

## Major Group 3:

# TECHNICIANS AND ASSOCIATE PROFESSIONALS

Technicians and associate professionals perform mostly technical and related tasks connected with research and the application of scientific or artistic concepts and operational methods, and government or business regulations, and teach at certain educational levels. Most occupations in this major group require skills at the third skill level.

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

- 31 SCIENCE AND ENGINEERING ASSOCIATE PROFESSIONALS**
- 32 HEALTH ASSOCIATE PROFESSIONALS**
- 33 BUSINESS AND ADMINISTRATIONS ASSOCIATE PROFESSIONALS**
- 34 LEGAL, SOCIAL, CULTURAL AND RELATED ASSOCIATE PROFESSIONALS**
- 35 INFORMATION AND COMMUNICATIONS TECHNICIANS**

### **31 SCIENCE AND ENGINEERING ASSOCIATE PROFESSIONALS**

Science and Engineering associate professionals perform technical tasks connected with research and the application of concepts and operational methods in the field of physical science as well as computing and engineering, or they control and operate technical equipment, fly aircraft, navigate ships, and investigate safety aspects of manufacturing and other processes and products.

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

- 311 PHYSICAL AND ENGINEERING SCIENCE TECHNICIANS**
- 312 MINING, MANUFACTURING AND CONSTRUCTION SUPERVISORS**
- 313 PROCESS CONTROL TECHNICIANS**
- 314 LIFE SCIENCE TECHNICIANS AND RELATED ASSOCIATE PROFESSIONALS**
- 315 SHIP, AIRCRAFT AND TRAIN TECHNICIANS**
- 316 SCIENCE NUCLEAR ASSOCIATE PROFESSIONALS**

### **311 PHYSICAL AND ENGINEERING SCIENCE TECHNICIANS**

Physical and engineering science technicians perform technical tasks related to research and the practical application of concepts, principles and operational methods connected with physical sciences including such areas as engineering, technical drawing or economic efficiency of production processes.

### **3111 CHEMICAL AND PHYSICAL SCIENCE TECHNICIANS**

Chemical and physical science technicians, usually under the direction and supervision of physicists, chemists, meteorologists, geologists and related scientists, perform technical tasks connected with research in chemistry, physics, geology, geophysics, meteorology and astronomy, as well as with the development of industrial, medical, military and other practical applications of research results.

#### **Tasks include:**

- collecting samples and preparing materials and equipment for experiments, tests and analyses;
- making weather observations, recording, coding and sending weather report and maintaining weather equipment;
- assisting with the design of and performing experiments, tests and analyses;
- making observations, calculations/measurements, recording and plotting information and may assist in preparing technical reports and documents for publication;
- compiling and maintaining relevant data;
- preparing estimates of quantities and costs of materials and labour required for specified projects;
- applying technical knowledge in order to identify and solve problems arising in the course of work;
- supervising or maintaining and repairing research equipment;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

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

- 31111 Technician, science physics**
- 31112 Assistant officer, meteorology C27**
- 31113 Sub assistant, meteorology C17**
- 31114 Technician, soil**
- 31115 Technician, meteorological**
- 31116 Laboratory assistant, geological**
- 31117 Conductor, laboratory research estate/plantation**
- 31118 Sub assistant, laboratory C17**

### **3112 CIVIL ENGINEERING TECHNICIANS**

Civil engineering technicians perform technical tasks in civil engineering research, design, construction, operation, maintenance and repair of buildings and other structures, such as water supply and wastewater treatment systems, bridges, roads, dams and airports.

#### **Tasks include:**

- performing or assisting with field and laboratory tests of soils and construction materials;
- providing technical assistance connected with the construction of buildings and other structures, and with surveys or the preparation of survey reports;
- ensuring compliance with design specifications, relevant legislation and regulations, and maintenance of desired standards of materials and work;
- applying technical knowledge of building and civil engineering principles and practices in order to identify and solve problems arising;

- assisting with the preparation of detailed estimates of quantities and costs of materials and labour required for projects, according to the specifications given;
- organizing maintenance and repairs;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

- 31121 Technician, engineering/civil**
- 31122 Sub technical assistant, architecture J29**
- 31123 Sub technical assistant, civil J29**
- 31124 Technician, civil J17**
- 31125 Technician, architecture J17**

### **3113 ELECTRICAL ENGINEERING TECHNICIANS**

Electrical engineering technicians perform technical tasks under the direction and supervision of electrical engineers, contributory to the design, construction, installation, maintenance and repair of electrical systems and equipment.

**Tasks include:**

- assisting in research and development works concerning electrical systems, equipment and facilities and testing prototypes;
- assisting in design and layout of electrical installations and circuitry;
- preparing detailed estimates of quantities and costs of materials and labour required for manufacture and installation;
- assisting with technical supervision of the manufacture, installation, utilisation, maintenance and repair of electrical systems and equipment;
- applying technical knowledge of electrical engineering theory and practice to identify and solve problems arising in the course of their work;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

- 31131 Technician, engineering/electrical**
- 31132 Engineering assistant, electrical (high voltage system)**
- 31133 Technician, engineering/electrical (electric power transmission)**
- 31134 Estimator, engineering/electrical**
- 31135 Sub technical assistant, electrical J29**
- 31136 Technician, electrical J17**

### **3114 ELECTRONICS ENGINEERING TECHNICIANS**

Electronics engineering technicians, normally under the direction and supervision of electronics engineers, perform technical tasks connected with electronic engineering research, as well as with the design, manufacture, assembly, construction, operation, maintenance and repair of electronic equipment and electromechanical systems.

**Tasks include:**

- assisting in research and development works concerning electronic equipment;

- assisting in design and layout of electronic circuitry;
- preparing detailed estimates of quantities and costs of materials and labour required for the manufacture and installation of electronic equipment;
- assisting with technical supervision of the manufacture, utilisation, maintenance and repair of electronic equipment systems to ensure satisfactory performance and compliance with specifications and regulations;
- applying technical knowledge of electronic and telecommunications engineering principles and practices in order to direct, locate and resolve defects or faults;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31141 Technician, engineering/electronics**

**31142 Estimator, engineering/electronics**

**31143 Sub technical assistant, electronics J29**

**31144 Technician, electronics J17**

### **3115 MECHANICAL ENGINEERING TECHNICIANS**

Mechanical engineering technicians perform technical tasks, normally under the direction and supervision of mechanical engineers, contributory to design, development, manufacture, construction, installation, maintenance and repair of mechanically functioning plant and equipment.

**Tasks include:**

- assisting in research and development works concerning machine tools, engines vehicles, aeroplanes, heating and ventilating and refrigerating installations and other mechanically functioning plant and equipment;
- designing and preparing layouts of machines and mechanical installations;
- preparing detailed estimates of quantities and costs of materials and labour required for manufacture and installation;
- assisting with technical supervision of manufacture, utilisation, maintenance and repair of mechanical plant and engines;
- applying technical knowledge of machinery and mechanical engineering principles and practices in order to identify and solve problems arising in the course of their work;
- assisting in the development and monitoring the implementation of safety standards and procedures for marine survey work in relation to ships' hulls, equipment and cargoes;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31151 Technician, engineering/mechanical**

**31152 Sub technical assistant, mechanical J29**

**31153 Technician, mechanical J17**

**31154 Dockmaster, dry dock**

**31155 Engineering assistant, marine**

**31156 Technician, engineering/mechanical (ship construction)**

**31157 Sub technical assistant, aircraft A29**

**31158 Technician, hydraulic hose**

### **3116 CHEMICAL ENGINEERING TECHNICIANS**

Chemical engineering technicians perform technical tasks, normally under the direction and supervision of chemical engineers, contributory to the development of processes, construction, operation, maintenance and repair of chemical plant.

#### **Tasks include:**

- assisting in research to develop new or improved processes and manufacturing plant for the chemical or physical transformation of substances on a commercial scale;
- designing and preparing layouts of chemical plant according to the specifications given;
- preparing detailed estimates of quantities and costs of materials and labour required for manufacture and installation of plant;
- providing technical supervision of the construction, installation, operation, maintenance and repair of chemical plant to ensure satisfactory performance and compliance with specifications and regulations;
- applying technical knowledge of chemical engineering principles and practices in order to identify and solve problems arising in the course of their work;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

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

- 31161 Technician, engineering/chemical**
- 31162 Engineering assistant, chemical (petroleum)**
- 31163 Core analyst (petroleum and natural gas)**
- 31164 Estimator, engineering/chemical**
- 31165 Assistant officer, geochemist C27**

### **3117 MINING AND METALLURGICAL TECHNICIANS**

Mining and metallurgical technicians perform technical tasks, normally under the direction and supervision of mining and metallurgical engineers, contributory to the improvement, development of and control of processes for the extraction of metallic and non-metallic minerals from the earth for further processing.

#### **Tasks include:**

- assisting in research and development works concerning properties of metal and new alloys, or of improved methods for the extraction of solid minerals, oil and natural gas, and for transporting and storing oil and natural gas, or testing prototypes;
- assisting in geological and topographical surveys, and in the design and layout of oil, natural gas and mineral ore extraction and transport systems, and processing and refining plant for minerals and metals;
- preparing estimates of quantities and costs of materials and labour required for mineral, oil and natural gas exploration, extraction and transport projects and plant, and for processing and refining minerals;
- assisting in technical supervision of the construction, installation, operation, maintenance and repair of mineral ore, oil and natural gas exploration, extraction, transport and storage installations and mineral processing plant to ensure satisfactory performance and compliance with specifications and regulations;
- applying knowledge of mining, of oil and natural gas extraction, transport and storage, and of metallurgical principles and practices in order to identify and solve problems arising in the course of their work;
- performing related tasks;

- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31171** *Laboratory assistant, metallurgy*  
**31172** *Metallurgy assistant, physics*  
**31173** *Technician, engineering/mining*  
**31174** *Technician, petroleum and natural gas extraction*  
**31175** *Assistant officer, mining C27*  
**31176** *Sub assistant, mining C17*

### **3118 DRAUGHTSPERSONS**

Draughtspersons prepare technical drawings, maps and illustrations from sketches, measurements and other data, and copy drawings and paintings onto printing plates.

