harrowing</td>
<td>Raking</td>
<td>Transplanting</td>
</tr>
<tr>
<td>Curing (tobacco)</td>
<td>Hoeing</td>
<td>Reaping</td>
<td>Watering</td>
</tr>
<tr>
<td>Cutting</td>
<td>Husking</td>
<td>Shelling</td>
<td>Weeding</td>
</tr>
<tr>
<td>Detasseling</td>
<td>Irrigating</td>
<td>Sorting</td>
<td>Winnowing</td>
</tr>
<tr>
<td>Digging</td>
<td>Mowing</td>
<td>Sowing</td>
<td></td>
</tr>
<tr>
<td>Disking</td>
<td>Mulching</td>
<td>Spading</td>
<td></td>
</tr>
<tr>
<td>Drying</td>
<td>Picking</td>
<td>Spraying</td>
<td></td>
</tr>
</tbody>
</table>

**Typical Occupations:** Farm-Equipment Operator; Landscaper; Gardener; Crop Farmer; Farm Hand; Harvest Worker; Nursery Worker.

**004 LOGGING**

Extracting wood and forest products from woodlands, including felling and cutting of trees into logs or other products and collecting gums, saps, or resins.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Felling</th>
<th>Riving</th>
<th>Towing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boxing</td>
<td>Hewing</td>
<td>Sawing</td>
<td></td>
</tr>
<tr>
<td>Bucking</td>
<td>Notching</td>
<td>Skidding</td>
<td></td>
</tr>
<tr>
<td>Chopping</td>
<td>Rafting</td>
<td>Splitting</td>
<td></td>
</tr>
</tbody>
</table>

**Typical Occupations:** Logger; Tree-Shear Operator; River; Laborer, Tree Tapping; Supervisor, Felling Bucking.
005 MINING-QUARRYING-EARTH BORING

Extracting minerals, oil, gas, water, and stone from the earth. Includes drilling earth formations to obtain core samples.

Blasting
Breaking
Typical Occupations:

Chipping
Crushing
Digging
Panning
Perforating

Miner; Driller; Blaster; Quarry Supervisor; Mine Supervisor; Well Driller; Quarry Worker; Prospector.

007 EXCAVATING-CLEARING-FOUNDATION BUILDING

Removing and distributing earth materials, such as dirt, gravel, rock, and sand; grading surfaces; dredging ditches, canals, and marine channels; drilling holes in earth and through rock formations for purposes other than blasting and mineral extractions; and driving pilings and shafts into earth for structural footings. Includes clearing away obstacles preparatory to construction and logging, and controlling growth of weeds, trees, bushes, etc., to facilitate maintenance of utility lines and rights-of-way.

Backfilling
Cutting
Raking

Burnin
Digging
Trimming

Typical Occupations:

Tree Trimmer; Pile-Driver Operator; Dredge Operator; Dredging Inspector; Brush Clearer; Grade Operator; Levee Superintendent; Pile-Driving Supervisor; Motor Grader Operator; Bulldozer Operator.

011 MATERIAL MOVING

Conveying materials manually and by use of machines and equipment, such as cranes, hoists, conveyors, industrial trucks, elevators, winches, and handtrucks. Distinguish from Transporting (013), which involves conveyance of passengers and materials by common carrier.

Carrying
Dragging
Drawing
Dumping
Floating

Forking
Hanging
Hoisting
Lifting
Loading

Relaying
Shackling
Shoveling
Skidding
Throwing

Relaying
Shackling
Shoveling
Skidding
Throwing

Typical Occupations:

Fork-Lift Operator; Crane Operator; Stevedore; Freight-Elevator Operator; Hoist Operator; Conveyor Worker.

013 TRANSPORTING

Conveying passengers and materials by truck, bus, airplane, train, ship, automobile, and other vehicles. Distinguish from Material Moving (011), which involves moving materials by conveyances other than common carriers.

Driving
Flying

Landing
Piloting

Steering
Stoking

Taking Off

Typical Occupations:

Vehicle Driver; Airplane Pilot; Marine-Vessel Captain; Locomotive Engineer.

014 PUMPING

Raising, lowering, and moving gases, liquids, and solids by suction, pressure, and vacuum within a piping system.

Draining
Drawing (off or out)

Expelling
Propelling

Siphoning
Sucking

Typical Occupations:

Pump Operator-Gauger; Terminal Supervisor; Oil Dispatcher.
021 STATIONARY ENGINEERING

Producing and distributing heat, power, and conditioned air.

Compressing (air)  Firing  Humidifying  Refrigerating
Cooling  Generating  Purifying  Ventilating

Typical Occupations: Boiler Operator; Stationary Engineer; Compressor Operator; Powerhouse Attendant; Power Dispatcher.

031 CLEANING

Cleaning objects and premises by methods such as washing with water, steam, and cleaning agents; brushing, wiping, sweeping, raking, and scraping; using suction, compressed air, and ultrasonic equipment.

Agitating  Fluffing  Scrubbing  Spotting
Beating  Flushing  Shaking  Steaming
Blowing  Hosing  Shoveling  Straining
Chipping  Immersing  Soaking  Tumbling
Dusting  Mopping  Sopping
Filtering  Scalding  Sponging

Typical Occupations: Laundry Worker; Dishwasher; Equipment Cleaner; Janitor; Housekeeper; Cleaning Supervisor.

032 SURFACE FINISHING

Removing wrinkles from, restoring shape to, and giving finish to articles made of fabric, fur, leather, straw, paper, and similar materials by application of tension or pressure (usually accompanied by heat or steam). Includes burning excess materials from surfaces of articles.

Blocking (hats)  Gassing  Rubbing  Stretching
Brushing  Ironing  Singeing  Texturing
Calendering  Pressing  Steaming

Typical Occupations: Ironer; Presser (Hand and Machine); Hat Blocker; Tenter-Frame Operator; Singeing-Machine Operator; Calender-Machine Operator.

033 LUBRICATING

Coating objects with lubricants to reduce friction of moving parts and to prevent sticking.

Dusting  Greasing  Spraying  Waxing
Graphiting  Oiling  Swabbing

Typical Occupations: Oiler; Greaser; Automobile Lubricator.

034 BUTCHERING-MEAT CUTTING

Killing and cutting up animals, poultry, finfish, and shellfish, and dressing or processing meats for marketing.

Bleeding  Flushing  Scraping  Skinning
Boning  Gutting  Shackling  Striking
Cleaving  Plucking  Shaving  Stripping
Eviscerating  Sawing  Singeing  Trimming

Typical Occupations: Butcher; Meat Cutter; Poultry Worker; Slaughterhouse Worker; Hide Puller; Dehairing-Machine Operator; Fish Cleaner.
041 FILLING-PACKING-WRAPPING

Pouring dry and liquid materials and products into containers; enveloping and enclosing materials and products in paper, cellophane, burlap, and other materials; putting materials and products into containers; or closing and sealing containers. Includes unpacking, unwrapping, and refilling.

