



# National Occupational Classification 2011

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# **Introduction to the National Occupational Classification (NOC) 2011**

## **Background**

The National Occupational Classification (NOC) 2011 updates both the National Occupational Classification of Human Resources and Skills Development Canada and Statistics Canada's National Occupational Classification for Statistics (NOC-S) which was based on it. It is the nationally accepted taxonomy and organizational framework of occupations in the Canadian labour market. This revision represents the 20<sup>th</sup> anniversary of the classification and reflects the unification of Human Resources and Skills Development Canada's NOC and Statistics Canada's NOC-S. This revised edition eliminates the differences between the two former systems and incorporates the advantages of both. Through the collaborative partnership between Human Resources and Skills Development Canada and Statistics Canada the department and the statistical agency introduce the revised and unified National Occupational Classification – NOC 2011.

As in the past, this revision is based on extensive occupational research, analysis and consultation conducted across the country. In the decade since its first structural revision in 2001, the labour market has evolved significantly. Technological innovation, further globalization of the economy and restructuring of the workplace have impacted many occupations. In addition to content changes, the harmonization of the NOC and the NOC-S has resulted in a new classification structure.

The NOC is designed to classify occupational information from statistical surveys. It is also used in a range of contexts to compile, analyze and communicate information about occupations. Occupational information is of critical importance for the provision of labour market and career intelligence, skills development, occupational forecasting, labour supply and demand analysis, employment equity and numerous other programs and services. It provides a standardized framework for organizing the world of work in a manageable, understandable and coherent system.

The basic principle of classification of the NOC is that of kind of work performed. Occupations are identified and grouped primarily in terms of the work usually performed, this being determined by the tasks, duties, and responsibilities of the occupation. Factors such as the materials processed or used, the industrial processes and the equipment used, the degree of responsibility and complexity of work, as well as the products made and services provided, have been taken as indicators of the work performed when combining jobs into occupations and occupations into groups.

An occupation is defined as a collection of jobs, sufficiently similar in work performed to be grouped under a common label for classification purposes. A job, in turn, encompasses all the tasks carried out by a particular worker to complete their duties.

## Structure of NOC 2011

The National Occupational Classification 2011 is a four-tiered hierarchical arrangement of occupational groups with successive levels of disaggregation. It contains broad occupational categories, major, minor and unit groups.

### 10 broad occupational categories

- Each broad occupational category has a unique one digit code number and is composed of one or more major groups.

### 40 major groups

- Each major group has a unique two-digit code number and is composed of one or more minor groups. The first digit of this code indicates the broad occupational category to which the major group belongs.

### 140 minor groups

- Each minor group has a unique three-digit code number and is composed of one or more unit groups. The first two digits of this code indicate the major group to which the minor groups belong.

### 500 unit groups

- Each unit group has a unique four-digit code. The first three digits of this code indicate the major and minor groups to which the unit group belongs.

#### For example:

0	Management occupations
00	Senior management occupations
001	Legislators and senior management
0011	Legislators
0012	Senior government managers and officials
0013	Senior managers - financial, communications and other business services
0014	Senior managers - health, education, social and community services and membership organizations
0015	Senior managers - trade, broadcasting and other services, n.e.c.
0016	Senior managers - construction, transportation, production and utilities

The broad occupational category code, designated by a single digit, is repeated at all levels. Major group codes are created by adding a second digit. This digit appears in the second position at all lower levels in the structure. Minor group codes add a third digit. Finally, the 4-digit unit group codes contain the digit identifying the broad occupational category, followed by the digit identifying the major group and the digit identifying the minor group and a last digit identifying the unit group.

There are approximately 40,000 occupational titles classified in the 500 unit groups of the NOC 2011. Some of these titles are clearly occupations, such as librarian and chef, while others reflect specializations within an occupational area, such as music librarian and pastry chef. Still others represent a range of jobs, such as furniture assembler and sawmill machine operator.

These titles are used to describe the work performed by many individuals holding similar jobs within an occupational area. The list of titles in the NOC is not meant to be exhaustive, but attempts to cover the most commonly used and universally understood labels that identify work in the labour market.

## **Abbreviations**

Few abbreviations are used in this classification. Particular attention should be given to the abbreviation n.e.c. (not elsewhere classified). As an occupational qualifier it is occasionally used in the labels of major, minor and unit groups to refer to occupations not elsewhere classified; e.g. 065 Managers in customer and personal services, n.e.c. indicates that this class includes managers in customer and personal services that are not classified elsewhere in the classification.

## **Language**

The NOC is available separately in both official languages. It is important to note that the French version includes only titles commonly used in French and proper to the milieu and, therefore, these are not normally translations of the English titles. The classification structure is the same in both languages.

Unit group labels are presented in gender-neutral format in French identifying the masculine and feminine titles separated by a slash. Where relevant, this structure is used in English as well. The illustrative example titles are also presented in gender-neutral format. The NOC descriptions are written using the masculine form as they refer to all workers within the included occupations. This has been done in order to lighten the text and to reduce reading burden.

## **Modifying terms**

Modifying terms have been added to several job titles, as extensions, to designate the industrial sector or the domain of expertise. If applicable, this information is preceded by a dash at the end of the title (cashier supervisor – retail trade) to distinguish between similar titles. These modifying terms specify where the titles appear in the classification structure (painter – visual arts; painter – manufacture of motor vehicles). This information should be considered when coding job titles.

## **Format of unit group descriptions**

Each NOC unit group description consists of several standardized sections which define and describe its content.

## **Lead statement**

This section provides a general description of the content and boundaries of the unit group and indicates the main activities of occupations within the unit group. It also indicates the kinds of industries or establishments in which the occupations are found. The list of places of employment is not always exhaustive, but can assist in clarifying the occupations described and in differentiating them from occupations found in other groups.

## **Illustrative examples <sup>1</sup> / Example titles <sup>2</sup>**

This section is a list of titles commonly used in the labour market. The titles are intended to illustrate the contents and range of the occupational group. This is not an exhaustive list of titles.