**Tasks include:**

- preparing architects and designers working drawings from sketches and specifications for the manufacture and installation of machinery and equipment or for the construction of buildings, dams, bridges, roads and other civil engineering projects;
- operating computer-assisted drawing equipment to create, modify and generate hard-copy and digital representations of working drawings;
- operating digitizing table or similar equipment to transfer hard copy representation of working drawings, maps and other curves to digital form;
- capturing topographical data in analogue or digital form using stereo instruments to prepare and revise topographical, hydrographic, utility and other thematic maps;
- preparing and revising illustrations for reference works, brochures and technical manuals dealing with the assembly, installation, operation, maintenance and repair of machinery and other equipment;
- copying drawings and paintings onto stone or metal plates for printing;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31181** *Draughtsperson*  
**31182** *Draughtsperson J17*  
**31183** *Technician, landscape J17*  
**31184** *Assistant architect, landscape J29*  
**31185** *Assistant officer, architecture J29*  
**31186** *Assistant officer, land planning G27*  
**31187** *Assistant officer, urban and rural planning J29*  
**31188** *Technician, urban and rural planning J17*

### **3119 PHYSICAL AND ENGINEERING SCIENCE TECHNICIANS NOT ELSEWHERE CLASSIFIED**

This unit group covers physical and engineering science technicians not elsewhere classified in Minor Group 311: Physical and Engineering Science Technicians. For instance here should be classified those who assist engineers with production engineering matters, time and motion studies, or preparation of cost estimates and bills of quantities including mineral and geosciences activity.

**Tasks include:**

- collecting data and providing technical assistance regarding planning and production methods, efficient, safe and economic utilisation of personnel, material and equipment, methods of work and sequence of operations and supervision of their implementation, time and motion aspects of work organization and efficient layout of plant or establishment;
- identifying potential hazards and introducing safety procedures and devices;
- collecting data and providing technical assistance regarding the preparation and monitoring of cost estimates and bills of quantities for construction and architectural projects;
- activating industrial robots, programming or reprogramming them for specific functions, controlling their operation and providing basic maintenance and on-the-job adjustments;
- translating architects working drawings from sketches and specifications for the manufacture and installation of machinery and equipment or for the construction of buildings, dams, bridges, roads and other civil engineering projects, to be worked out by draughtspersons;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31191 Technician, CAD/CAM**

**31192 Assistant surveyor, quantity J29**

**31193 Sub technical assistant quantity, surveyor J29**

**31194 Sub assistant, geology C17**

**31195 Sub technical assistant, surveyor J29**

**31196 Sub technical assistant surveyor, building J29**

**31197 Technician, quantity surveyor J17**

**31198 Technician, surveyor J17**

**312 MINING, MANUFACTURING AND CONSTRUCTION SUPERVISORS**

Mining, manufacturing and construction supervisors engage in mining, manufacturing, and construction activities. Partly they are managing the production on a routine basis, without making strategic decisions; partly they are assisting the operators in case of emergencies and partly undertaking technical work. In this category only those occupations should not be coded as managers, since there is still at least one level between them and management, and that cannot be coded as operators, since at least one more level is between them and the operators.

**3121 MINING SUPERVISORS**

Mining supervisor conduct the production activities of workers engaged in various occupations in mining or quarrying on a routine basis without making strategic decisions. They ensure that directives of the management are carried out and deal with personnel and financial matters.

**Tasks include:**

- attending daily muster to verify attendance records and issues work instructions;
- receiving, recording and dispatching produce;
- inspecting, maintaining and keeping such records as required by management, relevant to his area of responsibility and ensuring that all works are performed according to instructions;
- making requisitions, issuing and recording materials necessary for operations;
- resolving workers' grievances;

- preparing monthly payroll or providing final figures for computing payroll and assisting in payment of advances and wages for workers;
- planning and estimating cost of production and submitting periodic progress reports;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31211 Supervisor, mining**

#### **3122 MANUFACTURING SUPERVISORS**

Manufacturing supervisor conduct the production activities of workers engaged in various occupations such as sawmill, food, maintenance and boiler on a routine basis without making strategic decisions. They ensure that directives of the management are carried out and deal with personnel and financial matters.

**Tasks include:**

- attending daily muster to verify attendance records and issues work instructions;
- receiving, recording and dispatching produce;
- inspecting, maintaining and keeping such records as required by management relevant to his area of responsibility and ensuring that all works are performed according to instruction;
- making requisitions, issuing and recording materials necessary for operations;
- resolving workers' grievances;
- preparing monthly payroll or providing final figures for computing payroll and assisting in payment of advances and wages for workers;
- planning and estimating cost of production and submitting periodic progress reports;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31221 Supervisor, compounding**

**31222 Supervisor, cutter**

**31223 Technician, maintenance**

**31224 Technician, warehouse**

**31225 Supervisor, sawmill**

**31226 Supervisor, chief hookman**

**31227 Supervisor, boiler**

**31228 Technician, quality control**

#### **3123 CONSTRUCTION SUPERVISORS**

Construction supervisors, coordinate, supervise and schedule the activities of workers engaged in the construction and repair of buildings and structures.

**Tasks include:**

- reading specifications to determine construction requirements and planning procedures;
- organizing and coordinating the material and human resources required to complete jobs;



- examining and inspecting work progress;
- examining equipment and construction sites to ensure that health and safety requirements are met;
- supervising construction sites and coordinating work with other construction projects;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31231 Supervisor, operation**

**31232 Supervisor, construction**

### **3129 OTHER SUPERVISORS NOT ELSEWHERE CLASSIFIED**

This unit group covers supervisor not elsewhere classified in Minor Group 312: Mining, Manufacturing and Construction Supervisors. For instance here should be classified those who supervise with general work, logistic, facility and environmental matters.

**Tasks include:**

- attending daily muster to verify attendance records and issues work instructions;
- receiving, recording and dispatching produce;
- inspecting, maintaining and keeping such records as required by management related to his area of responsibility and ensuring that all works are performed according to instructions;
- making requisitions, issuing and recording materials necessary for operations;
- resolving workers' grievances;
- preparing monthly payroll or providing final figures for computing payroll and assisting in payment of advances and wages for workers;
- planning and estimating cost of production and submitting periodic progress reports;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31291 Supervisor, environmental**

**31292 Supervisor, facilities**

**31293 Supervisor, general**

**31294 Supervisor, logistic**

### **313 PROCESS CONTROL TECHNICIANS**

Process control technicians perform task associated with power production, water treatment, chemical processing, food processing and petroleum operations. This position will work closely with Process and Project Engineers and will assist in executing capital projects as well as developing methods and procedures to control or modify the manufacturing process to improve productivity, quality, and safety.

### **3131 POWER PRODUCTION PLANT OPERATORS**

Power production plant operators operate and monitor machinery and equipment which produce electric or other power and control its distribution.

**Tasks include:**

- operating and monitoring coal, oil or natural gas-fired steam-power generating plant;
- operating and monitoring hydroelectric-power generating stations;
- controlling power output and distribution of electricity from power stations;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

- 31311 Load dispatcher, electric power**
- 31312 Operator, electrical switchboard**
- 31313 Operator, hydroelectric station**
- 31314 Operator, power generating plant**
- 31315 Operator, turbine**

**3132 INCINERATOR AND WATER TREATMENT PLANT OPERATORS**

Incinerator and water treatment plant operators monitor various types of plant such as incinerators, water treatment plant, sewage plant, air and gas compressors, pumping stations, and refrigeration or heating and ventilation systems.

**Tasks include:**

- operating and monitoring incinerator machinery and equipment which burn garbage or other waste materials;
- operating and monitoring machinery and equipment which purify and clarify water for human consumption or use and later disposal into natural water systems;
- operating and monitoring machinery and equipment which regulate the treatment and disposal of sewage and wastes;
- operating and monitoring air and gas compressors;
- operating and monitoring pumping stations for transferring liquids, gases, semi-liquids and powdered substances from one location to another;
- operating and monitoring refrigeration systems for cool or cold storage, or industrial processes;
- operating and monitoring heating and ventilation systems;
- operating equipment to make ice-blocks;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

- 31321 Operator, stationary engine**
- 31322 Operator, compressor**
- 31323 Operator, incinerator plant**
- 31324 Operator, pumping station**
- 31325 Operator, heating and ventilation equipment**
- 31326 Operator, refrigeration system**
- 31327 Operator, plant R3**
- 31328 Operator, water treatment plant**

### **3133 CHEMICAL PROCESSING PLANT CONTROLLERS**

Chemical processing plant controllers operate and monitor chemical plants and adjust and maintain, processing units and equipment which distil, filter, separate, heat or refine chemicals.

**Tasks include:**

- operating electronic or computerized control panel from a central control room to monitor and optimize physical and chemical processes for several processing units;
- adjusting equipment, valves, pumps, controls and process equipment;
- controlling the preparation, measuring and feeding of raw materials and processing agents such as catalysts and filtering media into plant;
- controlling process start-up and shut-down, troubleshooting and monitoring outside process equipment;
- verifying equipment for malfunctions, carrying out routine operating tests and arranging for maintenance;
- analyzing sample products, performing tests, recording data and writing production logs;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31331 Supervisor, plant**

### **3134 PETROLEUM AND NATURAL GAS REFINING PLANT OPERATORS**

Petroleum and natural gas refining plant operators operate and monitor plant which refines, distills and treats petroleum, petroleum-based products and by-products, or natural gas.

**Tasks include:**

- operating and monitoring plant which removes sulphur from petroleum and petroleum-based products and byproducts;
- operating and monitoring equipment which processes carbide and water into acetylene gas;
- operating and monitoring equipment to liquefy and compress chlorine gas;
- operating and monitoring equipment to obtain oxygen and nitrogen from air to industrial and therapeutic use;
- operating and monitoring plant in which pressure distillate and non-condensable gases are treated;
- operating filter presses to separate oil of paraffin distillate from paraffin wax;
- operating and monitoring pumps which circulate petroleum products or water and chemical solutions through refinery;
- operating and monitoring control panels in petroleum refinery;
- operating and monitoring distillation apparatus which distil or refine petroleum products;
- operating and monitoring machines which blend petrol with chemicals and other additives;
- operating and monitoring machines which refine or otherwise treat natural gas;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31341 Pumpman (petroleum refining)**

**31342 Stillman (petroleum refining)**

- 31343 Controlman (petroleum refining)**
- 31344 Desulphuriser operator, petroleum refining**
- 31345 Operator, paraffin plant**
- 31346 Blender (petroleum refining)**
- 31347 Operator, treater/petroleum and natural gas refining**
- 31348 Operator, pumping-station/petroleum and other natural gas**

### **3135 METAL PRODUCTION PROCESS CONTROLLERS**

Metal production process controllers conduct and monitor activities of workers engaged in rolling mills to roll metal, or furnaces to melt or reheat metal, or machines to cast metal.

#### **Tasks include:**

- operating and monitoring furnaces to melt ferrous and non-ferrous metals for casting;
- operating and monitoring furnaces to reheat stock metal forms prior to forging, power-pressing, rolling and further processing;
- operating and monitoring rolling mills to shape hot or cold steel into shapes for further processing, or into final shapes;
- operating and monitoring rolling mills to reduce or form hot or cold non-ferrous metal to specified shapes, such as plate, sheet or foil;
- operating and monitoring rolls to form seamless tubes and pipes from billets which have been pierced longitudinally;
- pouring molten metal into moulds and operating and monitoring casting machines;
- operating continuous mills in which hot steel slabs are passed through a series of rolls (stands) to produce finished plates or sheets in one continuous operation;
- operating rolling mills to reduce or form hot or cold non-ferrous metal into plate, sheet, foil, wire or rod of specified dimensions;
- manipulating controls of rolling mills according to signals from rollers;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

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

**31351 Manipulator, rolling-mill, metal**

### **3139 PROCESS CONTROL TECHNICIANS NOT ELSEWHERE CLASSIFIED**

This unit group covers process control technicians outside the scope of Minor Group 313: Process Control Technicians.