- Banding
- Boxing
- Bunching
- Channeling
- Covering
- Draping
- Dropping
- Dumping
- Folding
- Funneling
- Injecting
- Inserting
- Moistenning
- Padding
- Peeling Off
- Securing
- Spooning
- Strapping
- Stripping
- Twisting
- Tying
- Stacking


051 ABRADING

Smoothing, polishing, sharpening, or cutting materials by use of abrasives; and cutting letters and designs into objects and structures by the wearing-away action of abrasives. Distinguish from Cleaning (031), in which abrasives may be used to remove foreign substances.

- Blowing
- Buffing
- Filing
- Finishing
- Frosting
- Grinding
- Honing
- Lapping
- Pouncing
- Rubbing
- Sandblasting
- Sandpapering
- Scraping
- Sanding

Typical Occupations: Sandblaster; Grinder; Polisher; Honer; Glass Beveler; Tumbling-Machine Operator; Bit Sharpener; Sander.

052 CHIPPING

Cutting away flakes and fragments with hatchets and chisels struck with hammers or similarly activated by a power source, such as compressed air. Distinguish from Milling-Turning-Planing (055), in which rotary or chisel-like cutters are used but without percussion.

- Breaking Up
- Broaching
- Chiseling
- Chopping
- Gouging
- Hewing
- Striking
- Wedging

Typical Occupations: Chiseler; Chipper; Air-Hammer Operator.

053 BORING

Making, enlarging, and threading holes in material (other than earth) by means of rotary cutting tools advanced into the material. Distinguish from piercing by Pressing-Forging (134), in which tools do not rotate.

- Countersinking
- Drilling
- Piercing
- Reaming
- Tapping

Typical Occupations: Boring-Machine Operator; Drill-Press Operator; Reaming-Machine Tender; Countersinker; Driller.

054 SHEARING-SHAVING

Cutting, severing, slicing, and shaving materials, using keen-edged cutting tools. Includes cutting glass, plastics, and other materials with heated wires. Distinguish from Sawing (056), which involves use of serrated tools to cut materials by wearing out a kerf.

- Clipping
- Die Cutting
- Snipping
- Trimming

Typical Occupations: Hot-Wire Cutter; Die Cutter; Fabric Cutter; Fabric Trimmer; Slitting-Machine Operator; Shearing-Machine Operator; Cutting-Department Supervisor; Book Trimmer; Shoe-Parts Cutter; Plastic-Material Cutter; Skiving-Machine Operator.
055 MILLING-TURNING-PLANING

Shaping materials by the paring and smoothing action of rigid cutting tools (usually fed into rotating materials) and rotating cutting tools (usually fed into stationary materials). Distinguish from Chipping (052), in which the cutting away of flakes and fragments is accomplished by chisel-like tools actuated by a percussive power source.

<table>
<thead>
<tr>
<th>Broaching</th>
<th>Grooving</th>
<th>Rabbeting</th>
<th>Shaving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dadoing</td>
<td>Mortising</td>
<td>Routing</td>
<td>Tonguing</td>
</tr>
<tr>
<td>Gaining</td>
<td>Profiling</td>
<td>Scarfing</td>
<td>Undercutting</td>
</tr>
</tbody>
</table>


056 SAWING

Severing and shaping materials by the reciprocal or rotary cutting action of a blade which wears out a kerf. The blade may be serrated or be made of, or coated with, abrasives. Excluded from this work field is the felling of trees, which is covered by Logging (004). Distinguish from Shearing-Shaving (054), which includes a severing function but without wearing a kerf.

<table>
<thead>
<tr>
<th>Crosscutting</th>
<th>Gaining</th>
<th>Mitering</th>
<th>Tenoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dadoing</td>
<td>Grooving</td>
<td>Ripsawing</td>
<td></td>
</tr>
</tbody>
</table>

Typical Occupations: Cut-Off-Saw Operator; Band-Saw Operator; Gang Sawyer; Kerf-Machine Operator; Last Trimmer.

057 MACHINING

Shaping parts by any combination of the following work fields: Abrading (051), Boring (053), Chipping (052), Milling-Turning-Planing (055), Sawing (056), and Shearing-Shaving (054).

Forming

Typical Occupations: Shop Machinist; Tool-and-Die Maker; Shop Supervisor; Job Setter.

061 FITTING-FOLDING

Folding, joining, and fitting parts without the use of bolts, screws, nails, rivets, solder, welding equipment, and glue. This work field includes such job activities as interlacing and joining parts, such as boards and precut and fabricated wood or metal units; fitting together parts of shoes; putting coils and insulation into frames to form stators; assembling parts of mechanical pencils; pressing bushings into bearing housings; and putting together pins and buttons to form campaign badges. Distinguish from Fastening (062), which involves joining materials by fastening with staples, eyelets, grommets, and snaps.

<table>
<thead>
<tr>
<th>Bending</th>
<th>Hanging</th>
<th>Packing</th>
<th>Springing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bracing</td>
<td>Inlaying</td>
<td>Pulling</td>
<td>Squeezing</td>
</tr>
<tr>
<td>Clamping</td>
<td>Inserting</td>
<td>Pushing</td>
<td>Tapping</td>
</tr>
<tr>
<td>Clinching</td>
<td>Interweaving</td>
<td>Shoving</td>
<td>Threading</td>
</tr>
<tr>
<td>Creasing</td>
<td>Inverting</td>
<td>Sliding</td>
<td>Tightening</td>
</tr>
<tr>
<td>Crimping</td>
<td>Jamming</td>
<td>Slipping</td>
<td>Twisting</td>
</tr>
<tr>
<td>Hammering</td>
<td>Looping</td>
<td>Splicing</td>
<td>Wedging</td>
</tr>
</tbody>
</table>

Typical Occupations: Pen Assembler; Folder; Stringer; Basket Maker; Clock-and-Watch Parts Assembler; Pleater.
062 FASTENING

Joining lightweight material (such as paper, cardboard, and fabrics) with fasteners, such as staples, eyelets, grommets, and snaps. Assignment is not made when the joining of materials involves methods applicable to other work fields, such as Bolting-Screwing (071), Fitting-Folding (061), Gluing-Laminating (063), Nailing (072), Riveting (073), Soldering-Brazing (083), and Welding (081).

Clinching  Inserting  Shoving  Threading
Compressing Inverting Sliding  Tightening
Creasing Jamming Slipping  Twisting
Crimping Looping Splicing  Wedging
Hammering Pressing Springing
Hanging Pulling Squeezing
Inlaying Pushing Tapping


063 GLUING-LAMINATING

Fastening together parts with sticky substances, such as cement, glue, paste, gum, and other adhesive media. Includes bonding of parts by application of heat and pressure.

