

# Major Group 2:

## PROFESSIONALS

Professionals increase the existing stock of knowledge, apply scientific or artistic concepts and theories, teach about the foregoing in a systematic manner, or engage in any combination of these three activities. Most occupations in this major group require skills at the fourth skill level.

This major group consists of the following sub-major groups:

- 21 SCIENCE AND ENGINEERING PROFESSIONALS
- 22 HEALTH PROFESSIONALS
- 23 TEACHING PROFESSIONALS
- 24 BUSINESS AND ADMINISTRATION PROFESSIONALS
- 25 INFORMATION AND COMMUNICATIONS TECHNOLOGY PROFESSIONALS
- 26 LEGAL, SOCIAL AND CULTURAL PROFESSIONALS
- 27 HOSPITALITY, RETAIL AND SERVICES PROFESSIONALS

### 21 SCIENCE AND ENGINEERING PROFESSIONALS

Science and engineering professionals conduct research, improve or develop concepts, theories and operational methods, or apply scientific knowledge relating to fields such as physics, astronomy, meteorology, chemistry, geophysics, geology, mathematics, statistics, electro technology, architecture, engineering and technology.

This sub-major group consists of the following minor groups:

- 211 PHYSICISTS, CHEMISTS AND RELATED PROFESSIONALS
- 212 MATHEMATICIANS, ACTUARIES AND STATISTICIANS
- 213 LIFE SCIENCE PROFESSIONALS
- 214 ENGINEERING PROFESSIONALS (EXCLUDING ELECTRO TECHNOLOGY)
- 215 ELECTROTECHNOLOGY ENGINEERS
- 216 ARCHITECTS, PLANNER, SURVEYORS AND DESIGNER
- 217 SHIP, AIRCRAFT AND TRAIN/LOCOMOTIVE CONTROLLERS
- 218 MINING, MANUFACTURING AND CONSTRUCTION PROFESSIONALS

### 211 PHYSICISTS, CHEMISTS AND RELATED PROFESSIONALS

Physicists, chemists and related professionals conduct research, improve or develop concepts, theories and operational methods, or apply scientific knowledge relating to physics, astronomy, meteorology, chemistry, geology and geophysics.

#### 2111 PHYSICISTS AND ASTRONOMERS

Physicists and astronomers conduct research, improve or develop concepts, theories and operational methods, or apply scientific knowledge relating to physics and astronomy in industrial, medical, military or other fields.

**Tasks include:**

- conducting research and improving or developing concepts, theories and operational methods related to physics and astronomy;
- conducting experiments, tests and analyzes in fields such as mechanics, thermodynamics, optics, sonic, electricity, magnetism, electronics and nuclear physics, or astronomy;
- conducting experiments, tests and analyzes of the structure and properties of matter in solid state and its behavior under temperature, pressure, stress and other conditions;
- evaluating results of investigations and experiments and expressing conclusions, mainly using mathematical techniques and models;
- developing or improving industrial, medical, military and other practical applications of the principles and techniques of physics or astronomy;
- observing, analyzing and interpreting celestial phenomena and developing methods and techniques to be used in fields such as navigation or space exploration;
- preparing scientific papers and reports;
- enhancing knowledge and coordinating the work performance;
- performing related tasks.

**Examples of the occupations classified here:**

- 21111 Physicist / Physicist, theoretical**
- 21112 Aerodynamicist / Physicist, mechanics / Thermodynamics**
- 21113 Physicist, medical / Physicist, sound / Physicist, light**
- 21114 Physicist, electricity and magnetism**
- 21115 Physicist, electronics**
- 21116 Physicist, nuclear/atomic/molecular**
- 21117 Astronomer / Astrophysicist / Physicist, astronomer**
- 21118 Cosmologist**

**2112 METEOROLOGISTS AND SEISMOLOGISTS**

Meteorologists and seismologists conduct research, improve or develop concepts, theories and operational methods related to the composition, structure and dynamics of the atmosphere and prepare detailed or long-term weather forecasts used in aviation, shipping, agriculture and other areas and for the information of the general public as well as monitoring earthquake activity and issuing tsunami warning.

**Tasks include:**

- conducting research and improving or developing concepts, theories and operational methods related to the composition, structure and dynamics of the atmosphere;
- investigating direction and speed of air movements, pressures, temperatures, humidity and other phenomena such as cloud formation and precipitation, electrical disturbances or solar radiation;
- analyzing and interpreting satellite photographs, remote sensing and other atmospheric phenomena and preparing weather maps and forecasts used in aviation, shipping, agriculture and other areas and for the information of the general public;
- preparing warnings relating to atmospheric phenomena such as storms or other hazards to life and property;
- studying climatic data and using statistical methods to determine and interpret climatic trends and predicting changes;
- reviewing observational networks and the dissemination of information;
- conducting experiments in haze dispersal, rain-making and other types of weather control;

- preparing scientific papers and reports;
- preparing data, information and advice services regarding tsunami and seismology;
- issuing early warning information regarding tremors earthquake and tsunami;
- supervising the work of technicians and meteorological observers;
- performing related tasks.

**Examples of the occupations classified here:**

- 21121 Meteorologist / Officer, meteorological**
- 21122 Climatologist / Meteorologist-climatology**
- 21123 Forecaster-weather / Seismologist**
- 21124 Officer, meteorology C41**
- 21125 Agrometeorologist**
- 21126 Meteorologist, marine**
- 21127 Meteorologist, environmental**
- 21128 Meteorologist, Numerical Weather Prediction Modeling (NWP)**

**2113 CHEMISTS**

Chemists conduct research, improve or develop concepts, theories and operational methods, or apply scientific knowledge relating to chemistry, mainly to test, develop and improve materials, and industrial products and processes.

**Tasks include:**

- conducting research and improving or developing concepts, theories and operational methods related to chemistry;
- conducting experiments, tests and analyzes to investigate chemical composition and energy and chemical changes in various natural, artificial or synthetic substances, materials and products;
- evaluating results of investigations and experiments and deriving conclusions;
- managing and directing chemical quality control laboratories and chemical quality control or assurance, procedures and practices;
- managing and directing chemical laboratories, including verification, classification, assay and certification of products, process standards or specifications;
- developing practical applications of experimental and research findings;
- developing or improving pharmaceutical and other industrial materials, products and processes;
- developing and monitoring quality control procedures for manufacturers or users;
- preparing laboratory reports and scientific papers;
- enhancing knowledge, coordinating and training laboratory technician;
- performing related tasks.

**Examples of the occupations classified here:**

- 21131 Chemist**
- 21132 Chemist, rubber**
- 21133 Chemist, corrosion / Chemist, glass / Chemist, plastics / Chemist, inorganic**
- 21134 Chemist, physical**
- 21135 Chemist, analytical**
- 21136 Chemist, water purification**
- 21137 Chemist, detergent / Chemist, food / Chemist, textile / Chemist, quality control**
- 21138 Officer, geochemist C41**

## **2114 GEOLOGISTS AND GEOPHYSICISTS**

Geologists and geophysicists conduct research, improve or develop concepts, theories and operational methods, or apply scientific knowledge relating to geology and geophysics in such fields as oil, gas and mineral exploitation, water conservation, civil engineering, telecommunications and navigation.

### **Tasks include:**

- conducting research and improving or developing concepts, theories and operational methods related to geology and geophysics;
- studying composition and structure of the earth's crust, examining rocks, minerals, fossil remains, etc. to determine processes affecting the development of the earth, trace evolution and establish nature and chronology of geological formations;
- interpreting research data and preparing geological reports, maps, charts and diagrams;
- applying results of research to assess development potential of mineral, gas and oil deposits and underground water resources;
- applying geological knowledge to problems encountered in civil engineering projects such as the construction of dams, bridges, tunnels and large buildings;
- investigating and measuring seismic, gravitational, electrical, thermal and magnetic forces affecting the earth;
- investigating and measuring optical and acoustic phenomena in the atmosphere;
- charting the earth's magnetic field and applying this and other collected data for purposes of broadcasting and navigation;
- studying and measuring physical properties of seas and atmosphere and their inter-relationship such as the exchange of thermal energy;
- locating and determining the nature and extent of oil, gas and mineral deposits and of ground water resources, using seismological, gravimetric, magnetic, electrical or radiometric methods;
- preparing laboratory reports and scientific papers;
- enhancing knowledge and coordinating the work performance;
- performing related tasks.

### **Examples of the occupations classified here:**

**21141 Geologist / Geophysicist**

**21142 Geologist, engineering**

**21143 Geologist, mining / Mineralogist**

**21144 Geologist, oil / Petrologist / Geologist, petroleum**

**21145 Geologist, marine / Oceanographer, geophysical**

**21146 Geodesist / Geomagnetician / Geophysicist, seismology**

**21147 Geophysicist, hydrology / Hydrogeologist**

**21148 Officer, geophysics/geology C41**

## **212 MATHEMATICIANS, ACTUARIES AND STATISTICIANS**

Mathematicians, actuaries and statisticians conduct research, improve or develop mathematical, actuarial and statistical concepts, theories and operational models and techniques and apply this knowledge to a wide range of tasks in such fields as engineering, business and social and other sciences.

## **2120 MATHEMATICIANS, ACTUARIES AND STATISTICIANS**

Mathematicians, actuaries and statisticians conduct research and improve or develop mathematical, actuarial and statistical concepts, theories and operational methods and techniques and advise on or engage in their practical application in such fields as engineering, business and social and other sciences.

### **Tasks include:**

- studying, improving and developing mathematical, actuarial and statistical theories and techniques;
- advising on or applying mathematical principles, models and techniques to a wide range of tasks in the fields of engineering, natural, social or life sciences;
- conducting logical analyses of management problems, especially in terms of input-output effectiveness, and formulating mathematical models of each problem usually for programming and solution by computer;
- designing and putting into operation pension schemes and life, health, social and other types of insurance systems;
- applying mathematics, statistics, probability and risk theory to assess potential financial impacts of future events;
- planning and organizing surveys and other statistical collections, and designing questionnaires;
- evaluating, processing, analyzing, and interpreting statistical data and preparing them for publication;
- advising on or applying various data collection methods and statistical methods and techniques, and determining reliability of findings, especially in such fields as business or medicine as well as in other areas of natural, social or life sciences;
- preparing scientific papers and reports;
- supervising the work of mathematical, actuarial and statistical assistants and statistical clerks;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

### **Examples of the occupations classified here:**

**21201 Mathematician**

**21202 Officer, actuary W41**

**21203 Officer, statistical / Statistician**

**21204 Statistician E41**

**21205 Biometrician / Statistician, health**

**21206 Statistician, business and economics / Statistician, finance**

**21207 Statistician, education / Statistician, social science**

**21208 Statistician, engineering / Statistician, physical science**

## **213 LIFE SCIENCE PROFESSIONALS**

Life science professionals apply knowledge gained from research into human, animal and plant life and their interactions with each other and the environment to develop new knowledge, improve agricultural and forestry production, and solve human health and environmental problems.

### **2131 BIOLOGISTS, BOTANISTS, ZOOLOGISTS AND RELATED PROFESSIONALS**

Biologists, botanists, zoologists and related professionals study living organisms and their interactions with each other and with the environment, and apply this knowledge to solve human health and environmental problems. They work in diverse fields such as botany, zoology, ecology, marine biology, genetics, immunology, pharmacology, toxicology, physiology, bacteriology and virology.

#### **Tasks include:**

- conducting research, improving or developing concepts, theories and operational methods in their respective fields;
- conducting field and laboratory experiments concerning all forms of life by identifying and classifying human, animal, insect or plant specimens, and studying their origin, development, chemical and physical form, structure, composition, and life and reproductive processes;
- studying and conducting experiments concerning the structure, development and characteristics of micro-organisms such as bacteria or viruses;
- studying all forms of plant/animal life and developing practical applications in fields such as agriculture and medicine;
- studying and conducting experiments concerning the structure and functions of living cells and the influence of physical and chemical factors upon normal and abnormal cells;
- studying inter-relationships of animal and plant life and the environmental factors involved and giving professional advice to related disciplines;
- developing industrial, medical and other applications of knowledge in their respective fields;
- preparing laboratory reports and scientific papers;
- enhancing knowledge, coordinating and training laboratory technician;
- performing related tasks.

#### **Examples of the occupations classified here:**

- 21311 Taxonomist / Biologist / Hydrobiologist / Biotechnologist**
- 21312 Botanist / Cytologist, plant / Mycologist / Taxonomist, plant**
- 21313 Cystologist, animal / Fish culturist / Parasitologist / Ichthyologist / Zoologist**
- 21314 Entomologist**
- 21315 Botanist, ecology / Ecologist, animal**
- 21316 Bacteriologist / Engineer, genetics / Microbiologist / Immunologist**

### **2132 FARMING, FORESTRY AND FISHERIES ADVISERS**

Farming, forestry and fisheries advisers provide technical assistance and advice on farming, forestry and fishery methods and problems.

#### **Tasks include:**

- keeping abreast of advances in farming or forestry and fishery methods and techniques;
- advising on ways of raising quality of output, increasing yield and measures to increase efficiency of operations and to conserve natural assets and the environment;
- visiting farms and advising on measures to deal with problems such as soil erosion or pest infestation;
- collecting data and estimating quantities and costs of materials and labour required for projects;

- organizing demonstrations, giving lectures, writing and distributing materials to promote adoption of improved practices and techniques;
- applying knowledge of scientific principles and practices in order to identify and solve problems arising in the course of their work;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**21321 Adviser, agricultural / Officer, agricultural / Farm, demonstrator**

**21322 Adviser, forestry / Officer, forestry**

**21323 Officer, fishery G41**

**21324 Conservationist, forestry G41**

**21325 Officer, agricultural G41**

**2133 ENVIRONMENTAL PROTECTION PROFESSIONALS**

Environmental protection professionals study and assess the effects on the environment of human activity such as air, water and noise pollution, soil contamination, climate change, toxic waste and depletion and degradation of natural resources. They develop plans and solutions to protect, conserve, restore, minimize and prevent further damage to the environment.

**Tasks include:**

- undertaking research in laboratories and in the field to increase scientific knowledge of living organisms; to discover new information; to test hypotheses; to solve problems in areas such as the environment, agriculture and health; and to develop new products, processes and techniques for pharmaceutical, agricultural and environmental use;
- designing and conducting experiments and tests;
- gathering human, animal, insect and plant specimens and data, and studying their origin, development, chemical and physical form, structure, composition, and life and reproductive processes;
- examining living organisms using a variety of specialized equipment, instruments, technologies and techniques such as electron microscopes, telemetry, global positioning systems, biotechnology, satellite imaging, genetic engineering, digital imaging analysis, polymerase chain reaction and computer modelling;
- identifying, classifying, recording and monitoring living organisms and maintaining databases;
- writing scientific papers and reports detailing research and any new findings which are then made available to the scientific community in scientific journals or at conferences for scrutiny and further debate;
- designing and carrying out environmental impact assessments to identify changes caused by natural or human factors;
- providing advice to governments, organizations and businesses in areas such as conservation, management of natural resources, the effects of climate change and pollution.
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**21331 Agronomist**

**21332 Scientist, agricultural**

**21333 Floriculturist / Horticultural / Pomologist / Olericulturist**

**21334 Arboriculturist / Scientist, forestry / Wood analyst**

- 21335 Scientist, animal**
- 21336 Scientist, environmental research**
- 21337 Officer, wild life G41**
- 21338 Officer, environment control C41**

#### **2134 PHARMACOLOGISTS, PATHOLOGISTS AND RELATED PROFESSIONALS**

Pharmacologists, pathologists and related professionals conduct research, improve or develop concepts, theories and operational methods, and apply scientific knowledge relating to anatomy, biochemistry, biophysics, physiology, pathology or pharmacology in such fields as medicine, agriculture or industry.