#### **Tasks include:**

- attending daily muster to verify attendance records and issues work instructions;
- inspecting, maintaining and keeping such records as required by management, relevant to his area of responsibility and ensuring that all works are performed according to instructions;
- making requisitions, issuing and recording materials necessary for operations;
- planning and estimating cost of production and submitting periodic progress reports;
- performing related task;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31391 Assistant officer, food technology C27**

**31392 Assistant officer, food preparer C27**

**31393 Technician, food processing**

#### **314 LIFE SCIENCE TECHNICIANS AND RELATED ASSOCIATE PROFESSIONALS**

Life science technicians and related associate professionals perform a variety of technical tasks to support life science professionals with their research, development, management, conservation and protection work, in areas such as biology, botany, zoology, biotechnology and biochemistry, and in agriculture, fisheries and forestry.

##### **3141 LIFE SCIENCE TECHNICIANS (EXCLUDING MEDICAL)**

Life science technicians (except medical) provide technical support to life science professionals undertaking research, analysis and testing of living organisms, and development and application of products and processes resulting from research in areas such as agriculture, natural resources management, environmental protection, plant and animal biology, microbiology, and cell and molecular biology.

**Tasks include:**

- assisting in designing, setting up and conducting experiments;
- setting up, calibrating, operating and maintaining laboratory instruments and equipment;
- collecting and preparing specimens and samples, chemical solutions and slides and growing cultures for use in experiments;
- performing routine field and laboratory tests;
- monitoring experiments to ensure adherence to correct laboratory quality control procedures and health and safety guidelines;
- making observations of tests, and analysing, calculating, recording and reporting test results using appropriate scientific methods;
- preserving, classifying and cataloguing specimens and samples;
- keeping detailed logs of work performed;
- using computers to develop models and analyse data;
- using complex and high-powered equipment to perform work;
- participating in the research, development and manufacture of products and processes;
- ordering and stocking laboratory supplies;
- maintaining relevant databases;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31411 Technician, biological**

**31412 Technician, entomological**

**31413 Technician, botanical**

**31414 Technician, artificial breeding**

**31415 Technician, zoological**

**31416 Taxidermist**

**31417 Assistant officer, wild life G27**

### **3142 AGRICULTURAL TECHNICIANS**

Agricultural technicians perform technical tasks related with research in agronomy, as well as with the development of agricultural applications of research results.

**Tasks include:**

- preparing and collecting specimens, materials and equipment for experiments, tests and analyses;
- organizing maintenance and repair of farm machinery and farm equipment;
- responsible for product quality;
- assisting with and performing experiments, tests, analyses and recording observation results and other relevant information using laboratory instruments and equipment;
- analyzing samples of seeds for quality, purity and germination rating;
- collecting data and estimating quantities and costs of materials and labour required for projects;
- organizing maintenance and repair of research equipment;
- applying knowledge of scientific principles and practices in order to identify and solve problems arising in the course of their work;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31421 Technician, agronomy**

**31422 Technician, crop research**

**31423 Technician, soil science**

**31424 Technician, floriculture**

**31425 Conductor, field and factory/oil palm plantation**

**31426 Assistant officer, agricultural G27**

### **3143 FORESTRY TECHNICIANS**

Forestry technicians perform technical tasks related with research in forestry, as well as with the development of forestry applications of research results.

**Tasks include:**

- preparing and collecting specimens, materials and equipment for experiments, tests and analyses;
- assisting with and performing experiments, tests, analyses and recording observation results and other relevant information using laboratory instruments and equipment;
- analyzing samples of seeds for quality, purity and germination rating;
- collecting data and estimating quantities and costs of materials and labour required for projects;
- organizing maintenance and repair of research equipment;
- applying knowledge of scientific principles and practices in order to identify and solve problems arising in the course of their work;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31431 Technician, arboriculture**

**31432 Assistant conservation, forestry G27**

**3144 FISHERY TECHNICIANS**

Fishery technicians perform technical tasks related with research in fisheries, as well as with the development of fishery applications of research results.

**Tasks include:**

- preparing and collecting specimens, materials and equipment for experiments, tests and analyses;
- assisting with and performing experiments, tests, analyses and recording observation results and other relevant information using laboratory instruments and equipment;
- analyzing samples of fish for quality;
- collecting data and estimating quantities and costs of materials and labour required for projects;
- organizing maintenance and repair of research equipment;
- applying knowledge of scientific principles and practices in order to identify and solve problems arising in the course of their work;
- assisting in preparing and loading jobs in addition to cleaning, inspecting, and refurbishing equipment;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31441 Assistant officer, fishery G27**

**31442 Technician, hatchery/prawn**

**315 SHIP, AIRCRAFT AND TRAIN TECHNICIANS**

Ship, aircraft and train technicians supervise land, air and waterborne transport service operation.

**3151 AIR TRAFFIC TECHNICIANS**

Air traffic technicians repair and overhaul aircraft, examining, testing and servicing aircraft engines and other mechanical equipment of aircrafts at an airport.

**Tasks include:**

- servicing, repairing and overhauls aircraft engines, such as jet, turbo-prop and piston engines and other mechanical equipment of aircraft;
- testing engine, using testing equipment;
- examining engine for cracked cylinders, oil leaks and other defects;
- consulting manufacturers manuals and airlines maintenance manual for specifications and feasibility of repair or replaces defective parts;
- repairing, assembling and replacing parts;
- removing engine from aircraft for overhaul and installs replacement;
- inspecting, servicing and repairing pneumatic and hydraulic systems;
- performing other duties to service aircraft mechanisms, including flushing crank-case, cleaning screens, greasing moving parts and checking brakes;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31511 Technician, air traffic safety**

**31512 Assistant officer, air traffic control A29**

#### **3152 SHIP/MARINE TECHNICIANS**

Ship/marine technicians repair or service marine engine in workshops or on board vessels.

**Tasks include:**

- supervising or repairing and servicing steam engine, petrol, diesel and marine engine;
- examining engine to locate defects using various tools and instrument;
- dismantling engine partially or completely to remove or adjust faulty worn out parts;
- starting engine and observes performance noting different meter readings such as temperature, fuel level and oil pressure, and makes necessary adjustments for optimum performance;
- checking, adjusting and lubricating engine periodically to keep in good working order;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31521 Berthing master**

**31522 Skipper, yacht**

**31523 Traffic supervisor (ships cargo)**

**31524 Assistant officer, marine A29**

**31525 Technician, engine (boat)**

#### **3153 TRAIN/LOCOMOTIVE TECHNICIANS**

Train/locomotive technicians service and repair locomotive engine.

**Tasks include:**

- servicing or repairing petrol, diesel, and other types of locomotive engines;
- examining engine to locate defects using various tools and instrument;
- dismantling engine partially or completely to remove or adjust faulty worn out parts;
- checking, adjust and lubricates engine periodically to keep in good working order;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31531 Supervisor, railway services**

**31532 Supervisor, LRT railway**

**31533 Inspector, railway**

#### **3159 TRANSPORT TECHNICIANS NOT ELSEWHERE CLASSIFIED**

This unit group covers transport technicians outside the scope of Minor Group 315: Ship, Aircraft and Train Technicians.



**Tasks include:**

- supervising and coordinating one or more of the service activities of the traffic department;
- directing and supervising activities of bus conductors and drivers within a limited geographical area;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31591 Station master**

**31592 Supervisor, road transport service**

**316 SCIENCE NUCLEAR ASSOCIATE PROFESSIONALS**

Science nuclear associate professionals assist scientist in both laboratory and production activities by performing technical tasks involving nuclear physics, primarily in operation, maintenance, production and quality control support activities.

**3160 NUCLEAR RESEARCH AND DEVELOPMENT ASSOCIATE PROFESSIONALS**

Nuclear research and development associate professionals collect and test samples to monitor results of nuclear experiments and contamination of humans, facilities and environment.

**Tasks include:**

- assisting scientist to conduct develop new concepts, technologies and strategies to improve nuclear technology;
- operating equipment used for the release, control and utilization of nuclear energy to assist scientists in laboratory and production activities;
- preparing and delivering written and verbal proposals and presentations;
- designing, coordinating and control technical aspects of projects;
- analyzing test results;
- writing project results reports and participate in technical societies through publication of technical papers and society meetings;
- washing, cleaning and dries apparatus and equipment after use and maintain them in proper working conditions;
- keeping required chemicals and solutions readily available and replenishes stock from stores;
- maintaining laboratory in clean and tidy condition;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**31601 Assistant officer, science C27**

**32 HEALTH ASSOCIATE PROFESSIONALS**

Health associate professionals perform technical tasks related to research and the practical application of concepts, principles and operational methods in the fields of medicine, veterinary medicine, dentistry, pharmacy, sanitation, nursing, midwifery, traditional medicine and faith healing care and related disciplines.

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

- 321 MEDICAL AND PHARMACEUTICAL TECHNICIANS
- 322 NURSING AND MIDWIFERY ASSOCIATE PROFESSIONALS
- 323 TRADITIONAL AND COMPLEMENTARY MEDICINE ASSOCIATE PROFESSIONALS
- 324 VETERINARY TECHNICIANS AND ASSISTANTS
- 325 OTHER HEALTH ASSOCIATE PROFESSIONALS

#### 321 MEDICAL AND PHARMACEUTICAL TECHNICIANS

Medical and pharmaceutical technicians perform technical tasks usually under the direction and supervision of various physicians includes providing technical, medical and health services to assist physicians in diagnosing illness and giving treatment to patients; conducting routine laboratory; mixing to set formula or compounding pharmaceutical products according to set formula or instruction.

##### 3211 MEDICAL IMAGING AND THERAPEUTIC EQUIPMENT TECHNICIANS

Medical imaging and therapeutic equipment technicians arrange and sets various instruments and apparatus in clinical laboratory.

#### Tasks include:

- operating radiographic equipment including x-ray photograph, perform radiological procedure using general x-ray equipment as well as MRI and CT scanning machines whether carried in wards, operation theaters and the casualty/accidents using mobile x-ray;
- preparing contrast media to be given to the patients whom involved in a special/screening radiology and manage patients during x-ray procedures were performed;
- monitoring and ensuring the quality of radiology services retain efficient and ensuring radiation protection procedures are implemented according to standard compliance;
- setting in position required apparatus and equipment and makes necessary electrical connections;
- maintaining laboratory in clean and tidy condition;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

Examples of the occupations classified here:

**32111 Technician, x-ray U29**

##### 3212 MEDICAL AND PATHOLOGY LABORATORY TECHNICIANS

Medical and pathology laboratory technicians perform technical tasks, normally under the direction and supervision of medical pathologists, contributory to research scientific knowledge in the field of medical sciences to develop public health and other practical applications of research findings.