Brushing  Daubing  Pressing  Stretching
Clamping Fusing  Rolling  Wetting
Compressing Moistening  Spreading


071 BOLTING-SCREWING

Fastening together parts with threaded bolts and screws fitted through adjoining holes previously bored and threaded, or by forcing threaded screws through parts. In some instances, holes may be partially bored but not prethreaded to accommodate screws, or bolts may be secured in place by inserting them in threaded nuts. Distinguish from Riveting (073), which involves the use of nonthreaded bolts to fasten parts.

Tapping  Threading  Tightening  Twisting

Typical Occupations: Clock-and-Watch-Parts Assembler; Power-Tool Operator; Vehicle-Light Assembler; Screw Remover; Wooden-Heel Attacher; Spring Assembler.

072 NAILING

Fastening together parts with devices, such as nails, tacks, spikes, brads, and staples. Distinguish from Riveting (073), in which a nonthreaded fastening device is secured by hammering and pressing to spread protruding shank ends. Distinguish from Fastening (062), where light materials are joined.

Driving (nails)  Stapling  Tacking
Hammering  Striking

Typical Occupations: Nailer; Shoe-Parts Assembler; Stapler; Tack Puller; Tacker.

073 RIVETING

Fastening parts with headed, malleable bolts, pins, and rods fitted through previously bored holes, and hammering and pressing shank ends. Distinguish from Fastening (062), which involves joining light materials.

Bucking  Dimpling  Hammering  Squeezing
Clinching  Driving  Peening

Typical Occupations: Riveter; Riveting Inspector.
081 WELDING

Joining metal, glass, and plastic parts by heating surfaces to induce fusion with or without the application of filler materials and pressure. Forge-welding, which involves applying sharp blows, is covered by Pressing-Forging (134). Distinguish from Flame Cutting-Arc Cutting-Beam Cutting (082), in which similar equipment is used to sever parts, and from Soldering-Brazing (083), which involves joining parts by the adhesion of solder.

Burning Melting Stirring
Fusing Puddling

Typical Occupations: Welder; Welding Supervisor; Welding Inspector; Lead Burner.

082 FLAME CUTTING-ARC CUTTING-BEAM CUTTING

Severing materials by subjecting materials to intense heat, using equipment, such as oxyacetylene torches, electric-arc cutting equipment, and laser beams. Distinguish from Welding (081), which may use the same equipment but for the purpose of joining materials. Cutting by use of hot-wire is included in Shearing-Shaving (054).

Burning Scarfing Scraping

Typical Occupations: Flame Cutter; Scrap Burner; Scarfing Operator; Laser-Beam Cutter.

083 SOLDERING-BRAZING

Joining metal parts or filling depressions in metal with molten solder or brazing alloy. Distinguish from Welding (081), in which parts are joined by fusion under heat.

Dipping Melting Smoothing Sweating
Heating Rubbing Spreading

Typical Occupations: Brazer; Solderer; Furnace Operator; Brazing Assembler.

091 MASONING

Constructing structures of brick, stone, marble, and similar building materials, usually set in beds of mortar; and spreading and smoothing plaster, mortar, stucco, and similar materials to form and cover structural elements. Distinguish from Laying-Covering (092), in which materials are fastened to surfaces as finish and insulating coverings.

Bricking Imbedding Rubbing Tamping
Brushing Patching Scraping Tapping
Finishing Pointing Setting Tearing Out
Floating Pressing Spattering Wetting

Typical Occupations: Mason; Plasterer; Plastering Supervisor; Concrete Finisher.

092 LAYING-COVERING

Covering the surface of structural units, such as roofs, floors, pipes, duct work, tanks, boilers, and refrigeration and air-conditioning equipment, or objects with materials in the form of sheets, blocks, tile, and rolled goods (including insulation bats). Distinguish from Masoning (091), which involves constructing as well as covering structural units; from Gluing-Laminating (063), which involves fastening parts together to assemble rather than cover; and from Caulking (094), which includes filling spaces with loose insulating materials.

Cementing Pasting Rolling Tamping
Gluing Patching Smoothing Tapping
Inlaying Pointing Spreading Tying
Matching Pressing Stapling Wrapping

Typical Occupations: Floor Layer; Carpet Layer; Roofer; Insulation Worker; Pipe Coverer; Siding Installer.
094 CAULKING

Sealing and filling holes, crevices, cracks, joints, seams, depressions, and other spaces with a material (other than solder) for such purposes as making object or structure airtight, waterproof, and weatherproof. Includes the blowing of loose insulation materials into open spaces, but not the laying of insulation material as a cover, which is included in Laying-Covering (092).

Blowing (loose insulating materials)  Hammering  Ramming  Smoothing
Puttying  Scraping

Typical Occupations:  Putty Spreader; Caulker; Hole Filler; Insulation Blower; Plywood-Panel Sealer; Barrel Liner.

095 PAVING

Covering surfaces with materials, such as asphalt, concrete, tar, oil, and gravel.

Compacting  Oiling  Scraping  Tamping
Filling  Patching  Smoothing
Leveling  Rolling  Spreading

Typical Occupations:  Paving-Machine Operator; Spreader Operator; Curbing-Machine Operator; Paving Supervisor; Sprayer Operator.

101 UPHOLSTERING

Covering, padding, trimming, or renovating upholstered furniture, mattresses, car seats, automobile, train, or aircraft interiors, and the like by any combination of Bolting-Screwing, Gluing, Nailing, Sewing, and Shearing-Shaving. Jobs involved with only one of these work fields are listed thereunder.

Draping  Packing  Spreading  Tacking
Measuring  Padding  Stretching  Tufting
Molding  Smoothing  Stuffing  Tying

Typical Occupations:  Automobile Upholsterer; Furniture Upholsterer; Upholstery Repairer; Upholsterer, Assembly Line.

102 STRUCTURAL FABRICATING-INSTALLING-REPAIRING

Fabricating, installing, and repairing structures and objects whose components are static and may require shaping to fit by any combination of the following work fields: Abrading (051), Bolting-Screwing (071), Boring (053), Brushing-Spraying (153), Caulking (094), Chipping (052), Fastening (062), Fitting-Folding (061), Flame Cutting-Arc Cutting-Beam Cutting (082), Gluing-Laminating (063), Immersing-Coating (151), Laying-Covering (092), Masoning (091), Milling-Turning-Planing (055), Molding (136), Nailing (072), Paving (095), Pressing-Forging (134), Riveting (073), Sawing (056), Sewing-Tailoring (171), Shearing-Shaving (054), Soldering-Brazing (083), and Welding (081).

