

# **International Standard Classification of Occupations**

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## **ISCO-88**

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## **INTRODUCTION**

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The revised International Standard Classification of Occupations (ISCO-88) provides a system for classifying and aggregating occupational information obtained by means of population censuses and other statistical surveys, as well as from administrative records.

ISCO-88 is a revision of the International Standard Classification of Occupations 1968, which it supersedes. The revision was carried out in line with the recommendations and decisions of the Thirteenth and Fourteenth International Conferences of Labour Statisticians, held at the International Labour Office, Geneva, in 1982 and 1987. The Fourteenth ICLS endorsed ISCO-88 and recommended that: "In collecting and processing statistics classified by occupation, ... each country should ensure the possibility of conversion into the ISCO-88 system, to facilitate international use of occupational information." Thus, ISCO-88 is one of the standards of international labour statistics.

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## **MAIN OBJECTIVES**

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ISCO-88 has three main aims. The first is to facilitate international communication about occupations by supplying national statisticians with a tool to make national occupational data available internationally.

The second is to make it possible for international occupational data to be produced in a form which can be useful for research as well as for specific decision-making and action-oriented activities, such as those connected with international migration or job placement.

The third aim is to serve as a model for countries developing or revising their national occupational classifications. It should be emphasised that, while serving as a model, ISCO-88 is not intended to replace any existing national classification of occupations, as the occupational classifications of individual countries should fully reflect the structure of the national labour market.<sup>1</sup> However, countries whose occupational classifications are already aligned to ISCO-88 in concept and structure will find it easier to develop necessary procedures for making their occupational statistics internationally comparable.

It should also be noted that, in many cases, countries will wish to develop in their national classifications finer structural and definition details than those contained in ISCO-88. In certain cases they may wish to include coded information on Job Content

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<sup>1</sup> The ILO Bureau of Statistics is at present preparing a manual on how to develop and use national occupational classifications.

Factors and detailed occupational descriptions, which are of particular interest for wage settlements, vocational guidance and training, placement services, or analysis of occupation-specific morbidity and mortality.

## CONCEPTUAL FRAMEWORK

The framework necessary for designing and constructing ISCO-88 has been based on two main concepts: the concept of the kind of work performed or *job*, and the concept of *skill*.

*Job* – defined as a set of tasks and duties executed, or meant to be executed, by one person – is the *statistical unit* classified by ISCO-88. A set of jobs whose main tasks and duties are characterised by a high degree of similarity constitutes an *occupation*. Persons are classified by occupation through their relationship to a past, present or future job.

*Skill* – defined as the ability to carry out the tasks and duties of a given job – has, for the purposes of ISCO-88 the two following dimensions:

- (a) *Skill level* – which is a function of the complexity and range of the tasks and duties involved; and
- (b) *Skill specialisation* – defined by the field of knowledge required, the tools and machinery used, the materials worked on or with, as well as the kinds of goods and services produced.

On the basis of the skill concept thus defined, ISCO-88 occupational groups were delineated and further aggregated.

Bearing in mind the international character of the classification, only four broad skill levels were defined. They were given operational definitions in terms of the educational categories and levels which appear in the *International Standard Classification of Education* (ISCED), COM/ST/ISCED (Paris, Unesco, 1976).

The use of ISCED categories to define the four skill levels does not imply that the skills necessary to perform the tasks and duties of a given job can be acquired only through formal education. The skills may be, and often are, acquired through informal training and experience. In addition, it should be emphasised that the focus in ISCO-88 is on the skills required to carry out the tasks and duties of an occupation – and not on whether a worker having a particular occupation is more or less skilled than another worker in the same occupation.

Therefore, as a rule, the following operational definitions of the four ISCO-88 skill levels apply where the necessary occupational skills are acquired through formal education or vocational training.

- (a) *The first ISCO skill level* was defined with reference to ISCED category 1, comprising primary education which generally begins at the age of 5, 6 or 7 and lasts about five years.

- (b) *The second ISCO skill level* was defined with reference to ISCED categories 2 and 3, comprising first and second stages of secondary education. The first stage begins at the age of 11 or 12 and lasts about three years, while the second stage begins at the age of 14 or 15 and also lasts about three years. A period of on-the-job training and experience may be necessary, sometimes formalised in apprenticeships. This period may supplement the formal training or replace it partly or, in some cases, wholly.
- (c) *The third ISCO skill level* was defined with reference to ISCED category 5, (category 4 in ISCED has been deliberately left without content) comprising education which begins at the age of 17 or 18, lasts about four years, and leads to an award not equivalent to a first university degree.
- (d) *The fourth ISCO skill level* was defined with reference to ISCED categories 6 and 7, comprising education which also begins at the age of 17 or 18, lasts about three, four or more years, and leads to a university or postgraduate university degree, or the equivalent.

Unavoidably, some subjective judgement was involved in determining the skill levels of occupations, or occupational groups, in the structure of ISCO-88. Many national classifications and national circumstances have been examined to gather data for this purpose, and it is hoped that the decisions made reflect prevailing situations and main trends.

## DESIGN AND STRUCTURE

The conceptual approach adopted for ISCO-88 resulted in a pyramid whose hierarchical structure consists of ten major groups at the top level of aggregation, subdivided into 28 sub-major groups, 116 minor groups, and 390 unit groups.

**Table 1. ISCO-88 major groups with number of sub-groups and skill levels**

Major groups	Sub-major groups	Minor groups	Unit groups	ISCO skill level
1. Legislators, senior officials and managers	3	8	33	---
2. Professionals	4	18	55	4th
3. Technicians and associate professionals	4	21	73	3rd
4. Clerks	2	7	23	2nd
5. Service workers and shop and market sales workers	2	9	23	2nd
6. Skilled agricultural and fishery workers	2	6	17	2nd
7. Craft and related trades workers	4	16	70	2nd
8. Plant and machine operators and assemblers	3	20	70	2nd
9. Elementary occupations	3	10	25	1st
0. Armed forces	1	1	1	---
Totals	28	116	390	

As can be seen from the above table, out of the ten major groups, eight have been linked to the four ISCO skill levels – which, as mentioned earlier, were given operational

definitions by reference to the educational categories and levels of the International Standard Classification of Education. The concept of skill level was not applied in the case of Major group 1, *Legislators, senior officials and managers*, and Major group 0, *Armed forces*. The reason for this was that, based on information from national sources, skills for executing tasks and duties of occupations belonging to each of these two major groups vary to such an extent that it would be impossible to link them with any of the four broad ISCO-88 skill levels.

Further sub-divisions of ISCO-88 occupational groups, providing successively finer detail, were carried out on the basis of skill specialisation, defined by reference to the field of knowledge required, the tools and machinery used, the materials worked on or with, as well as the kinds of goods and services produced.

The 28 sub-major groups, at the second ISCO-88 level of aggregation, represent an innovation in the sense that all of the preceding international occupational classifications have had a substantial numerical gap in the number of groups at their first and second levels of aggregation. For instance, in the case of ISCO-68 there were eight groups at the first level of aggregation followed by 83 groups at the second level. This presented an imbalance in the number of groups needed, on the one hand, for the presentation of the occupational structure in broad terms and for cross-classifying with variables such as industry or detailed age groups and, on the other hand, for presenting the occupational structure without cross-classifying, or when cross-classifying with variables such as sex or broad age groups.