#### Tasks include:

- preparing and collecting specimens, materials and equipment and growing cultures of micro organism for tests, analyses and experiments;

- preparing and collecting specimens of body fluids and tissues of patients and evaluates results to determine nature, stage of development and possible sources of infection;
- assisting with and performing experiments, tests, analyses and recording observation results and other relevant information using laboratory instruments and equipment;
- collecting data and estimating quantities and costs of materials and labour required for projects;
- organizing maintenance and repair of research equipment;
- applying knowledge of scientific principles and practices in order to identify and solve problems arising in the course of their work;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

- 32121 Technician, anatomy**
- 32122 Technician, medical science**
- 32123 Assistant, parasitological**
- 32124 Technologist, medical laboratory U29**
- 32125 Technician, medical U19**
- 32126 Assistant officer, medical U29**

#### **3213 PHARMACEUTICAL TECHNICIANS AND ASSISTANTS**

Pharmaceutical technicians and assistants dispense and prepare medicaments, lotions and mixtures under the guidance of pharmacists, in pharmacies, hospitals and dispensaries.

**Tasks include:**

- preparing medicaments and other pharmaceutical compounds under the guidance of pharmacists;
- dispensing medicines and drugs and giving written and oral instructions on their use, as prescribed by medical doctors, veterinarians or other authorized workers;
- cleaning and preparing equipment and containers used to prepare and dispense medicine and pharmaceutical compounds;
- conducting routine laboratory tests to determine characteristics of pharmaceutical products;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

- 32131 Assistant, pharmaceutical**
- 32132 Laboratory assistant, pharmaceutical**
- 32133 Sub assistant, pharmacist U29**

#### **3214 MEDICAL AND DENTAL PROSTHETIC TECHNICIANS**

Medical and dental prosthetic technicians makes full or partial dentures, inlays, bridges and crowns of metal vulcanite or other composition plates from wax or plaster impression taken by dental surgeon.

**Tasks include:**

- making special impression trays as designated by dental surgeon and prepares plaster casts of upper and lower jaws from wax impression;
- shaping metal vulcanite or plastic plates for dentures and sets artificial teeth in plates;
- processing dentures in acrylic resin or metal and bridges according to impression taken;
- forming porcelain teeth and crowns and repairs or makes additions on existing dentures as directed;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**32141 Technologist, dental U29**

#### **3215 ORTHOTIC AND PROSTHETIC TECHNICIANS**

Orthotic and prosthetic technician assist the disabled by fabricating the orthopedic and artificial limbs (protheses) necessary for their rehabilitation.

**Tasks include:**

- ensuring devices fit well and that patients have an acceptable range of movement;
- crafting prosthetic limbs from softer plastics;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**32151 Osteopath, lay**

**32152 Technician, orthopedic**

#### **322 NURSING AND MIDWIFERY ASSOCIATE PROFESSIONALS**

Nursing and midwifery associate professionals (except dental) apply medical concepts and principles relating to the delivery of babies and to nursing of the ill, injured or disabled, and of mothers and their new-born babies.

#### **3221 NURSING ASSOCIATE PROFESSIONALS (EXCEPT DENTAL)**

Nursing associate professionals (except dental) provide nursing care for the sick, injured and others in need of such care, and in the absence of medical doctors, deal with emergencies.

**Tasks include:**

- providing nursing care, treatment and advice to the ill, injured, disabled and others in need of such cares;
- assisting medical doctors in their tasks, administering medicine and drugs, applying surgical dressings and giving other forms of treatment under instructions from physicians;
- assisting in giving first-aid treatment in emergencies;
- assisting in preparations for physical and psychiatric treatment of mentally ill patients;
- assisting in preparations for social adjustment, development and education of mentally or physically handicapped patients;
- providing nursing care to patients in their homes;

- providing nursing services, care and advice within a community or at a workplace;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**32211 Nurse**

**32212 Nurse, orthopedic**

**32213 Nurse, industrial**

**32214 Nurse U29**

**32215 Nurse, community U19**

#### **3222 MIDWIFERY ASSOCIATE PROFESSIONALS**

Midwifery associate professionals deliver or assist doctors in 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;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**32221 Midwife**

#### **323 TRADITIONAL AND COMPLEMENTARY MEDICINE ASSOCIATE PROFESSIONALS**

Traditional and complementary medicine associate professionals advise on methods to preserve or improve health and treat human mental and physical illness by traditional techniques used in the community or by power of faith and spiritual advice.

#### **3230 TRADITIONAL AND COMPLEMENTARY MEDICINE ASSOCIATE PROFESSIONALS**

Traditional and complementary medicine associate professionals treat human mental and physical sickness by herbs, medicinal plants and other traditional techniques used in the community and advise on methods to preserve or improve health and well-being of a person.

**Tasks include:**

- 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;
- performing related tasks;

- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**32301** *Practitioner, Malay traditional medicine*  
**32302** *Practitioner, Chinese traditional medicine*  
**32303** *Practitioner, Indian traditional medicine (ayurvedic)*  
**32304** *Practitioner, Indian traditional medicine (homeopathic)*  
**32305** *Acupuncturist*  
**32306** *Homeopath*  
**32307** *Village healer*  
**32308** *Faith healers*

#### **324 VETERINARY TECHNICIANS AND ASSISTANTS**

Veterinary technicians and assistants carry out advisory, diagnostic, preventive and curative veterinary tasks, more limited in scope and complexity than those carried out by veterinarians, and they assist veterinarians by preparing materials and getting animals ready for examination and treatment.

#### **3240 VETERINARY TECHNICIANS AND ASSISTANTS**

Veterinary assistants carry out advisory, diagnostic, preventive and curative veterinary tasks, more limited in scope and complexity than those carried out by veterinarians, and they assist veterinarians by preparing materials and getting animals ready for examination and treatment.

**Tasks include:**

- advising communities and individuals on the treatment of animals and their diseases and injuries;
- conducting examinations of animals to make diagnoses or refer more difficult cases to veterinarians when needed;
- treating ill or injured animals, especially for common diseases and disorders;
- preparing and taking care of instruments and materials used in the treatment of animals;
- carrying out technical tasks connected with artificial insemination of animals;
- getting animals ready for examination or treatment and holding them during treatment, when necessary;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**32401** *Assistant, veterinary*  
**32402** *Assistant, veterinary/artificial insemination*  
**32403** *Vaccinator, veterinary*  
**32404** *Assistant officer, veterinary G27*  
**32405** *Sub assistant, veterinary G17*

### **325    OTHER HEALTH ASSOCIATE PROFESSIONALS**

This minor group covers other health associate professionals engaged in health activities outside the scope of those classified in minor group 321-324.

#### **3251    DENTAL ASSISTANTS AND THERAPISTS**

Dental assistants and therapists carry out advisory, diagnostic, preventive and curative dental tasks, more limited in scope and complexity than those carried out by dentists, and they assist dentists by preparing and taking care of instruments and other equipment, preparing materials and helping patients prepare for examination and treatment.

**Tasks include:**

- advising communities and individuals on dental hygiene, diet and other preventive dental measures;
- conducting dental examinations to make diagnoses and refer more difficult cases to dentists when needed;
- cleaning teeth, preparing cavities and placing fillings;
- extracting teeth under anesthetics;
- preparing and taking care of dental instruments and equipment;
- preparing dental materials;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**32511    Nurse, dental**

**32512    Assistant, dental**

**32513    Nurse, dental U29**

#### **3252    MEDICAL RECORDS AND HEALTH INFORMATION TECHNICIANS**

Medical records and health information technicians organize and evaluate the results of examinations, reports of x-rays and laboratory tests, diagnoses, and treatment plans for completeness and accuracy.

**Tasks include:**

- ensuring that patients initial medical charts are complete, that all forms are completed and properly identified and authenticated, and that all necessary information is in the computer;
- using computer programs to tabulate and analyze data to improve patient care, enhance control cost, provide documentation for use in legal actions, or use in research studies;
- supervising health information clerks and transcriptionists;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**32521    Technician, medical record**

### **3253 COMMUNITY HEALTH WORKERS**

Community health workers carry out advisory, diagnostic, preventive and curative medical tasks, more limited in scope and complexity than those carried out by medical doctors. They work independently or with the guidance and supervision of medical doctors in institutions or in the field as part of the public health service, and may work mainly with diseases and disorders common in their region, or mainly apply specific types of treatment.

#### **Tasks include:**

- advising communities and individuals on hygiene, diet and other preventive medical measures;
- conducting medical examinations to diagnose illness and/or refer more difficult cases to medical doctors if and when necessary;
- prescribing medicine and giving treatment for diagnosed illnesses, disorders or injuries;
- performing simple surgical operations;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

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

**32531** *Laboratory assistant, medical*

**32532** *Instructor, clinical*

**32533** *Sub assistant, medical U29*

### **3254 DISPENSING OPTICIANS**

Dispensing opticians advise patients on various types of lenses and spectacle frames, including advice on style, weight and colour. They also advise patients on how to wear and care for their spectacles and contact lenses.

#### **Tasks include:**

- interpreting optical prescriptions written by optometrists or ophthalmologists;
- giving advice to patients on lens type, frames and styling;
- fitting contact lenses and giving advice on their care and use;
- taking frame and facial measurements to ensure correct fit and positioning;
- advising patients on the use of low vision aids;
- advising patients when adjustments or repairs to spectacles are needed;
- selecting, managing and ordering a range of optical products;
- ordering lenses from prescription houses;
- checking lenses on delivery to ensure that they meet the required specifications;
- undertaking continuous education and training;
- arranging and maintaining shop displays;
- liaising with sales representatives from vision care product suppliers;
- performing related tasks.

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

**32541** *Optician, contact-lens dispensing*



### **3255 PHYSIOTHERAPY TECHNICIANS AND ASSISTANTS**

Physiotherapy technicians and assistants provide special medical therapeutic services to rehabilitate injured and mentally and physically disabled persons.

**Tasks include:**

- advising communities and individuals on correct body postures for work or otherwise, to avoid injuries and strain and 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 or refer to medical doctors, if necessary;
- treating disorders of bones, muscles and parts of the circulatory or the nervous system by manipulative methods, and the use of ultrasound, heating, laser or similar techniques;
- 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;
- prescribing exercises for rehabilitation and/or prevention;
- participating in planned medically oriented vocational, educational or recreational activities designed to rehabilitate physically and mentally disabled persons;
- performing related tasks.

**Examples of the occupations classified here:**

**32551** *Electrotherapist*

**32552** *Physiotherapist U29*

### **3256 MEDICAL ASSISTANTS**

Medical assistants carry out advisory, diagnostic, preventive and curative medical tasks, more limited in scope and complexity than those carried out by medical doctors. They work independently or with the guidance and supervision of medical doctors in institutions or in the field as part of the public health service, and may work mainly with diseases and disorders common in their region, or mainly apply specific types of treatment.