Aligning  Clinching  Measuring  Sinking
Anchoring  Coupling  Padding  Splicing
Blocking Up  Glazing  Plumbing  Staying
Bracing  Knocking Down  Positioning  Truing
Cementing  Leveling  Prying
Clamping  Lining Up  Rigging

Typical Occupations:  Construction Inspector; Carpenter; Boat Builder and Repairer; Boilermaker; Musical-Instrument Maker; Cabinetmaker; Cooper; Aircraft Assembler; Structural-Steel Erector; Pipefitter; Plumber; Propmaker.
111 ELECTRICAL-ELECTRONIC FABRICATING-INSTALLING-REPAIRING

Fabricating, installing, and repairing objects that have electrical and electronic functioning elements by any combination of the following work fields: Abrading (051), Bolting-Screwing (071), Boring (053), Fitting-Folding (061), Nailing (072), Riveting (073), Soldering-Brazing (083), Welding (081), and Winding (163). Distinguish from Structural Fabricating-Installing-Repairing (102) and Mechanical Fabricating-Installing-Repairing (121).

<table>
<thead>
<tr>
<th>Calibrating</th>
<th>Plugging In</th>
<th>Testing</th>
<th>Twisting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connecting</td>
<td>Stringing</td>
<td>Threading</td>
<td>Wiring</td>
</tr>
<tr>
<td>Hooking Up</td>
<td>Switching</td>
<td>Turning</td>
<td></td>
</tr>
</tbody>
</table>

Typical Occupations: Electrician; Instrument Mechanic; Appliance Assembler; Electronics Tester; Electrical-Equipment Installer; Electrical-Systems Installer and Repairer; Telephone-and-Telegraph Equipment Installer and Repairer.

121 MECHANICAL FABRICATING-INSTALLING-REPAIRING

Fabricating, installing, and repairing objects that have moving parts of mechanically functioning elements by any combination of the following work fields: Abrading (051), Bolting-Screwing (071), Boring (053), Brushing-Spraying (153), Chipping (052), Fastening (062), Fitting-Folding (061), Flame Cutting-Arc Cutting-Beam Cutting (082), Gluing-Laminating (063), Immersing-Coating (151), Milling-Turning-Planing (055), Nailing (072), Pressing-Forging (134), Riveting (073), Sawing (056), Sewing-Tailoring (171), Shearing-Shaving (054), Soldering-Brazing (083), and Welding (081).

<table>
<thead>
<tr>
<th>Aligning</th>
<th>Calibrating</th>
</tr>
</thead>
</table>

Typical Occupations: Machinist; Tool-and-Die Maker; Automobile Mechanic; Air-Conditioning Mechanic; Gunsmith; Maintenance Mechanic; Watch Repairer.

131 MELTING

Changing materials from solid to liquid state (usually by heat) for such purposes as compounding with other materials, refining by separation (through accompanying chemical change), and making materials amenable to shaping and casting. Distinguish from Soldering-Brazing (083), and Welding (081), in which melting occurs incidental to joining parts together.

<table>
<thead>
<tr>
<th>Agitating</th>
<th>Firing</th>
<th>Loading</th>
<th>Tapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charting</td>
<td>Fluxing</td>
<td>Pouring</td>
<td>Throwing</td>
</tr>
<tr>
<td>Drawing</td>
<td>Fueling</td>
<td>Shoveling</td>
<td></td>
</tr>
<tr>
<td>Dumping</td>
<td>Heating</td>
<td>Skimming</td>
<td></td>
</tr>
<tr>
<td>Filling</td>
<td>Kindling</td>
<td>Stirring</td>
<td></td>
</tr>
</tbody>
</table>

Typical Occupations: Foundry Supervisor; Open-Hearth-Furnace Operator; Blast-Furnace Supervisor.

132 CASTING

Shaping materials by pouring, injecting, and pressing into a mold and permitting or causing to solidify. Distinguish from Die Sizing (135), in which shaping is effected by dies and rollers; Molding (136), in which shaping is dependent on worker; and Pressing-Forging (134), which involves application of force or sharp blows to accomplish shaping.

<table>
<thead>
<tr>
<th>Blowing</th>
<th>Flooding</th>
<th>Placing (in mold)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brushing</td>
<td>Inflating</td>
<td>Stretching</td>
</tr>
<tr>
<td>Filling</td>
<td>Kneading</td>
<td>Throwing (in mold)</td>
</tr>
</tbody>
</table>

Typical Occupations: Die-Casting-Machine Operator; Coremaker; Bowling-Ball Molder; Injection-Molding-Machine Tender.
Hardening, softening, and toughening materials by heating and cooling with or without accompanying chemical change. Materials may be subjected to heat alone to alter molecular structure of materials and induce special qualities, such as hardness, flexibility, and ductility; or material may be treated with heat aided by carbonizing materials and chemical baths to impart a hard "skin" to the material. Included also is the activity in which materials are heated to treat them for further processing (e.g., bringing metal bars to prescribed red-hot temperature).

Typical Occupations: Heat-Treat Supervisor; Annealer; Glass Bender; Rivet Heater.

**134 PRESSING-FORGING**

Shaping, severing, piercing, and forge-welding materials by a force pushed against or through materials, or by applying sharp blows (as in hammering). Distinguish from Casting (132), in which molds are used to shape material; Die Sizing (135), which utilizes dies and rollers in shaping; Surface Finishing (032), which is predominately fabric oriented; and Molding (136), which involves the cumulative addition of material to original mass (by worker) in accomplishing shaping of material.

Typical Occupations: Blacksmith; Forge-Shop Supervisor; Punch-Press Operator; Hammersmith.

**135 DIE SIZING**

Shaping material by forcing it through dies, drawing it through dies, and reducing it between rollers. Distinguish from Casting (132), in which shaping is achieved by use of molds; Surface Finishing (032), which is fabric oriented; Molding (136), which involves a cumulative buildup (by worker) in shaping materials; and Pressing-Forging (134), in which force or sharp blows are applied.

Typical Occupations: Chalk-Extruding-Machine Operator; Cold-Rolling Supervisor; Extrusion Supervisor.

**136 MOLDING**

Shaping material by cumulative addition of material (by worker) to build up original mass and pressing material into shape. Includes removing excess material to obtain finished product. Distinguish from Casting (132), in which shaping is primarily dependent on molds to shape material; Die Sizing (135), which utilizes dies or rollers to accomplish shaping; and Pressing-Forging (134), which involves applying a force or sharp blows to shape material.

Typical Occupations: Concrete Sculptor; Cigarmaker; Candlemaker; Artificial-Plastic-Eye Maker; Vulcanizer.
141 BAKING-DRYING

Drying, solidifying, tenderizing, and otherwise subjecting materials to heat. Distinguish from Distilling (144), in which heating results in the refinement, concentration, and condensation of substances, gases, and vapors; and from Heat Conditioning (133), in which treatment of materials with heat induces special qualities, such as hardness, flexibility, and ductility.

- Burning
- Curing
- Dehydrating

Typical Occupations: Fish Smoker; Cocoa-Bean Roaster; Tobacco Curer; Veneer-Drier Supervisor; Kiln Firer.

142 CRUSHING-GRINDING

Reducing and separating materials into smaller particles, such as granules, grits, crumbs, chips, powder, paste, and pulp, by means of compressing, cutting, and smashing.