##### **Tasks include:**

- conducting research, improving or developing concepts, theories and operational methods in their respective fields;
- studying and conducting concerning the form, structure and other anatomical characteristics of living organism;
- studying and conducting experiments concerning the chemical composition and processes of living organisms;
- studying and conducting experiments concerning the life processes and functions of human, animal or plant organs, tissues, cells, glands and systems under normal and abnormal or exceptional conditions;
- studying and conducting experiments concerning the structure, development and characteristics of micro-organisms such as bacteria or viruses;
- studying and conducting experiments concerning the nature, causes and development of human, animal or plant diseases and disorders;
- studying and conducting experiments concerning the effects of drugs and other substances on the tissues, organs and physiological processes of human beings and animals, and improving existing or developing new drugs;
- developing industrial, medical and other applications of knowledge in their respective fields;
- preparing laboratory reports and scientific papers;
- enhancing knowledge, coordinating and training laboratory technician;
- performing related tasks.

##### **Examples of the occupations classified here:**

- 21341 Anatomist**
- 21342 Biochemist / Chemist, biological / Biochemist, enzymes**
- 21343 Biophysicist**
- 21344 Endocrinologists**
- 21345 Physiologists / Physiologist, neurology / Physiologist, endocrinology**
- 21346 Pharmacologists / Toxicologist**
- 21347 Histopathologist / Neuropathologist / Pathologist**
- 21348 Epidemiologist**

#### **214 ENGINEERING PROFESSIONALS (EXCLUDING ELECTROTECHNOLOGY)**

Engineering Professional (Excluding Electrotechnology) conduct research and improve or develop concepts, theories and operational methods, or apply existing knowledge in such fields as engineering, technological or economic efficiency of production processes.

## 2141 INDUSTRIAL AND PRODUCTION ENGINEERS

Industrial and production engineers plan, design, organize and supervise the operation of industrial production.

### Tasks include:

- consulting with management and supervisory personnel and advising on planning and production methods;
- developing sophisticated factory automation and mechanization projects and recommending long-term automation strategies;
- advising on methods to promote efficient, safe and economic utilisation of personnel, materials and equipment;
- making recommendations regarding methods of work and sequence of operations;
- making recommendations and supervising time and motion aspects of work organization;
- advising on most efficient layout of plant or establishment;
- identifying potential hazards and introducing safety procedures and devices;
- preparing and monitoring cost estimates and bills of quantities for architectural and construction projects;
- studying and advising on technological aspects of manufacturing processes relating to glass, ceramics, textiles, leather products, wood and printing;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

### Examples of the occupations classified here:

- 21411 Engineer, automation / Engineer, robotics**
- 21412 Engineer, industrial**
- 21413 Analyst, communication/except computer / Engineer, planning**
- 21414 Engineer, cost evaluation / Engineer, industrial efficiency**
- 21415 Engineer, industrial health and safety / Engineer, industrial safety**
- 21416 Engineer, production / Technologist, glass / Technologist, printing**
- 21417 Technologist, wood**

## 2142 CIVIL ENGINEERS

Civil engineers plan, design, organize and supervise the construction and operation of civil engineering works.

### Tasks include:

- conducting research and developing new or improved theories and methods related to civil engineering;
- advising on and designing structures such as bridges, dams, docks, roads, airports, railways, pipelines, waste-disposal and flood-control systems, and industrial and other large buildings;
- determining and specifying construction methods, materials and quality standards, and directing construction work;
- establishing control systems to ensure efficient functioning of structures as well as safety and environmental protection;
- organizing and directing site labour and the delivery of construction materials, plant and equipment needed for construction projects;
- administering contracts and verifying and certifying satisfactory completion;

- studying and advising on technological aspects of particular materials/processes or systems related to civil engineering works;
- maintaining technical liaison and consultancy with other relevant specialists;
- supervising the testing and commissioning of completed works;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 21421 Engineer, civil**
- 21422 Engineer, resident/civil engineering / Technologist, building materials**
- 21423 Engineer, civil/highways and road / Engineer, civil/road construction**
- 21424 Engineer, civil J41**
- 21425 Engineer, civil/geotechnic / Engineer, civil/bridge construction**
- 21426 Engineer, civil/dredging / Engineer, civil/irrigation**
- 21427 Engineer, civil/hydraulics / Engineer, civil/hydrology**
- 21428 Engineer, civil/public health / Engineer, civil/sanitary**

**2143 ENVIRONMENTAL ENGINEERS**

Environmental engineers plan, design, organize and supervise the application of science and engineering principles to improve the environment (air, water, and/or land resources), to provide healthy water, air, and land for human habitation and for other organisms, and to remediate polluted sites.

**Tasks include:**

- studying on the environmental impact of proposed construction projects;
- conducting hazardous-waste management studies to evaluate the significance of such hazards, advise on treatment and containment, and develop regulations to prevent mishaps;
- designing municipal water supply and industrial wastewater treatment systems as well as being concerned with local and worldwide environmental issues such as the effects of acid rain, ozone depletion, water pollution and air pollution from automobile exhausts and industrial sources;
- studying the effects on animal and plant life of such factors as terrain, altitude, climatic conditions, sources of nutrition and predators;
- investigating the structure of communities of organisms and predicting the effects of disturbances by human or environmental changes;
- managing forest resources to maximize their long-term commercial, recreational and environmental benefits for the community;
- researching into field crops and grasses and developing new or improved cultivation methods;
- researching into horticultural crops and developing new or improved cultivation methods;
- researching into and developing new or improved methods for economic exploitation of grazing lands;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 21431 Engineer, environment**

## 2144 MECHANICAL ENGINEERS

Mechanical engineers conduct research and advice on, design, and direct production of machines, machinery and industrial plant, equipment and systems, and advise on and direct their functioning, maintenance and repairs, or study and advice on technological aspects of particular materials, products or processes.

### Tasks include:

- advising on and designing machinery and tools for manufacturing, mining, construction, agricultural work and other industrial purposes;
- advising on and designing steam, internal combustion and other non-electric motors and engines used for propulsion of railway locomotives, road vehicles or aircraft, or for driving industrial or other machinery;
- advising on and designing ships propulsion systems, power plant, heating and ventilation systems, steering gear, pumps and other mechanical equipment;
- advising on and designing hulls and superstructures of ships and other vessels;
- advising on and designing airframes, undercarriages and other equipment for aircraft;
- advising on and designing road vehicle bodies, suspension systems, brakes and other components;
- advising on and designing heating, ventilation and refrigeration systems and equipment;
- advising on and designing mechanical plant and equipment for the release, control and utilisation of nuclear energy;
- advising on and designing non-electrical parts of apparatus or products such as word processors, computers, precision instruments, cameras and projectors, etc.;
- establishing control standards and procedures to ensure efficient functioning and safety of machines, machinery, tools, motors, engines, and industrial plant, equipment or systems;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

### Examples of the occupations classified here:

- 21441 Engineer, mechanical / Technologist, engineering/mechanical**
- 21442 Engineer, industrial machinery and tools**
- 21443 Engineer, cryogenic**
- 21444 Engineer, heating, ventilation, air-conditioning and refrigeration**
- 21445 Designer, motor-car**
- 21446 Engineer, mechanical J41**

## 2145 CHEMICAL ENGINEERS

Chemical engineers conduct research and develop, design and advise on and direct commercial-scale chemical processes and production of various substances and items such as crude oil, petroleum derivatives, food and drink products, medicaments, or synthetic materials, and direct maintenance and repair of industrial plant, or study and advise on technological aspects of particular materials, products or processes.

### Tasks include:

- conducting research and advising on, and developing and designing commercial-scale chemical processes and equipment to refine crude oil and other liquids or gases, and to produce substances and items such as petroleum derivatives, explosives, food and drink products, medicament or synthetic materials;
- specifying relevant aspects of the construction of chemical manufacturing plant;

- specifying production methods, materials and quality standards and ensuring that they conform to specifications;
- establishing control standards and procedures to ensure safety, environmental protection and efficiency in manufacturing operations and processes;
- locating and correcting malfunctions;
- organizing and advising on maintenance and repair of existing equipment;
- studying and advising on technological aspects of particular materials, products or processes;
- maintaining technical liaison and consultancy with other relevant specialists;
- preparing analytical reports;
- performing related tasks;
- supervisory other workers.

**Examples of the occupations classified here:**

- 21451** *Engineer, chemical*
- 21452** *Engineer, chemical/petroleum and gas*
- 21453** *Engineer, chemical/paints and varnish*
- 21454** *Engineer, chemical/fertilizer*
- 21455** *Engineer, chemical/pharmaceutical products*
- 21456** *Technologist, food and drinks*
- 21457** *Technologist, fibre*
- 21458** *Technologist, rubber*

**2146 MINING ENGINEERS, METALLURGISTS AND RELATED PROFESSIONALS**

Mining engineers, metallurgists and related professionals conduct research, design and develop and maintain commercial-scale methods of extracting metals from their ores, or minerals, water, oil or gas from the earth and of developing new alloys, ceramic and other materials, or study and advise on technological aspects of particular materials, products or processes.

**Tasks include:**

- conducting research and advising on, designing and developing new or improved methods to deal with engineering aspects of mining and oil, gas or water extraction;
- determining the most suitable methods of efficient mining and extraction, types of machinery to be used, planning layout and directing construction of shafts and tunnels;
- determining drilling site and devising methods of controlling the flow of water, oil or gas from wells;
- planning and directing storage, initial treatment and transportation of water, oil or gas;
- establishing safety standards and procedures and first-aid facilities, especially underground;
- conducting research, developing methods of extracting metals from their ores and advising on their application;
- investigating properties of metals and alloys, developing new alloys and advising on and supervising technical aspects of metal and alloy manufacture and processing;
- studying and advising on technological aspects of particular materials or processes;
- maintaining technical liaison and consultancy with other relevant specialists in particular with geologists and geophysicists;
- preparing cost budget of operations to evaluate the economic feasibility of production processes;
- performing related tasks.

**Examples of the occupations classified here:**

- 21461 Engineer, mining**
- 21462 Assayer**
- 21463 Engineer, mining/coal**
- 21464 Engineer, mining/petroleum and natural gas**
- 21465 Engineer, metal testing**
- 21466 Metallurgist, physics**

**2149 ENGINEERING PROFESSIONALS NOT ELSEWHERE CLASSIFIED**

This unit group covers Engineering Professional (Excluding Electrotechnology) not classified elsewhere in Minor Group 214: Engineering Professional (Excluding Electrotechnology). For instance, here should be classified those who engaged in conducting research, advising on or developing industrial efficiency of production, quality control, and those who study and advise on technological aspects of particular materials, products and manufacturing processes.

**Tasks include:**

- consulting with management and supervisory personnel and advising on planning and production methods;
- developing sophisticated factory automation and mechanization projects and recommending long-term automation strategies;
- advising on methods to promote efficient, safe and economic utilisation of personnel, materials and equipment;
- making recommendations regarding methods of work and sequence of operations;
- making recommendations and supervising time and motion aspects of work organization;
- advising on most efficient layout of plant or establishment;
- identifying potential hazards and introducing safety procedures and devices;
- preparing and monitoring cost estimates and bills of quantities for architectural and construction projects;
- studying and advising on technological aspects of manufacturing processes relating to glass, ceramics, textiles, leather products, wood and printing;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 21491 Engineer, process**
- 21492 Engineer, quality control**
- 21493 Adviser, technical service**
- 21494 Engineer, research**
- 21495 Engineering executive, store**

**215 ELECTROTECHNOLOGY ENGINEERS**

Electrotechnology engineers conduct research and improve or develop concepts, theories and operational methods, or apply existing knowledge in such fields as electrical and electronic efficiency of production processes.

## 2151 ELECTRICAL ENGINEERS

Electrical engineers conduct research and advise on, design, develop and supervise the manufacture, installation, operation and maintenance of equipment, machines and systems for the generation, distribution, utilisation and control of electric power.

### Tasks include:

- planning and designing the manufacture and installation of electric power equipment and facilities;
- determining the type and arrangement of circuits, transformers, circuit-breakers, transmission lines and other equipment;
- advising on and designing systems for electrical motors, electrical traction and other equipment or domestic electrical appliances;
- interpreting specifications, standards and regulations relating to electric power equipment and use;
- organizing and managing resources used in the supply of electrical components, machines, appliances and equipment;
- establishing delivery and installation schedules for machines, switchgear, cables and fittings;
- supervising the operation and maintenance of power stations, transmission and distribution systems and industrial plants;
- establishing control standards and procedures to ensure efficient functioning and safety of electrical generating and distribution systems, motors and equipment;
- locating and correcting malfunctions;
- maintaining technical liaison and consultancy with other relevant specialists;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

### Examples of the occupations classified here:

- 21511 Engineer, electrical*
- 21512 Engineer, electrical/electric power generation*
- 21513 Engineer, electrical/electric power distribution*
- 21514 Engineer, electrical illumination*
- 21515 Engineer, electrical/electromechanical equipment*
- 21516 Engineer, electrical J41*

## 2152 ELECTRONIC ENGINEERS

Electronics engineers design, develop, adapt, test and maintain electronic components, circuits and systems used for computer systems, communications systems and industrial applications.

### Tasks include:

- advising on and designing electronic devices, circuits and systems used for computers, communications and control systems and other industrial applications;
- designing software especially embedded software to be used within such systems;
- developing apparatus and procedures to test electronic components, circuits and systems;
- supervising installation and commissioning of computer and telecommunications systems and ensuring proper control and protection methods;
- establishing control standards and procedures to ensure efficient functioning and safety of electronic systems, motors and equipment;
- locating and correcting malfunctions;

- organizing and directing maintenance and repair of existing electronic systems, motors and equipment;
- studying and advising on technological aspects of particular materials, products or processes;
- maintaining technical liaison and consultancy with other relevant specialists;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 21521 Engineer, electronics**
- 21522 Engineer, signal/railway**
- 21523 Engineer, computer**
- 21524 Engineer, audio and video equipment**
- 21525 Engineer, electronics/semiconductors**
- 21526 Engineer, electronics/instrumentation**
- 21527 Engineer, electronics J41**

**2153 TELECOMMUNICATIONS ENGINEERS**

Telecommunications engineers design, develop, adapt, test and maintain electronic components, circuits and systems used for communications systems and industrial applications.

**Tasks include:**

- advising on and designing electronic devices, circuits and systems used for computers, communications and control systems and other industrial applications;
- designing software especially embedded software to be used within such systems;
- developing apparatus and procedures to test electronic components, circuits and systems;
- supervising installation and commissioning of computer and telecommunications systems and ensuring proper control and protection methods;
- establishing control standards and procedures to ensure efficient functioning and safety of electronic systems, motors and equipment;
- locating and correcting malfunctions;
- organizing and directing maintenance and repair of existing electronic systems, motors and equipment;
- studying and advising on technological aspects of particular materials, products or processes;
- maintaining technical liaison and consultancy with other relevant specialists;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 21531 Engineer, telecommunications/signal systems**
- 21532 Technologist, engineering, telecommunications**
- 21533 Engineer, telecommunications/microwave**

**216 ARCHITECTS, PLANNERS, SURVEYORS AND DESIGNERS**

Architects, planners, surveyors and designers conduct research and improve or develop concepts, theories and operational methods, or apply existing knowledge in such fields as architecture, planning, surveyors and designers efficiency of production processes

## 2161 BUILDING ARCHITECTS

Building architects conduct research, advice on, design of recreational, institutional, residential, commercial and industrial buildings, plan, monitor their construction, maintenance, and repair.

### Tasks include:

- developing new or improved architectural theories and methods;
- consulting with clients and making recommendations regarding type, style, size and other aspects of construction;
- designing buildings, preparing detailed drawings and plans for their construction, maintenance and repair and making necessary contacts to ensure feasibility of projects in respect of style, cost and timing, compliance with regulations, etc.;
- identifying and finding best solutions for problems regarding function and quality of interior environments of buildings and making necessary designs, drawings and plans;
- inspecting construction work in progress to ensure compliance with plans, specification and quality standards;
- planning layout and coordinating development of urban areas;
- planning and designing the development of land areas for projects such as parks, schools, institutions, airports, roadways and related projects, and for commercial, industrial and residential sites;
- preparing reports, site plans, working drawings, specifications and cost estimates for land development, showing location and details of proposals, including ground modelling, structures and vegetation;
- maintaining technical liaison and consultancy with other relevant specialists;
- supervising the testing and commissioning of completed works;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

### Examples of the occupations classified here:

**21611 Architect J41**

**21612 Architect, interior**

**21613 Architect, building**

## 2162 LANDSCAPE ARCHITECTS

Landscape architects conduct research and advise on and design of recreational, layout of towns and landscapes, and plan and monitor their construction, maintenance and repair.