## **Exclusions<sup>1</sup> / Classified elsewhere<sup>2</sup>**

This section clarifies the boundaries of the unit group by identifying related unit groups and similar occupations that are classified elsewhere. Unit groups or individual occupations are cited in this section when they bear a functional similarity to the unit group or when similar titles occur.

## **Main duties**

This section lists some of the tasks or duties performed in the occupations in the unit group. Depending on the contents of the unit group, one of three formats is used.

- A series of statements that can be applied to all occupations in the unit group. This format was selected for unit groups that contain a single core occupation, such as 1242 Legal administrative assistants and 2146 Aerospace engineers. This format was also selected for unit groups that contain a range of related titles that nevertheless share a set of common duties, such as 1411 General office support workers and 9417 Machining tool operators.
- Two or more sub-sets of occupations with a series of statements that apply to each component. This format was selected for unit groups that consist of two or more sub-components which, while similar enough to be in the same unit group, can be described separately. Examples of unit groups with this format are 3141 Audiologists and speech-language pathologists and 5125 Translators, terminologists and interpreters.

1. This heading is used by Statistics Canada

2. This heading is used by Human Resources and Skills Development Canada.

- A series of brief descriptive statements that are linked to specific occupations within a group. This format was selected for unit groups that contain a series of occupations which, while similar enough to be in the same unit group, can be described separately. Examples of unit groups with this format include 4423 By-law enforcement and other regulatory officers, n.e.c. and 5226 Other technical and co-ordinating occupations in motion pictures, broadcasting and the performing arts.

For some unit groups, a statement appears at the end of the tasks performed or main duties section, identifying specializations that exist within the occupational area encompassed by the unit group.

### **Employment requirements**

This section describes the employment requirements for the unit group. Several types of requirements are identified in this section and are listed in the following order.

- Type and level of formal education: for example, secondary school, college diploma, university degree. Efforts were made to be as specific as possible, though many unit groups have a range of acceptable educational requirements.
- Specific training: for example, apprenticeship training, on-the-job training, training courses specific to an occupation.
- Experience in another occupation: for example, supervisors usually require several years of experience in the occupation that they supervise.
- Licences, certificates or registration: for example, regulatory requirements to practice in a regulated profession, special licenses to operate certain kinds of vehicles.
- Other requirements: for example, athletic ability or artistic talent.

Note: Some occupations are designated as regulated professions and trades. Regulations are subject to change and may vary across jurisdictions. The most reliable information on regulatory requirements for occupations is found on the Web sites of provincial regulatory organizations and licensing authorities.

The Employment requirements section does not attempt to describe personal suitability requirements that are assessed by employers as part of the hiring process.

Some occupations have very definite employment requirements while for others, there is no consensus or a range of acceptable requirements exist. To reflect this variation in the labour market, this section describes employment requirements using the following terminology:

- "... is required" - to indicate a definite requirement;
- "... is usually required" - to indicate something that is usually required by the majority of employers, but not always required by all employers; and
- "... may be required" - to indicate something that may be required by some employers, but on a less frequent basis.

Note: For reasons of brevity, in this section the term college includes the following types of post-secondary institutions: community colleges, CÉGEPs, technical institutes, trade schools and agricultural colleges. Where relevant, in some provinces, it may also include private training organizations, music conservatories and other non-degree granting institutions.

### **Additional information**

This section appears in some unit group descriptions. It provides information on the following:

- progression to other occupations (such as supervisory or management positions) based on transferability of skills from acquired occupational experience;
- mobility patterns, such as inter- and intra-occupational transferability of skills (for example, identifying occupations that are part of internal lines of progression or specializations within a subject matter area);
- trends and forthcoming changes in the unit group's employment requirements; and
- other information to clarify and define the unit group.

### **Related classifications: NAICS, Class of Worker**

The classification of occupations does not stand alone but must be understood as being related to other classifications, such as the North American Industry Classification System (NAICS) and that of Class of Worker. Each of these classifications supplements the NOC 2011 in presenting a rounded picture of the nature of a person's job.

#### **North American Industry Classification System (NAICS)**

The industrial qualifier which may accompany the job title:

- a. Indicates the type of economic activity with which the job is usually associated. (It is important to note that the assignment of an industrial qualifier does not necessarily limit a job to that industry. These qualifiers are merely indicative of the possible areas of activity in which the job may be found.)
- b. Permits the assignment of similar occupational titles to different occupation groups where the duties vary between industries.
- c. Aids in defining the specific occupations and helps the coder grasp the underlying principles of this classification.

The industry in which the individual is employed is determined by the kind of economic activity of the establishment. The establishment is usually a factory, mine, farm, store, other place of business or an institution for which a number of basic production variables can be compiled.

It is important to note the conceptual differences between an industry classification and an occupation classification. An establishment can employ individuals performing completely different occupations, and these are classified to appropriate occupational groups, but the industrial classification of each individual employed in the establishment should be the same and is determined by the nature of the product made or service rendered. In other words, the nature of the factory, business or service in which the person is employed does not determine the classification of the occupation, except to the extent that it enables the nature of the duties to be more clearly defined.

## **Class of Worker**

Class of worker refers to an individual's employment relationship to the business in which he or she works, as employee or self employed, including unpaid family worker, and thus provides another means of describing the work. The NOC 2011 does not indicate the class of worker classification for each occupation since many occupations contain both jobs held by employees and jobs of self-employed individuals. However, a general rule has been established for coding purposes and is discussed in full under the section on Coding.

## **NOC 2011**

NOC 2011 replaces the National Occupational Classification of Human Resources and Skills Development Canada and Statistics Canada's National Occupational Classification for Statistics. These classifications were revised jointly by Human Resources and Skills Development Canada and Statistics Canada every 5 years according to the census cycle. The maintenance of the classification alternates between minor updates and structural revisions. Only in 10-year structural revisions are such changes considered as: the creation of new classes, the collapsing of classes, the moving of classes in the structure or the moving of content between classes.