- Beating
- Blowing
- Chopping
- Dispersing
- Kneading
- Mashing

Typical Occupations: Miller Supervisor; Powdered-Sugar-Pulverizer Operator; Concrete-Patch-Plant Operator; Wood-Grinder Operator; Pulper.

143 MIXING

Combining and mingling liquid and solid materials to produce a single mass or compound.

- Agitating
- Blending

Typical Occupations: Feed Blender; Paint Mixer; Fertilizer Mixer; Tobacco Blender; Clay-Preparation Supervisor.

144 DISTILLING

Refining and concentrating substances (following expulsion of gases and vapors) and recapturing and condensing gases and vapors driven off by heating liquids and solids in retorts, stills, and similar equipment.

- Boiling Off
- Breaking Down
- Burning
- Charging
- Compressing
- Cooling
- Cracking
- Dehydrogenating

Typical Occupations: Fermentation Operator; Still Operator; Tomato-Paste Maker; Sugar Boiler.

145 SEPARATING

Separating substances and materials in mixtures from remainder of mixture components for purposes other than cleaning by means of filtering, sifting, straining, squeezing, centrifugal pressure, gravity, precipitation, and agitation.

- Blowing
- Bolting (grain)
- Draining

Typical Occupations: Centrifugal Operator; Nut Sorter; Filter Tender; Brine-Tank-Separator Operator; Char-Filter Operator; Cocoa-Press Operator.
146 COOKING-FOOD PREPARING

Preparing food for human and animal consumption, by methods which may include those specific to other defined work fields. Distinguish from Butchering-Meat Cutting (034), which involves slaughtering domestic animals, poultry, and fish, and dressing and processing meats for marketing.

Basting  Flavoring  Pasteurizing  Seasoning
Boiling  Frying  Pickling  Spreading
Brewing  Heating  Rendering  Squeezing
Churning  Kneading  Roasting  
Curing  Measuring  Rolling

Typical Occupations: Brewer; Chef; Cottage-Cheese Maker; Baker; Cook.

147 PROCESSING-COMPOUNDING

Processing materials other than food and photographs to attain desired results by any combination of the following work fields: Baking-Drying (141), Distilling (144), Heat Conditioning (133), Melting (131), Mixing (143), Saturating (152), and Separating (145). Distinguish from Cooking-Food Preparing (146), which involves food processing and from Developing-Printing (202), which involves reproducing records of data and designs by chemical means.

Amalgamating  Compounding  Oxidizing  Roasting
Boiling  Cooking  Percolating  Stirring
Carbonating  Heating  Polymerizing  Titrating
Charging  Neutralizing  Precipitating

Typical Occupations: Chemical-Laboratory Technician; Pharmacist; Refinery Operator.

151 IMMERSING-COATING

Covering the surface of objects with a protective and decorative coating of liquid materials which dry and set by plunging, dipping, and otherwise submerging objects in the material. Distinguish from Brushing-Spraying (153), which does not involve the immersing method of coating; from Electroplating (154), in which immersing is a step in the electrolytic treatment of objects; and from Saturating (152), which involves impregnating materials rather than covering and coating objects.

Draining  Rolling  Suspending
Dumping  Squeezing  Wiping

Typical Occupations: Coating-Machine Operator; Dipper; Impregnating-Tank Operator; Roofing-Machine Operator; Wire-Coating Supervisor.

152 SATURATING

Impregnating materials with other substances (generally in solution) by dyeing, starching, shrinking, preserving, and softening to impart particular qualities. Distinguish from Brushing-Spraying (153), which involves coating without immersion; Electroplating (154), which involves electrolytic treatment of objects; and Immersing-Coating (151), which involves covering and coating materials.

Bleaching  Liming  Spraying  Stirring
Boiling  Moistening  Spreading  Submerging
Immersing  Rinsing  Steaming

Typical Occupations: Rug Dyer; Shoe Dyer; Bleach-Range Operator; Cloth-Mercerizer Operator; Hide-and-Skin Colorer.
153 BRUSHING-SPRAYING

Covering the surfaces of objects with protective and decorative coating, such as waxes, paints, lacquers, and other compounds that dry and set. Equipment and tools used generally include brushes, rollers, and spray guns. Distinguish from Immersing-Coating (151), which involves submerging objects in solutions, and from Artistic Painting-Drawing (262), which involves producing designs or lettering.

<table>
<thead>
<tr>
<th>Burning Off</th>
<th>Matching</th>
<th>Rubbing</th>
<th>Staining</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filling</td>
<td>Mixing</td>
<td>Scraping</td>
<td>Varnishing</td>
</tr>
<tr>
<td>Masking</td>
<td>Rolling</td>
<td>Spreading</td>
<td>Whitewashing</td>
</tr>
</tbody>
</table>

Typical Occupations: Jewelry Coater; Electrostatic Painter; House Painter; Spray Painter; Water-proofing Supervisor.

154 ELECTROPLATING

Covering the surface of objects with a coating of material by electrolysis. Distinguish from Immersing-Coating (151), in which coating is not accomplished by electrical action, although immersing the objects is a step in the process.

<table>
<thead>
<tr>
<th>Brushing</th>
<th>Dusting</th>
<th>Immersing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dipping</td>
<td>Electrodepositing</td>
<td>Rolling</td>
</tr>
</tbody>
</table>

Typical Occupations: Electrogalvanizing-Machine Operator; Production Plater; Optical-Glass Silverer; Zinc-Plating-Machine Operator.

161 COMBING-NAPPING

Cleaning, disentangling, and straightening material by forcing it through prongs of a comb and raising and producing a nap on materials. Includes such mechanical action as directing jets of air against yarn to change its physical structure and increase its bulk.

<table>
<thead>
<tr>
<th>Fluffing</th>
<th>Shredding</th>
<th>Texturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulling</td>
<td>Splitting</td>
<td></td>
</tr>
</tbody>
</table>

Typical Occupations: Carding Supervisor; Comber Tender; Card Tender; Napper Tender; Mannequin-Wig Maker.

162 SPINNING

Combining, drawing out, and twisting material into strand-like form. Distinguish from Die-Sizing (135), in which material (usually metal and plastic) may be extruded and drawn into strand-like form, but without twisting.

<table>
<thead>
<tr>
<th>Splicing</th>
<th>Threading</th>
<th>Tying</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Typical Occupations: Drawing-Frame Tender; Winding-and-Twisting-Department Supervisor; Bow-String Maker; Frame Spinner.

163 WINDING

Coiling material about an object to form a spool or ball of the material or to cover the object.