### Tasks include:

- developing new or improved architectural theories and methods;
- compiling and analyzing site and community data on geographical aspects, ecology of area, land forms, soils, vegetation, site hydrology, visual characteristics and human-made structures to formulate land use and development recommendations for the preparation of environmental impact statements;
- consulting with clients and making recommendations regarding type, style, size and other aspects of construction;
- inspecting construction work in progress to ensure compliance with plans, specification and quality standards;
- planning layout and coordinating development of urban areas;
- planning and designing the development of land areas for projects such as parks, schools, institutions, airports, roadways and related projects, and for commercial, industrial and residential sites;

- preparing reports, site plans, working drawings, specifications and cost estimates for land development, showing location and details of proposals, including ground modeling, structures and vegetation;
- maintaining technical liaison and consultancy with other relevant specialists;
- supervising the testing and commissioning of completed works;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**21621 Architect, landscape**

**21622 Architect, landscape J41**

**2163 PRODUCT AND GARMENT DESIGNERS**

Product and garment designers apply artistic techniques to product and garment design and sales promotion.

**Tasks include:**

- determining the objectives of the design by consulting with clients, undertaking research and analyzing functional requirements or studying layouts;
- designing industrial and commercial products, including new types and styles of clothing and accessories and endeavoring to harmonize aesthetic considerations with technical and other requirements;
- supervising the production of sample products or design illustrations, instructing other workers making models or patterns of products, or instructing finishing or layout artists assembling artwork for printing;
- designing and painting stage scenery;
- creating and executing artistic effects for use in show windows and other display/promotional areas;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**21631 Designer, commercial products**

**21632 Designer, cloth**

**2164 TOWN AND TRAFFIC PLANNERS**

Town and traffic planners conduct research and advise on and design of recreational, institutional, residential, layout of towns, landscapes and traffic systems, and plan and monitor their construction, maintenance and repair.

**Tasks include:**

- developing new or improved architectural theories and methods;
- compiling and analyzing site and community data on geographical aspects, ecology of area, land forms, soils, vegetation, site hydrology, visual characteristics and human-made structures to formulate land use and development recommendations for the preparation of environmental impact statements;
- consulting with clients and making recommendations regarding type, style, size and other aspects of construction;

- inspecting construction work in progress to ensure compliance with plans, specification and quality standards;
- planning layout and coordinating development of urban areas;
- planning and designing the development of land areas for projects such as parks, schools, institutions, airports, roadways and related projects, and for commercial, industrial and residential sites;
- planning and advising on routing and control of road and other traffic for efficiency and safety;
- preparing reports, site plans, working drawings, specifications and cost estimates for land development, showing location and details of proposals, including ground modeling, structures and vegetation;
- maintaining technical liaison and consultancy with other relevant specialists;
- supervising the testing and commissioning of completed works;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**21641 Planner, town**

**21642 Planner, traffic**

**21643 Officer, land planning G41**

**21644 Officer, urban and rural planning J41**

**2165 CARTOGRAPHERS AND SURVEYORS**

Cartographers and surveyors apply surveying methods and techniques to determine the exact position of natural and constructed features and boundaries of land, seas, underground areas and celestial bodies, and prepare or revise digital, graphic and pictorial representations of maps and charts or plans.

**Tasks include:**

- surveying, measuring and describing land surfaces for various purposes, including mapmaking, construction work or establishment of property boundaries;
- surveying mines, delineating underground surfaces, noting exact position of various features and making charts and maps with a view to controlling direction and extent of mining;
- surveying seas, rivers and lake beds, delineating underwater surfaces, noting exact position of various features and making charts and maps to be used in particular in determining navigable waters and channels and in planning construction of marine structures;
- analyzing aerial and other photographs, satellite imagery and surveying data to prepare and revise topographic maps and charts, utility maps and other thematic maps;
- studying and advising on technical, aesthetic and economic aspects of map production;
- supervising the preparation of plans, maps, charts and drawing to give pictorial representations and managing automated information systems;
- undertaking research and development of surveying and photogrammetric measurement systems, cadastral (land tenure) systems and land information systems;
- planning and designing land sub-division projects and negotiating details with local governments and other authorities;
- supervising and coordinating the works of associate surveyors;
- maintaining technical liaison and consultancy with other relevant specialists;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 21651 Cartographer**
- 21652 Surveyor**
- 21653 Surveyor, land**
- 21654 Cartographer J41**
- 21655 Surveyor J41**
- 21656 Surveyor, quantity J41**
- 21657 Surveyor, building J41**
- 21658 Surveyor, aerial**

**2166 GRAPHIC AND MULTIMEDIA DESIGNERS**

Graphic and multimedia designers conduct research, improve or develop graphic computing concepts and operational methods, and advise on or engage in their practical application.

**Tasks include:**

- researching into the principles and operational methods of computers and computer-based systems for information communication and processing, planning, design, process control and production, development and maintenance of computer software, as well as data structures and databases, algorithms, artificial intelligence and robotics;
- developing and maintaining data dictionary and management systems of databases to ensure validity and safety of data;
- contributing to and keeping up with technical developments of computers, peripherals, computing methods and software, their potential and limitations;
- analyzing computer users' requirements, by consultation, to determine hardware and software configurations and development needs and preparing cost-benefit analyzes;
- writing programming specifications and preparing technical reports and instruction manuals specifying methods of operation and maintenance of the computer hardware and software configurations;
- designing, writing, maintaining and updating software which controls the overall functioning of computers and which links hardware and computer applications software;
- designing and implementing communication networks between different computer installations;
- developing improved methods and instruments, including computer languages, for writing, documenting and maintaining computer software;
- developing and implementing data processing procedures;
- preparing technical papers and reports;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 21661 Designer B41**
- 21662 Designer, web**
- 21663 Specialist graphics and sound/computer**
- 21664 Designer, systems/computer**
- 21665 Designer, graphic**

**217 SHIP, AIRCRAFT AND TRAIN/LOCOMOTIVE CONTROLLERS**

Ship, aircraft and train/locomotive controllers conduct research and improve or develop concepts, theories and operational methods, or perform technical functions to ensure safe and efficient

movement and operations, and develop electrical, electromechanical, and computerized air control systems.

## 2171 SHIPS ENGINEERS

Ship's engineers control and participate in the operation, maintenance and repair of mechanical, electrical and electronic equipment and machinery on board ship, or perform related supporting functions on shore.

### Tasks include:

- controlling and participating in the operation, maintenance and repair of mechanical, electrical and electronic equipment and machinery on board ship;
- ordering fuel and other engine room department stores and maintaining record of operations;
- performing technical supervision of the installation, maintenance and repair of ship's machinery and equipment to ensure compliance with specifications and regulations;
- coordinating tests on equipment and diagnosing faults;
- applying knowledge of principles and practices relating to ship's machinery and equipment in order to identify and solve problems arising in the course of their work;
- inspecting and conducting maintenance and emergency repairs to engines, machinery and auxiliary equipment;
- standing engine room watch, monitoring and noting performance of engines, machinery and auxiliary equipment;
- maintaining records of operation of engineering department;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

### Examples of the occupations classified here:

**21711 Engineer, chief/ship**

**21712 Engineer, marine**

**21713 Marine superintendent, technical**

**21714 Architect, marine**

## 2172 SHIPS DECK OFFICERS AND PILOTS

Ships deck officers and pilots command and navigate ships and direct marine services on shore for vessels arriving in port.

### Tasks include:

- commanding and navigating ship, seagoing or inland waterway vessels by supervising the ship's course and speed according to passage plan and safety;
- planning, supervising and coordinating deck and bridge-watch activities on vessels;
- navigating vessels into and out of ports and through straits and other waters where special knowledge and skill are required;
- ensuring safe and efficient loading and unloading of cargo and observance of safety regulations and procedures by crew and passengers;
- performing technical supervision of maintenance and repair of ship to ensure compliance with specifications and regulations;
- directing or arranging supply of ships stores and equipment, recruitment of crews and provision of other services (except food) for vessels arriving in port;
- managing and maintaining inventory, records and documentation;

- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**21721 Ship captain/master**  
**21722 Pilot, hovercraft**  
**21723 Harbour master**  
**21724 Officer, ship/deck**  
**21725 Ferry captain**  
**21726 Marine superintendent (deck)**  
**21727 Officer, marine A41**

**2173 AIRCRAFT PILOTS AND RELATED PROFESSIONALS**

Aircraft pilots and related professionals control the operation of mechanical, electrical and electronic equipment in order to navigate aircraft for transporting passengers, mail and freight and perform related pre-flight and in-flight tasks.

**Tasks include:**

- flying and navigating aircraft in accordance with established control and operating procedures;
- preparing and submitting flight plan or examining standard flight plan;
- flying aircraft in accordance with established air traffic control and aircraft operating procedures;
- giving in-flight instruction, supervising solo flights, accompanying students on training flights and demonstrating techniques for controlling aircraft;
- controlling the operation of mechanical, electrical and electronic equipment and ensuring that all instruments and controls work properly;
- applying knowledge of principles and practices of flying in order to identify and solve problems arising in the course of their work;
- examining maintenance records and conducting inspections to ensure that aircraft are mechanically sound, maintenance has been performed and that all equipment is operational;
- signing necessary certificates and maintaining official records of flight;
- obtaining briefings and clearances before flights and maintaining contact with air traffic or flight control during flight;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**21731 Pilot A41**  
**21732 Pilot, aircraft/airline**  
**21733 Navigator, flight**  
**21734 Instructor, flight**  
**21735 Astronaut**  
**21736 Inspector, aircraft A41**  
**21737 Engineer, flight**  
**21738 Examiner, pilot A41**

## **2174 AIR TRAFFIC CONTROLLERS**

Air traffic controllers direct aircraft movements in airspace and on the ground, using radio, radar and lighting systems, and provide information relevant to the operation of aircraft.

### **Tasks include:**

- directing and controlling aircraft approaching and leaving airport and their movement on the ground/aerodromes by issuing runway clearances and directing taxiing, take offs and landings;
- directing and controlling aircraft movements in the air using radar or non-radar procedures and directing aircraft by radio;
- checking flight plans, position reports, flight levels, estimated arrival times at reporting points or destinations and authorizing changes of flight levels and altitudes;
- informing flight crew and operations staff about weather conditions, operational facilities, flight plans and air traffic;
- controlling the operation of airport lighting systems such as runway and approach lights and aerodrome beacons;
- applying knowledge of principles and practices of air traffic control in order to identify and solve problems arising in the course of their work;
- initiating and organizing emergency, search and rescue services when aircraft are in distress;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

### **Examples of the occupations classified here:**

- 21741 Controller, air traffic**
- 21742 Officer, air traffic control A41**
- 21743 Officer, air cargo**

## **2175 TRAIN/LOCOMOTIVE CONTROLLERS**

Train/locomotive controllers direct train/locomotive movements on the ground, using radio, radar and lighting systems, and provide information relevant to the operation of train/locomotive.

### **Tasks include:**

- directing and controlling train/locomotive movements using radar or non-radar procedures and directing train/locomotive by radio;
- applying knowledge of principles and practices of train/locomotive traffic control in order to identify and solve problems arising in the course of their work;
- initiating and organizing emergency, search and rescue services when aircraft are in distress;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

### **Examples of the occupations classified here:**

- 21751 Officer/controller, LRT/ERL/monorail operation**
- 21752 Permanent-way inspector, railways**

### **2179 TRANSPORT CONTROLLERS NOT ELSEWHERE CLASSIFIED**

This unit group covers transport controllers outside the scope of unit group 2171 – 2175.

**Tasks include:**

- receiving and dispatching cargo and mail;
- supervising and distributing weights;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**21791 Officer, load sheet**

**21792 Executive, shipping**

### **218 MINING, MANUFACTURING AND CONSTRUCTION PROFESSIONALS**

Mining, manufacturing and construction professionals conduct research and improve or develop concepts, theories and operational methods, or apply existing knowledge in such fields as mining, manufacturing and construction of production processes.

#### **2181 MINING PROFESSIONALS**

Mining professionals conduct research and improve or develop concepts, theories and operational methods, or apply existing knowledge concerning the mining activities such as extracting coal, ore, stone, clay and other solid minerals from the earth.

**Tasks include:**

- conducting research, developing method and coordinating activities concerning the extraction of minerals from mine and stone, or slate and clay from quarries;
- ensuring the efficient use of resources and the fulfillment of production quotas;
- studying and advising on technological aspects of particular material or processes;
- controlling expenditure;
- establishing and supervising operational and administrative procedures;
- overseeing the application of work safety and related procedures;
- overseeing the selection, training and performance of staff;
- representing the department in its dealings with other parts of the enterprise or with outside bodies;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**21811 Officer, mining C41**

#### **2182 MANUFACTURING PROFESSIONALS**

Manufacturing professionals conduct research and improve or develop concepts, theories and operational methods, or apply existing knowledge concerning the production of food, paper, sawmill, warehouse as well as quality assurance.

**Tasks include:**

- studying and advising on technological aspects of particular material or processes;
- establishing and supervising operational and administrative procedures;
- overseeing the application of work safety and related procedures;
- overseeing the selection, training and performance of staff;
- negotiating with suppliers, customers and other organizations;
- representing the department in its dealings with other parts of the enterprise or with outside bodies;
- ensuring all production processes fall within the manufacturing specification and product characteristics are following Company's standard document;
- implementing production plan through subordinate, ensure that utilization of manpower, machine and equipment are optimized;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 21821 Executive, manufacturing**
- 21822 Executive, quality assurance**
- 21823 Executive, production**
- 21824 Executive, warehouse**
- 21825 Executive, maintenance**
- 21826 Officer, logs**
- 21827 Superintendent, boiler**

**2183 CONSTRUCTION PROFESSIONALS**

Construction professionals conduct research and improve or develop concepts, theories and operational methods, or apply existing knowledge concerning the construction projects.

**Tasks include:**

- conducting research, developing method and coordinating activities concerning the construction of buildings, dams, highways, pipelines and related construction projects;
- studying procedures for construction on basic of starting and completion times and staffing requirements for each phase of constructions, based on knowledge of available tools and equipment and various building methods;
- studying and advising on technological aspects of particular material or processes;
- establishing and supervising operational and administrative procedures;
- overseeing the application of work safety and related procedures;
- overseeing the selection, training and performance of staff;
- representing the department in its dealings with other parts of the enterprise or with outside bodies;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 21831 Executive, contract**
- 21832 Executive, project**
- 21833 Executive, property**

## 22 HEALTH PROFESSIONALS

Health professionals conduct research, improve or develop concepts, theories and operational methods, or apply scientific knowledge relating to fields such as medical, nursing and midwifery, traditional and complementary medicine, veterinary and other health professionals.

This sub-major group consists of the following minor groups:

- 221 **MEDICAL DOCTORS**
- 222 **NURSING AND MIDWIFERY PROFESSIONALS**
- 223 **TRADITIONAL AND COMPLEMENTARY MEDICINE PROFESSIONALS**
- 224 **PARAMEDICAL PRACTITIONERS**
- 225 **VETERINARIANS**
- 226 **OTHER HEALTH PROFESSIONALS**

### 221 MEDICAL DOCTORS

Medical doctors conduct research and improve or develop concepts, theories and operational methods, or apply existing knowledge in such fields as generalist and specialist medical practitioners efficiency to the prevention, diagnosis and treatment of human illnesses.

#### 2211 **GENERALIST MEDICAL PRACTITIONERS**

Generalist medical practitioners apply scientific medical knowledge to the prevention, diagnosis and treatment of human illnesses.