The 390 unit groups, representing the most detailed level of the ISCO-88 structure, in most cases consist of more than one occupation. In national circumstances, the number and delineation between occupations will, to a large extent, depend on the size of the economy and the level of economic development, the level and type of technology, work organisation and historical circumstances. For this reason detailed descriptions of the occupations belonging to each of the 390 unit groups have not been developed for ISCO-88. However, a selection is being made among the 1,506 detailed occupational descriptions which were included in ISCO-68. Those found to be still relevant will be published in a companion volume to ISCO-88.

For each of the groups at the four levels of aggregation of ISCO-88 a code number, a title and a brief description of the content is provided. In the case of the unit groups, the main tasks of the occupations belonging to each of them are briefly described and some of the relevant occupational titles are listed as examples. In most cases examples are also given of the occupations which, although related in some way to those belonging to the unit group in question, are classified elsewhere. This has been done in order to clarify possible ambiguities and to highlight the ISCO-88 conceptual approach and characteristics of its structure.

Detailed descriptions of the occupational groups at the four levels of aggregation are followed by the ISCO-88 index of occupational titles. Three separate listings of the index are provided. The first is according to ISCO-88 numerical order, the second by ISCO-68 numerical order, and the third is an alphabetical list of occupational titles. The index reflects the results of a recoding and recasting of the ISCO-68 "Expanded alphabetical list of titles". For further details the reader is referred to the "Notes on the ISCO-88 index of occupational titles" which precede the index.

While revising the index, every effort was made to take into consideration the conceptual and structural differences between the two classifications, and, where possible, to make appropriate modifications, including some new index entries. However, some of the shortcomings of the ISCO-68 index – such as unevenness of detail when naming specialisations relating to a given generic occupational title – have been carried over to the present index. The user should bear in mind that the main aim of the present index is to indicate the content of each group within the ISCO-88 structure, and that the index makes no claim to being exhaustive. The Bureau of Statistics of the ILO intends, by using the latest national sources of occupational titles, to compile an extended and updated version of the ISCO-88 index for later publication. It is hoped that any shortcomings in the present index will be dealt with satisfactorily in the later version.

## SUMMARY OF MAJOR GROUPS

The following briefly outlines ISCO-88 major groups, and is meant to facilitate the interpretation of the classification. The information given here should not be regarded as a substitute for the more detailed descriptions of occupational groups which the volume contains.

### 1. Legislators, senior officials and managers

This major group includes occupations whose main tasks consist of determining and formulating government policies, as well as laws and public regulations, overseeing their implementation, representing governments and acting on their behalf, or planning, directing and co-ordinating the policies and activities of enterprises and organisations, or

departments. Reference to skill level has not been made in defining the scope of this major group, which has been divided into three sub-major groups, eight minor groups and 33 unit groups, reflecting differences in tasks associated with different areas of authority and different types of enterprises and organisations.

### 2. Professionals

This major group includes occupations whose main tasks require a high level of professional knowledge and experience in the fields of physical and life sciences, or social sciences and humanities. The main tasks consist of increasing the existing stock of knowledge, applying scientific and artistic concepts and theories to the solution of

problems, and teaching about the foregoing in a systematic manner. Most occupations in this major group require skills at the fourth ISCO skill level. This major group has been divided into four sub-major groups, 18 minor groups and 55 unit groups, reflecting differences in tasks associated with different fields of knowledge and specialisation.

### 3. Technicians and associate professionals

This major group includes occupations whose main tasks require technical knowledge and experience in one or more fields of physical and life sciences, or social sciences and humanities. The main tasks consist of carrying out *technical work* connected with the application of concepts and operational methods in the above-mentioned fields, and

in teaching at certain educational levels. Most occupations in this major group require skills at the third ISCO skill level. This major group has been divided into four sub-major groups, 21 minor groups and 73 unit groups, reflecting differences in tasks associated with different fields of knowledge and specialisation.

### 4. Clerks

This major group includes occupations whose main tasks require the knowledge and experience necessary to organise, store, compute and retrieve information. The main tasks consist of performing secretarial duties, operating word processors and other office machines, recording and computing numerical data, and performing a number of customer-oriented clerical duties, mostly in

connection with mail services, money-handling operations and appointments. Most occupations in this major group require skills at the second ISCO skill level. This major group has been divided into two sub-major groups, seven minor groups and 23 unit groups, reflecting differences in tasks associated with different areas of specialisation.

### 5. Service workers and shop and market sales workers

This major group includes occupations whose main tasks require the knowledge and experience necessary to provide personal and protective services, and to sell goods in shops or at markets. The main tasks consist of providing services related to travel, house-keeping, catering, personal care, protection of individuals and property, and to maintain-

ing law and order, or selling goods in shops or at markets. Most occupations in this major group require skills at the second ISCO skill level. This major group has been divided into two sub-major groups, nine minor groups and 23 unit groups, reflecting differences in tasks associated with different areas of specialisation.

### 6. Skilled agricultural and fishery workers

This major group includes occupations whose tasks require the knowledge and experience necessary to produce farm, forestry and fishery products. The main tasks consist of growing crops, breeding or hunting animals, catching or cultivating fish, conserving and exploiting forests and, especially in the case of market-oriented agricultural and fishery workers, selling products to purchasers, marketing organisations or at mar-

kets. Most occupations in this major group require skills at the second ISCO skill level. This major group has been divided into two sub-major groups, six minor groups and 17 unit groups, reflecting differences in tasks associated with different areas of specialisation, and differences between market-oriented and subsistence agricultural and fishery workers.

### 7. Craft and related trades workers

This major group includes occupations whose tasks require the knowledge and experience of skilled trades or handicrafts which, among other things, involves an

understanding of materials and tools to be used, as well as of all stages of the production process, including the characteristics and the intended use of the final product. The

main tasks consist of extracting raw materials, constructing buildings and other structures and making various products as well as handicraft goods. Most occupations in this major group require skills at the second ISCO

skill level. This major group has been divided into four sub-major groups, 16 minor groups and 70 unit groups, reflecting differences in tasks associated with different areas of specialisation.

### 8. Plant and machine operators and assemblers

This major group includes occupations whose main tasks require the knowledge and experience necessary to operate and monitor large scale, and often highly automated, industrial machinery and equipment. The main tasks consist of operating and monitoring mining, processing and production machinery and equipment, as well as driving vehicles and driving and operating mobile

plant, or assembling products from component parts. Most occupations in this major group require skills at the second ISCO skill level. This major group has been divided into three sub-major groups, 20 minor groups and 70 unit groups, reflecting differences in tasks associated with different areas of specialisation.

### 9. Elementary occupations

This major group covers occupations which require the knowledge and experience necessary to perform mostly simple and routine tasks, involving the use of hand-held tools and in some cases considerable physical effort, and, with few exceptions, only limited personal initiative or judgement. The main tasks consist of selling goods in streets, doorkeeping and property watching, as well

as cleaning, washing, pressing, and working as labourers in the fields of mining, agriculture and fishing, construction and manufacturing. Most occupations in this major group require skills at the first ISCO skill level. This major group has been divided into three sub-major groups, ten minor groups and 25 unit groups, reflecting differences in tasks associated with different areas of work.