The 2011 revision represents a major structural realignment. A key objective of this revision was to harmonize the coding structures and eliminate all other differences between the two classifications, fulfilling a request heard from users of both the NOC and the NOC-S. The result is the unified NOC 2011 which was developed through the joint efforts of Human Resources and Skills Development Canada and Statistics Canada and will be used by both.

Separate concordance tables explain the revisions to both classification systems that have resulted in the harmonized classification structure for NOC 2011.

In addition to these changes, for NOC 2011, a new variant of the classification has been developed at a high level of aggregation. It is designed to better support the analysis of highly aggregated data (See: Variant for highly aggregated data).

## **Citation**

The National Occupation Classification 2011 is a joint product of Statistics Canada and Human Resources and Skills Development Canada. The appropriate department should be cited when materials are used. The structure, class labels, class definitions (lead statements), example titles and exclusions were jointly developed and are to be attributed to both departments. The content of the main duties, employment requirements and additional information sections as well as the theoretical framework and the accompanying definitions of skill level and skill type are the intellectual property of Human Resources and Skills Development Canada and are to be attributed to the department when cited.

## **Comparison of NOC 2006 and NOC-S 2006 to NOC 2011**

The major difference between the NOC and the NOC-S had been the greater use in the NOC of skill level as a classification criterion. Whereas the NOC organized occupations by 10 skill

types and four skill levels, NOC-S relied more on skill type in defining its major groups. The NOC 2011 uses the organizational structure of the NOC (See: [Classification criteria](#)).

In order to incorporate skill level as an organizational principle, several major groups from NOC-S 2006 were changed and a new coding structure reflecting the skill type by skill level numerical coding of the NOC was adopted. The relationship between the major groups of NOC 2011 and NOC-S 2006 is detailed in the [concordance tables](#).

In order to provide at the major group level a comparable level of detail to that which had been provided by the NOC-S major groups, the number of major groups was increased from the 26 major groups of NOC 2006 to 40 major groups in NOC 2011. The relationship between the major groups of NOC 2011 and NOC 2006 is detailed in the [concordance tables](#).

The unit group descriptions of NOC 2011 contain all the types of information carried in NOC 2006. In comparison to NOC-S 2006, users will find additional information on the activities performed by workers in each unit group and a section related to educational and/or training requirements for entering an occupation. These sections provide further information on the nature of the jobs included in each unit group, help to code job titles to the correct class and help identify the relative distinctions between skill levels for occupations.

The NOC and NOC-S had also differed in their treatment of military personnel. The NOC classified military personnel whose occupations had a civilian counterpart in the group appropriate to that civilian occupation. The NOC-S classified all military personnel on the basis of rank to one of two unit groups: one for commissioned officers and one for other ranks. NOC 2011 follows the approach used in NOC-S, with all military personnel being classified to either 0433 Commissioned officers of the Canadian Forces or 4313 Non-commissioned ranks of the Canadian Forces. The adoption of the NOC-S approach allowed this difference to be resolved with no impact on the historical comparability of data.

In this structural revision, various changes were also made at the unit group level to enable the classification to continue to provide a framework for the provision of relevant and reliable information on the occupational structure of Canada. New unit groups have been formed either by combining unit groups or parts of unit groups from 2006 and content has been moved between skill types and levels. The full relationship between the unit groups of NOC 2011 and those of NOC and NOC-S 2006 is presented in the concordances, but some highlights are noted [here](#).

Some unit groups were moved to better reflect the skill type of the work performed. For example, Loan officers, Customer service representatives – financial and customer service, information and related clerks all moved from Business to Sales and service. Public relations and communications professionals moved from Art and culture to Business. Protective service occupations, including the military, police and firefighters, moved from Sales and service to Government services. Care providers and educational assistants moved from Sales and service to Community and education services. Certain trades, including upholsterers and tailors, moved from Trades and equipment to Services. As a final example, Power system, station and auxiliary equipment operators moved from Trades and equipment operators to Utilities.

In other cases, only part of a group was moved. For example, legal assistants moved out of Paralegal and related occupations, in Law, into Legal administrative assistants, in Business.

Advertising and marketing managers moved out of Sales, marketing and advertising managers, in Sales, into Advertising, marketing and public relations managers, in Business services. Similarly, Library assistants moved from Library and archive technicians and assistants, in Education, law and social, community and government services, to Library assistants and clerks, in Business, finance and administration.

Other unit groups were moved to better reflect the occupation's current skill level. For example, the group for Non-commissioned ranks of the Canadian Forces was moved from skill level C to skill level B to recognize the training that occurs post-recruitment. Water and waste treatment plant operators also moved from skill level C to B due to the changing requirements associated with this occupation. Farmers and farm managers were moved into management to recognize the significant management component in these occupations.

As was the case with skill type, here also there were cases where only part of a unit group was moved. For example, midwives were moved from skill level B to skill level A into a new unit group, Allied primary health practitioners. Pharmacy technicians and physiotherapy assistants moved from skill level C to skill level B, now included, respectively, in Other medical technologists and technicians (except dental health) and Other technical occupations in therapy and assessment.

Finally, some unit groups were combined. Administrative clerks were merged with General office clerks due to the increasing similarity in the job titles and work performed in these two unit groups. In other cases, particularly in manufacturing, unit groups that have been declining in size were combined with related groups.

In addition to these structural changes, the 2011 revision also provided an opportunity to add many new job titles in order to reflect changing terminology and new technology in the workplace and the rise of new occupations and specializations. Too numerous to list, these additions included titles ranging from oil and gas contractor to mystery shopper and from physician assistant to seismic buried facilities locator.

## **NOC classification criteria**

The two major attributes of jobs used as classification criteria in developing the NOC are skill type and skill level. A description of skill levels is presented first as the definitions of skill types incorporate some information related to the concept of skill level. Other factors, such as industry and occupational mobility, are also taken into consideration.