##### Tasks include:

- examining the patients to determine the nature of diseases or illnesses;
- conducting medical examinations and making diagnoses;
- prescribing and giving treatment for diagnosed illnesses, disorders or injuries;
- giving advice on and applying preventive medicine methods and treatments;
- participating in the development and implementation of public health laws and regulations for safeguarding and promoting the health of a community;
- teaching medical students and other health sciences students, physicians and other health professionals;
- preparing scientific papers and reports;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

##### Examples of the occupations classified here:

- 22111 *Doctor, medical*
- 22112 *Officer, medical UD41*
- 22113 *Officer, medical rehabilitation U41*

#### 2212 **SPECIALIST MEDICAL PRACTITIONERS**

Specialist medical practitioners apply special medical knowledge to the prevention, diagnosis and treatment of human illnesses.

##### Tasks include:

- specializing in diagnostic evaluation, habilitative and rehabilitative services and research related to hearing;
- assisting patients under medical direction, to overcome or minimize the effects or defects and disorders of speech;
- treating orientation of the blind;
- fixing all kind of orthotic devices (readily available devices);
- making of splints with thermoplastic materials;
- examining the patients to determine the nature of diseases or illnesses;
- writing specifications for artificial limbs or other appliances and helping to fit them and explaining their use;
- conducting medical examinations and making diagnoses;
- prescribing and giving treatment for diagnosed illnesses, disorders or injuries;
- giving specialized medical or surgical treatment for particular types of illnesses, disorders or injuries;
- giving advice on and applying preventive medicine methods and treatments;
- participating in the development and implementation of public health laws and regulations for safeguarding and promoting the health of a community;
- teaching medical students and other health sciences students, physicians and other health professionals;
- preparing scientific papers and reports;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**22121 Specialist ear, nose and throat**

**22122 Anaesthetist**

**22123 Oncologist, medical**

**22124 Psychiatrist**

**22125 Ophthalmologist**

**22126 Cardiologist**

**22127 Gynaecologist**

**22128 Officer, science C41**

**222 NURSING AND MIDWIFERY PROFESSIONALS**

Nursing and midwifery professionals conduct research and improve or develop concepts, theories and operational methods, or apply existing knowledge in such fields as nursing and midwifery efficiency to the prevention, diagnosis and treatment of human illnesses.

**2221 NURSING PROFESSIONALS**

Nursing professionals conducting and applying nursing knowledge to the prevention, diagnosis and treatment of human illnesses.

**Tasks include:**

- providing nursing care, treatment and advice to the ill, injured, disabled and others in need of such cares;
- examining the patients to determine the nature of diseases or illnesses;
- conducting medical examinations and making diagnoses;
- prescribing and giving treatment for diagnosed illnesses, disorders or injuries;
- giving specialized medical or surgical treatment for particular types of illnesses, disorders or injuries;

- giving advice on and applying preventive medicine methods and treatments;
- participating in the development and implementation of public health laws and regulations for safeguarding and promoting the health of a community;
- teaching medical students and other health sciences students, physicians and other health professionals;
- preparing scientific papers and reports;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

- **Examples of the occupations classified here:**

**22211 Nurse, professional**

**2222 MIDWIFERY PROFESSIONALS**

Midwifery professionals conducting the delivery of babies, provide ante-natal and post-natal care and advise parents in baby care.

**Tasks include:**

- advising expectant mothers on appropriate diet, exercises and behavior to ease pregnancy and childbirth, and noting their general health and progress;
- delivering babies, or, more often, assisting doctors in deliveries;
- attending mothers in the post-natal period to supervise their recovery, to check on babies' progress and to advise parents in baby care;
- conducting health education classes and seminars to promote the health of mothers and infants;
- advising on and administering birth control methods;
- giving specialized medical or surgical treatment for particular types of illnesses, disorders or injuries;
- giving advice on and applying preventive medicine methods and treatments;
- participating in the development and implementation of public health laws and regulations for safeguarding and promoting the health of a community;
- teaching medical students and other health sciences students, physicians and other health professionals;
- preparing scientific papers and reports;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**22221 Midwife, professional**

**223 TRADITIONAL AND COMPLEMENTARY MEDICINE PROFESSIONALS**

Traditional and complementary medicine professionals conduct research and improve or develop concepts, theories and operational methods, or apply existing knowledge in traditional medicine field efficiency to the prevention, diagnosis and treatment of human illnesses.

**2230 TRADITIONAL AND COMPLEMENTARY MEDICINE PROFESSIONALS**

Traditional and complementary medicine professionals apply traditional medicine knowledge to the prevention, diagnosis and treatment of human illnesses.

**Tasks include:**

- prescribing and giving treatment for diagnosed illnesses, disorders or injuries;
- examining patients, making diagnoses and treating sickness and injuries using herbs, medicinal plants and other traditional techniques used in the community;
- advising community and individuals on proper diet and behavior to preserve or improve health and well-being;
- participating in the development and implementation of public health laws and regulations for safeguarding and promoting the health of a community;
- teaching medical students and other health sciences students, physicians and other health professionals;
- preparing scientific papers and reports;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**224 PARAMEDICAL PRACTITIONERS**

Paramedical practitioners conduct research and improve or develop concepts, theories and operational methods, or apply knowledge in emergency medical service efficiency to the prevention, diagnosis and treatment of human illnesses.

**2240 PARAMEDICAL PRACTITIONERS**

Paramedical practitioners apply emergency medical service knowledge to the prevention, diagnosis and treatment of human illnesses.

**Tasks include:**

- providing emergent on-scene treatment, crisis intervention, life-saving stabilization and when appropriate, transport of ill or injured patients to definitive emergency medical and surgical treatment facilities, such as a hospitals and trauma centre;
- prescribing and giving treatment for diagnosed illnesses, disorders or injuries;
- advising community and individuals on proper diet and behavior to preserve or improve health and well-being;
- participating in the development and implementation of public health laws and regulations for safeguarding and promoting the health of a community;
- teaching medical students and other health sciences students, physicians and other health professionals;
- preparing scientific papers and reports;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**22401 *Paramedic, emergency***

**225 VETERINARIANS**

Veterinarians conduct research and improve or develop concepts, theories and operational methods, or apply existing knowledge in veterinary practitioners efficiency to the prevention, diagnosis and treatment of human illnesses.

## **2250 VETERINARIANS**

Veterinarians diagnose and prescribe medical or surgical treatment of diseases and injuries to animals.

### **Tasks include:**

- conducting examinations and diagnosing diseases or injuries of animals;
- administering surgical or medical veterinary treatment;
- rendering obstetric services to animals;
- testing dairy and other herds and inoculating animals against diseases;
- advising on hygiene, feeding, breeding and care of animals;
- inspecting quality, purity and safety of food made wholly or partly from raw materials of animal origin intended for human consumption;
- assisting in epidemiological, radiological and other surveillance of animal health;
- performing autopsies to determine the cause of death;
- preparing scientific papers and reports;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

### **Examples of the occupations classified here:**

**22501 Veterinarian**

**22502 Surgeon, veterinary**

**22503 Veterinarian, public health**

**22504 Officer, veterinary G41**

## **226 OTHER HEALTH PROFESSIONALS**

Other health professionals conduct research, improve or develop concepts, theories and operational methods, and apply scientific knowledge relating to medicine, dentistry, pharmacy, psychiatry, occupational health, therapy, physiotherapy, optician, dietitian and promotion of health.

## **2261 DENTISTS**

Dentists diagnose and treat dental disorders, injuries and malformation of teeth, gums and related oral structures and prescribe and administer preventive actions.

### **Tasks include:**

- examining teeth, gums, jaws and other oral tissues using dental and x-ray equipment;
- making diagnoses, advising on and giving necessary dental treatment;
- cleaning and filling cavities and extracting decayed or deformed teeth;
- constructing inlays and artificial crowns to replace teeth;
- designing, constructing and fitting complete and partial dentures, orthodontic and other appliances and performing bridge work;
- giving surgical, medical and other forms of treatment for particular types of dental and oral diseases and disorders;
- participating in public action to maintain or improve standards of oral health and dental care;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 22611 Dentist**
- 22612 Dentist, pedodontistry**
- 22613 Dentist, orthodontistry**
- 22614 Dentist, prosthodontistry**
- 22615 Periodontist**
- 22616 Surgeon, oral/dentistry**
- 22617 Officer, dental U41**

**2262 PHARMACISTS**

Pharmacists apply pharmaceutical concepts and theories in the preparation and dispensing or selling medicaments and drugs, and conduct research on production, storage, quality control and distribution of drugs and related supplies.

**Tasks include:**

- preparing or directing the preparation of medicaments according to prescriptions of medical, dental and veterinary practitioners or established formula;
- checking prescriptions to ensure that recommended dosages are not exceeded, and that instructions are understood by patient, and advising on possible drug incompatibility and contra-indications;
- dispensing medicaments and drugs in hospitals or selling them in pharmacies;
- maintaining prescription files and recording issue of narcotics, poisons and habit-forming drugs;
- advising patients on generic equivalent and lowest cost of drugs;
- developing standards for drug used in pharmaceuticals;
- testing of drugs to determine identity, purity, strength and safety;
- conducting research to develop or improve pharmaceuticals, cosmetics and related chemical products;
- determining the most suitable packaging for medical substances to avoid deterioration and facilitating storage and distribution;
- selling non-prescription drugs, sickroom supplies, toiletries, cosmetics and other commercial products;
- preparing scientific papers and reports;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 22621 Pharmacist**
- 22622 Pharmacist, industrial**
- 22623 Pharmacist, retail**
- 22624 Pharmacist, hospital**
- 22625 Officer, pharmacy U41**

**2263 ENVIRONMENTAL AND OCCUPATIONAL HEALTH AND HYGIENE PROFESSIONALS**

Environmental and occupational health and hygiene professionals inspect environment, private and public buildings and properties to ensure the maintenance of health and hygiene standards.

**Tasks include:**

- inspecting business and residential premises and public areas to detect unsanitary conditions and health hazards;
- giving advise on environment sanitary problems and techniques;
- collecting samples of water to test for contamination and of food for adulteration and deviation from standards;
- promoting preventive and corrective measures such as control of disease carrying organisms and of harmful substances in the air, hygienic food handling, proper disposal of waste and cleaning of public places;
- organizing campaigns, giving lectures and distributing material to promote adoption of improved practices and techniques;
- applying knowledge of hygiene and sanitation principles and practices in order to identify and solve problems arising in the course of their work;
- preparing and submitting reports;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**22631 Sanitarian**

**22632 Officer, environmental U41**

**22633 Inspector, factory and machinery J41**

**2264 PHYSIOTHERAPISTS**

Physiotherapists provide special medical therapeutic services to rehabilitate injured and mentally and physically disabled persons.

**Tasks include:**

- advising communities and individuals on correct body postures to avoid injuries to strengthen muscles;
- conducting examinations to make diagnoses of disorders of bones, muscles and parts of the circulatory or the nervous system to determine proper treatment;
- massaging client to improve blood circulation, soothe or stimulate nerves, facilitate elimination of waste matter, stretch contracted tendons and produce other therapeutic effects;
- applying physiotherapy and related techniques as part of the treatment of the physically or mentally disabled persons;
- establishing an appropriate treatment or management plan for the patient;
- performing adjustments of the joints of the spine and extremities using hands or specialist equipment;
- performing soft tissue therapies, such as massage;
- educating and advising patients on rehabilitation exercises to aid long-term recovery, and techniques to ensure health is maintain;
- giving specialized medical or surgical treatment for particular types of illnesses, disorders or injuries;
- giving advice on and applying preventive medicine methods and treatments;
- participating in the development and implementation of public health laws and regulations for safeguarding and promoting the health of a community;
- teaching medical students and other health sciences students, physicians and other health professionals;
- preparing scientific papers and reports;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 22641 *Physiotherapist***
- 22642 *Therapist, physical***
- 22643 *Chiropractor***

**2265 DIETICIANS AND NUTRITIONISTS**

Dieticians and nutritionists plan and supervise the preparation of diets for individuals or groups, supervise and evaluate health programmes and assist in appraising the various factors related to nutrition and food problems in the community.

**Tasks include:**

- providing nutrition assessments, management, education, research and training;
- collecting, organizing and assessing data relating to health and nutritional status of individuals and groups;
- monitoring food intake and quality to provide nutritional care;
- planning and directing the preparation of therapeutic and other diets/menus for individuals or groups in hospitals, institutions and other establishments;
- participating in programmes of nutrition education and in nutrition rehabilitation activities;
- advising on nutrition aspects of community food issues and health programmes;
- keeping up with knowledge in related fields and maintaining contacts with appropriate professionals;
- preparing educational materials and giving talks and lectures on diet and nutrition;
- preparing scientific papers and reports;
- participating in the development and implementation of public health laws and regulations for safeguarding and promoting the health of a community;
- teaching medical students and other health sciences students;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 22651 *Dietician***
- 22652 *Nutritionist***
- 22653 *Consultant, dietetic/food processing***
- 22654 *Officer, food technology C41***
- 22655 *Officer, health***
- 22656 *Officer, dietetic U41***

**2266 AUDIOLOGISTS AND SPEECH THERAPISTS**

Audiologist and speech therapist apply scientific principles to assess, diagnose and manage patients who have hearing, balance and tinnitus problems. They ensure that evidenced assessment techniques are used, and develop and assess new techniques.

**Tasks include:**

- administering auditory tests for babies, children and adults;
- interpreting and reporting on test results;
- developing and improving test techniques;

- communicating with a wide variety of patients;
- advising on the selection, fitting and evaluation of hearing aids;
- researching new advances in hearing aid technology, such as digital hearing aids;
- testing and maintaining implanted devices, such as cochlear implants;
- operating audiometric equipment;
- conducting research into disorders affecting hearing and balance;
- managing audiology services, including monitoring and improving the quality of service provided;
- supervising support staff;
- participating in the development and implementation of public health laws and regulations for safeguarding and promoting the health of a community;
- teaching medical students and other health sciences students, physicians and other health professionals;
- preparing scientific papers and reports;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**22661 Audiologists**

**22662 Therapist, orientation of the blind**

**22663 Orthoepist**

**2267 OPTOMETRISTS AND OPHTHALMIC OPTICIANS**

Optometrists and ophthalmic opticians examine eyes, prescribe and fit lenses for spectacles and advise on their use or the use of other visual aids.

**Tasks include:**

- examining eyes and performing vision tests to determine the nature and extent of vision problems and abnormalities;
- prescribing spectacles or other treatment to improve vision;
- advising on the proper use and care of spectacles, appropriate lighting for work or reading and other visual aids;
- fitting prescribed lenses into frames and fitting frames or contact lenses to customers;
- referring clients with ocular disease symptoms to a physician;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**22671 Optometrists**

**22672 Optician**

**22673 Optometrists U41**

**2268 OCCUPATIONAL THERAPISTS**

An occupational therapist helps people of all ages who have physical, mental health or social problems to adapt to any aspect of their life with more independence, confidence and control. Problems may result from birth, an accident, an operation, illness, negative behaviour patterns or ageing.

**Tasks include:**

- liaising with a wide variety of other professionals, such as doctors, physiotherapists, social workers, voluntary workers and equipment suppliers, as well as patients' families, careers and employers;
- attending multidisciplinary case conferences to plan and review ongoing treatment;
- organizing support and rehabilitation groups for careers and clients;
- training students and supervising the work of occupational therapy assistants;
- completing client and patient records, budgetary records, equipment reviews and other administrative tasks;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**22681 Therapist, occupational**

**2269 HEALTH PROFESSIONALS NOT ELSEWHERE CLASSIFIED**

This unit group covers health professionals not elsewhere classified in Minor Group 226: Other Health Professionals.

**23 TEACHING PROFESSIONALS**

Teaching professionals teach the theory and practice of one or more disciplines at different educational levels, conduct research and improve or develop concepts, theories and operational methods pertaining to their particular discipline, and prepare scholarly papers and books.