### 0. Armed forces

Members of the armed forces are those personnel who are currently serving in the armed forces, including auxiliary services, whether on a voluntary or compulsory basis, and who are not free to accept civilian employment. Included are regular members of the army, navy, air force and other military services, as well as conscripts enrolled for military training or other service for a specified period, depending on national requirements. Excluded are persons in civilian employment of government establishments

concerned with defence issues; police (other than military police); customs inspectors and members of border or other armed civilian services; persons who have been temporarily withdrawn from civilian life for a short period of military training or retraining, according to national requirements, and members of military reserves not currently on active service. Reference to a skill level has not been used in defining the scope of this major group.

## APPROACHES TO SOME SPECIFIC ISSUES

### National differences in educational requirements

However broad the skill levels of an international occupational classification may be, the presumed skill level of a particular occupation, or a group of occupations, may not correspond exactly to that determined by the educational requirements of some countries. On the basis of the information received in the course of work on ISCO-88, as well as on the basis of the discussions held by the Fourteenth International Conference of Labour Statisticians, it became apparent that differences in formal educational requirements were most prominent in the cases of some of the *teaching, health and social services occupations*. In some countries it is necessary to have a university degree in order to be able to practise these occupations, while in other countries lower-level educational certificates are considered sufficient. In order to accommodate these differences, parallel occupational groups were created in ISCO-88 Major groups 2 and 3, – *Professionals and Technicians and associate professionals*, respectively. The codes and titles of these groups are as follows:

#### Major group 2, Professionals

- 2230 Nursing and midwifery professionals
- 2331 Primary education teaching professionals

- 2332 Pre-primary education teaching professionals
- 2340 Special education teaching professionals
- 2446 Social work professionals

#### Major group 3, Technicians and associate professionals

- 3231 Nursing associate professionals
- 3232 Midwifery associate professionals
- 3310 Primary education teaching associate professionals
- 3320 Pre-primary education teaching associate professionals
- 3330 Special education teaching associate professionals
- 3460 Social work associate professionals

This means that, in accordance with educational requirements, when grouping national occupational data according to the ISCO-88 structure, countries will be able to classify nursing, midwifery, teaching and social services occupations either into Major group 2, *Professionals*, or into Major group 3, *Technicians and associate professionals*, as appropriate.

### Occupations with a broad range of tasks and duties

Differences in the range of tasks and duties belonging to the *same occupation* are, at national level, mostly determined by the size of the establishment. For instance, in a small establishment typing and filing may be combined with the duties of a receptionist into one single job, while in a bigger enterprise they may constitute two or three separate jobs. At international level, although it is acknowledged that factors such as tradition or collective agreements may play an important part, the existence of these differences is mostly linked to the level of economic development, with its simple patterns of labour division.

Occupational classifications – national as well as international – define occupations, and occupational groups, by reference to the most common combinations of tasks and duties, and therefore face a problem when, in the case of some occupations, the range of tasks and duties does not correspond to those specified in the classification.

In such cases ISCO-88 suggests application of the following rules:

- (a) In cases where the tasks and duties performed require skills usually obtained through different levels of training and experience, jobs should be classified in

accordance with those tasks and duties which require *the highest level of skills*. For instance a job which consists of driving a van and delivering goods should be classified in Unit group 8322, *Car, taxi and van drivers*.

- (b) In cases where the tasks and duties are connected with different stages of the production and distribution of goods process, tasks and duties related to *the production stage* should take priority over associated ones, such as those

related to the sales and marketing of the same goods, their transportation or the management of the production process – unless one of these tasks and duties predominates. For example, a baker who bakes bread, makes pastries and sells these products should not be classified as a sales person, but as a baker, which means, in ISCO-88 terms, Unit group 7412, *Bakers, pastry-cooks and confectionery makers*.

### Technology and skills

Developments in technology, particularly those which led to mass-production methods, have had a profound effect on the skills that are needed according to whether a product is made by a craft worker or manufactured through the application of one of the latest techniques. For instance, skills required to perform the tasks of a smith or a tailor are different from those required to perform the tasks of a machine-operator in an enterprise engaged in metalworking or in the mass-production of textile garments.

Broadly speaking, a smith or a tailor has to know the materials, tools, sequence of tasks performed, and the characteristics and intended use of the final product. A machine-operator, on the other hand, has to know how to use very sophisticated machinery and equipment, how to recognise and signal, or

eliminate, problems before they start to affect output in a serious way, or how to react if something goes wrong with the machine itself. In addition, a machine-operator should have a level of skill and breadth of training which would allow retraining costs to be minimal when product specifications change or when new technology is introduced.

In ISCO-88 the delineation between Major groups 7 and 8 reflects these differences in the type of skills required. Major group 7, *Craft and related trades workers*, classifies craft-oriented and artisanal occupations – such as mason, carpenter, mechanic, baker, potter, decorative painter, wood-carver – while Major group 8, *Plant and machine operators and assemblers*, classifies machine-oriented occupations.

### Coexistence of two agricultural sectors

Inequalities in the economic development of different countries, or regions within the same country, have resulted in the coexistence of two agricultural sectors, of which one is characterised by low-skilled subsistence farming while the other often has a highly automated production process and, as a result, achieves high productivity with relatively few workers. These differences are reflected in ISCO-88 through a distinction made in Major group 6, *Skilled agricultural*

*and fishery workers*, between, on the one hand, skilled market-oriented farmers and agricultural workers, and, on the other, those who are engaged in subsistence farming. The aim of this distinction is to reflect important skill differences existing in the two sectors, as well as to improve the quality of the data needed to undertake analyses and make decisions concerning rural development.

### Occupations and women

In most countries the number and proportion of women in the labour force has increased over the past two decades, and it

is highly probable that this trend will continue. However, this positive numerical increase has not been accompanied by an

equal distribution of various jobs between men and women, nor by equal earnings. Women workers tend to cluster in lower-skilled jobs, and their wages in most sectors lag behind those of men performing the same tasks and duties.

Occupation is one of the main variables which denotes the situation of women in the labour force. It is therefore important that occupational categories of a given occupa-

tional classification be delineated in a way which will not obscure but promote detail and clarity of information on sex composition of jobs. In ISCO-88 attention is paid to this issue, especially in the case of groups where occupations characterised by the predominance of women workers are classified, such as Major group 4, *Clerks*, Major group 5, *Service workers and shop and market sales workers*, and Major group 9, *Elementary occupations*.

### Occupations in the informal sector

The need to identify occupations in the informal sector was taken into consideration in the structure of ISCO-88, especially in the delineation of the unit groups. The following unit groups may be particularly useful for classifying informal sector occupations: Unit groups 7331 and 7332 entitled *Handicraft*

*workers in wood and related materials*, and *Handicraft workers in textile, leather and related materials*, respectively, as well as Unit groups 9111, *Street food vendors*, 9112, *Street vendors, non-food products*, and 9120, *Shoe cleaning and other street services elementary occupations*.