<table>
<thead>
<tr>
<th>Bunching</th>
<th>Lacing</th>
<th>Splitting</th>
<th>Threading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coning</td>
<td>Reeling</td>
<td>Spooling</td>
<td>Tying</td>
</tr>
</tbody>
</table>

Typical Occupations: Yarn Winder; Cloth-Winding Supervisor; Wire-Winding-Machine Tender; Coil Winder; Mainspring Winder and Oilier.
164 WEAVING

Interlacing strands of yarns, wires, and other strand-like materials with other yarns, wires, and other strand-like materials to form textiles, wire, and similar products. Distinguish from Knitting (165), in which single strands are looped, and Tufting (166), in which interlacing is not present.

Braiding  Drawing  Picking
Doffing    Knotting  Tying

Typical Occupations:  Endless-Belt-Weaving Supervisor; Carpet Weaver; Weaving Supervisor.

165 KNITTING

Interlacing strands of material in a series of connected loops to form textiles, wire, and similar products. Distinguish from Weaving (164), in which multiple strands are interlaced, and Tufting (166), in which no interlacing occurs.

Creeling  Hooking  Looping  Threading
Crocheting Knotting  Stringing  Tying

Typical Occupations:  Knitting-Machine Operator; Seamless-Hosiery Knitter; Knitting Supervisor; Trawl-Net Maker.

166 TUFTING

Inserting tufts and loops of yarn through material, by hand and machine, without interlacing or interlocking yarn. Distinguish from Weaving (164), which involves interlacing of strands; from Knitting (165), in which strands are looped; and from Sewing-Tailoring (171), which involves fastening materials principally with needle and thread.

Clustering  Drawing Through  Hooking

Typical Occupations:  Tufting Supervisor; Rug-Frame Mounter; Tuft-Machine Operator; Rug Hooke; Burler.

171 SEWING-TAILORING

Joining, mending, and fastening materials with needle and thread by hand and machine. Includes simulated sewing by ultrasonic machines.

Basting  Gathering  Padding  Serging
Binding   Hemming  Patching  Stretching
Darning   Hemstitching  Puckering  Stuffing
Embroidering  Measuring  Ripping  Tucking


182 ETCHING

Wearing away the surface of materials by the corrosive action of chemicals on exposed parts of material.

Corroding  Dusting  Scoring  Scribing
Desensitizing  Photoengraving  Scratching

Typical Occupations:  Etcher; Silk-Screen Etcher; Glass Etcher.
183 ENGRAVING

Inscribing the surface of material by incising.

<table>
<thead>
<tr>
<th>Abrading</th>
<th>Chasing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carving</td>
<td>Graving</td>
</tr>
</tbody>
</table>

Typical Occupations: Engraving Supervisor; Engraver; Pantographer.

191 PRINTING

Reproducing records of data and designs by transfer of ink and dye to surface of materials by use of type, plates, dies, silkscreens, and stencils. Includes typesetting, compositing, and reproducing printed matter by use of computerized typesetting and related printing equipment.

<table>
<thead>
<tr>
<th>Coating</th>
<th>Embossing</th>
<th>Moistening</th>
<th>Stenciling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composing (raised printing)</td>
<td>Immersing</td>
<td>Registering</td>
<td></td>
</tr>
<tr>
<td>Dampening</td>
<td>Inking</td>
<td>Setting (type)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Measuring</td>
<td>Stamping</td>
<td></td>
</tr>
</tbody>
</table>

Typical Occupations: Addressing-Machine Operator; Typesetting Supervisor; Silk-Screen Printer; Compositor; Web-Press Operator; Letter-Press Operator; Offset-Press Operator.

192 IMPRINTING

Indenting and perforating the surfaces of products to reproduce records of data by mechanical means. Distinguish from Pressing-Forging (134), which involves change of shape and form of products rather than indentation of surfaces.

<table>
<thead>
<tr>
<th>Brushing</th>
<th>Heating</th>
<th>Pressing</th>
<th>Stamping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Embossing</td>
<td>Leveling</td>
<td></td>
<td>Spreading</td>
</tr>
</tbody>
</table>

Typical Occupations: Embosser; Name-Plate Stamper; Leather Stamper.

201 PHOTOGRAPHING

Producing records (images) of things, people, places, and data by chemical changes on a sensitized surface (as a film) and by electronic means induced by light and similar waves.

<table>
<thead>
<tr>
<th>Exposing</th>
<th>Framing</th>
<th>Posing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focusing</td>
<td>Lighting</td>
<td>Zooming</td>
</tr>
</tbody>
</table>

Typical Occupations: Motion-Picture Photographer; Radiographer; Photocopying-Machine Operator; Audiovisual-Production Specialist; Lithographic-Plate Maker.

202 DEVELOPING-PRINTING

Reproducing records of data and designs by chemical means.

<table>
<thead>
<tr>
<th>Coating</th>
<th>Enlarging</th>
<th>Opaquing</th>
<th>Soaking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cropping</td>
<td>Immersing</td>
<td>Projecting</td>
<td>Spotting</td>
</tr>
<tr>
<td>Drying</td>
<td>Masking</td>
<td>Rubbing</td>
<td>Whirling</td>
</tr>
</tbody>
</table>

Typical Occupations: Film-Processing Supervisor; Film Developer; Film-Laboratory Technician; Developer; Film Printer.
211 APPRAISING

Evaluating and estimating the quality and value of data and things based on knowledge and judgment acquired through experience and training and by conducting performance tests. Includes interpretation of findings that may influence variations in machinery setups, formula modifications, and product processing. Whenever the techniques of Appraising require a technical background in another work field, assign that work field also. Distinguish from Inspecting-Measuring-Testing (212), which primarily involves comparison with predetermined standards.

Aligning
Breaking
Calibrating
Classifying
Diluting
Dissolving
Driving

Feeling
Gauging
Investigating
Magnetizing
Magnifying
Marking
Measuring

Meshing
Sieving
Smelling
Stretching
Tasting
Tearing
Testing

Timing
Trying Out
Turning
Twisting
Typing (blood)
Validating
Weighing

Typical Occupations: Metallurgical-and-Quality-Control-Testing Supervisor; Medical-Laboratory Technician; Real-Estate Appraiser; Fire Inspector.

212 INSPECTING-MEASURING-TESTING

Examining materials and products to verify conformance to predetermined standards and characteristics, such as size, weight, composition, and color. Distinguish from Appraising (211), which involves evaluating things and data based primarily on judgment and knowledge rather than on comparison with readily verifiable standards.

Bending
Breaking
Comparing
Culling
Detecting

Feeling
Gauging
Grading
Marking
Matching

Picking
Shaking
Stretching
Tearing
Turning

Twisting
Verifying
Weighing

Typical Occupations: Shipping-and-Receiving Weigher; Spring Tester; Bowling Ball Weigher and Packer; Production Weigher; Quality Control Inspector.