**This sub-major group consists of the following minor groups:**

- 231 UNIVERSITY AND HIGHER EDUCATION TEACHERS**
- 232 VOCATIONAL EDUCATION TEACHERS**
- 233 SECONDARY EDUCATION TEACHERS**
- 234 PRIMARY SCHOOL AND EARLY CHILDHOOD TEACHERS**
- 235 MUSIC, ARTS AND PERFORMING ARTS TEACHERS**
- 236 LANGUAGE TEACHERS**
- 237 RELIGIOUS TEACHERS**
- 238 SKILL TECHNOLOGY AND TECHNICAL TRAINERS**
- 239 OTHER TEACHING PROFESSIONALS**

**231 UNIVERSITY AND HIGHER EDUCATION TEACHERS**

University and higher education teachers teach their subjects at different levels after the termination of secondary education, conduct research and improve or develop concepts, theories and operational methods pertaining to their particular discipline, and prepare scholarly papers and books.

**2310 UNIVERSITY AND HIGHER EDUCATION TEACHERS**

University and higher education teachers teach their subjects at some or all levels after the termination of secondary education, conduct research and improve or develop concepts, theories and operational methods, and prepare scholarly papers and books.

**Tasks include:**

- designing and modifying curricula and preparing courses of study in accordance with requirements;
- delivering lectures and conducting tutorials, seminars and laboratory sessions;
- stimulating discussion and independent thought among students;
- supervising, where appropriate, experimental and practical work undertaken by students;
- administering, evaluating and marking assignments and examination papers;
- directing research of post-graduate students or other members of department;
- researching into and developing concepts, theories and operational methods for application in industrial and other fields;
- preparing scholarly books, papers or articles;
- attending conferences and seminars;
- assisting with extra-curricular activities;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**23101 Lecturer, college**

**23102 Lecturer, university**

**23103 Professor, university/college**

**23104 Tutor, university**

**23105 Lecturer, university DS45**

**23106 Lecturer, medical DU45**

**23107 Lecturer, UiTM DM41**

**23108 Assistant lecturer, UiTM DM29**

**23109 Lecturer, dental DUG45**

**232 VOCATIONAL EDUCATION TEACHERS**

Vocational education teachers teach one or more subjects, for educational or vocational purposes, at some or all levels between the termination of primary education and the beginning of studies at colleges or universities.

**2320 VOCATIONAL EDUCATION TEACHERS**

Vocational education teachers teach one or more subjects, for educational or vocational purposes, at some or all levels between the termination of primary education and the beginning of studies at colleges or universities.

**Tasks include:**

- planning and preparing lessons in accordance with the prescribed/recommended curriculum;
- giving lessons in their subjects and supervising students class work and discipline;
- preparing, assigning and correcting exercises, assignments and tests to evaluate students progress;
- preparing reports about students work and conferring with other teachers and parents;
- participating in staff meetings and educational conferences and workshops;
- organizing or assisting with extracurricular activities;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 23201** *Teacher, vocational*
- 23202** *Teacher, commercial*

**233**    **SECONDARY EDUCATION TEACHERS**

Secondary education teachers teach one or more subjects, for educational purpose, at some or all levels between the termination of primary education and the beginning of studies at colleges or universities.

**2330**    **SECONDARY EDUCATION TEACHERS**

Secondary education teachers teach one or more subjects, for educational purpose, at some or all levels between the termination of primary education and the beginning of studies at colleges or universities.

**Tasks include:**

- planning and preparing lessons in accordance with the prescribed/recommended curriculum;
- giving lessons in their subjects and supervising students class work and discipline;
- preparing, assigning and correcting exercises, assignments and tests to evaluate students progress;
- preparing reports about students work and conferring with other teachers and parents;
- participating in staff meetings and educational conferences and workshops;
- organizing or assisting with extracurricular activities;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 23301** *Teacher, secondary education*
- 23302** *Teacher, pre-university*
- 23303** *Officer, education graduate services DG41*

**234**    **PRIMARY SCHOOL AND EARLY CHILDHOOD TEACHERS**

Primary school and early childhood teachers teach a range of subjects at the primary education level and organize educational activities.

**2341**    **PRIMARY SCHOOL TEACHERS**

Primary school teachers teach a range of subjects at the primary education level.

**Tasks include:**

- preparing programme of learning and giving instruction in several school subjects such as reading, writing and arithmetic, among others, within prescribed or recommended curriculum;
- preparing, administering and marking tests, projects and assignments to train pupils and to evaluate their progress, and giving remedial instruction if necessary;

- organizing and supervising pupils extra-curricular activities;
- encouraging personal development of pupils and discussing their progress with parents;
- maintaining attendance records and school discipline;
- participating in staff meetings and educational conferences and workshops;
- performing extra-curricular tasks such as assisting with sports, school concerts, excursions and special interest programmes;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**23411** *Teacher, primary education*

**23412** *Officer, non-graduate teacher DGA29*

**2342 EARLY CHILDHOOD EDUCATORS**

Early childhood educators organize group and individual play and educational activities to support and promote physical, mental and social development of children below primary school age.

**Tasks include:**

- planning and organizing activities designed to facilitate the children's development of physical and social skills;
- promoting language development through story telling, role play, songs, rhymes and informal conversations and discussions;
- observing children in order to evaluate and discuss progress and possible problems with parents;
- supervising children's activities to ensure safety and resolve conflicts;
- attending staff meeting, educational conferences and workshops;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**23421** *Teacher, kindergarten*

**235 MUSIC, ARTS AND PERFORMING ARTS TEACHERS**

Music, arts and performing arts teachers teach courses in music, arts and performing arts and organize educational activities.

**2351 MUSIC TEACHERS**

Music teachers teach course in music and organize educational activities.

**Tasks include:**

- preparing and delivering lessons to student on topic of fundamentals of music;
- organizing performance groups and directing their rehearsals;
- planning and preparing lessons in accordance with the prescribed/recommended curriculum;
- giving lessons in their subjects and supervising students class work and discipline;

- preparing, assigning and correcting exercises, assignments and tests to evaluate students progress;
- preparing reports about students work and conferring with other teachers and parents;
- participating in staff meetings and educational conferences and workshops;
- organizing or assisting with extracurricular activities;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**23511** *Teacher, music*

**2352 ARTS TEACHERS**

Arts teachers teach course in arts, including fine and applied art, such as painting and sculpture, or design and crafts.

**Tasks include:**

- preparing and delivering lessons to student on topic of fundamentals of arts;
- explaining and demonstrating artistic techniques;
- planning and preparing lessons in accordance with the prescribed/recommended curriculum;
- giving lessons in their subjects and supervising students class work and discipline;
- preparing, assigning and correcting exercises, assignments and tests to evaluate students progress;
- preparing reports about students work and conferring with other teachers and parents;
- participating in staff meetings and educational conferences and workshops;
- organizing or assisting with extracurricular activities;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**23521** *Teacher, fine arts*

**2353 PERFORMING ARTS TEACHERS**

Performing arts teachers teach courses in performing arts, including acting and modeling.

**Tasks include:**

- preparing and delivering lessons to student on topic of performing arts;
- explaining and demonstrating artistic techniques;
- planning and preparing lessons in accordance with the prescribed/recommended curriculum;
- giving lessons in their subjects and supervising students class work and discipline;
- preparing, assigning and correcting exercises, assignments and tests to evaluate students progress;
- preparing reports about students work and conferring with other teachers and parents;
- participating in staff meetings and educational conferences and workshops;
- organizing or assisting with extracurricular activities;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**23531** *Teacher, modeling*

**236** **LANGUAGE TEACHERS**

Language teachers plan, prepare and arrange activities of language programmes.

**2360** **LANGUAGE TEACHERS**

Language teachers plan, prepare and arrange activities of language programmes.

**Tasks include:**

- planning and preparing and delivering lessons to arrange of classes and age groups;
- marking/providing appropriate feedback on oral and written work;
- devising and writing new materials;
- getting involved in social and cultural activities;
- participating in marketing even for the school;
- carrying out freelance teaching on a one-to-one basis;
- running specialist courses for adults or business people, which may require knowledge of scientific, technical, or commercial terms;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**23601** *Teacher, language*

**23602** *Teacher, remedial/professional*

**237** **RELIGIOUS TEACHERS**

Religious teachers teach course in religion and theology.

**2370** **RELIGIOUS TEACHERS**

Religious teachers teach course in religion and theology.

**Tasks include:**

- preparing and delivering lessons to student on topic of ethics, logic and contemporary religious thought;
- planning and preparing lessons in accordance with the prescribed/recommended curriculum;
- giving lessons in their subjects and supervising students class work and discipline;
- preparing, assigning and correcting exercises, assignments and tests to evaluate students progress;
- preparing reports about students work and conferring with other teachers and parents;
- participating in staff meetings and educational conferences and workshops;
- organizing or assisting with extracurricular activities;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**23701** *Teacher, Islamic religion*

**238** **SKILL TECHNOLOGY AND TECHNICAL TRAINERS**

Skill technology and technical trainers trained school leavers and existing industry workforce for employment purposes, leading to Malaysian Skills Certificate (SKM) Level 1-3, Malaysian Skills Diploma (DKM) Level-4 and Malaysian Skills Advanced Diploma (DLKM) Level-5 and above. More than 70 percent of training is hands-on and some of the training conducted at the work place through apprenticeship or National Dual Training System.

**2380** **VOCATIONAL TRAINING OFFICERS**

Vocational training officers develop National Occupational Skill Standards (NOSS), curriculum and training material, and trained or coach one or more subjects, for employment purposes such as petrochemical; pharmaceutical; wood-based product; rubber and rubber-based product; oil palm-based industries; food processing; electrical and electronic; medical devices; textiles and apparel; machinery and equipments; metals; transportation equipment; business and professionals services; integrated logistics services; ICT services; distribute trade; construction services; education and training; health services; tourism services; and etc.

**Tasks include:**

- ensuring the product of the national skills training system can fulfill the industry requirement;
- facilitating the share of knowledge between industries and skills training centers and subsequently contribute towards a more market-driven R&D;
- giving instructions and lessons both hands-on and theoretical in their field or expertise and supervising trainees at the workshop and shop floor;
- identifying factors that cause the imbalance in skilled human resource and competency;
- planning and preparing effective promotion on the skills training program to upgrade worker's aptitude level and productivity;
- introducing strategy, policy and program for development of human capital skills and competency through curriculum development; collaboration between industry and learning centers in industrial training; better facilities for experts in the institution and industry fields;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 23801** *Officer, vocational training J41*
- 23802** *Assistant officer, vocational training J29*
- 23803** *Sub assistant, vocational training J17*
- 23804** *Officer, training E41*
- 23805** *Trainer, skill training*

**239** **OTHER TEACHING PROFESSIONALS**

This minor group covers teaching professionals outside Minor Groups 231-238.

### **2391 EDUCATION METHODS SPECIALISTS**

Education methods specialists conducting services in the areas of special concern, individually or in-group.

**Tasks include:**

- conducting classes for adults to read and write in rural areas to eradicate illiteracy;
- giving private lessons or training to children or adults;
- compiling lessons and conducting correspondence course in accordance with prescribed syllabus for students taking various examinations;
- teaching the basic principles of good carriage, balance, behavior and grooming to improve their appearance;
- conducting classes in training institutions to teach basic home economics;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 23911 Inspector, school**
- 23912 Teacher, home economics**
- 23913 Teacher, correspondence**
- 23914 Teacher, adult education**
- 23915 Specialist, audio-visual and other teaching aids**

### **2392 SPECIAL NEEDS TEACHERS**

Special needs teachers teach physically or mentally handicapped children, young persons or adults, or those with learning difficulties, at a given level of education.

**Tasks include:**

- designing or modifying curricula and preparing lessons and activities in accordance with requirements;
- giving instruction using techniques or special aids such as Braille or lip-reading appropriate to pupil's handicap and level and supervising work in class;
- encouraging pupils to have confidence, helping them to discover and adopt methods which would compensate for limitations imposed by their handicap, and giving them a feeling of achievement;
- administering tests, evaluating and noting progress of each pupil and discussing it with parents, teachers, therapists, social workers, etc.;
- may work with parents on a variety of learning and follow-up programmes;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 23921 Teacher, special education/for the deaf**
- 23922 Teacher, special education/for the dumb**
- 23923 Teacher, special education/for the blind**
- 23924 Teacher, special education/for the mentally handicapped**
- 23925 Teacher, special education/for the physically handicapped**

### **2393 INFORMATION TECHNOLOGY TRAINERS**

Information technology trainers design and deliver training courses in information and communications technology including desktop applications, company-specific software and some more technical-based training to software engineers, technicians, website designers or programmers.

#### **Tasks include:**

- carrying out training needs analyzes;
- designing course materials and other documents such as handouts, manuals and exercises;
- organizing and marketing courses to meet the needs of learners and demands of business;
- preparing the learning environment and resources, including setting up IT equipment;
- delivering training programmes to clients either in a group classroom setting, online through an e-learning or Virtual Learning Environment (VLE), or on a one-to-one basis;
- supporting and coaching learners using self-learning packages;
- evaluating the effectiveness of the training and course outcomes;
- liaising with other bodies, such as external course providers, employers, clients, examining bodies and software companies;
- taking responsibility for maintenance of hardware and software used for training purposes and recommending repairs and upgrades to management where appropriate;
- keeping up to date with relevant systems, software and online training technology;
- dealing with administrative records;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

#### **Examples of the occupations classified here:**

**23931** *Satellite-instruction facilitator*

### **2399 TEACHING PROFESSIONALS NOT ELSEWHERE CLASSIFIED**

This minor group covers teaching professionals not classified elsewhere in Minor Group 239: Teaching Professionals Not Elsewhere Classified.

#### **Tasks include:**

- coordinating and directing college or university registration activities;
- monitoring training programmes transmitted by communication satellite from colleges and universities to remote educational institutions, activating audio-visual receiver and monitoring classroom viewing of live or recorded courses transmitted by communication satellite and monitoring live seminar transmissions and stimulating classroom discussion after broadcast;
- teaching exceptionally intelligent and problem students;
- teaching juvenile delinquents remanded to establishments for corrective training;
- assisting school children who have scholastic, behavioral or personality problems and working out with children and parents and teachers ways for overcoming difficulties;
- planning, organizing and implementing special programmes to provide remedial or advanced tuition;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

Examples of the occupations classified here:

- 23991** *Evaluator and researcher, education systems*
- 23992** *Adviser, education methods*
- 23993** *Curricula developer*
- 23994** *Officer, higher learning education services DH41*

## **24**     **BUSINESS AND ADMINISTRATION PROFESSIONALS**

Business and administration professionals perform analytical, conceptual and practical tasks to provide services in financial matters, human resource development, public relations and marketing, sales in the technical, medical, information and communication technology areas and conduct reviews of organizational structures, methods and systems as well as quantitative analyzes of information affecting investment programs.

This sub-major group consists of the following minor groups:

- 241**     **FINANCE PROFESSIONALS**
- 242**     **ADMINISTRATION PROFESSIONALS**
- 243**     **SALES, MARKETING AND PUBLIC RELATIONS PROFESSIONALS**
- 244**     **REGULATORY GOVERNMENT PROFESSIONALS**

### **241**     **FINANCE PROFESSIONALS**

Finance professionals plan and perform accounting services, advice on accountancy matters, plan and conduct financial audits of accounts for government departments, statutory, business and industrial establishments.

#### **2411**    **ACCOUNTANTS**

Accountant plan, organize and administer accounting systems for individuals establishment. Some occupations classified here examine and analyze the accounting and financial records of individuals establishments to ensure accuracy and compliance with established accounting standards and procedures.