### Occupations and status in employment

ISCO-88, unlike its predecessor, does not take into consideration whether a worker is a working proprietor or not, as this and similar attributes of the labour force, such as being an employer or an employee etc., reflect sta-

tus in employment and not the tasks and duties of the worker, and therefore should be dealt with in a separate *Status in employment classification*.

## NOTES ON SOME PARTICULAR OCCUPATIONS

*Technical occupations* are classified separately from professional occupations in Major group 3, *Technicians and associate professionals*. Thus, *Technician, biology* is classified in Unit group 3211, *Life science technicians*, while *Technician, engineering/mining* is classified in Unit group 3117, *Mining and metallurgical technicians*.

*Quality inspecting occupations*, whose main tasks are to ensure compliance with the quality standards and specifications of manufacturers, are classified in Unit group 3152, *Safety, health and quality inspectors*. On the other hand, testers and checkers, whose main tasks consist of a mechanical inspection of the goods produced which, in most cases, amounts to simple visual checking, are classified with workers producing these goods.

*Supervising occupations*, as well as those of a foreman/woman, which are mainly concerned with the control of the professional or technical quality of the work done, are classified together with the jobs whose tasks they supervise. However, if the main tasks

and duties of a job consist of planning, organising, controlling and directing the daily work activities of a group of subordinate workers, the occupation should be considered as a managerial occupation and classified in the appropriate group belonging either to Sub-major group 12 or 13, *Corporate managers* or *General managers*, respectively.

*Coaching occupations* primarily concerned with *on-the-job training* by continuous observation, assessment and guidance are classified with the occupations whose workers they instruct, in particular trade, craft or machine-operating tasks.

*Teaching occupations* mainly concerned with giving *private lessons* are classified with other teachers at the corresponding institutional level. It should be noted that driving, flying, sailing and related instructors are classified in Unit group 3340, *Other teaching associate professionals*.

*Occupations* concerned with *research and development* are classified according to the field of specialisation in Major group 2, *Professionals*. When a researcher is also exercising a teaching profession, he or she should be classified as a teacher, at the appropriate educational level.

*Apprentices and trainees* are classified according to the tasks and duties actually performed, and not, as is the case with some occupational classifications, according to their future occupation.

## MAPPING NATIONAL OCCUPATIONAL CLASSIFICATIONS INTO ISCO-88

Comparisons of occupations among countries or regions demand that national occupational statistics be converted to international standards. This is usually achieved by mapping the national occupational categories into a common international classification system, ISCO-88. International comparability of occupational statistics can also be achieved by using the international classification system to recode the original responses elicited by the occupational questions in censuses or other surveys. However, this latter method normally cannot be used because of the high costs involved.

Mapping one classification into another is equivalent to coding each group in the first classification to the most appropriate group in the other. The validity of the mapping is in inverse proportion to the aggregated level at which the mapping is done. That is why it is recommended that mapping should be carried out at the lowest level of aggregation of each of the two classifications, i.e. national occupational classification (NOC) and ISCO-88.

In the process of mapping, the three following situations are those most frequently encountered:

- (a) The NOC group, at the lowest level of aggregation, belongs unambiguously to one of the ISCO-88 unit groups. This is, of course, the simplest situation and, if the NOC, both conceptually and structurally, has a base similar to ISCO-88, it is likely to be the most usual situation.

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- (b) The NOC group, at the lowest level of aggregation, differs in occupational content from the most relevant ISCO-88 unit group, but the difference in the content does not prevent the NOC group from being validly mapped into an ISCO-88 group at one of the higher levels of aggregation. For example: NOC classifies glass engravers and etchers together with glass and ceramics decorative painters in the *same* lowest level aggregation group, while ISCO-88 classifies these occupations in *two* unit groups, but in both classifications subsequent aggregation of these occupations is carried out in the same manner.
- (c) The way of grouping certain occupations is different in NOC from that applied in ISCO-88, and, as a result, an existing NOC group cannot validly be mapped into any of the ISCO-88 groups. For example: at the lowest aggregation level, NOC classifies farmers, farm managers and farm labourers in one single group, while ISCO-88 classifies these occupations in three separate unit groups belonging to three different minor, sub-major and major groups.

If internationally available occupational statistics have to be produced at the minor group aggregation level of ISCO-88, or any of the higher ones, then no problem arises in the situation described under (b) above. If the information has to be produced at the level corresponding to ISCO-88 unit groups, in that case, as well as in the situation described under (c) above, *the following rules should be applied in order of priority as they are described:*

The *numerical dominance rule*, according to which, on the basis of the additional information available from economic and other statistics, or from sectoral experts, estimates or judgement should be made concerning the relative importance of the occupations classified in the NOC group. If approximately 80 per cent or more of the jobs classified in the NOC group belong to a particular ISCO-88 group, then the whole NOC group should be classified in this ISCO-88 group.

The *skill level rule*, according to which the occupational mix of the NOC group should be analysed on the basis of the ISCO-88 skill-level concept. The mapping into an ISCO-88 group should then be carried out on the basis of the occupations found to be the most skilled.

The *production rule*, according to which, for the purposes of mapping into ISCO-88, in the occupational mix of a NOC group production occupations will have priority over sales or managerial occupations.

# MAJOR, SUB-MAJOR, MINOR AND UNIT GROUP TITLES

## MAJOR GROUP 1000 LEGISLATORS, SENIOR OFFICIALS AND MANAGERS

### 1100 LEGISLATORS AND SENIOR OFFICIALS

#### 1110 LEGISLATORS

1110 Legislators

#### 1120 SENIOR GOVERNMENT OFFICIALS

1120 Senior government officials

#### 1130 TRADITIONAL CHIEFS AND HEADS OF VILLAGES

1130 Traditional chiefs and heads of villages

#### 1140 SENIOR OFFICIALS OF SPECIAL-INTEREST ORGANISATIONS

1141 Senior officials of political-party organisations

1142 Senior officials of employers', workers' and other economic-interest organisations

1143 Senior officials of humanitarian and other special-interest organisations

### 1200 CORPORATE MANAGERS<sup>1</sup>

#### 1210 DIRECTORS AND CHIEF EXECUTIVES

1210 Directors and chief executives

#### 1220 PRODUCTION AND OPERATIONS DEPARTMENT MANAGERS

1221 Production and operations department managers in agriculture, hunting, forestry and fishing

1222 Production and operations department managers in manufacturing

1223 Production and operations department managers in construction

1224 Production and operations department managers in wholesale and retail trade

1225 Production and operations department managers in restaurants and hotels

1226 Production and operations department managers in transport, storage and communications

1227 Production and operations department managers in business services

1228 Production and operations department managers in personal care, cleaning and related services

1229 Production and operations department managers not elsewhere classified

#### 1230 OTHER DEPARTMENT MANAGERS

1231 Finance and administration department managers

1232 Personnel and industrial relations department managers

1233 Sales and marketing department managers

1234 Advertising and public relations department managers

1235 Supply and distribution department managers

1236 Computing services department managers

1237 Research and development department managers

1239 Other department managers not elsewhere classified

### 1300 GENERAL MANAGERS<sup>2</sup>

#### 1310 GENERAL MANAGERS

1311 General managers in agriculture, hunting, forestry and fishing

1312 General managers in manufacturing

1313 General managers in construction

<sup>1</sup> This group is intended to include persons who – as directors, chief executives or department managers – manage enterprises or organisations, or departments, requiring a total of three or more managers.