221 STOCK CHECKING

Receiving, storing, issuing, requisitioning, and accounting for stores of materials and materials in use; involves the physical handling of the materials. Representative job activities covered by this work field include processing records and keeping materials on hand in balance with operational needs; assigning locations and space to items according to size, quantity, and type; verifying quantity, identification, condition, and value of items and the physical handling of items, such as binning, picking, stacking, and counting; receiving, checking, and delivering items; verifying completeness of incoming and outgoing shipments; preparing and otherwise committing stocks for shipment; keeping and conducting inventory of merchandise, materials, stocks, and supplies; filling orders and requisitions; and issuing tools, equipment, and materials.

Cataloging
Marking
Matching
Measuring
Ordering

Posting
Pricing
Punching
Replacing
Replenishing

Routing
Securing
Selecting
Shelving
Sorting

Tagging
Transcribing
Tying

Typical Occupations: Stock Clerk; Distribution-Warehouse Manager; Librarian; Mail Clerk; Parts Clerk; Order Filler; Shipping-and-Receiving Clerk.
231 VERBAL RECORDING-RECORD KEEPING

Preparing, keeping, sorting, and distributing records and communications, primarily verbal in character but including symbol devices, to communicate and systematize information and data by methods not specifically defined elsewhere, as in Developing-Printing (202), Imprinting (192), Photographing (201), Printing (191), and Stock Checking (221). Distinguish from Numerical Recording-Record Keeping (232), where records are also involved but the primary activity is computation.

Addressing  Listing  Reading  Taking Dictation
Checking     Locating Routing   Taking Minutes
Collating    Mailing  Searching Typing
Counting     Marking  Segregating Verifying
Editing      Posting  Selecting  Writing
Filing       Punching Stamping

Typical Occupations: Secretary; Stenographer; File Clerk; Typist.

232 NUMERICAL RECORDING-RECORD KEEPING

Systematizing information on transactions and activities into accounts and numerical records through the application of arithmetic, bookkeeping, statistics, and other quantitative procedures (including paying and receiving money). Distinguish from Verbal Recording-Record Keeping (231), in which the primary activity is the keeping of records without computation.

Adding    Disbursing Making Change Stamping
Auditing   Dividing  Matching  Subtracting
Balancing  Endorsing  Multiplying Tabulating
Cashiering Entering Posting  Totaling
Checking   Grouping Prorating Typing
Coding     Itemizing Recapitulating Verifying
Counting   Listing  Sorting  Writing

Typical Occupations: Actuary; Accountant; Bookkeeper; Teller; Cashier; Posting Clerk.

233 DATA PROCESSING

Planning, developing, testing, evaluating, and executing a systematic sequence of activities or operations to process alphabetic, numeric, and symbolic data or to solve problems by means of computer systems. This work field applies only to jobs in which processing data and solving related problems are the purpose of the job, rather than the means by which the worker accomplishes a task. Distinguish from Verbal Recording-Record Keeping (231) which involves the keeping of records without computation; Numerical Recording-Record Keeping (232) which involves the keeping of records with computation; and from Printing (191) in which computerized equipment may be used in reproducing printed matter. Computer hardware engineering is included in Work Field 244-Engineering. Data entry is included in Work Field 231-Verbal Recording-Record Keeping.

Analyzing    Editing  Modifying  Scheduling
Correcting   Entering Monitoring Storing
Deleting     Explaining Programming Verifying
Documenting Interpreting Retrieving

Typical Occupations: Systems Analyst; Computer Programmer; Computer Operator; User Support Specialist; Software Engineer; Data Communications Technician.
241 LAYING OUT

Plotting reference points or tracing working diagrams onto surfaces of materials as guides in the working and processing of the materials. Distinguish from Styling (264), which includes spacing and positioning of objects and parts, printed material, and artwork that is sometimes termed “layout” work.

Blocking  Draping  Pinning  Stamping
Chalking  Inscribing  Scoring  Tapping
Coating  Outlining  Scratching  Transferring
Dotting  Perforating  Scribing

Typical Occupations:  Tool-and-Die Maker; Patternmaker; Model Maker; Template Maker.

242 DRAFTING

Drawing plans, diagrams, graphs, tables, charts, and maps of things, places, and data to be used by others. Drawings are usually to scale and reflect aspects of the subject delineated, such as dimensions and weight.

Detailing  Lettering  Plotting  Tracing
Diagramming  Measuring  Sketching

Typical Occupations:  Drafter; Technical Illustrator; Map Editor.

243 SURVEYING

Taking linear and angular measurements to ascertain the contour, dimensions, and position of the earth’s surface. Included are such survey specialties as cartography, construction, property, geodesy, hydrography, topography, mining, photogrammetry, land development, and mapping.

Calculating  Marking  Pacing  Staking
Locating  Measuring  Plotting  Taping

Typical Occupations:  Surveyor; Geodesist; Navigator.

244 ENGINEERING

Planning and designing machinery, structures, and systems to develop and utilize the properties of matter, work capacities of people, and sources of power, on the basis of known facts, principles, and theories. Included are such engineering disciplines as ceramic, electrical, electronic, civil, mechanical, industrial, and chemical.

Calculating  Investigating  Testing
Formulating  Scheduling  Writing

Typical Occupations:  Architect; Aerodynamicist; Mechanical Engineer; Chemical Engineer; Metallurgist; Industrial Engineer.

251 RESEARCHING

Inquiring into fundamental knowledge areas, such as social, physical, and allied sciences, industry, and commerce, for the purpose of discovering facts and making interpretations, and revising and verifying recognized conclusions, theories, laws, and procedures in the light of newly discovered facts. Additionally, this work field includes formulating and testing hypotheses on the basis of information obtained by using specialized apparatus and techniques, by making expeditions, and by reading or observing. When expertise in another work field is required, assign that work field also.

Analyzing  Dissecting  Inoculating  Reporting
Classifying  Documenting  Isolating  Synthesizing
Collecting  Examining  Locating  Writing
Defining  Experimenting  Measuring

Typical Occupations:  Research Engineer; Operations-Research Analyst; Physicist; Geologist; Botanist; Curator; Consultant.
261 WRITING

Reporting, editing, promoting, translating, creating, and interpreting ideas in written form. Excludes translation of spoken foreign passages and sign language of the deaf which is included in Information Giving (282).

Adapting Depicting Proofreading Verifying
Analyzing Describing Reading
Criticizing Outlining Summarizing

Typical Occupations: Copywriter; Critic; Playwright; Newscaster; Reporter; Editor; Proofreader.

262 ARTISTIC PAINTING-DRAWING

Creating and reproducing designs of lettering and depicting ideas pictorially to achieve functional and aesthetic effects, using color media (oil paints, tempera, water colors, etc.) and devices, such as pencils, crayons, brushes, and spray guns. Distinguish from Brushing-Spraying (153) and Immersing-Coating (151), which involve covering objects but without producing designs or lettering.

Blanking Out Inking Spotting Out Tracing
Blocking Out Rubbing Spraying Wiping
Coloring Shading Tinting
Copying Sketching Touching Up

Typical Occupations: Painting Restorer; Cartoonist; Illustrator; Painter; Music Copyist.