Tasks include:

- advising on, planning and implementing budgetary, accounts controlling and other accounting policies and systems;
- preparing and certifying financial statements for presentation to management, shareholders and statutory or other bodies;
- preparing tax returns, advising on taxation problems and contesting disputed claims before tax officials;
- preparing or reporting on profit forecasts and budgets;
- preparing project costing and risk analysis;
- identifying areas of cost reduction and recommending cost-saving/control measures;
- conducting financial investigations, undertaking audits, preparing reports and advising on such matters as suspected fraud, insolvency, bankruptcy, merger, capital financing and the purchase and sales of businesses;
- acting as liquidation agent in matters relating to bankruptcy and taxation;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 24111 Accountant**
- 24112 Accountant W41**
- 24113 Auditor**
- 24114 Tax consultant**
- 24115 Liquidator**
- 24116 Accountant, chartered**
- 24117 Auditor W41**

**2412 FINANCIAL AND INVESTMENT ADVISERS**

Financial and investment advisers develop financial plans for individuals organizations and invest and manage funds on their behalf.

**Tasks include:**

- analyzing the financial profile of companies for the purpose of making investment recommendations;
- building and maintaining a client base;
- interviewing clients to determine financial status and objectives, risk tolerance and other information needed to develop financial plans and investment strategies;
- investing funds on behalf of an investment organizations client in the money and capital markets;
- overseeing and coordinating treasury activities such as foreign exchange, money market and bond transactions;
- arranging to buy and sell stocks and bonds for clients;
- monitoring investment performance and reviewing and revising investment plans based on modified needs and changes in markets;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 24121 Planner, financial**
- 24122 Adviser, E-Commerce**

**2413 FINANCIAL ANALYSTS**

Financial analysts conduct quantitative analyses of information affecting investment programs of public or private institutions.

**Tasks include:**

- analyzing the financial profile of companies for the purpose of making investment recommendations;
- investing funds on behalf of an investment organizations client in the money and capital markets;
- overseeing and coordinating treasury activities such as foreign exchange, money market and bond transactions;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

Examples of the occupations classified here:

- 24131 Financial analyst
- 24132 Executive, finance
- 24133 Officer, finance W41

## 242 ADMINISTRATION PROFESSIONALS

Administration professionals apply various concepts and theories related to improving the effectiveness of organizations and the individuals within the organization.

### 2421 MANAGEMENT AND ORGANIZATION ANALYSTS

Management and organization analysts assist organizations to achieve greater efficiency and solve organizational problems. They study organizational structures, methods, systems and procedures.

Tasks include:

- assisting and encouraging the development of objectives, strategies and plans aimed at achieving customer satisfaction and the efficient use of organizations' resources;
- analysing and evaluating current systems and structures;
- discussing current systems with staff and observing systems at all levels of organization;
- directing clients towards more efficient organization and developing solutions to organizational problems;
- undertaking and reviewing work studies by analysing existing and proposed methods and procedures such as administrative and clerical procedures;
- recording and analysing organizations' work flow charts, records, reports, manuals and job descriptions;
- preparing and recommending proposals to revise methods and procedures, alter work flows, redefine job functions and resolve organizational problems;
- assisting in implementing approved recommendations, issuing revised instructions and procedure manuals, and drafting other documentation;
- reviewing operating procedures and advising of departures from procedures and standards;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

Examples of the occupations classified here:

- 24211 Analyst, market research/business
- 24212 Officer, press
- 24213 Officer, information S41
- 24214 Officer, evaluation W41
- 24215 Officer, appraiser W41
- 24216 Officer, research Q41
- 24217 Officer, tourist

### 2422 POLICY ADMINISTRATION PROFESSIONALS

Policy administration professionals develop and analyze policies guiding the design, implementation and modification of government and commercial operations and programs.

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**Tasks include:**

- liaising and consulting with program administrators and other interested parties to identify policy needs;
- reviewing existing policies and legislation to identify anomalies and out-of-date provisions;
- researching social, economic and industrial trends, and client expectations of programs and services provided;
- formulating and analysing policy options, preparing briefing papers and recommendations for policy changes, and advising on preferred options;
- assessing impacts, financial implications, interactions with other programs and political and administrative feasibility of policies;
- conducting threat and risk assessments and developing responses;
- reviewing operations and programs to ensure consistency with policies of the organization;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

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**Examples of the occupations classified here:**

- 24221 Media planner**
- 24222 Patent agent**
- 24223 Analyst, policy**

**2423 PERSONNEL AND CAREERS PROFESSIONALS**

Personnel and careers professionals provide professional business services related to personnel policies such as employee recruitment or development, occupational analyses and vocational guidance.

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**Tasks include:**

- advising on and performing personnel functions relating to recruitment, placement, training, staff performance, promotion, compensation and employee-management relations;
- maintaining personnel records and associated human resource information systems;
- studying and analyzing jobs performed in an establishment, conducting interviews with workers, supervisors and management, and writing detailed post, job and occupation descriptions from data obtained;
- preparing occupational information booklets/pamphlets and occupational classification systems;
- advising and working on the foregoing and other aspects of job and occupation analyzes in such fields as personnel administration, manpower research and planning, training, or occupational information and vocational guidance;
- studying and advising individuals on employment opportunities, career choices and further education;
- providing guidance to students, parents and teachers over a wide range of matters, including students personal problems, learning difficulties and special requirements;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 24231 Officer, personnel**

**24232 Analyst, occupational**

**24233 Adviser, career**

**24234 Consultant, personnel**

#### 2424 TRAINING AND STAFF DEVELOPMENT PROFESSIONALS

Training and staff development professionals plan, develop, implement and evaluate training and development programs to ensure that management and staff acquire the skills and develop the competencies required by organizations to meet organizational objectives.

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##### Tasks include:

- identifying training needs and requirements of individuals and organizations;
- setting human resource development objectives and evaluating learning outcomes;
- preparing and developing instructional training material and aids such as handbooks, visual aids, online tutorials, demonstration models, and supporting training reference documentation;
- designing, coordinating, scheduling and conducting training and development programs that can be delivered in the form of individual and group instruction, and facilitating workshops, meetings, demonstrations and conferences;
- liaising with external training providers to arrange delivery of specific training and development programs;
- promoting internal and external training and development, and evaluating these promotional activities;
- monitoring and performing ongoing evaluation and assessment of internal and external training quality and effectiveness, and reviewing and modifying training objectives, methods and course deliverables;
- gathering, investigating and researching background materials to gain an understanding of various subject matters and systems;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

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##### Examples of the occupations classified here:

**24241 Officer, staff training**

#### 2425 ADMINISTRATIVE PROFESSIONALS

Administrative professionals improve, advice and apply operational methods relating to administrative aspects.

##### Tasks include:

- organizing/maintaining handling/filing all internal and external correspondence;
- arranging appointments, organize meetings/conference;
- coordinating travel arrangements for staff on work matters;
- following up with staff and /or clients on reports;
- assisting in preparing reports;
- assisting/attending to all incoming calls for the department;
- assisting in updating timesheets and handling of claims;
- taking department meeting minutes;
- conducting research and maintenance of clients profiles and proposal database;
- coordinating all the training courses and maintain a staff training records;
- maintaining scheduling record;

- handling stationary requisition, printing, binding and general logistics support;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**24251 Executive, administrative**

**24252 Registrar, college or university**

**243 SALES, MARKETING AND PUBLIC RELATIONS PROFESSIONALS**

Sales, marketing and public relations professionals evaluate and propose various aspects of business undertaking such as advertising, public relations and marketing including information and communications technology and medical sales and/or other office support services to improve their structure, efficiency, and/or profits.

**2431 ADVERTISING AND MARKETING PROFESSIONALS**

Advertising and marketing professionals improve, advice or apply operational methods relating to marketing strategy, sales, advertising, promotion and pricing activities.

**Tasks include:**

- planning, implementation and control of a mix of business activities intended to bring together buyers and sellers for the mutually advantageous exchange or transfer of products;
- reporting customers reactions and requirements to manufacturers;
- developing and devising creative ideas for an advertising campaign for a brand or business;
- advising clients on how, when and where to spend their advertising budgets;
- providing direct, creative and strategic communication with the target audience, e.g. direct mail and direct response radio advertising;
- interacting with the media;
- writing and editing;
- planning, research and evaluation;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**24311 Executive account, advertising**

**2432 PUBLIC RELATIONS PROFESSIONALS**

Public relations professionals improve, advice or apply operational methods to build, maintain and manage the communications between an organization and its publics.

**Tasks include:**

- researching and analyzing followed by continuous evaluation of an organization or campaign strategy by: conducting focus groups and coordinating surveys;
- initiating and planning PR campaigns: defining goals; analyzing problems and opportunities;

- writing and editing press releases, in-house newsletters, speeches, articles and annual reports;
- maintaining and updating information on an organizations website;
- preparing and supervising the production of publicity brochures, handouts, direct mail leaflets, promotional videos, photographs, films and multimedia programmes;
- answering enquiries from individuals, journalists and other organizations;
- speaking in public at presentations, press conferences, radio and TV interviews, and meetings;
- developing and maintaining good working relations with the media, including local and national newspapers, magazines, radio and television;
- organizing special events, such as press conferences, exhibitions, open days, tours, competitions and sponsorship;
- fostering community relations through events such as open days and through involvement in community initiatives;
- planning, research and evaluation;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**24321 Officer, industrial relations**

**24322 Publicity agent**

**24323 Executive, corporate communication**

**24324 Officer, industrial relations S41**

**2433 TECHNICAL AND MEDICAL SALES PROFESSIONALS (EXCLUDING ICT)**

Technical and medical sales professionals (excluding ICT) improve, advice or apply operational methods specialized in selling medical and healthcare product including installations, equipment and technical products and related services, and provide specialized information as required.

**Tasks include:**

- arranging appointments with doctors, pharmacists and hospital medical teams, which may include pre-arranged appointments or regular 'cold' calling;
- making presentations to doctors, practice staff and nurses in GP surgeries, hospital doctors, and pharmacists in the retail sector;
- organizing conferences for doctors and other medical staff;
- building and maintaining positive working relationships with medical staff and supporting administration staff e.g. receptionists;
- managing budgets (for catering, outside speakers, conferences, hospitality, etc);
- keeping detailed records of all contacts, which may involve database management;
- regularly attending company meetings, technical data presentations and briefings;
- keeping up with the latest clinical data supplied by the company and interpreting, presenting and discussing this data with health professionals during presentations;
- monitoring competitor activity and competitors' products;
- keeping informed of new developments in The National Health Service (NHS), anticipating potential negative and positive impacts on the business and adapting strategy accordingly;
- developing strategies for increasing opportunities to meet and talk to contacts in the medical and healthcare sector;
- staying informed about the activities of health services in a particular area;
- working with team managers to plan how to approach contacts and creating effective business plans for making sales in a particular area;
- planning, research and evaluation;
- performing related tasks;

- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**24331 Medical sales representatives**

**24332 Adviser, technical**

**2434 INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT) SALES PROFESSIONALS**

Information and communications technology (ICT) sales professionals sell, at the wholesale level, a range of computer hardware, software and other information and communications technology goods and services including installations and provide specialized information as required.

**Tasks include:**

- soliciting orders and selling goods to retail, industrial, wholesale and other establishments;
- selling technical equipment, supplies and related services to business establishments or individuals;
- discussing the needs of new and existing customers and providing specialized information about how particular equipment, supplies and services meet those needs;
- quoting and negotiating prices and credit terms, and completing contracts and recording orders;
- updating customer records and preparing sales reports;
- arranging delivery of goods, installation of equipment and the provision of services;
- reporting customers' reactions and requirements to manufacturers;

**Examples of the occupations classified here:**

**24341 Information and communications technology (ICT) sales professionals**

**2435 SALES AND MARKETING PROFESSIONALS**

Sales and marketing professional improve, advice or apply operational methods specialized in selling international various goods including planning, promotion, media relations, product development, direct marketing, sponsorship and market research.

**Tasks include:**

- developing and devising creative ideas for an advertising campaign for a brand or business;
- advising clients on how, when and where to spend their advertising budgets;
- working on behalf of clients, providing direct, creative and strategic communication with the target audience, e.g. direct mail and direct response radio advertising;
- compiling lists of prospective customers using trade directories and other sources;
- acquiring and updating knowledge of employers and competitors products and understand market conditions;
- selling technical equipment, supplies and related services to business establishments or individuals;
- quoting and negotiating prices, credit terms, completing contracts and recording orders;
- arranging for delivery of goods, installation of equipment and provision of services;
- following up customers to ensure satisfaction with products purchased and resolving any problems arising;

- reporting to sales management on sales made and the marketability of products;
- reporting customers reactions and requirements to manufacturers;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**24351 Sales and marketing professionals**

**244 REGULATORY GOVERNMENT PROFESSIONALS**

Regulatory government professionals conduct, prevent and investigate operation of customs, tax, social benefit, licenses and civil by enforcing their policies and regulation.

**2441 CUSTOMS, BORDER AND IMMIGRATION INSPECTOR PROFESSIONALS**

Customs, border and immigration inspector professionals supervise, enforce and coordinate investigation and inspection of persons, common carriers, goods and merchandise arriving in or departing or moving between states to detect violations of immigration and customs law and regulations.

**Tasks include:**

- detaining persons found to be in violation of customs or immigration laws and arrange for legal action such as deportation;
- checking, approving and producing travel pass and document;
- locating and seizing contraband or undeclared merchandise and vehicles, aircraft, or boats;
- interpreting and explaining laws and regulations to travelers, prospective shippers and manufacturers;
- inspecting cargo, baggage and personal articles entering or leaving states;
- investigate applications for duty refunds and petition for remission or mitigation of penalties when warranted.

**Examples of the occupations classified here:**

**24411 Superintendent, customs W41**

**24412 Superintendent, immigration KP41**

**2442 TAXATION AND EXCISE OFFICIALS PROFESSIONALS**

Taxation and excise officials professionals supervise, and investigate operation of tax and excise by enforcing their procedures and regulations.

**Tasks include:**

- strengthening frontier protection;
- investigate the accuracy of tax returns and accounts submitted to HM Revenue & Customs (HMRC);
- applying tax legislation to companies, partnerships, organizations and individuals;
- examining accounts and researching background material;
- investigating fraud;

- giving expert advice on taxation matters to companies, partnerships, organizations and individuals;
- negotiating tax settlements with taxpayers and/or accountants;
- representing HMRC at independent appeal tribunals in disputed cases;
- looking into the finances of a business to find out exactly how it operates;
- examining the records kept and taking into account the lifestyle of the proprietor or directors;
- visiting business premises and meeting people face to face during the investigation;
- reviewing in detail aspects of the business accounts to ensure that tax law has been applied correctly;
- presenting a case in correspondence, and in person, with the taxpayer or their professional advisers, accountants or lawyers;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

#### **2443 GOVERNMENT SOCIAL BENEFITS OFFICIALS PROFESSIONALS**

Government social benefits officials professionals supervise and investigate operation of social benefit by enforcing their procedures and regulations.

##### **Tasks include:**

- interpreting and explaining related procedures regulation and laws to social organization;
- providing social security protection by social insurance for individual, family and society for their human right and their safety;
- enforcing the procedures regulations and laws;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

#### **2444 GOVERNMENT LICENSING OFFICIALS PROFESSIONALS**

Government licensing officials professionals supervise and investigate operation of licenses by enforcing their procedures and regulations.

##### **Tasks include:**

- interpreting and explaining related procedures regulation and laws;
- investigating fraud;
- enforcing the procedures regulations and laws;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

#### **2445 POLICE INSPECTORS AND DETECTIVES PROFESSIONALS**

Police inspectors and detectives professionals conduct, supervise and coordinate investigations to prevent crimes or solve criminal cases.

##### **Tasks include:**

- securing deceased body and obtain evidence from it, preventing bystanders from tampering with it prior to medical examiners arrival;

- analyzing completed police report to determine what additional information and investigative work is needed;
- obtaining facts or statements from complaints, witnesses and accused persons and record interviews, using recording device;
- obtaining summary of incident from officer in charge at crime scene, taking care to avoid disturbing evidence;
- examining record and governmental agency files to find identifying data about suspects;
- preparing and serve search and arrest warrants;
- summon medical help for injured individuals and alert medical personnel to take statements from them;
- providing information to lab personnel concerning the sources of an item of evidence and test to be performed;
- monitoring conditions of victims who are unconscious so that arrangements can be made to take statements if consciousness is regained;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**24451 Superintendent, police**

**24452 Senior officer, police (inspector) YY11**

**2446 CIVIL OFFICIALS PROFESSIONALS**

Civil officials professionals supervise and investigate cases of civil by enforcing their procedures and regulations.