<sup>2</sup> This group is intended to include persons who manage enterprises, or in some cases organisations, on their own behalf, or on behalf of the proprietor, with some non-managerial help and the assistance of no more than one other manager who should also be classified in this sub-major group as, in most cases, the tasks will be broader than those of a specialised manager in a larger enterprise or organisation. Non-managerial staff should be classified according to their specific tasks.

1314	General trade and retail	1317	General managers of business services
1315	General managers of restaurants and hotels	1318	General managers in personal care, cleaning and related services
1316	General managers in transport, storage and communications	1319	General managers not elsewhere classified

## MAJOR GROUP 2 PROFESSIONALS

<b>21</b>	<b>PHYSICAL, MATHEMATICAL AND ENGINEERING SCIENCE PROFESSIONALS</b>	2212	Pharmacologists, pathologists and related professionals
<b>211</b>	<b>PHYSICISTS, CHEMISTS AND RELATED PROFESSIONALS</b>	2213	Agronomists and related professionals
2111	Physicists and astronomers	<b>222</b>	<b>HEALTH PROFESSIONALS (except nursing)</b>
2112	Meteorologists	2221	Medical doctors
2113	Chemists	2222	Dentists
2114	Geologists and geophysicists	2223	Veterinarians
<b>212</b>	<b>MATHEMATICIANS, STATISTICIANS AND RELATED PROFESSIONALS</b>	2224	Pharmacists
2121	Mathematicians and related professionals	2229	Health professionals (except nursing) not elsewhere classified
2122	Statisticians	<b>223</b>	<b>NURSING AND MIDWIFERY PROFESSIONALS</b>
<b>213</b>	<b>COMPUTING PROFESSIONALS</b>	2230	Nursing and midwifery professionals
2131	Computer systems designers and analysts	<b>23</b>	<b>TEACHING PROFESSIONALS</b>
2132	Computer programmers	<b>231</b>	<b>COLLEGE, UNIVERSITY AND HIGHER EDUCATION TEACHING PROFESSIONALS</b>
2139	Computing professionals not elsewhere classified	2310	College, university and higher education teaching professionals
<b>214</b>	<b>ARCHITECTS, ENGINEERS AND RELATED PROFESSIONALS</b>	<b>232</b>	<b>SECONDARY EDUCATION TEACHING PROFESSIONALS</b>
2141	Architects, town and traffic planners	2320	Secondary education teaching professionals
2142	Civil engineers	<b>233</b>	<b>PRIMARY AND PRE-PRIMARY EDUCATION TEACHING PROFESSIONALS</b>
2143	Electrical engineers	2331	Primary education teaching professionals
2144	Electronics and telecommunications engineers	2332	Pre-primary education teaching professionals
2145	Mechanical engineers	<b>234</b>	<b>SPECIAL EDUCATION TEACHING PROFESSIONALS</b>
2146	Chemical engineers	2340	Special education teaching professionals
2147	Mining engineers, metallurgists and related professionals	<b>235</b>	<b>OTHER TEACHING PROFESSIONALS</b>
2148	Cartographers and surveyors	2351	Education methods specialists
2149	Architects, engineers and related professionals not elsewhere classified	2352	School inspectors
<b>22</b>	<b>LIFE SCIENCE AND HEALTH PROFESSIONALS</b>	2359	Other teaching professionals not elsewhere classified
<b>221</b>	<b>LIFE SCIENCE PROFESSIONALS</b>		
2211	Biologists, botanists, zoologists and related professionals		

## 24 OTHER PROFESSIONALS

### 241 BUSINESS PROFESSIONALS

2411	Accountants
2412	Personnel and careers professionals
2419	Business professionals not elsewhere classified

### 242 LEGAL PROFESSIONALS

2421	Lawyers
2422	Judges
2429	Legal professionals not elsewhere classified

### 243 ARCHIVISTS, LIBRARIANS AND RELATED INFORMATION PROFESSIONALS

2431	Archivists and curators
2432	Librarians and related information professionals

### 244 SOCIAL SCIENCE AND RELATED PROFESSIONALS

2441	Economists
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2442	Sociologists, anthropologists and related professionals
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2443	Philosophers, historians and political scientists
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2444	Philologists, translators and interpreters
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2445	Psychologists
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2446	Social work professionals
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### 245 WRITERS AND CREATIVE OR PERFORMING ARTISTS

2451	Authors, journalists and other writers
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2452	Sculptors, painters and related artists
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2453	Composers, musicians and singers
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2454	Choreographers and dancers
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2455	Film, stage and related actors and directors
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### 246 RELIGIOUS PROFESSIONALS

2460	Religious professionals
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## MAJOR GROUP 3 TECHNICIANS AND ASSOCIATE PROFESSIONALS

### 31 PHYSICAL AND ENGINEERING SCIENCE ASSOCIATE PROFESSIONALS

#### 311 PHYSICAL AND ENGINEERING SCIENCE TECHNICIANS

3111	Chemical and physical science technicians
3112	Civil engineering technicians
3113	Electrical engineering technicians
3114	Electronics and telecommunications engineering technicians
3115	Mechanical engineering technicians
3116	Chemical engineering technicians
3117	Mining and metallurgical technicians
3118	Draughtspersons
3119	Physical and engineering science technicians not elsewhere classified

#### 312 COMPUTER ASSOCIATE PROFESSIONALS

3121	Computer assistants
3122	Computer equipment operators
3123	Industrial robot controllers

### 313 OPTICAL AND ELECTRONIC EQUIPMENT OPERATORS

3131	Photographers and image and sound recording equipment operators
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3132	Broadcasting and telecommunications equipment operators
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3133	Medical equipment operators
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3139	Optical and electronic equipment operators not elsewhere classified
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### 314 SHIP AND AIRCRAFT CONTROLLERS AND TECHNICIANS

3141	Ships' engineers
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3142	Ships' deck officers and pilots
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3143	Aircraft pilots and related associate professionals
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3144	Air traffic controllers
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3145	Air traffic safety technicians
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### 315 SAFETY AND QUALITY INSPECTORS

3151	Building and fire inspectors
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3152	Safety, health and quality inspectors
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**32 LIFE SCIENCE AND HEALTH ASSOCIATE PROFESSIONALS****321 LIFE SCIENCE TECHNICIANS AND RELATED ASSOCIATE PROFESSIONALS**

- 3211 Life science technicians
- 3212 Agronomy and forestry technicians
- 3213 Farming and forestry advisers

**322 MODERN HEALTH ASSOCIATE PROFESSIONALS (except nursing)**

- 3221 Medical assistants
- 3222 Sanitarians
- 3223 Dieticians and nutritionists
- 3224 Optometrists and opticians
- 3225 Dental assistants
- 3226 Physiotherapists and related associate professionals
- 3227 Veterinary assistants
- 3228 Pharmaceutical assistants
- 3229 Modern health associate professionals (except nursing) not elsewhere classified