### **Skill level**

Skill level is defined generally as the amount and type of education and training required to enter and perform the duties of an occupation. In determining skill level, the experience required for entry, and the complexity and responsibilities typical of an occupation are also considered in relation to other occupations.

Four skill level categories are identified in the NOC. Each major, minor and unit group is assigned to one of the skill levels.

The skill level categories are broad aggregates, reflecting four commonly accepted educational, training or preparatory routes for entering employment. Requirements for individual unit groups or occupations may overlap between the boundaries of the skill levels. For example, some occupations can be entered with either a university degree or a college

diploma. When the entry requirements for a unit group or occupation reflect a range of possible educational and training specifications, skill level placement of the group was determined by considering several factors. These include the requirements most generally demanded by employers, the minor group context, complexity of overall responsibilities and knowledge requirements as well as further training and specialization acquired on the job.

The classification describes the educational and training requirements for occupations. However, the education and experience of particular job incumbents may not correspond exactly to the level described. Individuals may be over-qualified for their work or they may work in occupations for which the entry requirements have changed after they became employed.

It is important to note that the skill level categories are not intended to designate socio-economic status or prestige. Rather they are intended to reflect actual occupational entry requirements. These requirements are expressed in terms of the formal educational system and other types of training specified by employers.

Management occupations, while considered a skill type, are assigned to the skill level A category. These occupations are at the top of organizational hierarchies and as such, are characterized by high levels of responsibility, accountability and subject matter expertise gained through either formal education or extensive occupational experience. Management occupations span the entire classification structure and are found in all sectors or areas of the labour market. A range of factors are taken into consideration as determinants for employment in management occupations.

The skill level categories of the NOC are outlined and defined below.

## **NOC skill level criteria - education/training and other criteria**

### **Skill level A**

- University degree (bachelor's, master's or doctorate)

### **Skill level B**

- Two to three years of post-secondary education at community college, institute of technology or CÉGEP  
*or*
- Two to five years of apprenticeship training  
*or*
- Three to four years of secondary school and more than two years of on-the-job training, occupation-specific training courses or specific work experience
- Occupations with supervisory responsibilities are also assigned to skill level B.
- Occupations with significant health and safety responsibilities (e.g., fire fighters, police officers and licensed practical nurses) are assigned to skill level B.

### **Skill level C**

- Completion of secondary school and some short-duration courses or training specific to the occupation  
*or*
- Some secondary school education, with up to two years of on-the-job training, training courses or specific work experience

## **Skill level D**

- Short work demonstration or on-the-job training  
*or*
- No formal educational requirements

Skill level is referenced in the code for all occupations with the exception of management occupations. For all non-management occupations the second digit of the numerical code corresponds to skill level. Skill levels are identified as follows: level A – 0 or 1; level B – 2 or 3; level C – 4 or 5; and level D – 6 or 7.

## **Skill type**

Skill type is defined as the type of work performed, although other factors related to skill type are also reflected in the NOC. One of these factors is similarity with respect to the educational discipline or field of study required for entry into an occupation. Another factor is the industry of employment where experience within an internal job ladder or within a specific industry is usually a prerequisite for entry. The 10 skill types, 0 to 9, are presented below and are also identified in the first digit of the NOC numerical code for all occupations.

The ten broad occupational categories of the NOC are based on skill type.

### **0. Management occupations**

This skill type category contains legislators, senior management occupations and middle management occupations. While management occupations are defined as a skill type, they are also found throughout all other skill type areas of the classification. The first digit of the code for all management occupations is 0.

These occupations are considered to be at the top of the organizational hierarchy of workplaces or businesses. Decision-making that affects the organization as a whole, or departments within organizations, is undertaken by management. As such, management is characterized by high levels of responsibility, accountability and subject matter expertise. Expertise is acquired through either formal education or extensive occupational experience. For these reasons all management occupations in the NOC 2011 are also included within skill level A.

#### **1. Business, finance and administration occupations**

This category contains occupations that are concerned with providing financial and business services, administrative and regulatory services and clerical supervision and support services. Some occupations in this category are unique to the financial and business service sectors; however, most are found in all industries.

Often, occupations at skill levels A and B are supplied from educational programs specific to the profession or occupation. Some occupations at skill level B are also supplied from experienced workers in related administrative support occupations.

#### **2. Natural and applied sciences and related occupations**

This category contains professional and technical occupations in the sciences, including physical and life sciences, engineering, architecture and information technology.

Occupations in this skill type category require post-secondary education in an appropriate scientific discipline. Progression from occupations in skill level B to occupations in skill level A is usually dependent on completion of additional formal education.

### **3. Health occupations**

This category includes occupations concerned with providing health care services directly to patients and occupations that provide support to professional and technical staff. Most occupations in this skill type category require post-secondary education in a related health care program. Progression from occupations in skill level B to occupations in skill level A is usually dependent on completion of additional formal education. Occupations in skill level C require short training programs.

### **4. Occupations in education, law and social, community and government services**

This skill type category includes a range of occupations that are concerned with law, public protective services, teaching, counselling, conducting social science research, developing government policy, and administering government and other programs.

Occupations in this skill type category usually require completion of a related post-secondary program. Progression from occupations in skill level B to occupations in skill level A is not usually possible without completion of additional formal education.

### **5. Occupations in art, culture, recreation and sport**

This skill type category includes professional and technical occupations related to art and culture, including the performing arts, film and video, broadcasting, journalism, writing, creative design, libraries and museums. It also includes occupations in recreation and sport.

This category is characterized by occupations which are linked by subject matter to formal post-secondary educational programs but which have, for the most part, a range of acceptable qualifications. Occupations in this category are also characterized by a requirement for creative talent, such as for designers and performers, or for athletic ability. Unit groups for occupations that usually require university graduation in a professional discipline, such as journalism or library science, have been classified in skill level A. Most others have been classified in skill level B in recognition of the wide range of entry routes that are possible.