**Tasks include:**

- interpreting and explaining related procedures regulation and laws;
- investigating fraud;
- enforcing the procedures regulations and laws;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**24461 Officer, Kesatria S41**

**24462 Officer, civil defence**

**24463 Officer, civil defence KP41**

**2449 REGULATORY GOVERNMENT PROFESSIONALS NOT ELSEWHERE CLASSIFIED**

This unit group covers other regulatory government professionals engaged in regulation activities outside the scope of those classified in unit group 2441 – 2446, including fire rescue, prison, security and maritime enforcement.

**Tasks include:**

- interpreting and explaining related procedures regulation and laws;
- investigating fraud;
- enforcing the procedures regulations and laws;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

Examples of the occupations classified here:

- 24491 Superintendent, fireman KB41**
- 24492 Officer, security KP41**
- 24493 Superintendent, prison KX41**
- 24494 Officer, enforcement N41**
- 24495 Inspector, patent Q41**
- 24496 Superintendent officer, maritime X13**
- 24497 Officer, registration KP41**

## **25 INFORMATION AND COMMUNICATIONS TECHNOLOGY PROFESSIONALS**

Information and communications technology professionals conduct research, plan, design, write, test, provide advice and improve information technology systems, hardware, software and related concepts for specific applications; develop associated documentation including principles, policies and procedures; and design, develop, control, maintain and support databases and other information systems to ensure optimal performance and data integrity and security.

This sub-major group consists of the following minor groups:

- 251 SOFTWARE AND APPLICATIONS DEVELOPERS AND ANALYSTS**
- 252 DATABASE AND NETWORK PROFESSIONALS**

### **251 SOFTWARE AND APPLICATIONS DEVELOPERS AND ANALYSTS**

Software and applications developers and analysts conduct research, plan, design, write, test, advice on and improve information technology systems, such as hardware, software and other applications to meet specific requirements.

#### **2511 SYSTEMS ANALYSTS**

Systems analysts conduct research, analyze and evaluate client information technology requirements, procedures or problems, and develop and implement proposals, recommendations, and plans to improve current or future information systems.

**Tasks include:**

- consulting with users to formulate and document requirements and with management to ensure agreement on systems principles;
- identifying and analysing business processes, procedures and work practices;
- identifying and evaluating inefficiencies and recommending optimal business practices, and system functionality and behavior;
- taking responsibility for deploying functional solutions, such as creating, adopting and implementing system test plans;
- developing functional specifications for use by systems developers;
- expanding or modifying systems to improve work flow or serve new purposes;
- coordinating and linking the computer systems within an organization to increase compatibility;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**25111 Analyst, systems/computer**

**25112 Analyst, business (information technology)**

**2512 SOFTWARE DEVELOPERS**

Software developers research, analyze and evaluate requirements for existing or new software applications and operating systems, and design, develop, test and maintain software solutions to meet the requirements.

**Tasks include:**

- researching, analyzing and evaluating requirements for software applications and operating systems;
- researching, designing, and developing computer software systems;
- consulting with engineering staff to evaluate interface between hardware and software;
- developing and directing software testing and validation procedures;
- modifying existing software to correct errors, to adapt it to new hardware or to upgrade interfaces and improve performance;
- directing software programming and development of documentation;
- assessing, developing, upgrading and documenting maintenance procedures for operating systems, communications environments and applications software;
- consulting with customers concerning maintenance of software system;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**25121 Multi-media software developer**

**25122 Analyst, programmer**

**25123 Designer, software**

**2513 WEB AND MULTIMEDIA DEVELOPERS**

Web and multimedia developers professionals combine design and technical knowledge to research, analyze, evaluate, design, programme and modify websites, and applications that draw together text, graphics, animations, imaging, audio and video displays, and other interactive media.

**Tasks include:**

- analysing, designing and developing Internet sites applying a mixture of artistry and creativity with software programming and scripting languages and interfacing with operating environments;
- designing and developing digital animations, imaging, presentations, games, audio and video clips, and Internet applications using multimedia software, tools and utilities, interactive graphics and programming languages;
- communicating with network specialists regarding web-related issues, such as security and hosting web sites, to control and enforce Internet and web server security, space allocation, user access, business continuity, web site backup and disaster recovery planning;
- designing, developing and integrating computer code with other specialized inputs,

such as image files, audio files and scripting languages, to produce, maintain and support web sites;

- assisting in analysing, specifying and developing Internet strategies, web-based methodologies and development plans;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**25131 Developer, web site/Internet/Intranet**

**25132 Architect, website**

**25133 Programmer, animation/computer games/multimedia**

#### **2514 APPLICATIONS PROGRAMMERS**

Applications programmers write and maintain programmable code outlined in technical instructions and specifications for software applications and operating systems.

**Tasks include:**

- writing and maintaining program code outlined in instructions and specifications in accordance with quality accredited standards;
- revising, repairing or expanding existing programs to increase operating efficiency or adapt to new requirements;
- conducting trial runs of programs and software applications to confirm that they will produce the desired information;
- compiling and writing documentation of program development;
- identifying and communicating technical problems, processes and solutions;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**25141 Programmer, computer**

**25142 Programmer, communication**

**25143 Programmer, data-base**

**25144 Programmer, systems**

**25145 Programmer, analyst**

**25146 Programmer, multimedia**

**25147 Researcher, information technology**

#### **2519 SOFTWARE AND APPLICATIONS DEVELOPERS AND ANALYSTS NOT ELSEWHERE CLASSIFIED**

This unit group covers professionals not classified elsewhere in minor group 251, Software and Applications Developers and Analysts. For instance, here should be classified those professionals specializing in quality assurance including software testing.

**Tasks include:**

- developing and documenting software testing plans;

- installing software and hardware and configuring operating system software in preparation for testing;
- verifying that programmes function according to user requirements and established guidelines;
- executing, analyzing and documenting results of software application tests and information and telecommunication systems tests;
- developing and implementing software and information system testing policies, procedures and scripts;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**25191 Analyst, quality assurance**

**25192 Tester, software**

**25193 Tester, systems**

**252 DATABASE AND NETWORK PROFESSIONALS**

Database and network professionals design, develop, control, maintain and support the optimal performance and security of information technology systems and infrastructure, including database, hardware and software, networks and operating systems.

**2521 DATABASE DESIGNERS AND ADMINISTRATORS**

Database designers and administrators design, develop, control, maintain and support the optimal performance and security of databases.

**Tasks include:**

- designing and developing database architecture, data structures, tables, dictionaries and naming conventions for information systems projects;
- designing, constructing, modifying, integrating, implementing and testing database management systems;
- conducting research and providing advice on the selection, application and implementation of database management tools;
- developing and implementing data administration policy, documentation, standards and models;
- developing policies and procedures for database access and usage and for the backup and recovery of data;
- performing the operational establishment and preventive maintenance of backups, recovery procedures, and enforcing security and integrity controls;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**25211 Designer, database**

**25212 Auditor computer**

**25213 Administrator, electronic data processing (PDE)**

**2522 SYSTEMS ADMINISTRATORS**

Systems administrators develop, control, maintain and support the optimal performance and

security of information technology systems.

**Tasks include:**

- maintaining and administering computer networks and related computing environments including computer hardware, systems software, applications software and all configurations;
- analysing, developing, interpreting and evaluating complex system design and architecture specifications, data models and diagrams in the development, configuration and integration of computer systems;
- recommending changes to improve systems and network configurations, and determining hardware or software requirements related to such changes;
- diagnosing hardware and software problems;
- performing data backups and disaster recovery operations;
- operating master consoles to monitor the performance of computer systems and networks, and to coordinate computer network access and use;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**25221 Administrator, systems**

**25222 Officer, information technology F41**

**2523 COMPUTER NETWORK PROFESSIONALS**

Computer network professionals research, analyse and recommend strategies for network architecture and development, implement, manage, maintain and configure network hardware and software, and monitor, troubleshoot and optimize performance.

**Tasks include:**

- researching, analysing, evaluating and monitoring network infrastructure to ensure networks are configured to operate at optimal performance;
- assessing and recommending improvements to network operations and integrated hardware, software, communications and operating systems;
- providing specialist skills in supporting and troubleshooting network problems and emergencies;
- installing, configuring, testing, maintaining and administering new and upgraded networks, software database applications, servers and workstations;
- preparing and maintaining procedures and documentation for network inventory, and recording diagnosis and resolution of network faults, enhancements and modifications to networks, and maintenance instructions;
- monitoring network traffic, and activity, capacity and usage to ensure continued integrity and optimal network performance;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**2529 DATABASE AND NETWORK PROFESSIONALS NOT ELSEWHERE CLASSIFIED**

This unit group covers database and networking professionals not elsewhere classified in Minor Group 252: Database and Network Professionals.

**Tasks include:**

- developing plans to safeguard computer files against accidental or unauthorized modification, destruction, or disclosure and to meet emergency data processing needs;
- training users and promoting security awareness to ensure system security and to improve server and network efficiency;
- conferring with users to discuss issues such as computer data access needs, security violations, and programming changes;
- monitoring current reports of computer viruses to determine when to update virus protection systems;
- modifying computer security files to incorporate new software, correct errors, or change individual access status;
- monitoring use of data files and regulate access to safeguard information in computer files;
- performing risk assessments and executing tests of data processing system to ensure functioning of data processing activities and security measures;
- encrypting data transmissions and erecting firewalls to conceal confidential information as it is being transmitted and to keep out tainted digital transfers;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**25291 Security specialist, ICT**

## **26 LEGAL, SOCIAL AND CULTURAL PROFESSIONALS**

Legal, social and cultural professionals conduct research, improve or develop concepts, theories and operational methods, or apply scientific knowledge relating to fields such as laws and regulations, librarian, social and religious, journalists and artist.

**This sub-major group consists of the following minor group:**

- 261 LEGAL PROFESSIONALS**
- 262 LIBRARIANS, ARCHIVISTS AND CURATORS**
- 263 SOCIAL AND RELIGIOUS PROFESSIONALS**
- 264 AUTHORS, JOURNALISTS AND LINGUISTS**
- 265 CREATIVE AND PERFORMING ARTISTS**

### **261 LEGAL PROFESSIONALS**

Legal professionals conduct research on legal problems, draft laws and regulations, advise clients on legal aspects of problems, and plead cases or conduct prosecutions in courts of justice, or preside over judicial proceedings and pronounce judgement in courts of justice.

#### **2611 LAWYERS**

Lawyers give clients legal advice on a wide variety of subjects and plead cases or conduct prosecutions in courts of justice, or instruct barristers or advocates to plead in higher courts of justice.

**Tasks include:**

- conducting research on legal theories and principles and their relationship to specific laws or court judgments;
- drafting legislation and preparing government regulations based on existing laws;

- giving clients (including the government) legal advice on a wide variety of subjects and undertaking legal business on clients' behalf;
- assisting clients to negotiate settlements in matters which involve legal disputes;
- examining the circumstances of disputes or reported crimes to ascertain facts and their legal implications;
- preparing pleadings or cases for plaintiff or defendant and conducting them in court;
- representing clients in the lower court or instructing barristers or advocates to plead in higher courts of justice;
- accepting briefs and pleading in the higher court;
- acting as prosecutor on behalf of the government in criminal cases;
- drawing up legal documents, wills, affidavits, contracts and administering oaths;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 26111 Lawyer**
- 26112 Prosecutor L41**
- 26113 Solicitor L41**
- 26114 Adviser, legal L41**
- 26115 Legal drafter L41**
- 26116 Legal officer, legal aid bureau L41**
- 26117 Advocate L41**

**2612 JUDGES**

Judges, presidents, magistrates and related judicial officers hear and judge cases in courts of justice or pronounce judgment.

**Tasks include:**

- hearing and weighing arguments and evidence;
- establishing rules of procedure on questions for which no standard procedures already exist;
- determining the rights and obligations of the parties involved;
- pronouncing judgment;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 26121 Judge, federal court**
- 26122 Officer, Syariah LS41**
- 26123 Magistrate**
- 26124 President/Chairman industrial court**
- 26125 Magistrate L41**
- 26126 Officer, Islamic affair S41**

## **2619 LEGAL PROFESSIONALS NOT ELSEWHERE CLASSIFIED**

This unit group covers legal professionals not classified elsewhere in Minor Group 261: Legal Professionals such as those who perform legal functions other than pleading or prosecuting cases or presiding over judicial proceedings.

### **Tasks include:**

- drawing up legal documents and affirming and administering oaths and statutory declarations;
- implementing legal policy and regulation;
- performing administration work in courts of law;
- administering the estates of deceased persons or other trusts;
- taking charge and administering estates of insolvents (bankrupts) or properties and assets of companies;
- determining, by inquest, the causes of any death not obviously due to natural causes;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

### **Examples of the occupations classified here:**

**26191 Commissioner for oaths**

**26192 Registrar of court**

**26193 Public trustee**

**26194 Officer, anti-drug S41**

**26195 Officials assignee (high court)**

**26196 Officer, bankruptcy**

**26197 Coroner**

**26198 Drafter, parliamentary**

## **262 LIBRARIANS, ARCHIVISTS AND CURATORS**

Librarians, archivists and curators develop and maintain the collection of libraries, archives, museums, art galleries and similar establishments.

## **2621 ARCHIVISTS AND CURATORS**

Archivists and curators organize, develop and maintain archives, museums and art galleries.

### **Tasks include:**

- researching into, appraising, developing, organizing and preserving historically significant and valuable documents;
- directing or carrying out the preparation of indexes, bibliographies, microfilm copies and other reference aids to the collected materials and making them available to users;
- researching into the origin, distribution and use of materials and objects of cultural and historical interest;
- organizing, developing and maintaining collections of artistic, cultural, scientific or historically significant items in museums or art galleries;
- cataloguing of museum and art gallery collections and organizing exhibitions;
- maintaining records;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 26211** *Archivist*
- 26212** *Curator, museum*
- 26213** *Curator, art gallery*
- 26214** *Officer, archivist S41*
- 26215** *Curator S41*

**2622 LIBRARIANS AND RELATED INFORMATION PROFESSIONALS**

Librarians and related information professionals organize, develop and maintain systematic collection of books and other recorded materials and motion picture films and make them available to library users.

**Tasks include:**

- classifying or supervising classification, indexing, cataloguing, circulation of library material and maintaining records;
- selecting and recommending acquisitions of books and other printed or audio-visually recorded materials;
- assisting inquirers and retrieving information from manual files or computerized data bases;
- supervising the maintenance of books and other materials;
- managing interlibrary loan systems and information networks;
- maintaining liaison with other libraries and library associations;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 26221** *Librarian*
- 26222** *Librarian, children's*
- 26223** *Librarian, film*
- 26224** *Bibliographer*
- 26225** *Cataloguer*
- 26226** *Information scientist, business services*
- 26227** *Librarian S41*

**263 SOCIAL AND RELIGIOUS PROFESSIONALS**

Social and religious professionals conduct research, improve or develop concepts, theories and operational methods, or apply knowledge relating to philosophy, politics, economics, sociology, anthropology, history, philology, languages, psychology, religious faith and other social sciences, or they provide social services to meet the needs of individuals and families in a community.

**2631 ECONOMISTS**

Economists conduct research to improve or develop economic concepts, theories and operational methods used to understand and describe the behavior of national and international markets for goods, services and labors, and advise on or apply the knowledge to draw up economic policies and to formulate solutions to present or projected economic problems.

**Tasks include:**

- studying, advising on, or dealing with various economic aspects such as production and marketing methods, national and international trade trends, monetary, fiscal and pricing policies, employment, income, productivity and consumption;
- compiling, analyzing and interpreting economic and statistical data;
- preparing reports of research findings;
- advising on economic policy and course of action to be followed in the light of analyzes of past, present and projected economic factors;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**26311 *Econometrician***

**26312 *Officer, economy affairs E41***

**2632 SOCIOLOGISTS, ANTHROPOLOGISTS AND RELATED PROFESSIONALS**

Sociologists, anthropologists and related professionals investigate and describe the social structure of societies, the origin and evolution of humanity, and the interdependence between environmental conditions and human activities.