**Tasks include:**

- advising communities and individuals on hygiene, diet and other preventive medical measures;
- conducting medical examinations to diagnose illness and/or refer more difficult cases to medical doctors if and when necessary;
- prescribing medicine and giving treatment for diagnosed illnesses, disorders or injuries;
- performing simple surgical operations;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**32561** *Operator, radiograph equipment*

**32562** *Operator, electrocardiograph equipment*

**32563** *Operator, electroencephalograph equipment*

**32564** *Operator, sonographic*

**32565 Operator, ultrasonographic**

**3257 ENVIRONMENTAL AND OCCUPATIONAL HEALTH INSPECTORS AND ASSOCIATES**

Environmental and occupational health inspectors and associates on behalf of the government or industrial and other enterprises, inspect places of work on the grounds of occupational safety, and safety of production processes, or of goods produced, used or sold, and ensure compliance with health and environment protection rules and regulations as well as with the quality standards and specifications of manufacturers.

**Tasks include:**

- advising employers and workers representatives on the implementation of government and other rules and regulations concerning occupational safety and the working environment;
- inspecting places of work to ensure that the working environment, machinery and equipment conform to government and other rules and regulations;
- inspecting places of work and by interviews, observations and other means, obtaining facts about work practices and accidents to determine compliance with safety rules and regulations;
- inspecting areas of production, processing, transport, handling, storage and sale of products to ensure conformity with government and other rules and regulations;
- inspecting finished products or parts for conformity with manufacturers' specifications and standards;
- advising enterprises and the general public on the implementation of government and other rules and regulations concerning hygiene, sanitation, purity and grading of primary products, food, drugs, cosmetics and similar goods;
- advising producers, operators and those maintaining and repairing aircraft, cars and other vehicles on the implementation of government and other rules and regulations concerning technical standards and conditions of vehicles;
- inspecting vehicles and places authorized to maintain and repair vehicles to ensure that they conform to technical standards and government and other regulations;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**32571 Inspector, occupational health and safety**

**32572 Assistant officer, environmental health U29**

**32573 Inspector, public health**

**32574 Assistant officer, environmental control C27**

**32575 Inspector, safety/vehicles**

**32576 Assistant inspector, factory & machinery J29**

**32577 Examiner, motor/vehicles A17**

**3258 AMBULANCE WORKERS**

Ambulance workers care for ill and vulnerable patients while transporting them to hospitals and other medical facilities, and their homes.

**Tasks include:**

- responding to emergency calls and help to give patients the urgent care they need, while ensuring they get to hospital quickly and safely;
- moving into other roles in the ambulance service, such as working in the control room;
- delivering appropriate care and treatment while preserving life, preventing a patient's condition from deteriorating and promoting recovery;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**32581 Ambulance worker**

**3259 HEALTH ASSOCIATE PROFESSIONALS NOT ELSEWHERE CLASSIFIED**

This unit group covers modern health associate professionals (except nursing) not elsewhere classified in Minor Group 325: Modern Health Associate Professionals (except nursing).

**Tasks include:**

- determining the nature of illness or condition affecting the patient;
- treating a particular illness, by giving patient infinitesimal doses of the bodies which provoke similar illnesses;
- writing specifications for artificial limbs or other appliances and helping to fit them and explaining their use;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**32591 Health associate professionals not elsewhere classified**

**33 BUSINESS AND ADMINISTRATIONS ASSOCIATE PROFESSIONALS**

Business and administration associate professionals perform mostly technical tasks connected with the practical application of knowledge relating to financial accounting and transaction matters, mathematical calculations, human resource development, selling and buying financial instruments, specialized secretarial tasks, and enforcing or applying relevant government rules. Also included are workers who provide business services such as customs clearance, conference planning, job placements, buying and selling real estate or bulk commodities, and serving as agents for performers such as athletes and artists.

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

**331 FINANCIAL AND MATHEMATICAL ASSOCIATE PROFESSIONALS**  
**332 SALES AND PURCHASING AGENTS AND BROKERS**  
**333 BUSINESS SERVICES AGENTS**  
**334 ADMINISTRATIVE AND SPECIALIZED SECRETARIES**  
**335 REGULATORY GOVERNMENT ASSOCIATE PROFESSIONALS**

**331 FINANCIAL AND MATHEMATICAL ASSOCIATE PROFESSIONALS**

Financial and mathematical associate professionals place a value on various items and property, maintain records of financial transactions, analyze loan application information and render a

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decision, buy and sell financial instruments, and perform mathematical and related calculations.

### 3311 SECURITIES AND FINANCE DEALERS AND BROKERS

Securities and finance dealers and brokers buy and sell securities, stocks, bonds and other financial instruments, and deal on the foreign exchange on spot or on futures markets, on behalf of their own company or for customers on a commission basis and recommend transactions to clients or senior management.

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#### Tasks include:

- obtaining information about the financial circumstances of customers and companies in which investments may be made;
- analyzing market trends for securities, bonds, stocks and other financial instruments, including foreign exchange;
- informing prospective customers about market conditions and prospects;
- advising on and participating in the negotiation of terms for, and organization of, loans and placement of stocks and bonds in the financial market to raise capital for customers;
- recording and transmitting buy and sell orders for securities, stocks, bonds or other financial instruments and for foreign exchange for future or immediate delivery;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

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#### Examples of the occupations classified here:

- 33111 Broker, securities
- 33112 Broker, stock and shares
- 33113 Broker, foreign exchange
- 33114 Jobber / stock broker
- 33115 Broker, investment

### 3312 CREDIT AND LOANS OFFICERS

Credit and loan officers analyze and evaluate financial information on applications for credit and loans and determine approval or disapproval of the client for the credit or loan or recommend to management approval or disapproval.

#### Tasks include:

- interviewing applicants for personal, mortgage, student and business loans;
- submitting credit and loan applications to management with recommendations for approval or rejection; or approve or reject applications within authorized limits ensuring that credit standards of the institution are respected;
- keeping records of payments, and preparing routine letters requesting payment for overdue accounts and forwarding these for legal action;
- completing credit and loan documentation;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

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#### Examples of the occupations classified here:

- 33121 Officer, loan
- 33122 Cost controller

### **3313 ACCOUNTING ASSOCIATE PROFESSIONALS**

Accounting associate professionals maintain complete records of financial transactions of an undertaking and verify accuracy of documents and records relating to such transactions.

**Tasks include:**

- maintaining complete records of all financial transactions of an undertaking according to general accounting principles, with guidance from accountants;
- verifying accuracy of documents and records relating to payments, receipts and other financial transactions;
- preparing financial statements and reports for specified periods;
- performing accounting calculation using standard computer software packages;
- providing assistance in the preparation of cash flow projection and budgets;
- preparing accounting and other results for presentation in graphical or tabular form;
- applying knowledge of accounting principles in order to identify and solve problems arising in the course of their work;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

- 33131 Assistant officer, account**
- 33132 Assistant, auditor W27**
- 33133 Supervisor, financial**
- 33134 Assistant, accountant W27**

### **3314 STATISTICAL, MATHEMATICAL AND ACTUARIAL ASSOCIATE PROFESSIONALS**

Statistical, mathematical and actuarial associate professionals assist in planning the collection, processing and presentation of mathematical, statistical or actuarial data and in carrying out these operations, usually working under the guidance of Mathematicians and related professionals or Statisticians.

**Tasks include:**

- assisting in planning and performing mathematical, actuarial, statistical and related calculations;
- preparing detailed estimates of quantities and costs of materials and labour required for statistical census and survey operations;
- performing technical tasks connected with establishing, maintaining and using registers and sampling frames for census and survey operations;
- performing technical tasks connected with data collection and quality control operations in censuses and surveys;
- using standard computer software packages to perform mathematical, actuarial, statistical and related calculations;
- preparing mathematical, actuarial, statistical and other results for presentation in graphical or tabular form;
- applying knowledge of mathematical, actuarial, statistical and related principles and practices in order to identify and solve problems arising in the course of their work;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**33141 Assistant officer, statistical E27**

**33142 Assistant, mathematical**

**33143 Assistant, actuarial**

**33144 Assistant, research**

### **3315 VALUERS AND LOSS ASSESSORS**

Valuers and loss assessors value property and various goods and assess losses covered by insurance policies, or sell objects, properties and goods by auction.

#### **Tasks include:**

- determining the value of raw materials, real estate, industrial equipment, personal and household effects, works of art, gems and other objects offered for sale or to be insured;
- assessing the extent of damage or loss and liabilities of insurance companies and underwriters for losses covered by insurance policies;
- selling by auction various kinds of properties, cars, commodities, art, jewelers and other objects;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

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

**33151 Auctioneer**

**33152 Assistant officer, appraiser W27**

**33153 Valuer**

**33154 Assistant officer, evaluation W27**

**33155 Inspector, claims**

**33156 Adjuster, insurance**

**33157 Assessor, insurance**

**33158 Assistant officer, research Q27**

### **332 SALES AND PURCHASING AGENTS AND BROKERS**

Sales and purchasing agents and brokers maintain records of financial transactions, buy and sell financial instruments, different types of insurance, real estate and other business services, deal with foreign exchange, act as wholesale representatives of technical products and services or act as buyers on behalf of organizations, or they appraise the value of commodities, real estate and other properties, and sell these by auction or organize, manage and coordinate tour packages, exhibitions and conventions.

### **3321 INSURANCE REPRESENTATIVES**

Insurance representatives advise on and sell life, accident, automobile, liability, endowment, fire, marine and other types of insurance to new and existing clients.

#### **Tasks include:**

- compiling lists of prospective clients from directories and other sources and making contact with prospective clients to seek interviews;

- obtaining information about customers circumstances necessary to determine appropriate type of insurance and conditions;
- negotiating with customers to determine type and degree of risk for which insurance is derived, extent of coverage and terms of payment;
- negotiating and placing reinsurance contracts;
- advising on, negotiating terms for and placing insurance contracts for large or special types of projects, installations or risks;
- may collect premiums and keep records of payment;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**33211 Agent, insurance**

**33212 Broker, insurance**

**33213 Underwriter, insurance**

### **3322 COMMERCIAL SALES REPRESENTATIVES**

Commercial sales representatives sell various goods on a wholesale basis including installations, equipment and technical products and related services, and provide specialized information as required.

**Tasks include:**

- compiling lists of prospective customers using trade directories and other sources;
- acquiring and updating knowledge of employers' and competitors' products and understanding market conditions;
- soliciting orders and selling goods to retail, industrial, wholesale and other establishments;
- selling technical equipment, supplies and related services to business establishments or individuals;
- providing prospective customers with general and specialized information and the characteristics and functions of the equipment, and demonstrating its use;
- 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;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**33221 Agent, sales/engineering**

**33222 Adviser, after sales service**

**33223 Canvasser**

**33224 Sales representative**

**33225 Salesperson, technical**

**33226 Salesperson, business services/advertising**

**33227 Analyst/executive, marketing research**

### **3323 BUYERS**

Buyers buy goods and services on behalf of industrial, commercial or other enterprises and organizations.