### **6. Sales and service occupations**

This skill type category contains sales occupations, personal services and security service occupations, and occupations related to the hospitality and tourism industries.

Occupations in skill level B of this category can be linked, for the most part, to formal post-secondary or occupation-specific training programs. Others are characterized by periods of formal on-the-job training other than apprenticeship. Progression from occupations in skill level C or D to those in skill level B usually require completion of related training programs. Some progression through experience is possible for supervisory positions.

### **7. Trades, transport and equipment operators and related occupations**

This skill type category includes construction and mechanical trades, trades supervisors and contractors and operators of transportation and heavy equipment. These occupations are found in a wide range of industrial sectors, with many occurring in the construction and transportation industries.

This category includes most of the apprenticeable trades, including all of those related to the construction industry. Other occupations in this category usually require completion of college or other programs combined with on-the-job training. Progression to supervisory or self-employed contractor status is possible with experience. There is limited mobility or transferability of skills among occupations in this category due to specific apprenticeship, training and licensing requirements for most occupations.

## **8. Natural resources, agriculture and related production occupations**

This category contains supervisory and equipment operation occupations in the natural resource-based sectors of mining, oil and gas production, forestry and logging, agriculture, horticulture and fishing. Most occupations in this category are industry specific and do not occur outside of the primary industries.

Occupations within skill level B of this category generally require completion of college or other post-secondary training programs. Some, however, are characterized by industry-based training and progression through experience.

## **9. Occupations in manufacturing and utilities**

This category contains supervisory and production occupations in manufacturing, processing and utilities.

Occupations in this category are characterized by internal progression and on-the-job training. Workers typically start out in these occupations at entry-level positions and progress to increasingly higher skilled occupations through experience. Mobility between employers or industries may be limited by seniority provisions of collective agreements. The occupations in skill level B of this category are increasingly technical in nature and post-secondary training programs are required for some.

## **Industry**

Industry and occupation are separate variables which can be cross-tabulated to provide detailed information on employment. However, many occupations are found almost solely within one particular industry. For example, mining and automobile assembly occupations occur each within their respective industrial sectors.

During the original research and development of the NOC, it was realized that in many industries, occupational mobility is determined more by internal job ladders than by functional specialization. In consequence, some unit groups include workers of a particular skill level within a specific industry. Although the occupational categorisation resembles in part an industrial categorisation, the variables remain separate and distinct.

Industry was used in the development of classification categories for senior management occupations, for occupations in natural resources, agriculture and related production and for occupations in manufacturing and utilities.

## **Occupational mobility**

In developing the NOC, an effort was made to consider mobility or transferability of skills between occupations. The objective was to develop unit groups where the potential for mobility, or substitution of workers, would be greater within the group than between groups. Movement within groups usually follows when the group is homogeneous in skill level and skill type, indicating increased potential for transferability of competencies and development of specialization. Movement between groups, or inter-occupational mobility, usually reflects a change in skill level (e.g., vertical mobility) or a change in skill type (e.g., acquisition of new responsibilities and diversified skills).

The degree of occupational mobility that exists for unit groups varies. Many unit group descriptions include a statement that indicates the potential for, and type of, mobility that characterizes the unit group.

## Other classification considerations

In addition to the previously mentioned criteria, other factors were considered in determining the boundaries between unit groups and the contents of each group. These additional factors were the size of the unit groups and the codability or operational feasibility of the groups. Codability relates to the ease of accurately coding or assigning reported job titles from survey respondents to the occupational groups of the classification.

The size (or estimated number of workers) of the unit group was considered for reasons of statistical reliability and confidentiality. Generally, unit groups which contain fewer than 1,000 Canadian workers have not been delineated.

Because the NOC structure is used to code responses to the National Household Survey and other surveys, it must provide a set of unit groups that can be used for this operational application. The insufficient precision of some survey responses and ambiguities of language were given consideration in finalizing the unit groups.

## The NOC Matrix

A matrix classifying the NOC major and minor groups has been developed to provide an overview of the entire classification and to show the organization of the groups by both skill type and skill level.

There are 10 skill types in the NOC identified as **0** to **9**. The vertical columns of the matrix correspond to nine of the 10 skill type categories with the exception of management. Management, the first skill type or 0, is organized across the top of the matrix and spans all nine skill types as it is found within all occupational sectors or categories. The **first digit** of each code identifies the major and minor group as belonging to one of the ten **skill type** categories, 0 to 9.

The horizontal rows of the matrix correspond to the four skill level categories. Management occupations are by default included in the skill level A category. For all non-management occupations, the **second digit** of each code identifies the major and minor group as belonging to one of the four **skill level** categories.

Within each cell of the [matrix](#), the major and minor groups that belong to each skill type and skill level category are listed. Management occupations are the exception, which span all skill type categories and are included in skill level A. The **second digit** of management occupations identifies the occupational sector of management, for example 031 Managers in health care.

## Issues and conventions of the NOC

Some of the many issues that were encountered in the development of the NOC and the conventions adopted in response are discussed in the following paragraphs.

### Management occupations

Management occupations present a special problem for reliable coding of occupational survey responses. In many cases there is little indication of the level of responsibility, the size of the enterprise or division managed, or the field of specialization.

To be of practical use, a classification of managers must be a compromise between the theoretically optimal and the practical solutions.

Senior management occupations (in major group 00) have been divided on the basis of industry of employment into six unit groups.

**Middle and other management occupations** are divided into three major groups, 18 minor groups and 42 unit groups on the basis of specialization (e.g., Purchasing managers) or industry of employment (e.g., Postal and courier services managers). In certain cases (e.g., Managers in transportation) groups defined by industry also contain managers in that specialization regardless of their industry of employment.

### **Supervisors**

Supervisors and foremen/women have generally been classified in skill level B.