**Tasks include:**

- conducting research on the origin, development, structure, social patterns, organizations and inter-relationships of human society;
- tracing the origin and evolution of humanity through the study of changing characteristics and cultural and social institutions;
- tracing the development of humanity through the material remains of its past such as dwellings, temples, tools, pottery, coins, weapons or sculpture;
- studying physical and climatic aspects of areas and regions and correlating these findings with the economic, social and cultural activities;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**26321 *Social ecologist***

**26322 *Anthropologist***

**26323 *Archaeologist***

**26324 *Geographer***

**26325 *Criminologist***

**26326 *Ethnologist***

**26327 *Officer, social research N41***

**2633 PHILOSOPHERS, HISTORIANS AND POLITICAL SCIENTISTS**

Philosophers, historians and political scientists conduct research and describe past events and activities, including the development of social and economic structures, or cultural and political institutions and movements.

**Tasks include:**

- researching mostly by reasoning, into the general causes, principles and meaning of the world, human actions, experience and existence, and interpreting and developing philosophical concepts and theories;
- consulting and comparing primary sources such as original contemporary records of past, events, and secondary sources such as archaeological or anthropological findings;
- extracting relevant material, checking its authenticity, and researching into and describing the history of a particular period, country or region, or a particular facet (for example economic, social or political) of its history;
- conducting research in such fields as political philosophy, or past and present theory and practice of political systems, institutions or behavior;
- observing contemporary political institutions and collecting data on them from various sources, including interviews with government and political party officials and other relevant persons;
- presenting findings and conclusions for publication or use by government, political parties or other organizations and interested persons;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**26331** *Philosopher*

**26332** *Historian*

**26333** *Political scientist*

**2634 PSYCHOLOGISTS**

Psychologists research into and study mental processes and behavior of human beings and apply this knowledge to promote personal, social, educational or occupational adjustment and development.

**Tasks include:**

- planning and carrying out tests to measure mental, physical and other characteristics such as intelligence, abilities, attitudes, potentialities, etc., interpreting and evaluating results and providing advice;
- analyzing the effect of heredity, social, occupational and other factors on individual thought and behavior;
- conducting counseling or therapeutic interviews and providing follow-up services;
- maintaining required contacts such as those with family members, educational authorities or employers, and recommending possible solutions to and treatment of problems;
- studying psychological factors in the diagnosis, treatment and prevention of mental illnesses and emotional or personality disorders, and conferring with related professionals;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**26341** *Psychologists*

**26342** *Psychologists S41*

## 2635 SOCIAL WORK AND COUNSELING PROFESSIONALS

Social work and counseling professionals provide guidance to clients in social and related matters to enable them to find and use resources to overcome difficulties and achieve required goals.

### Tasks include:

- helping individuals and families with personal and social problems;
- collecting information relevant to clients needs and advising them on their rights and obligations;
- analyzing the clients situation and presenting alternative approaches to resolving problems;
- preparing and compiling case records or reports for courts and other legal proceedings;
- planning, evaluating, improving and developing welfare services;
- providing guidance to potential delinquents and rehabilitation delinquents by organizing and supervising social, educational and recreational activities in youth clubs, community centre and similar organizations;
- helping physically or mentally handicapped persons to obtain adequate treatment and improve their ability to function in society;
- planning, organizing or providing home-help services;
- monitoring the progress of clients by maintaining contact;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

### Examples of the occupations classified here:

- 26351 Social worker, professional**
- 26352 Officer, cultural B41**
- 26353 Officer, social development S41**
- 26354 Officer, youth and sport S41**

## 2636 RELIGIOUS PROFESSIONALS

Religious professionals function as perpetrators of the sacred traditions, practices and beliefs and celebrate or administer at the rituals of initiation, preside over ritual re-enactments of creative, redemptive or salvatory events, and offer sacrifices to Gods or to one God.

### Tasks include:

- perpetuating sacred traditions, practices and beliefs;
- conducting religious services, rites and ceremonies;
- undertaking various administrative and social duties, including attending committees and meetings of religious organizations;
- providing spiritual and moral guidance in accordance with the religion professed;
- propagating religious doctrines;
- preparing and delivering religious sermons and preaching;
- conducting classes of religious instruction and supervising prayer and discussion groups, retreats and seminars;
- keeping records as required by the local law;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

### Examples of the occupations classified here:

- 26361 Officer, religious**

- 26362 Mufti**
- 26363 Imam**
- 26364 Kadhi**
- 26365 Priest, church**
- 26366 Priest, temple**

## **264 AUTHORS, JOURNALISTS AND LINGUISTS**

Authors, journalists and linguists conceive and create or perform literary works, edit news, stories and commentaries or other works of art.

### **2641 AUTHORS AND RELATED WRITERS**

Authors and related writers write literary works for publication or dramatic presentation and of artistic production and, appraise merits of literary and other works of art.

#### **Tasks include:**

- writing literary works for publication or dramatic presentation;
- writing scripts and continuities and preparing programmes for stage, film, radio and television productions;
- appraising and writing about merits of literary, musical and other works of art, and about artistic performances;
- interviewing politicians and other public figures at press conferences and on other occasions, including individual interviews recorded for radio or television;
- writing editorials and selecting, revising, arranging and editing submitted articles for publication broadcasting;
- appraising manuscripts submitted for publication in book form, making recommendations thereon and editing or supervising editing of the material;
- writing advertising copy promoting particular products or services;
- selecting, assembling and preparing publicity materials about business or other organizations for issue through press, radio, television and other media;
- designing and writing brochures, handbooks and similar technical publications;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

#### **Examples of the occupations classified here:**

- 26411 Author**
- 26412 Critic**
- 26413 Copywriter, advertising**
- 26414 Lyricist**
- 26415 Editor**
- 26416 Proofreader**

### **2642 JOURNALISTS**

Journalists write literary works for publication or dramatic presentation and of artistic production and, appraise merits of literary and other works of art or write and edit news, stories and commentaries.

**Tasks include:**

- writing literary works for publication or dramatic presentation;
- writing scripts and continuities and preparing programmes for stage, film, radio and television productions;
- appraising and writing about merits of literary, musical and other works of art, and about artistic performances;
- collecting, reporting and commenting on news and current affairs for publication in newspapers and periodicals or for broadcasting by radio or television;
- interviewing politicians and other public figures at press conferences and on other occasions, including individual interviews recorded for radio or television;
- writing editorials and selecting, revising, arranging and editing submitted articles for publication broadcasting;
- appraising manuscripts submitted for publication in book form, making recommendations thereon and editing or supervising editing of the material;
- writing advertising copy promoting particular products or services;
- selecting, assembling and preparing publicity materials about business or other organizations for issue through press, radio, television and other media;
- designing and writing brochures, handbooks and similar technical publications;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 26421** *Columnist*
- 26422** *Political editor*
- 26423** *Journalist S41*

**2643 TRANSLATORS, INTERPRETERS AND OTHER LINGUISTS**

Translators, interpreters and other linguists study the origin, development and structure of languages and translate or interpret from one language into another.

**Tasks include:**

- studying the relationships between ancient parent languages and modern language groups, tracing the origin and evolution of words, grammar and language forms and presenting findings;
- advising on or preparing language classification systems, grammars, dictionaries and similar interests;
- translating from one language into another and ensuring that the correct meaning of the original is retained, that legal, technical or scientific works are correctly rendered and that the phraseology and terminology of the spirit and style of literary works are conveyed as far as possible;
- interpreting from one language into another, in particular at conferences, meetings and similar occasions, and ensuring that the correct meaning, and as far as possible the spirit, of the original are transmitted;
- may specialize in one or more languages and subject areas;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 26431** *Translator*
- 26432** *Interpreter*
- 26433** *Philologist*

- 26434 Officer, language planner S41**
- 26435 Interpreter L17**
- 26436 Simultaneous linguist N41**
- 26437 Assistant officer, language planner S27**

## **265 CREATIVE AND PERFORMING ARTISTS**

Creative and performing artists conduct research, improve or develop concepts, theories and operational methods, or apply knowledge relating to visual artists, musicians, singers and composers, dancers and choreographers, film, stage and related directors and producers, actors, announcers on radio, television and other media, clowns, magicians, acrobats and related professionals, animal/bird keepers and trainers.

### **2651 VISUAL ARTISTS**

Visual artists create and execute artistic works by sculpting, painting, drawing, creating cartoons, engraving or using related techniques.

#### **Tasks include:**

- planning, developing and providing services in the form of teaching, talks, seminars, courses, meetings, demonstrations, and other activities;
- remaining conversant with new developments in visual arts' education, practice and process ensuring that Visual Artists maintains standards of quality and performance, achieves targets and implements the identified Education Policy;
- creating representational or abstract three-dimensional or relief forms by shaping and combining materials such as wood, wax, stone, clay or metal;
- creating representational or abstract drawings and paintings using pencils, ink, oil paints, water colours or through the application of other techniques;
- creating draws and engraving or etching them on metal, wood or other materials;
- creating cartoons to depict persons and events, often in caricature;
- creating and executing designs and illustrations for books, magazines, advertising and similar purposes;
- restoring damaged, soiled and faded paintings and other art objects;
- painting miniatures;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

#### **Examples of the occupations classified here:**

- 26511 Sculptor**
- 26512 Cartoonist**
- 26513 Animator**
- 26514 Engraver-etcher, artistic**
- 26515 Artist**
- 26516 Artist, tattoo**

### **2652 MUSICIANS, SINGERS AND COMPOSERS**

Musicians, singers, and composers compose and adapt musical works and conduct or participate in performances.

**Tasks include:**

- auditioning and selecting musicians and singers and selecting music for performance;
- conceiving and writing musical compositions;
- adapting or arranging music for instrumental groups, instruments or occasions;
- conducting instrumental or vocal groups;
- playing one or more musical instruments as a soloist or as a member of an orchestra;
- singing as soloists or members of vocal groups;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 26521 Instrumentalist**
- 26522 Arranger, music**
- 26523 Conductor, band**
- 26524 Singer/vocalist**
- 26525 Musician B41**

**2653 DANCERS AND CHOREOGRAPHERS**

Dancers and choreographers conceive and create or perform dances to entertain audiences.

**Tasks include:**

- conceiving and creating dances, which often convey a story, theme, idea or mood, by a pattern of steps, movements and gestures;
- arranging and directing dance performances for stage or film production;
- performing dances as a soloist, with a partner or as a member of a dancing group;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 26531 Dancer**
- 26532 Choreographer**
- 26533 Director, dance**
- 26534 Arranger, dance**

**2654 FILM, STAGE AND RELATED DIRECTORS AND PRODUCERS**

Film, stage and related directors and producers direct in motion pictures, television or radio productions and stage shows.

**Tasks include:**

- studying scripts to determine artistic interpretation, instructing actors on acting methods and directing all aspects of dramatic productions on stage, television, radio or in motion pictures;
- including choice of actors, and final decisions concerning costumes, set designs, sound or lighting effects;
- telling stories or reading literary works aloud to educate or entertain listeners;

- viewing processed film or video tape to evaluate and select scenes and determine which scenes need to be re-shot;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 26541 Director, motion picture**
- 26542 Editor, film and video**
- 26543 Producer, television**
- 26544 Officer, publication N41**
- 26545 Officer, film laboratory C41**
- 26546 Producer B41**

**2655 ACTORS**

Actors act in motion pictures, television or radio productions and stage shows.

**Tasks include:**

- studying scripts to determine artistic interpretation;
- learning lines and cues and playing parts in dramatic productions on stage, television, radio or in motion pictures;
- telling stories or reading literary works aloud to educate or entertain listeners;
- viewing processed film or video tape to evaluate and select scenes and determine which scenes need to be re-shot;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

- 26551 Actor**
- 26552 Story teller**
- 26553 Artist, cultural B27**

**2656 ANNOUNCERS ON RADIO, TELEVISION AND OTHER MEDIA**

Announcers on radio, television and other media read news bulletins, conduct interviews, and make other announcements or introductions on radio, television or in theatres and other establishments.

**Tasks include:**

- reading news bulletins, making other announcements and providing commentary for sports and other events on radio or television;
- introducing performing artists or persons being interviewed, and making related announcements on radio and television or in theatres, clubs and other establishments;
- interviewing persons in public, especially on radio and television;
- presenting opinions on sports, politics, social or economic matters;
- researching, investigating and compiling stories and program packages;
- monitoring incoming information and liaising with network editors, journalists, media producers and directors, graphic designers, other program departments and outside news and program sources;

- selecting and organizing materials for broadcast;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**26561** *Announcers, radio and television*

**26562** *Interviewer, media*

**26563** *Presentation support assistant*

**2657 CLOWNS, MAGICIANS, ACROBATS AND RELATED PROFESSIONALS**

Clowns, magicians, acrobats and related associate professionals entertain audiences in circuses and other places by performing a variety of acts.

**Tasks include:**

- performing amusing antics and telling funny stories to amuse audiences;
- performing feats requiring abnormal bodily contortions;
- performing tricks of illusion and sleight of hand, and feats of hypnotism;
- performing difficult and spectacular acrobatics, and gymnastic or juggling feats;
- training and performing with animals;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**26571** *Acrobat*

**26572** *Contortionist*

**26573** *Magician*

**26574** *Clown*

**26575** *Snake charmer*

**2658 ANIMAL KEEPERS AND TRAINERS**

Animal keepers and trainers care for animals, training, and performing with animals in zoological, bird and aquatic parks.

**Tasks include:**

- caring for animals in zoological, bird and aquatic parks;
- training and performing with animals;
- performing related tasks;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**26581** *Performer/trainer in zoological, bird and aquatic parks*

**26582** *Performer/trainer in crocodile farm*

**26583** *Trainer, dog*

**26584** *Trainer, horse*

#### **2659 CREATIVE AND PERFORMING ARTISTS NOT ELSEWHERE CLASSIFIED**

This unit group covers creative and performing artist not elsewhere classified in Minor Group 265: Creative and Performing Artist.

**Examples of the occupations classified here:**

*26591 Creative and performing artists not elsewhere classified*

#### **27 HOSPITALITY, RETAIL AND OTHER SERVICES PROFESSIONALS.**

Hospitality, retail and other services professionals conduct research, improve or develop concepts, theories and operational methods, or apply technical knowledge relating to hotel and restaurant operation.

**This sub-major group consists of the following minor groups:**

#### **271 HOTEL AND RESTAURANT PROFESSIONALS**

#### **271 HOTEL, RESTAURANT, HOSPITALITY AND RELATED PROFESSIONALS**

Hotel, restaurant, hospitality and related professionals conduct research, plan, develop and improve hotel and restaurant management and related concepts, develop principles and operational methods to ensure integrity and security of data.

#### **2711 HOTEL, HOSPITALITY AND RELATED PROFESSIONALS**

Hotel professionals conduct research, plan, develop and improve hotel management and related concepts, develop principles and operational methods to improve hotel quality and integrity.

**Tasks include:**

- planning and improving hotel management operation;
- maximize the profit of margin and minimize the operation cost;
- performing related task;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

*27111 Food and beverage administrator*  
*27112 Food and beverage guest services executive*  
*27113 Food and beverage personnel*  
*27114 Officer, guest service*  
*27115 Executive, hotel operations*  
*27116 Officer, food preparer C41*

#### **2712 RESTAURANT AND RELATED PROFESSIONALS**

Restaurant and related professionals conduct research, plan, develop and improve restaurant management and related concepts, develop principles and operational methods to ensure integrity and security of data.

**Tasks include:**

- planning and improving restaurant management operation;
- maximize the profit of margin and minimize the operation cost;
- performing related task;
- enhancing knowledge and coordinating the work performance.

**Examples of the occupations classified here:**

**27121 Kitchen administrator**