**323 NURSING AND MIDWIFERY ASSOCIATE PROFESSIONALS**

- 3231 Nursing associate professionals
- 3232 Midwifery associate professionals

**324 TRADITIONAL MEDICINE PRACTITIONERS AND FAITH HEALERS**

- 3241 Traditional medicine practitioners
- 3242 Faith healers

**33 TEACHING ASSOCIATE PROFESSIONALS****331 PRIMARY EDUCATION TEACHING ASSOCIATE PROFESSIONALS**

- 3310 Primary education teaching associate professionals

**332 PRE-PRIMARY EDUCATION TEACHING ASSOCIATE PROFESSIONALS**

- 3320 Pre-primary education teaching associate professionals

**333 SPECIAL EDUCATION TEACHING ASSOCIATE PROFESSIONALS**

- 3330 Special education teaching associate professionals

**334 OTHER TEACHING ASSOCIATE PROFESSIONALS**

- 3340 Other teaching associate professionals

**34 OTHER ASSOCIATE PROFESSIONALS****341 FINANCE AND SALES ASSOCIATE PROFESSIONALS**

- 3411 Securities and finance dealers and brokers
- 3412 Insurance representatives
- 3413 Estate agents
- 3414 Travel consultants and organisers
- 3415 Technical and commercial sales representatives
- 3416 Buyers
- 3417 Appraisers, valuers and auctioneers
- 3419 Finance and sales associate professionals not elsewhere classified

**342 BUSINESS SERVICES AGENTS AND TRADE BROKERS**

- 3421 Trade brokers
- 3422 Clearing and forwarding agents
- 3423 Employment agents and labour contractors
- 3429 Business services agents and trade brokers not elsewhere classified

**343 ADMINISTRATIVE ASSOCIATE PROFESSIONALS**

- 3431 Administrative secretaries and related associate professionals
- 3432 Legal and related business associate professionals
- 3433 Bookkeepers
- 3434 Statistical, mathematical and related associate professionals
- 3439 Administrative associate professionals not elsewhere classified

**344 CUSTOMS, TAX AND RELATED GOVERNMENT ASSOCIATE PROFESSIONALS**

- 3441 Customs and border inspectors
- 3442 Government tax and excise officials
- 3443 Government social benefits officials
- 3444 Government licensing officials
- 3449 Customs, tax and related government associate professionals not elsewhere classified

**345 POLICE INSPECTORS AND DETECTIVES**

- 3450 Police inspectors and detectives

**346 SOCIAL WORK ASSOCIATE PROFESSIONALS**

- 3460 Social work associate professionals

**347 ARTISTIC, ENTERTAINMENT AND SPORTS ASSOCIATE PROFESSIONALS**

- 3471 Decorators and commercial designers
- 3472 Radio, television and other announcers

- 3473 Street, night-club and related musicians, singers and dancers

- 3474 Clowns, magicians, acrobats and related associate professionals

- 3475 Athletes, sportspersons and related associate professionals

**348 RELIGIOUS ASSOCIATE PROFESSIONALS**

- 3480 Religious associate professionals

**MAJOR GROUP 4  
CLERKS****41 OFFICE CLERKS****411 SECRETARIES AND KEYBOARD-OPERATING CLERKS**

- 4111 Stenographers and typists
- 4112 Word-processor and related operators
- 4113 Data entry operators
- 4114 Calculating-machine operators
- 4115 Secretaries

**412 NUMERICAL CLERKS**

- 4121 Accounting and bookkeeping clerks
- 4122 Statistical and finance clerks

**413 MATERIAL-RECORDING AND TRANSPORT CLERKS**

- 4131 Stock clerks
- 4132 Production clerks
- 4133 Transport clerks

**414 LIBRARY, MAIL AND RELATED CLERKS**

- 4141 Library and filing clerks

- 4142 Mail carriers and sorting clerks

- 4143 Coding, proof-reading and related clerks

- 4144 Scribes and related workers

**419 OTHER OFFICE CLERKS**

- 4190 Other office clerks

**42 CUSTOMER SERVICES CLERKS****421 CASHIERS, TELLERS AND RELATED CLERKS**

- 4211 Cashiers and ticket clerks
- 4212 Tellers and other counter clerks
- 4213 Bookmakers and croupiers
- 4214 Pawnbrokers and money-lenders
- 4216 Debt-collectors and related workers

**422 CLIENT INFORMATION CLERKS**

- 4221 Travel agency and related clerks
- 4222 Receptionists and information clerks
- 4223 Telephone switchboard operators

**MAJOR GROUP 5  
SERVICE WORKERS AND SHOP AND MARKET SALES WORKERS****51 PERSONAL AND PROTECTIVE SERVICES WORKERS****511 TRAVEL ATTENDANTS AND RELATED WORKERS**

- 5111 Travel attendants and travel stewards
- 5112 Transport conductors
- 5113 Travel guides

**512 HOUSEKEEPING AND RESTAURANT SERVICES WORKERS**

- 5121 Housekeepers and related workers
- 5122 Cooks
- 5123 Waiters, waitresses and bartenders

**513 PERSONAL CARE AND RELATED WORKERS**

- 5131 Child-care workers

5132	Institution-based personal care workers	5162	Police officers
5133	Home-based personal care workers	5163	Prison guards
5139	Personal care and related workers not elsewhere classified	5169	Protective services workers not elsewhere classified
<b>514</b>	<b>OTHER PERSONAL SERVICES WORKERS</b>		
5141	Hairdressers, barbers, beauticians and related workers	<b>52</b>	<b>MODELS, SALESPERSONS AND DEMONSTRATORS</b>
5142	Companions and valets		
5143	Undertakers and embalmers	<b>521</b>	<b>FASHION AND OTHER MODELS</b>
5149	Other personal services workers not elsewhere classified	5210	Fashion and other models
<b>515</b>	<b>ASTROLOGERS, FORTUNE-TELLERS AND RELATED WORKERS</b>	<b>522</b>	<b>SHOP SALESPERSONS AND DEMONSTRATORS</b>
5151	Astrologers and related workers	5220	Shop salespersons and demonstrators
5152	Fortune-tellers, palmists and related workers		
<b>516</b>	<b>PROTECTIVE SERVICES WORKERS</b>	<b>523</b>	<b>STALL AND MARKET SALESPERSONS</b>
5161	Fire-fighters	5230	Stall and market salespersons