In most cases, professional and technical occupations are supervised by managerial or professional personnel respectively. However, where supervisors are identified for professional and technical groups, they are generally classified in the same unit groups as the occupations supervised.

Supervisors in the following occupational categories have been classified in supervisor unit groups or minor groups separate from the workers supervised:

- administrative services occupations
- nursing occupations
- sales and service occupations
- trades and transport and equipment operators
- occupations in natural resources and agriculture
- occupations in manufacturing and utilities.

Most minor and unit groups in the occupational categories listed above have a corresponding supervisory group. Occasionally, as in minor group 431, Occupations in front-line public protection services, supervision is provided by managers and there are no corresponding supervisory groups in major group 43.

### **Trades**

All apprenticeable trades are included in skill level B. Their inclusion does not imply an exact equivalence of skill between all trades, but rather that they occupy a range that lies within the boundaries of this skill level category. Information on entry requirements is provided within each unit group description.

### **Inspectors, testers and graders**

Generally, inspectors who require post-secondary education have been classified in separate unit groups in skill level B or with technicians and technologists, also in skill level B. Other non-technical inspectors, testers, graders and samplers have been included either in separate unit groups covering occupations in processing industries or in unit groups of assemblers and fabricators in manufacturing industries. This is reflective of patterns of employment found within industries and the increasing responsibility for quality control that is placed on manufacturing production workers.

### **Apprentices and trainees**

Apprentices and trainees have been classified in the same unit groups as the occupations for which they are training. Similarly, interns, residents and articling students are classified with their respective professional groups.

This convention has been adopted of necessity to prevent a proliferation of unit groups of apprentices. It is not intended to imply equivalence or interchangeability of apprentices or trainees with fully qualified workers.

## **NOC 2011 coding system**

As indicated previously, the first two digits of each code convey meaning with respect to the group's skill type and skill level category.

For all occupations, including management, the **first digit** of each code identifies the major, minor and unit group as belonging to one of the **skill type** categories. For all non-management occupations, the **second digit** of each code identifies the major, minor and unit group as belonging to one of the four **skill level** categories.

For management occupations, the first two digits also convey meaning. The first digit is always 0 to convey management, while the second digit conveys the skill type category in which the management occupation is found. All management occupations are included as part of skill level A.

The following charts summarize and illustrate the meanings embedded in the coding system.

<b>The skill type category is...</b>	<b>when the first digit is...</b>
Management occupations	0
Business, finance and administration occupations	1
Natural and applied sciences and related occupations	2
Health occupations	3
Occupations in education, law and social, community and government services	4
Occupations in art, culture, recreation and sport	5
Sales and service occupations	6
Trades, transport and equipment operators and related occupations	7
Natural resources, agriculture and related production occupations	8
Occupations in manufacturing and utilities	9

<b>The skill level category is...</b>	<b>when the second digit is...</b>
Skill level A	0 or 1
Skill level B	2 or 3
Skill level C	4 or 5
Skill level D	6 or 7

Important note:

For management, the first digit is always 0. Senior managers in major group 00 are generally managers of middle managers, therefore the second digit is also 0. For middle management occupations, the second digit represents the skill type categories, from 1 to 9, as above. All management occupations are included in skill level A.

Examples of codes and their meaning:

9231

- The first digit indicates skill type category 9
- Occupations in manufacturing and utilities
- The second digit indicates skill level category B

6533

- The first digit indicates skill type category 6
- Sales and service occupations
- The second digit indicates skill level category C

0212

- The first digit 0 always indicates a management occupation
- All management occupations are part of skill level A
- The second digit indicates management in skill type category 2
- Natural and applied sciences and related occupations

## **Variant for highly aggregated data**

A variant of NOC 2011 has been developed jointly by Statistics Canada and Human Resources and Skills Development Canada. It is based on a review of actual practices in the analysis of highly aggregated occupational data, consideration of the highest aggregation level in the International Standard Classification of Occupations (ISCO) and consultation with potential users.

The variant consists of 10 groupings, from a. to j., that are a convenient and useful way to summarize and analyse more detailed classes. The first three classes are homogeneous on skill level. The remaining classes focus on skill type. All classes consist of entire major groups; no major group is split between classes of the variant.

### Variant Aggregation Structure

Variant classes	Major groups included
a. Management	<b>00</b> Senior management occupations <b>01-05</b> Specialized middle management occupations <b>06</b> Middle management occupations in retail and wholesale trade and customer services <b>07-09</b> Middle management occupations in trades, transportation, production and utilities
b. Professional	<b>11</b> Professional occupations in business and finance <b>21</b> Professional occupations in natural and applied sciences <b>30</b> Professional occupations in nursing <b>31</b> Professional occupations in health (except nursing) <b>40</b> Professional occupations in education services <b>41</b> Professional occupations in law and social, community and government services <b>51</b> Professional occupations in art and culture
c. Technical and paraprofessional	<b>22</b> Technical occupations related to natural and applied sciences <b>32</b> Technical occupations in health <b>42</b> Paraprofessional occupations in legal, social, community and education services <b>43</b> Occupations in front-line public protection services <b>52</b> Technical occupations in art, culture, recreation and sport
d. Administration and administrative support	<b>12</b> Administrative and financial supervisors and administrative occupations <b>13</b> Finance, insurance and related business administrative occupations <b>14</b> Office support occupations <b>15</b> Distribution, tracking and scheduling co-ordination occupations
e. Sales	<b>62</b> Retail sales supervisors and specialized sales occupations <b>64</b> Sales representatives and salespersons – wholesale and retail trade <b>66</b> Sales support occupations
f. Personal and customer information services	<b>34</b> Assisting occupations in support of health services <b>44</b> Care providers and educational, legal and public protection support occupations <b>63</b> Service supervisors and specialized service occupations <b>65</b> Service representatives and other customer and personal services occupations