263 COMPOSING-CHOREOGRAPHING

Originating and interpreting ideas in musical form. Includes creating dynamic body movements to express rhythmically various music forms.

Arranging Orchestrating Translating Writing
Harmonizing Scoring Transposing

Typical Occupations: Choreographer; Composer; Orchestrator; Arranger.

264 STYLING

Designing and arranging objects, products, and materials for functional and aesthetic purposes. Frequently involves preparing work sketches and drawings, making models and prototypes, and producing sample items.

Adapting Displaying Molding Tracing
Cutting Laying Out Placing
Decorating Modifying Sketching

Typical Occupations: Landscape Architect; Art Director; Display Designer; Hair Stylist.

271 INVESTIGATING

Obtaining and evaluating data about persons, places, and incidents for purposes such as solving criminal cases; settling claims; estimating credit risks; determining the qualifications, integrity, and loyalty of people; assessing eligibility for social-service-assistance programs; and ensuring compliance with laws and regulations. Distinguish from Researching (251), which involves inquiry and examination into areas of fundamental knowledge.

Advising Inspecting Questioning
Enforcing Interrogating Scanning
Inquiring Interviewing Searching

Typical Occupations: Market-Research Analyst; Coroner; Caseworker; Claims Examiner; Detective.
272 LITIGATING

Carrying out legal procedures, such as prosecuting and defending by pleading case, presenting evidence, debating in court, drawing up legal papers, and interpreting statutes.

Adjudicating
Advising (clients)  Arbitrating  Cross-Examining
Probating  Questioning
Trying (cases)

Typical Occupations:  Lawyer; Judge; Patent Agent.

281 SYSTEM COMMUNICATING

Effecting the transmission of information through electrical and electronic systems. Distinguish from Information Giving (282), which involves direct contact with the public in receiving and obtaining information to be transmitted, and from Data Processing (233), which involves the establishment and testing of the means of the transmission of information rather than the continuous transmission of information.

Announcing
Calling
Dispatching  Entering
Receiving
Relaying  Retrieving
Ringing
Sending  Transmitting
Tuning

Typical Occupations:  Air-Traffic Coordinator; Recording Engineer; Telephone Operator; Dispatcher; Telegrapher; Motion-Picture Projectionist.

282 INFORMATION GIVING

Providing information to people regarding places, events, programs, and procedures. Distinguish from the giving of information, which is involved in accomplishing such objectives as those of Accommodating (291), Merchandising-Sales (292), Teaching (296), and System Communicating (281). Includes giving information over the phone in response to an inquiry.

Advising
Answering  Explaining
Informing  Lecturing
Reading  Receiving
Speaking

Typical Occupations:  Guide; Home Economist; Announcer; Information Clerk; Receptionist.

291 ACCOMMODATING

Providing specialized personal convenience and physical services to people and animals. Distinguish from services provided in Health Caring-Medical (294).

Attending
Bathing  Exercising
Feeding  Manicuring
Currying  Massaging
Greeting  Paging
Cutting (hair)  Posting
Grooming  Running Errands
Dressing  Shampooing
Introducing
Making Arrangements

Typical Occupations:  Undertaker; Waitress; Cosmetologist; Barber; Attendant; Animal Caretaker.

292 MERCHANDISING-SALES

Buying, selling, renting, and demonstrating materials, products, and services, usually in retail and wholesale establishments. Includes soliciting contributions of money and time for charitable and other causes. Distinguish from Information Giving (282).

Collecting
Describing  Fitting
Displaying
Distributing  Interviewing
Negotiating

Typical Occupations:  Sales Engineer; Sales Manager; Sales Agent; Auctioneer; Dispensing Optician; Salesperson.

Supplying  Promoting
Purchasing  Taking Tickets
Showing
293 PROTECTING

Protecting human, animal, and plant life and property against loss from fire, pests, and other natural hazards, and from negligence, criminal acts, and unlawful practices. Includes work situations, such as maintaining peace and order, directing traffic, patrolling establishments and areas, and apprehending lawbreakers; extinguishing fires; and exterminating pests.

- Burning
- Cautioning
- Conserving
- Demolishing
- Draining
- Dusting
- Firefighting
- Fumigating
- Guarding
- Policing
- Spraying

Typical Occupations: Park Ranger; Security Guard; Firefighter; Police Officer; Exterminator; Dog Catcher; Ski Patroller.

294 HEALTH CARING-MEDICAL

Treating people and animals with physical and mental problems. Distinguish from Accommodating (291) and Advising-Counseling (298).

- Bandaging
- Bathing
- Diagnosing
- Disinfecting
- Examining
- Exercising
- Injecting
- Inoculating
- Interviewing
- Investigating
- Massaging
- Monitoring
- Prescribing
- Quarantining
- Rubbing
- Taking Pulse
- Treating

Typical Occupations: Anesthesiologist; General Practitioner; Psychiatrist; Dentist; Oral Surgeon; Nurse; Physical Therapist; Podiatrist; Veterinarian.

295 ADMINISTERING

Managing and directing people, organizations, programs, and activities above the first-line supervision level.

- Analyzing
- Authorizing
- Contracting
- Coordinating
- Formulating
- Hiring
- Negotiating
- Planning
- Scheduling

Typical Occupations: Principal; Dean; Director; Manager; Superintendent.

296 TEACHING

Instructing and training people and animals. Distinguish from Information Giving (282).

- Demonstrating
- Directing
- Examining
- Grading
- Lecturing
- Observing
- Planning
- Reviewing
- Supervising

Typical Occupations: Faculty Member; Instructor; Teacher; Dramatic Coach; Animal Trainer.

297 ENTERTAINING

Exhibiting specialized artistic, physical, or mental skills to amuse or divert audiences.

- Acting
- Balancing
- Conducting
- Dancing
- Demonstrating
- Impersonating
- Juggling
- Lecturing
- Miming
- Performing
- Portraying
- Rehearsing
- Singing
- Staging

Typical Occupations: Actor; Dancer; Musician; Orchestra Conductor; Automobile Racer; Professional Athlete; Clown.
298 ADVISING-COUNSELING

Effecting the adjustment of people with financial, vocational, spiritual, educational, and other problems according to established procedures. Distinguish from Accommodating (291), Health Caring-Medical (294), and Litigating (272).

<table>
<thead>
<tr>
<th>Arbitrating</th>
<th>Explaining</th>
<th>Planning</th>
<th>Scheduling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorizing</td>
<td>Interviewing</td>
<td>Reporting</td>
<td>Suggesting</td>
</tr>
<tr>
<td>Consulting</td>
<td>Investigating</td>
<td>Researching</td>
<td>Testing</td>
</tr>
<tr>
<td>Evaluating</td>
<td>Monitoring</td>
<td>Reviewing</td>
<td>Visiting</td>
</tr>
</tbody>
</table>

Typical Occupations: Counselor; Clergy Member; Financial Planner; Caseworker.