**Tasks include:**

- negotiating and entering into a contract for the purchase of equipment, raw materials, products and supplies for industrial plant, utilities, government units or other establishments and the purchasing of merchandise for resale;
- obtaining information about requirement and stock, and determining quantity and quality to be purchased, costs, delivery dates and other contract conditions;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**33231 Buyer**

**33232 Agent, procurement**

### **3324 TRADE BROKERS**

Trade brokers buy and sell commodities, usually in bulk, at auctions on the spot or future markets, carry out customers clearing procedures and ensure that insurance, export/import licences and other formalities are in order, match job seekers with vacancies, and establish business contacts and sell business services.

**Tasks include:**

- establishing contact between buyers and sellers of commodities;
- discussing buying or selling requirements of client and giving advice accordingly;
- arranging for the production of auction catalogues, fixing reserve prices, attending auctions of the spot or futures markets and bidding on behalf of client;
- negotiating purchase/sale by private treaty of goods not sold at auction;
- obtaining cargo space and fixing and collecting freight charges from client;
- carrying out customs clearing procedures for exports or imports;
- ensuring that insurance and export/import licenses and other formalities are in order;
- signing and issuing bills of lading;
- matching job seekers with vacancies known to job placement offices or advising on training schemes;
- finding workers for vacant posts against a commission from the employer or worker;
- discussing with enterprises/organizations the needed skills and other characteristics of the workers to be employed or contracted;
- ensuring that the employment contracts meet legal requirements and signing them;
- obtaining information about services to be sold and needs of prospective buyers;
- making sure that the business service purchased is made available to the buyer in the agreed format at the agreed time;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**33241 Broker, commodity**



### 333 BUSINESS SERVICES AGENTS

Business service agents establish contacts to sell various business services such as advertising space in the media, carry out customs clearance activities, ensuring that necessary documents are in order, match jobseekers with vacancies, find workers for employers, arrange contracts for the performance of athletes, entertainers and artists, as well as for the publication of books, the production of plays, or the recording, performing and sale of music, plan and organize conferences and similar events.

#### 3331 CLEARING AND FORWARDING AGENTS

Clearing and forwarding agents carry out customs clearing procedures and ensure that insurance, export/import licenses and other formalities are in order.

##### Tasks include:

- carrying out customs clearing procedures for exports or imports;
- ensuring that insurance is in order;
- ensuring that export/import licenses and other formalities are in order;
- signing and issuing bills of lading;
- checking import/export documentation to determine cargo contents, and classifying goods into different fee or tariff groups, using a tariff coding system;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

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

- 33311 Agent, clearing and forwarding
- 33312 Agent, shipping

#### 3332 CONFERENCE AND EVENT PLANNERS

Conference and event planners organize and coordinate services for conferences, events, functions, banquets and seminars.

##### Tasks include:

- promoting conferences, conventions and trade shows to potential customers;
- responding to inquiries concerning services provided and costs for room and equipment hire, catering and related services;
- meeting with clients to discuss their needs and outlining package options to meet these needs;
- arranging and coordinating services, such as conference facilities, catering, signage, displays, audiovisual and computer equipment, accommodation, transport and social events, for participants, logistical arrangements for presenters;
- organizing registration of participants;
- negotiating the type and costs of services to be provided within budget;
- overseeing work by contractors and reporting on variations to work orders;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

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

- 33321 Consultant, exhibition and convention

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- 33322** *Organizer, exhibition and convention*  
**33323** *Consultant, travel*  
**33324** *Organizer, travel*

### 3333 EMPLOYMENT AGENTS AND CONTRACTORS

Employment agents and contractors match jobseekers with vacancies, find workers for employers and contract labour for particular projects at the request of enterprises and other organizations including government, institutions, or find places for jobseekers either for a commission or not.

#### Tasks include:

- matching job seekers with vacancies known to job placement offices or advising on training schemes;
- finding workers for vacant posts against a commission from the employer or worker;
- discussing with enterprises/organizations the needed skills and other characteristics of the workers to be employed or contracted;
- finding workers with appropriate skills and undertaking the necessary formalities according to national or international regulations and requirements;
- ensuring that the employment contracts meet legal requirements and signing them;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

#### Examples of the occupations classified here:

- 33331** *Agent, employment*  
**33332** *Officer, job placement*

### 3334 REAL ESTATE AND PROPERTY AGENTS

Real estate agents arrange the sale, purchase, rental and lease of real property, usually on behalf of clients and on a commission basis.

#### Tasks include:

- obtaining information about properties to be sold or leased, the circumstances of their owner and the needs of prospective buyers or tenants;
- showing properties to be sold or leased to prospective buyers or tenants and explaining terms of sale or conditions of rent or lease;
- arranging signing of lease agreements and transfer of property rights;
- collecting rent and deposits on behalf of owner and inspecting properties before, during and after tenancies;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

#### Examples of the occupations classified here:

- 33341** *Agent, real estate*  
**33342** *Agent, property*  
**33343** *Realtor (property)*  
**33344** *Negotiator (property)*

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### 3339 BUSINESS SERVICES AGENTS NOT ELSEWHERE CLASSIFIED

This unit group covers business services agents not classified elsewhere in Minor Group 333: Business Services Agents. For instance, here should be classified those who establish business contacts, sell business services such as advertising space in the media, arrange contracts for performances of athletes, entertainers and artists, as well as for the publication of books, the production of plays, or the recording, performing and sale of music. Also included are those selling objects, properties and goods by auction.

#### Tasks include:

- obtaining information about services to be sold and needs of prospective buyers;
- negotiating contracts on behalf of seller or buyer and explaining terms of sale and payment to client;
- signing agreements on behalf of seller or buyer and ensuring that contract is honoured;
- making sure that the business service purchased is made available to the buyer in the agreed format at the agreed time;
- selling by auction various kinds of property, cars, commodities, livestock, art, jewellery and other objects;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

#### Examples of the occupations classified here:

- 33391 Agent, literary
- 33392 Agent, musical performance
- 33393 Agent, sports
- 33394 Agent, theatrical
- 33395 Promoter, sports

### 334 ADMINISTRATIVE AND SPECIALIZED SECRETARIES

Administrative and specialized secretaries provide organizational communication and documentation support activities utilizing knowledge of the business activity of the organization. They take supervisory responsibility for office clerks in the organization.

### 3341 OFFICE SUPERVISORS

Office supervisors supervise and coordinate the activities of workers in major group 4, Clerks.

#### Tasks include:

- coordinating, assigning and reviewing the work of clerks engaged in the following duties: word processing, record keeping and filing; operating telephones and switchboards; data entry; desktop publishing; and other activities involving general office and administrative skills;
- endorsement of receipt, purchasing, inventory checking, controlling safe box and storage revenue matters;
- establishing work schedules and procedures and co-coordinating activities with other work units or departments;
- resolving work-related problems and preparing and submitting progress and other reports;
- training and instructing employees in job duties, safety procedures and company policies, or arranging for training to be provided;

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- evaluating employees' job performance and conformance to regulations, and recommending appropriate personnel action;
- recruiting, interviewing, and selecting employees;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**33411 Supervisor, account**

**33412 Supervisor, human resource**

**33413 Management trainee**

**33414 Factory administrator**

**33415 Assistant officer, training E27**

**33416 Assistant officer, administrative N27**

**33417 Assistant officer, land administrative N27**

#### **3342 LEGAL SECRETARIES**

Legal secretaries assist the head of unit and other members of staff in implementing and supporting the communication, documentation and internal managerial co-ordination activities, in law offices, legal departments of large firms and governments.

**Tasks include:**

- preparing and processing legal documents and papers, such as deeds, wills, affidavits and briefs;
- reviewing and proofreading documents and correspondence to ensure compliance with legal procedures;
- preparing verbatim reports of proceedings in the legislative assemblies, courts of law or other places in shorthand or by other methods;
- mailing, faxing, or arranging for delivery of legal correspondence to clients, witnesses, and court officials;
- organizing and maintaining documents, case files and law libraries;
- screening requests for meetings, scheduling and organizing meetings;
- assisting in the preparation of budgets, monitoring of expenditures, drafting of contracts and purchasing or acquisition orders;
- assisting the head of unit and other staff with inquiries of an administrative or organizational nature;
- supervising the work of office clerks.

**Examples of the occupations classified here:**

**33421 Legal secretary**

#### **3343 ADMINISTRATIVE AND EXECUTIVE SECRETARIES**

Administrative and executive secretaries implement and support the communication, documentation and internal managerial co-ordination activities of an organizational unit to assist the head of unit and other members of staff.

**Tasks include:**

- drafting administrative correspondence and minutes;
- obtaining, proposing and monitoring deadlines and follow-up dates;

- screening requests for meetings, scheduling and organizing meetings and travel arrangements for the head of unit and other members of staff;
- assisting in the preparation of budgets, monitoring of expenditures, drafting of contracts and purchasing or acquisition orders;
- assisting the head of unit and other staff with inquiries of an administrative or organizational nature;
- assisting the head of unit in organizing and hosting hospitality functions for outside visitors or members of staff;
- liaising with other staff about a range of matters relating to the organization's operations;
- writing and answering business or technical letters and other similar correspondence;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

- 33431** *Chief secretary, office*
- 33432** *Executive secretary, government administration*
- 33433** *Officials, consular*
- 33434** *Executive officer, government*
- 33435** *Executive officer, statutory board*
- 33436** *Meeting herald N27*
- 33437** *Parliament herald N11*

#### **3344 MEDICAL SECRETARIES**

Medical secretaries, using specialized knowledge of medical terminology and procedures, assist the head of unit and other members of staff in implementing and supporting the communication activities, documentation and international managerial coordination activities, in doctors' offices, hospitals, medical clinics and other medical settings.

**Tasks include:**

- scheduling and confirming medical appointments and communicating messages for medical staff and patients;
- compiling, recording and reviewing medical charts, reports, documents and correspondence;
- interviewing patients to complete forms, documents and case histories;
- completing insurance and other claims forms;
- maintaining medical files and records and technical library;
- preparing financial statements and billing procedures;
- assisting in the preparation of budgets, preparing financial statements and billing procedures;
- drafting of contracts and purchasing or acquisition orders;
- supervising the work of office clerks.

**Examples of the occupations classified here:**

- 33441** *Medical secretary*

#### **3349 ADMINISTRATIVE AND SPECIALIZED SECRETARIES NOT ELSEWHERE CLASSIFIED**

Administrative and specialized secretaries not elsewhere classified provide assistance, utilizing

knowledge in a specific area other than law or medicine, to the head of unit and other members of staff in implementing and supporting the communication, documentation and internal managerial coordination activities.