## MAJOR GROUP 6 SKILLED AGRICULTURAL AND FISHERY WORKERS

<b>61</b>	<b>MARKET-ORIENTED SKILLED AGRICULTURAL AND FISHERY WORKERS</b>	<b>613</b>	<b>MARKET-ORIENTED CROP AND ANIMAL PRODUCERS</b>
		6130	Market-oriented crop and animal producers
<b>611</b>	<b>MARKET GARDENERS AND CROP GROWERS</b>	<b>614</b>	<b>FORESTRY AND RELATED WORKERS</b>
6111	Field crop and vegetable growers	6141	Forestry workers and loggers
6112	Tree and shrub crop growers	6142	Charcoal burners and related workers
6113	Gardeners, horticultural and nursery growers	<b>615</b>	<b>FISHERY WORKERS, HUNTERS AND TRAPPERS</b>
6114	Mixed-crop growers	6151	Aquatic-life cultivation workers
<b>612</b>	<b>MARKET-ORIENTED ANIMAL PRODUCERS AND RELATED WORKERS</b>	6152	Inland and coastal waters fishery workers
6121	Dairy and livestock producers	6153	Deep-sea fishery workers
6122	Poultry producers	6154	Hunters and trappers
6123	Apiculturists and sericulturists	<b>62</b>	<b>SUBSISTENCE AGRICULTURAL AND FISHERY WORKERS</b>
6124	Mixed-animal producers		
6129	Market-oriented animal producers and related workers not elsewhere classified	<b>621</b>	<b>SUBSISTENCE AGRICULTURAL AND FISHERY WORKERS</b>
		6210	Subsistence agricultural and fishery workers

## MAJOR GROUP 7 CRAFT AND RELATED TRADES WORKERS

<b>71</b>	<b>EXTRACTION AND BUILDING TRADES WORKERS</b>	<b>722</b>	<b>BLACKSMITHS, TOOL-MAKERS AND RELATED TRADES WORKERS</b>
<b>711</b>	<b>MINERS, SHOTFIRERS, STONE CUTTERS AND CARVERS</b>	7221	Blacksmiths, hammer-smiths and forging-press workers
7111	Miners and quarry workers	7222	Tool-makers and related workers
7112	Shotfirers and blasters	7223	Machine-tool setters and setter-operators
7113	Stone splitters, cutters and carvers	7224	Metal wheel-grinders, polishers and tool sharpeners
<b>712</b>	<b>BUILDING FRAME AND RELATED TRADES WORKERS</b>	<b>723</b>	<b>MACHINERY MECHANICS AND FITTERS</b>
7121	Builders, traditional materials	7231	Motor vehicle mechanics and fitters
7122	Bricklayers and stonemasons	7232	Aircraft engine mechanics and fitters
7123	Concrete placers, concrete finishers and related workers	7233	Agricultural- or industrial-machinery mechanics and fitters
7124	Carpenters and joiners	<b>724</b>	<b>ELECTRICAL AND ELECTRONIC EQUIPMENT MECHANICS AND FITTERS</b>
7129	Building frame and related trades workers not elsewhere classified	7241	Electrical mechanics and fitters
<b>713</b>	<b>BUILDING FINISHERS AND RELATED TRADES WORKERS</b>	7242	Electronics fitters
7131	Roofers	7243	Electronics mechanics and servicers
7132	Floor layers and tile setters	7244	Telegraph and telephone installers and servicers
7133	Plasterers	7245	Electrical line installers, repairers and cable joiners
7134	Insulation workers		
7135	Glaziers	<b>73</b>	<b>PRECISION, HANDICRAFT, PRINTING AND RELATED TRADES WORKERS</b>
7136	Plumbers and pipe fitters		
7137	Building and related electricians	<b>731</b>	<b>PRECISION WORKERS IN METAL AND RELATED MATERIALS</b>
<b>714</b>	<b>PAINTERS, BUILDING STRUCTURE CLEANERS AND RELATED TRADES WORKERS</b>	7311	Precision-instrument makers and repairers
7141	Painters and related workers	7312	Musical-instrument makers and tuners
7142	Varnishers and related painters	7313	Jewellery and precious-metal workers
7143	Building structure cleaners	<b>732</b>	<b>POTTERS, GLASS-MAKERS AND RELATED TRADES WORKERS</b>
<b>72</b>	<b>METAL, MACHINERY AND RELATED TRADES WORKERS</b>	7321	Abrasive wheel formers, potters and related workers
<b>721</b>	<b>METAL MOULDERS, WELDERS, SHEET-METAL WORKERS, STRUCTURAL-METAL PREPARERS, AND RELATED TRADES WORKERS</b>	7322	Glass-makers, cutters, grinders and finishers
7211	Metal moulders and coremakers	7323	Glass engravers and etchers
7212	Welders and flamecutters	7324	Glass, ceramics and related decorative painters
7213	Sheet-metal workers	<b>733</b>	<b>HANDICRAFT WORKERS IN WOOD, TEXTILE, LEATHER AND RELATED MATERIALS</b>
7214	Structural-metal preparers and erectors	7331	Handicraft workers in wood and related materials
7216	Riggers and cable splicers	7332	Handicraft workers in textile, leather and related materials
7216	Underwater workers		

**734 PRINTING AND RELATED TRADES WORKERS**

- 7341 Compositors, typesetters and related workers
- 7342 Stereotypers and electrotypers
- 7343 Printing engravers and etchers
- 7344 Photographic and related workers
- 7345 Bookbinders and related workers
- 7346 Silk-screen, block and textile printers

**74 OTHER CRAFT AND RELATED TRADES WORKERS****741 FOOD PROCESSING AND RELATED TRADES WORKERS**

- 7411 Butchers, fishmongers and related food preparers
- 7412 Bakers, pastry-cooks and confectionery makers
- 7413 Dairy-products makers
- 7414 Fruit, vegetable and related preservers
- 7415 Food and beverage tasters and graders
- 7416 Tobacco preparers and tobacco products makers

7500 skilled worker  
7510 foreman  
7520 skilled worker  
7530 apprentice

**742 WOOD TREATERS, CABINET-MAKERS AND RELATED TRADES WORKERS**

- 7421 Wood treaters
- 7422 Cabinet-makers and related workers
- 7423 Woodworking-machine setters and setter-operators
- 7424 Basketry weavers, brush makers and related workers

**743 TEXTILE, GARMENT AND RELATED TRADES WORKERS**

- 7431 Fibre preparers
- 7432 Weavers, knitters and related workers
- 7433 Tailors, dressmakers and hatters
- 7434 Furriers and related workers
- 7435 Textile, leather and related pattern-makers and cutters
- 7436 Sewers, embroiderers and related workers
- 7437 Upholsterers and related workers

**744 PELT, LEATHER AND SHOEMAKING TRADES WORKERS**

- 7441 Pelt dressers, tanners and fellmongers
- 7442 Shoe-makers and related workers

**MAJOR GROUP 8  
PLANT AND MACHINE OPERATORS AND ASSEMBLERS****81 STATIONARY-PLANT AND RELATED OPERATORS****811 MINING- AND MINERAL-PROCESSING-PLANT OPERATORS**

- 8111 Mining-plant operators
- 8112 Mineral-ore- and stone-processing-plant operators
- 8113 Well drillers and borers and related workers

**812 METAL-PROCESSING-PLANT OPERATORS**

- 8121 Ore and metal furnace operators
- 8122 Metal melters, casters and rolling-mill operators
- 8123 Metal-heat-treating-plant operators
- 8124 Metal drawers and extruders