	<b>67</b> Service support and other service occupations, n.e.c.
g. Industrial, construction and equipment operation trades	<b>72</b> Industrial, electrical and construction trades <b>73</b> Maintenance and equipment operation trades
h. Workers and labourers in transport and construction	<b>74</b> Other installers, repairers and servicers and material handlers <b>75</b> Transport and heavy equipment operation and related maintenance occupations <b>76</b> Trades helpers, construction labourers and related occupations
i. Natural resources, agriculture and related production occupations	<b>82</b> Supervisors and technical occupations in natural resources, agricultural and related production <b>84</b> Workers in natural resources, agriculture and related production <b>86</b> Harvesting, landscaping and natural resources labourers
j. Occupations in manufacturing and utilities	<b>92</b> Processing, manufacturing and utilities supervisors and central control operators <b>94</b> Processing and manufacturing machine operators and related production workers <b>95</b> Assemblers in manufacturing <b>96</b> Labourers in processing, manufacturing and utilities

## Coding

The NOC provides an overall structure for classifying occupations according to **kind of work performed**. The lists of example titles are merely indicative of the types of occupations that fit within specific unit groups. **The lists of example titles are not exhaustive nor are they intended to be.**

When coding an occupation, all the relevant facts about the job and its environment should be obtained. These include the kind of work performed, the most important activities or duties, the job titles, the kind of business, industry or service, and the class of worker described earlier. The more complete and comprehensive the information the coder is able to assemble about the duties performed by a worker on a particular job, the easier it will be to determine the appropriate classification.

To code an occupation, it is possible to start with either the classification structure or the search tool.

## Using the structure

When using the structure, it is best to exploit the hierarchical nature of the classification. First the **broad occupational category** (skill type) which seems most likely to contain the job should be identified. Next the most appropriate **major group** within the broad occupational category should be found. Skill level can also provide a guide to locating major groups by considering titles with terms such as "technical", "supervisor", "helper", and "labourer". The process should be continued to find the most appropriate **minor group** within the major group selected. Finally the most appropriate **unit group** within the minor group selected should be identified. The unit group definition should be read carefully before deciding if this unit group offers the best possible classification. In addition, the example titles listed for the unit group should be examined to ensure that the choice is actually the best.

### **Using the NOC search tool**

- a. First search for the occupation. This can be done by searching using a key part of the occupation title and reviewing the search results to find the four-digit code that contains the occupation sought. Check whether the title appears in any other four-digit code listed. If it does, the corresponding industrial qualifiers should be checked and the one which relates most closely to the one stated by the respondent selected. Using this code, go to the unit group. Read its definition carefully as well as the list of example titles before deciding whether it is the most appropriate classification. Also consult the list of Exclusions for similar occupations that are classified elsewhere.
- b. If the occupation title cannot be found or if the definition appears inappropriate, enter another title in the search. Some suggestions are:
  1. Look for the noun form: answering the phone will be a Receptionist or Telephone clerk
  2. Shorten the title: Electronic data processor to Data processor
  3. Find a synonym: Aircraft mechanic for Aircraft maintenance technician
  4. If the title is inverted, look for it in its natural order e.g. Manager, store may be located using Store manager
- c. Also consider such factors as:
  - Job location - tunnel worker; bridge keeper
  - Kind of machines used - cement-mixer operator; hydraulic riveter
  - Material used - concrete mason; leather handbag maker
  - Subject matter - music cataloguer; press clipper
  - Activity performed - locomotive inspector; body shop foreman/woman
  - Job skills - surgical instrument repairer; tool machinist

### **Coding procedures for problem responses**

The procedure described above assumes responses contain sufficient information for coding. Unfortunately, depending upon the survey methods used, some responses may be problematic. This occurs when the information in the response is either vague or

contradictory. Experience at Statistics Canada suggests the following approaches to resolving such problems.

**1) Coding vague responses**

It is suggested that vague responses be coded only to the level within the classification that is possible. Of course, before doing so, any information that is available about the respondent should be consulted.

**2) Using education in coding**

This is especially useful in coding occupational responses that are vague. The most reliable way of using education is as an exclusionary edit. Certain occupations require a minimum education and it is possible to exclude vague responses from being coded to such occupations if the respondent does not have the minimum education required. Great care must be taken when using education in occupational coding and it should only be used as a last resort.

**3) Coding when the response contains contradictory information**

Sometimes the responses will give an occupational title and a description of work performed that are contradictory. A response "labourer, driving dump truck" is contradictory in terms of the classification, as driving a truck is not considered elemental work. This response should be coded as a truck driver in 7511 Transport truck drivers. In general, it is best to let the description of the work performed predominate over occupational titles when coding.

Some occupational titles can be misleading. Titles that have manager as part of the title are sometimes not managers. For example, project managers and case managers are usually not managers and must be coded based on a description of their work. Special care must be given to responses that have manager, labourer, or consultant as part of the title as these terms have a variety of meanings in the workplace.

**4) Coding responses containing two or more occupations**

Where two or more occupations are reported in reply to a question on occupation, the first one mentioned should be coded unless there is additional information to suggest otherwise.

## **Classification rules**

### **Managers**

Managers are usually classified to the broad occupational category 0 Management Occupations. Within this category the senior managers that are the top of a management hierarchy as denoted by terms such as president, chief executive officer, etc. are classified in major group 00 Senior management occupations.

Managers with a management specialty, such as human resource management, are classified according to specialty in major group 01-05 Specialized middle management occupations. However, senior managers with a specialist responsibility would be classified with senior management in major group 00 Senior management occupations.

An attempt has been made to isolate many of the managers of small businesses by classifying managers of retail stores, restaurants, hotels and similar businesses in a separate major group 06 Middle management occupations in retail and wholesale trade.

All other managers are classified according to the type of business managed within major group 07-09 Middle management occupations in trades, transportation, production and utilities.