**Tasks include:**

- preparing and processing documents and papers;
- reviewing and proofreading documents and correspondence to ensure accuracy;
- mailing, faxing, or arranging for delivery of correspondence to clients;
- organizing and maintaining documents and files;
- screening requests for meetings, scheduling and organizing meetings;
- assisting in the preparation of budgets, monitoring of expenditures, drafting of contracts and purchasing or acquisition orders;
- assisting the head of unit and other staff with inquiries of an administrative or organizational nature;
- supervising the work of office clerks.

**Examples of the occupations classified here:**

**33491** *School secretary*

**335** **REGULATORY GOVERNMENT ASSOCIATE PROFESSIONALS**

Regulatory government associate professionals prevent, investigate and solve cases on customs, tax, social benefit, licenses and civil.

**3351** **CUSTOMS AND BORDER INSPECTORS**

Customs and border inspectors investigate and inspect 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:**

- examining immigration applications, visas, and passports and interview persons to determine eligibility for admission, residence and travel in the country;
- detaining persons found to be in violation of customs or immigration laws and arrange for legal action such as deportation;
- locating and seizing contraband or undeclared merchandise and vehicles, aircraft, or boats that contain such as merchandise;
- interpreting and explaining laws and regulations to travelers, prospective immigrants, shippers and manufacturers;
- collecting samples merchandise for examination, appraisal, or testing;
- inspecting cargo, baggage and personal articles entering or leaving states.

**Examples of the occupations classified here:**

**33511** *Inspector, border*

**33512** *Officer, passport checking*

**33513** *Assistant superintendent, customs W27*

### **3352 TAXATION AND EXCISE OFFICIALS**

Taxation and excise officials work within the Royal Malaysian Customs Department apply legislation and make sure that company and individuals pay the correct amount of tax. Tax inspectors are responsible for detecting tax evasion and, in disputed cases; they represent Royal Malaysian Customs Department before an independent appeal tribunal. They offer information and advice to individuals, businesses and organizations on a range of issues.

#### **Tasks include:**

- 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 Royal Malaysian Customs Department at independent appeal tribunals in disputed cases;
- revising 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;
- supervising, scheduling and monitoring task of other workers.

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

**33521 Assistant officer, tax/estimator**

### **3353 GOVERNMENT SOCIAL BENEFITS OFFICIALS**

Government social benefits officials investigate operation of social benefit.

#### **Tasks include:**

- enforcing 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;
- supervising, scheduling and monitoring task of other workers.

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

**33531 Officer, social benefits**

**33532 Officer, social security claims**

### **3354 GOVERNMENT LICENSING OFFICIALS**

Government licensing officials examines applications, visas, and passports and interviews persons to determine eligibility for admission, residence and travel privileges.

**Tasks include:**

- interpreting laws and explains decisions to persons seeking entry;
- arresting, detains, paroles, or arranging for deportation of persons according to laws, regulations, and departmental orders;
- writing reports of activities and decisions;
- may patrol border on foot or riding a horse, or by airplane, automobile, or boat to detect and apprehend persons cross country illegally and be designated Immigration Patrol Inspector (government servant).

**Examples of the occupations classified here:**

**33541** *Inspector, licensing*

**33542** *Assistant superintendent, immigration KP27*

### **3355 POLICE INSPECTORS AND DETECTIVES**

Police inspectors and detectives investigate, prevent and solve criminal cases.

**Tasks include:**

- investigating alleged or suspected criminal violations of federal, state, or local laws to determine if evidence is sufficient to recommend prosecution;
- preparing charges, responses to charges, or information for court cases according to formalized procedures;
- noting, marking, and photographing location of objects found, such as footprints, vehicle tire tracks, bullets, and bloodstains, and take measurements of the scene;
- preparing, serve search and arrest warrants. Block or rope off scene and check perimeter to ensure that entire scene is secured;
- summon medical help for injured individuals and alert medical personnel to take statements from them.

**Examples of the occupations classified here:**

**33551** *Inspector, police*

**33552** *Detective, police*

**33553** *Assistant officer, investigation KR29*

### **3356 CIVIL DEFENCE ASSOCIATE PROFESSIONALS**

Civil defence associate professionals investigate operations of civil.

**Tasks include:**

- enforcing related procedures regulation and laws;
- investigating fraud;
- supervising, scheduling and monitoring task of other workers.



Examples of the occupations classified here:

- 33561** *Inspector, civil service*
- 33562** *Inspector, government administration*
- 33563** *Officer, civil service commission*
- 33564** *Assistant officer, Kesatria S27*
- 33565** *Officer, RELA*
- 33566** *Territorial army*
- 33567** *Assistant officer, civil defence KP27*
- 33568** *Officer, civilian relation KP19*

#### **3359 REGULATORY GOVERNMENT ASSOCIATE PROFESSIONALS NOT ELSEWHERE CLASSIFIED**

This unit group covers other regulatory government associate professionals engaged in regulation activities outside the scope of those classified in unit group 3351 – 3356.

Tasks include:

- interpreting and explaining related procedures regulation and laws;
- investigating fraud;
- enforcing the procedures regulations and laws;
- performing related tasks.

Examples of the occupations classified here:

- 33591** *Inspector, weight and measures*
- 33592** *Assistant officer, registration KP27*
- 33593** *Assistant superintendent, prison KX27*
- 33594** *Assistant officer, enforcement N27*
- 33595** *Inspector, wage*
- 33596** *Officials, electoral*
- 33597** *Assistant superintendent, fireman KB29*
- 33598** *Assistant officer, security KP27*

### **34 LEGAL, SOCIAL, CULTURAL AND RELATED ASSOCIATE PROFESSIONALS**

Legal, social, cultural and related associate professionals perform technical tasks related to research and the practical application of concepts, theories, principles and operational methods particular to legal, social work, religious, sports, artistic, cultural and culinary.

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

- 341** **LEGAL, SOCIAL AND RELIGIOUS ASSOCIATE PROFESSIONALS**
- 342** **SPORTS, SELF DEFENCE AND FITNESS ASSOCIATE PROFESSIONALS**
- 343** **ARTISTIC, CULTURAL AND CULINARY ASSOCIATE PROFESSIONALS**

#### **341 LEGAL, SOCIAL AND RELIGIOUS ASSOCIATE PROFESSIONALS**

Legal, social and religious associate professionals perform technical tasks related to research and the practical application of concepts, principles and operational methods connected with legal, social work and religious.

### **3411 LEGAL AND RELATED ASSOCIATE PROFESSIONALS**

Legal and related associate professionals who does legal work but who is not a qualified lawyer and employed across a range of organizations including law firms, the public sector, business and industry. The role of a paralegal can involve anything from basic level administrative work to higher level casework.

#### **Tasks include:**

- performing administration works, including arranging meetings, telephone work, billing;
- drafting and proofreading, including compiling attendance notes, taking notes at court, proofreading documents, letter writing;
- preparing litigation bundles and managing case files;
- legal research;
- liaising with clients (in more senior roles);
- taking witness statements;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

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

- 34111 Sub assistant, legal L29**
- 34112 Assistant officer, Syariah LS27**
- 34113 Assistant officer, Islamic affairs S27**
- 34114 Assistant officer, anti-drug S27**
- 34115 Superintendant, water supply J17**

### **3412 SOCIAL WORK ASSOCIATE PROFESSIONALS**

Social work associate professionals provide guidance to clients in social and related matters to enable them to find and used resources to overcome difficulties and achieve particular goals.

#### **Tasks include:**

- collecting information relevant to clients' needs and advising them on their rights and obligations;
- analyzing the client's situation and presenting alternative approaches to resolve problems;
- planning, evaluating, improving and developing welfare services;
- working to prevent development of delinquency or to achieve rehabilitation of delinquents by organizing and supervising social, recreational and educational activities in youth clubs, community centres and similar organizations, or by other means;
- helping to prevent child abuse and domestic violence, and assisting physically or mentally handicapped persons to obtain adequate treatment and improve their ability to function in society;
- planning, organizing or providing home-help services;
- compiling case records and preparing reports as required;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

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

- 34121 Social worker**
- 34122 Assistant officer, social development S27**

- 34123 Assistant officer, psychologist S27**
- 34124 Assistant officer, information S27**
- 34125 Assistant officer, social research N27**
- 34126 Assistant officer, industrial relation S27**
- 34127 Assistant officer, economy affairs E27**
- 34128 Assistant officer, youth and sport S27**

### **3413 RELIGIOUS ASSOCIATE PROFESSIONALS**

Religious associate professionals undertake religious works, devote their lives to contemplative prayer or meditation, and preach and propagate the teachings of their particular religion.

#### **Tasks include:**

- undertaking religious works;
- living as a member of a separate community and observing its rules and practices;
- devoting their lives to contemplative prayer or meditation;
- preaching and propagating the teachings of a particular religious faith;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

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

- 34131 Monk, associate professional**
- 34132 Nun, associate professional**
- 34133 Preacher**
- 34134 Bilal**

### **342 SPORTS, SELF DEFENCE AND FITNESS ASSOCIATE PROFESSIONALS**

Sports, self defence and fitness associate professionals participate or conduct public sporting competitions, coach sportsmen in the skills of their sport, instruct persons in the development of their physical fitness and perform various related functions.

### **3421 ATHLETES AND SPORTS PLAYERS**

Athletes and sports players participate in sporting events and regulate the progress of these events.

#### **Tasks include:**

- participating in competitive sporting events;
- conducting sports training to develop ability in and knowledge of the sport;
- analyzing performance and identifying individual or team weaknesses;
- officiating at sporting events to enforce rules of competitions;
- promoting sports and skills development, and overseeing the participation of young people in sport;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

Examples of the occupations classified here:

**34211** *Sportsperson*

**34212** *Athlete*

#### **3422 SPORTS COACHES, INSTRUCTORS AND OFFICIALS**

Sports coaches, instructors and officials participate in sporting events conduct sports training and regulate the progress of these events.

Tasks include:

- participating in competitive sporting events;
- conducting sports training to develop ability in and knowledge of the sport;
- analyzing performance and identifying individual or team weaknesses;
- officiating at sporting events to enforce rules of competitions;
- promoting sports and skills development, and overseeing the participation of young people in sport;
- instructing persons in the development and maintenance of their physical fitness;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

Examples of the occupations classified here:

**34221** *Officials, sports*

**34222** *Instructor, march S17*

**34223** *Team manager, sports/games*

**34224** *Coach, silat*

**34225** *Coach, tennis*

**34226** *Coach, tai chi*

**34227** *Coach, swimming*

**34228** *Coach, instructor and other sports officials (indoor)*

#### **3423 FITNESS AND RECREATION INSTRUCTORS AND PROGRAM LEADERS**

Fitness and recreation instructors and program leaders participate in sporting events, conduct sports training and regulate the progress of these events.