**813 GLASS, CERAMICS AND RELATED PLANT OPERATORS**

- 8131 Glass and ceramics kiln and related machine operators

- 8139 Glass, ceramics and related plant operators not elsewhere classified

**814 WOOD-PROCESSING- AND PAPERMAKING-PLANT OPERATORS**

- 8141 Wood-processing-plant operators
- 8142 Paper-pulp plant operators
- 8143 Papermaking-plant operators

**815 CHEMICAL-PROCESSING-PLANT OPERATORS**

- 8151 Crushing-, grinding- and chemical-mixing-machinery operators
- 8152 Chemical-heat-treating-plant operators
- 8153 Chemical-filtering- and separating-equipment operators
- 8154 Chemical-still and reactor operators (except petroleum and natural gas)
- 8155 Petroleum- and natural-gas-refining-plant operators
- 8159 Chemical-processing-plant operators not elsewhere classified

**816 POWER-PRODUCTION AND RELATED PLANT OPERATORS**

- 8161 Power-production plant operators
- 8162 Steam-engine and boiler operators
- 8163 Incinerator, water-treatment and related plant operators

**817 AUTOMATED-ASSEMBLY-LINE AND INDUSTRIAL-ROBOT OPERATORS**

- 8171 Automated-assembly-line operators
- 8172 Industrial-robot operators

**82 MACHINE OPERATORS AND ASSEMBLERS****821 METAL- AND MINERAL-PRODUCTS MACHINE OPERATORS**

- 8211 Machine-tool operators
- 8212 Cement and other mineral products machine operators

**822 CHEMICAL-PRODUCTS MACHINE OPERATORS**

- 8221 Pharmaceutical- and toiletry-products machine operators
- 8222 Ammunition- and explosive-products machine operators
- 8223 Metal finishing-, plating- and coating-machine operators
- 8224 Photographic-products machine operators
- 8229 Chemical-products machine operators not elsewhere classified

**823 RUBBER- AND PLASTIC-PRODUCTS MACHINE OPERATORS**

- 8231 Rubber-products machine operators
- 8232 Plastic-products machine operators

**824 WOOD-PRODUCTS MACHINE OPERATORS**

- 8240 Wood-products machine operators

**825 PRINTING-, BINDING- AND PAPER-PRODUCTS MACHINE OPERATORS**

- 8251 Printing-machine operators
- 8252 Bookbinding-machine operators
- 8253 Paper-products machine operators

**826 TEXTILE-, FUR- AND LEATHER-PRODUCTS MACHINE OPERATORS**

- 8261 Fibre-preparing-, spinning- and winding-machine operators
- 8262 Weaving- and knitting-machine operators
- 8263 Sewing-machine operators
- 8264 Bleaching-, dyeing- and cleaning-machine operators
- 8265 Fur- and leather-preparing-machine operators

- 8266 Shoemaking- and related machine operators
- 8269 Textile-, fur- and leather-products machine operators not elsewhere classified

**827 FOOD AND RELATED PRODUCTS MACHINE OPERATORS**

- 8271 Meat- and fish-processing-machine operators
- 8272 Dairy-products machine operators
- 8273 Grain- and spice-milling-machine operators
- 8274 Baked-goods, cereal and chocolate-products machine operators
- 8275 Fruit-, vegetable- and nut-processing-machine operators
- 8276 Sugar production machine operators
- 8277 Tea-, coffee-, and cocoa-processing-machine operators
- 8278 Brewers-, wine and other beverage machine operators
- 8279 Tobacco production machine operators

**828 ASSEMBLERS**

- 8281 Mechanical-machinery assemblers
- 8282 Electrical-equipment assemblers
- 8283 Electronic-equipment assemblers
- 8284 Metal-, rubber- and plastic-products assemblers
- 8285 Wood and related products assemblers
- 8286 Paperboard, textile and related products assemblers

**829 OTHER MACHINE OPERATORS AND ASSEMBLERS**

- 8290 Other machine operators and assemblers

**83 DRIVERS AND MOBILE-PLANT OPERATORS****831 LOCOMOTIVE-ENGINE DRIVERS AND RELATED WORKERS**

- 8311 Locomotive-engine drivers
- 8312 Railway brakemen, signallers and shunters

**832 MOTOR-VEHICLE DRIVERS**

- 8321 Motor-cycle drivers
- 8322 Car, taxi and van drivers
- 8323 Bus and tram drivers
- 8324 Heavy truck and lorry drivers

**833 AGRICULTURAL AND OTHER MOBILE-PLANT OPERATORS**

- 8331 Motorised farm and forestry plant operators
- 8332 Earth-moving- and related plant operators
- 8333 Crane, hoist and related plant operators
- 8334 Lifting-truck operators

834 SHIPS' DECK CREWS AND RELATED WORKERS

8340 Ships' deck crews and related workers

## MAJOR GROUP 9 ELEMENTARY OCCUPATIONS

### 91 SALES AND SERVICES ELEMENTARY OCCUPATIONS

#### 911 STREET VENDORS AND RELATED WORKERS

- 9111 Street food vendors
- 9112 Street vendors, non-food products
- 9113 Door-to-door and telephone salespersons

#### 912 SHOE CLEANING AND OTHER STREET SERVICES ELEMENTARY OCCUPATIONS

- 9120 Shoe cleaning and other street services elementary occupations

#### 913 DOMESTIC AND RELATED HELPERS, CLEANERS AND LAUNDERERS

- 9131 Domestic helpers and cleaners
- 9132 Helpers and cleaners in offices, hotels and other establishments
- 9133 Hand-laundrers and pressers

#### 914 BUILDING CARETAKERS, WINDOW AND RELATED CLEANERS

- 9141 Building caretakers
- 9142 Vehicle, window and related cleaners

#### 915 MESSENGERS, PORTERS, DOORKEEPERS AND RELATED WORKERS

- 9151 Messengers, package and luggage porters and deliverers
- 9152 Doorkeepers, watchpersons and related workers
- 9153 Vending-machine money collectors, meter readers and related workers

#### 916 GARBAGE COLLECTORS AND RELATED LABOURERS

- 9161 Garbage collectors

- 9162 Sweepers and related labourers

### 92 AGRICULTURAL, FISHERY AND RELATED LABOURERS

#### 921 AGRICULTURAL, FISHERY AND RELATED LABOURERS

- 9211 Farm-hands and labourers
- 9212 Forestry labourers
- 9213 Fishery, hunting and trapping labourers

### 93 LABOURERS IN MINING, CONSTRUCTION, MANUFACTURING AND TRANSPORT

#### 931 MINING AND CONSTRUCTION LABOURERS

- 9311 Mining and quarrying labourers
- 9312 Construction and maintenance labourers: roads, dams and similar constructions
- 9313 Building construction labourers

#### 932 MANUFACTURING LABOURERS

- 9321 Assembling labourers
- 9322 Hand packers and other manufacturing labourers

#### 933 TRANSPORT LABOURERS AND FREIGHT HANDLERS

- 9331 Hand or pedal vehicle drivers
- 9332 Drivers of animal-drawn vehicles and machinery
- 9333 Freight handlers

## MAJOR GROUP 0 ARMED FORCES

### 01 ARMED FORCES

#### 011 ARMED FORCES

- 0110 Armed forces