### **Proprietors**

As a general rule, the class of worker status, that is, whether the respondent works for wages or is self-employed, is not considered for classification purposes. An exception is made for proprietors in retail trade, food and accommodation services and residential home building. These are classified as managers to the following unit groups:

0621	Retail and wholesale trade managers
0631	Restaurant and food service managers
0632	Accommodation service managers
0712	Home building and renovation managers

### **Contractors**

Contractors are classified in several areas of the classification. General contractors in construction are classified in unit group 0711 Construction managers. Renovation contractors and home building contractors are classified in unit group 0712 Home building and renovation managers.

Contractors specializing in a specific trade such as plumbing, electrical, carpentry, etc., are classified together with supervisors to the appropriate unit group for that trade. That is, a plumbing contractor is classified to unit group 7203 Contractors and supervisors, pipefitting trades.

### **Supervisors and foremen/women**

Supervisors are classified to separate unit groups for supervisors where they exist. These are found in the following minor groups for supervisors:

121	Administrative services supervisors
621	Retail sales supervisors
631	Service supervisors
720	Contractors and supervisors, industrial, electrical and construction trades and related workers
730	Contractors and supervisors, maintenance trades and heavy equipment and transport operators
821	Supervisors, logging and forestry
822	Contractors and supervisors, mining, oil and gas

825	Contractors and supervisors, agriculture, horticulture and related operations and services
921	Supervisors, processing and manufacturing occupations
922	Supervisors, assembly and fabrication

This unit group for supervisors is found outside of the supervisor minor groups:

3011	Nursing co-ordinators and supervisors
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Where a separate unit group does not exist, supervisors are classified with the workers supervised. For example, in most professional major groups there are no separate unit groups for supervisors, the one exception being unit group 3011 Nursing co-ordinators and supervisors.

Technical occupations follow a similar rule and there are no separate unit groups for supervisors in this area.

Even where separate supervisory unit groups exist, "lead hands" are not classified to them as previous research has indicated that supervision is usually only a minor part of such jobs.

### **Apprentices**

Apprentices are classified within the groups for tradesmen/women. For example an apprentice carpenter is classified to the appropriate trade group, unit group 7271 Carpenters.

### **Helpers**

Helpers are usually considered as labourers. Most helpers will be found in the building trades such as carpenter's helper, mason's helper, roofer's helper, etc. These jobs are not to be confused with formal apprenticeships and are not classified as tradesmen/women but are classified to unit group 7611 Construction trades helpers and labourers.

### **Labourers**

Labourers are classified in separate unit groups in the following major groups:

76	Trades helpers, construction labourers and related occupations
86	Harvesting, landscaping and natural resources labourers
96	Labourers in processing, manufacturing and utilities

### **Sample questions for obtaining occupation information**

The following questions indicate the type of information and the format that could be used to obtain the facts necessary to classify an occupation.

#### **a) For whom did you work?**

- Name of firm, government agency, etc.

**b) What kind of business, industry or service was this?**

- Please give details. For example: primary school, municipal police, wheat farm, shoe store.

**c) What was your work or occupation?**

- Please be specific. For example: plumber, fishing guide, wood furniture assembler, secondary school teacher. (If in the armed forces, give rank).

**d) In this work, what were your main activities?**

- Please give details. For example: installed residential plumbing, guided fishing parties, made wood furniture products, taught mathematics.

**e) In this job or business, were you mainly:**

- Working for wages, salary, tips or commission?
- Working without pay for your spouse or another relative in a family farm or business?
- Self-employed without paid help (alone or in a partnership)?
- Self-employed with paid help (alone or in a partnership)?

## **Methodology**

### **Research and Development for the NOC 2011 Revision**

The NOC is a standard that classifies and describes occupations in the Canadian economy. It is the foundation for occupational statistics and labour market information. Research on occupational evolution, work skills and competencies is an ongoing process. This section outlines the methods and procedures used to revise and unify the 2006 editions of the NOC and the National Occupational Classification for Statistics (NOC-S).

Several contributing factors informed the 2011 revision process. They include a detailed study of NOC and NOC-S users following the 2006 update; the public on-line consultations conducted in advance of the 2011 revision by Human Resources and Skills Development Canada and Statistics Canada; and the establishment of a jointly-chaired interdepartmental committee on the 2011 revision of the classification.

Input and proposals were obtained from all of these initiatives. The most significant feedback included the following: unify the NOC and NOC-S classification structures and eliminate the differences between them; use one coding framework only and preferably the numerical coding of the NOC; increase the number of major groups to the degree possible for alignment with the NOC-S; and include skill level within the classification system.

Revision proposals were also received directly from a wide range of sources. Input was provided by labour market analysts, occupational regulatory and professional organizations, sector groups, employment and career counsellors, immigration specialists, industry experts, employers and educators.

Research analysts were assigned responsibility for NOC skill type categories to review and prioritize all of the input. Analysts also examined secondary sources of information such as occupational analyses and standards, research papers, as well as on-line information including country-wide job postings and employment advertisements in their research. Job analysis studies and contracted research were initiated for some occupational areas and data from sources such as the Census, the Labour Force Survey and other labour market studies were consulted.

For many areas of the classification there was general satisfaction with the content of the occupational groups and their placement within the overall classification structure. Research conducted for non-structural changes to content, such as updating of main duties, employment requirements and inclusion of emerging job titles, was validated by occupational specialists and employers.

Some occupational areas required in-depth research. An examination of how restructuring and use of technology had affected the nature of the work, the boundaries of occupational groups and their position in the classification structure was necessary to accurately reflect these occupations in the current labour market.

Following the analysis phase, revision proposals were compiled into a consolidated and standardized NOC revision template for internal review. Proposed revisions were forwarded to Statistics Canada for internal review to assess implementation concerns related to coding, historical continuity and other statistical considerations. The joint working committee met monthly to discuss issues and arrive at consensus on final decisions. All structural and content revisions implemented for NOC 2011 were agreed upon by both Human Resources and Skills Development Canada and Statistics Canada. NOC 2011 represents a structural revision and unification of the former classification systems.