Tasks include:

- participating in competitive sporting events;
- conducting sports training to develop ability in and knowledge of the sport;
- analyzing performance and identifying individual or team weaknesses;
- officiating at sporting events to enforce rules of competitions;
- promoting sports and skills development, and overseeing the participation of young people in sport;
- instructing persons in the development and maintenance of their physical fitness;
- instructing persons in chess, billiards, bridge and other games;
- riding race horses at race tracks;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

Examples of the occupations classified here:

**34231** *Instructor, physical fitness*  
**34232** *Instructor, billiard*  
**34233** *Instructor, bridge*  
**34234** *Instructor, chess*  
**34235** *Jockey*  
**34236** *Instructor, sailing*  
**34237** *Instructor, horse riding*  
**34238** *Outdoor adventure guides*

### **343     ARTISTIC, CULTURAL AND CULINARY ASSOCIATE PROFESSIONALS**

Artistic, cultural and culinary associate professionals apply artistic techniques to product design and sales promotion, take photographs, operate motion picture and video cameras and other equipment to record and edit images and sound; and performing various task related to the preparation and cooking of food.

#### **3431     PHOTOGRAPHERS**

Photographers take photographs, video cameras and other equipment to record and edit images.

Tasks include:

- consulting with clients to determine objectives of photograph assignment;
- studying requirements of assignment and selecting type of camera, film and lighting;
- working from a studio or transporting and setting up equipment at assigned locations;
- taking photographs for advertising or other commercial, industrial or scientific purposes and to illustrate stories and articles in newspapers, magazines, books and other publications;
- taking portrait photographs of persons and groups of persons;
- setting and operating motion picture, video, microscopic and other specialized cameras, including those for aerial photography to record images;
- controlling equipment to edit and mix image to ensure satisfactory quality and to create special image;
- may work with digital technology and manipulate resulting images on computer;
- applying principles and practices of image and sound recording and editing in order to identify and solve problems arising in the course of their work;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

Examples of the occupations classified here:

**34311** *Photographer*  
**34312** *Photographer, commercial illustration*  
**34313** *Photographer, news*  
**34314** *Microphotographer*  
**34315** *Photographer, scientific*  
**34316** *Photographer B27*

### **3432 INTERIOR DESIGNERS AND DECORATORS**

Interior designers and decorators apply artistic techniques to product design, interior decoration 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 harmonies 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;
- creating interior decorating schemes and planning furnishings for houses, public buildings, ships and other places;
- designing and painting stage scenery;
- creating and executing artistic effects for use in show windows and other display/promotional areas;
- designing floral arrangements such as wreaths, bouquets and corsages according to customer's preference, purpose, occasion and availability of flowers;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**34321 Artist, design**

**34322 Decorator, display**

**34323 Designer, interior decoration**

**34324 Designer, furniture**

**34325 Decorator, motion picture set**

**34326 Decorator, flower**

### **3433 GALLERY, MUSEUM AND LIBRARY TECHNICIANS**

Gallery, museum and library technicians acquire and preserve important documents and other valuable items for permanent storage or display. They work for museums, governments, zoos, colleges and universities, corporations, and other institutions that require experts to preserve important records. Documents and collections may include works of art, transcripts of meetings, coins and stamps, living and preserved plants and animals, and historic objects, buildings, and sites.

**Tasks include:**

- assisting librarians in the acquisition, preparation and organization of information;
- describing, analyzing and maintaining valuable objects and collections for the benefit of researchers and the public;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**34331 Assistant officer, archives S27**

**34332 Assistant, curator S27**

**34333 Assistant officer, librarian S27**

**34334 Assistant officer, publication N27**

#### **3434 CHEFS**

Chefs usually supervise and coordinate the work of cooks and other kitchen helpers and prepare meal in large hotel, restaurants and other establishment.

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

- planning daily menu, taking into account probable number of guests, popularity of various dishes and determines and assigns process to each serving;
- supervising preparation and cooking of food, and instructing cooks as required;
- preparing special dishes and inventing recipe;
- testing cooked foods by tasting or smelling them;
- requisitioning or purchasing food supplies and kitchen equipment as necessary and checks them for quality and quantity;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

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

**34341 Chief chef**

**34342 Executive chef**

#### **3435 OTHER ARTISTIC AND CULTURAL ASSOCIATE PROFESSIONALS**

This unit group covers other artistic and cultural associate professionals outside the scope of those classified in unit group 3431 – 3434.

### **35 INFORMATION AND COMMUNICATIONS TECHNICIANS**

Information and communications technicians provide support for the day-to-day running of computer systems, communications systems and networks and perform technical tasks related to telecommunications, broadcast of image and sound as well as other types of telecommunications signals on land, sea or in aircraft.

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

**351 INFORMATION AND COMMUNICATIONS TECHNOLOGY OPERATIONS AND USER SUPPORT TECHNICIANS**

**352 TELECOMMUNICATIONS AND BROADCASTING TECHNICIANS**

**351 INFORMATION AND COMMUNICATIONS TECHNOLOGY OPERATIONS AND USER SUPPORT TECHNICIANS**

Information technology operations and user support technicians provide support for the day-to-day running of communications systems, computer systems and networks and provide technical assistance to users.

#### **3511 INFORMATION AND COMMUNICATIONS TECHNOLOGY OPERATIONS TECHNICIANS**

Information and communications technology operations technicians support the day-to-day processing, operation and monitoring of information and communications technology systems, including local and wide area networks (LANs and WANs), and hardware, software and related computer equipment to ensure optimal performance, and identify any problems.

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

- operating and controlling peripheral and related computer equipment;
- entering commands, using computer terminal, and activating controls on computer and peripheral equipment to integrate and operate equipment;
- monitoring systems for equipment failure or errors in performance;
- notifying supervisor or maintenance technicians of equipment malfunctions;
- responding to program error messages by finding and correcting problems, escalating the problem to other staff or terminating the program;
- reading job set-up instructions to determine equipment to be used, order of use, material such as disks and paper to be loaded, and control settings;
- retrieving, separating and sorting program output as needed, and sending data to specified users;
- loading peripheral equipment, such as printers, with selected materials for operating runs, or oversee loading of peripheral equipment by peripheral equipment operators;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

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

**35111 Technician, computer**

**35112 Technician, semi-conductor**

**35113 Assistant, information technology**

**35113 Technician, information systems**

**35114 Technician, computer FT17**

#### **3512 INFORMATION AND COMMUNICATIONS TECHNOLOGY USER SUPPORT TECHNICIANS**

Information and communications technology user support technicians provide technical assistance to users, either directly or by telephone, e-mail or other electronic means, including diagnosing and resolving issues and problems with software, hardware, computer peripheral equipment, networks, databases and the Internet, and providing guidance and support in the deployment, installation and maintenance of systems.

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

- answering user inquiries regarding software or hardware operation to resolve problems;
- entering commands and observing system functioning to verify correct operations and detect errors;
- installing and performing minor repairs to hardware, software, or peripheral equipment, following design or installation specifications;
- overseeing the daily performance of communications and computer systems;
- setting up equipment for employee use, performing or ensuring proper installation of cables, operating systems, or appropriate software;
- maintaining records of daily data communication transactions, problems and remedial actions taken, or installation activities;



- consulting user guides, technical manuals and other documents to research and implement solutions;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**35121 Technician, help desk**

**35122 Assistant, computer/user services**

**35123 Assistant officer, information technology F29**

### **3513 COMPUTER NETWORK AND SYSTEMS TECHNICIANS**

Computer network and systems technicians establish, operate and maintain network and other data communications systems.

**Tasks include:**

- operating, maintaining and troubleshooting network systems;
- operating and maintaining data communications systems other than network;
- assisting users with network and data communications problems;
- identifying areas needing upgraded equipment and software;
- installing computer hardware, network software, operating system software and applications software;
- performing start up and close down as well as backup systems and disaster recovery operations;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**35131 Technician, network support**

### **3514 WEB TECHNICIANS**

Web technicians maintain, monitor and support the optimal functioning of Internet and Intranet websites and web server hardware and software.

**Tasks include:**

- installing, monitoring and supporting the reliability and usability of Internet and Intranet websites or web server hardware or software;
- developing and maintaining documentation, policies and instructions, recording operational procedures and system logs;
- developing, coordinating, implementing and monitoring security measures;
- analyzing and making recommendations to enhance performance, including upgrading and acquiring new systems;
- liaising with, and providing guidance to, clients and users;
- modifying web pages;
- performing web server backup and recovery operations;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**35141** *Administrator, website*

## **352 TELECOMMUNICATIONS AND BROADCASTING TECHNICIANS**

Telecommunications and broadcasting technicians control technical functioning of equipment to record and edit images and sound and for transmitting radio and television broadcasts of images and sounds, as well as other types of telecommunication signals on land, sea or in aircraft, perform technical tasks connected with telecommunications engineering research and with the design, manufacture, assembly, construction, operation, maintenance and repair of telecommunications systems.

### **3521 BROADCASTING AND AUDIO-VISUAL TECHNICIANS**

Broadcasting and audio-visual technicians control technical functioning of equipment to record and edit images and sound and for transmitting radio and television broadcasts of images and sounds, as well as other types of telecommunication signals on land, sea or in aircraft.

**Tasks include:**

- controlling equipment to record sound;
- controlling equipment to edit and mix image and sound recordings to ensure satisfactory quality and to create special image and sound effects;
- applying knowledge of principles and practices of image and sound recording and editing in order to identify and solve problems;
- controlling transmitting and broadcast systems and satellite systems for radio and television programmes;
- controlling radio communications systems, satellite services, and multiplex systems on land, sea or in aircraft;
- applying knowledge of principles and practices of broadcasting, telecommunications terminals and transmissions systems, in order to identify and solve problems;
- making repairs to equipment;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**35211** *Cinematographer*

**35212** *Editor, sound*

**35213** *Projectionist, cinema*

**35214** *Officer, ships radio*

**35215** *Assistant officer, film laboratory C27*

**35216** *Technician, audio and video equipment*

### **3522 TELECOMMUNICATIONS ENGINEERING TECHNICIANS**

Telecommunications engineering technicians perform technical tasks connected with telecommunications engineering research, as well as with the design, manufacture, assembly, construction, operation, maintenance and repair of telecommunications systems.

**Tasks include:**

- providing technical assistance connected with research and the development of telecommunications equipment, or testing prototypes;
- studying technical material such as blue prints and sketches to determine the method of work to be adopted;
- preparing detailed estimates of quantities and costs of materials and labour required for the manufacture and installation of telecommunications equipment, according to the specifications given;
- providing technical supervision of the manufacture, utilisation, maintenance and repair of telecommunications systems to ensure satisfactory performance and compliance with specifications and regulations;
- applying technical knowledge of telecommunications engineering principles and practices in order to identify and solve problems arising in the course of their work;
- performing related tasks;
- supervising, scheduling and monitoring task of other workers.

**Examples of the occupations classified here:**

**35221 Technician, engineering/telecommunications**

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