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DEPARTMENT OF HIGHER EDUCATION AND TRAINING

NO. 892

17 AUGUST 2020



higher education  
& training

Department:  
Higher Education and Training  
REPUBLIC OF SOUTH AFRICA

**CALL FOR PUBLIC COMMENTS ON THE DRAFT  
NATIONAL LIST OF OCCUPATIONS IN HIGH  
DEMAND: 2020**

**2020 NATIONAL LIST OF OCCUPATIONS IN HIGH DEMAND IN  
SOUTH AFRICA**

I, Bonginkosi Emmanuel Nzimande, Minister of Higher Education, Science and Innovation, in terms of Section 30B(i) read with Section 2(i) (a) (i),(b)(c) (ii) and (iii) of the Skills Development Act No.97 of 1998, hereby publish the 2020 National List of Occupations in High Demand in South Africa.

Interested persons who wish to comment on the draft report for the 2020 National List of Occupations in High Demand in South Africa may submit their written motivation and evidence for the inclusion and exclusion of the occupations, within 21 days of the date of publication.

All comments should be marked for the attention of Ms M Ramasodi, Tel. 012 312 5345, email [Ramasodi.M@dhet.gov.za](mailto:Ramasodi.M@dhet.gov.za).

A copy of the draft report for the 2020 National List of Occupations in High Demand in South Africa is available on the Departmental website: [www.dhet.gov.za](http://www.dhet.gov.za)



**Dr BE Nzimande, MP**

**Minister of Higher Education, Science and Innovation**

Date:

09/08/2020



higher education  
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Department:  
Higher Education and Training  
REPUBLIC OF SOUTH AFRICA



DNA Economics

## List of Occupations in High Demand

Methodology and preliminary list for public comment

DRAFT

### **Disclaimer**

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Please note that the list at the end of this discussion document is not final. It has been furnished as for the validation process.



## Brief Methodology Statement of the List of Occupations in High Demand

The list of Occupations in High Demand (OIHD) consists of occupations in whose demand is high and growing<sup>1</sup> in South Africa. The list is intended to inform planning for Post-School Education and Training (PSET). The list:

- Guides the development of new qualifications for occupations which are shown to be in high demand, while also signalling the need for updates to existing qualifications,
- Acts as a signpost for enrolment planning, and
- Informs career guidance for learners and work-seekers.

The methodology (which has a strong basis in both South African and international labour market intelligence literature<sup>2</sup>) for creating the OIHD begins with a quantitative analysis of occupation data which then feeds into the qualitative analysis. The quantitative analysis produces a list of aggregated occupations known as "Unit Groups" at the 4-digit OFO code level. The occupations (6-digit OFO code level) in high demand within each of these "Unit Groups" are then identified through a qualitative approach. This follows the best practice of creating such labour market intelligence, as pointed out by the International Labour Office (2015), and is discussed in more detail from here on.

## Quantitative Analysis

Indicators used in the quantitative analysis, as well as their sources, are shown in Table 1. The criteria column is critical because the methodology reduces the indicator value to either a one or a zero. This is to reduce the impact of outliers. The criteria columns, therefore, articulates the requirements the occupation should fulfil to be equal to one.

**Table 1: Indicators Used in Quantitative Analysis**

Sub-dimension	Source	Indicator	Criteria
Employment Pressure	QLFS	Change in employment growth above the median between 2010 and 2017	=1 if growth > median, otherwise 0
		Change in employment intensity above the median between 2010 and 2017 (measured in hours worked by full-time workers)	=1 if growth > median, otherwise 0
		Change in the proportion of employees with tenure of less than one year above the median between 2010 and 2017.	=1 if proportion > median, otherwise 0
Vacancy Pressure	Career Junction/JOI	Change in vacancy growth above the median in the JOI or Career Junction listings	=1 if change > median, otherwise 0

<sup>1</sup> Demand for occupations is measured by:

- Vacancy Pressure- Growth in the number and average duration of vacancies
- Wage Pressure- Growth in wages
- Employment Pressure- Growth in the number of people employed, and average duration of employment within a particular occupation

<sup>2</sup> (Reddy, Rogan, Mncwango, & Chabane, 2018); (OECD, 2017); (The Department of Higher Education and Training, 2016); (The Department of Higher Education and Training, 2014); (The Migration Advisory Council, 2013)



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Sub-dimension	Source	Indicator	Criteria
	Career Junction	Change in vacancy renewals ("hard-to-fill vacancies") above the median in the Career Junction listings	=1 if change > median, otherwise 0
Wage pressure	QLFS/LMDS	Hourly mean wage growth	=1 if growth > median, otherwise 0
		Hourly median wage growth	=1 if growth > median, otherwise 0
		Conditional hourly mean wage growth	=1 if growth > median, otherwise 0
Priority/Strategic Demand	SETA Pivotal List	Occupations which occur in the various SETA pivotal lists above the median amount of times that occupations have appeared on such lists	=1 if # of mentions in list > median, otherwise 0
	SIPs List	Occupation appears on SIPs list	=1 if the occupation is mentioned in SIPs list, otherwise 0

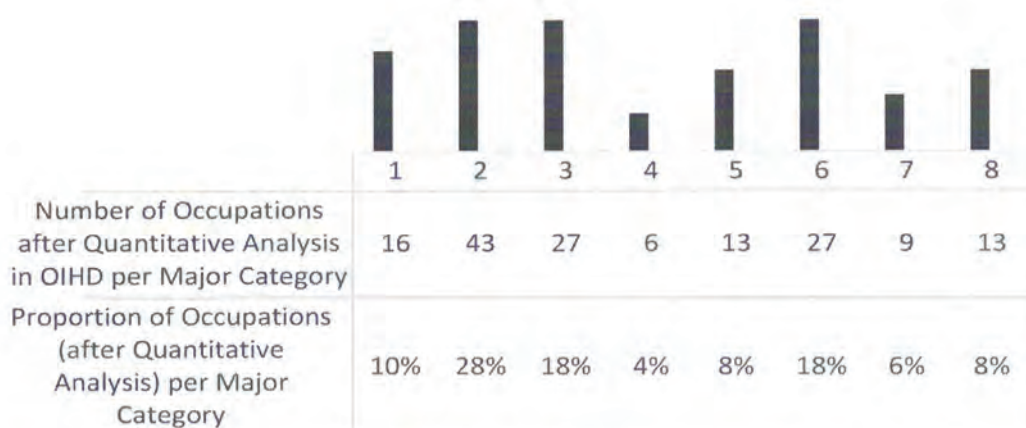
These indicators were weighted and combined using three different methods:

1. **Each indicator is weighted through Principal Components Analysis (PCA).** PCA is a statistical technique which calculates weights for each indicator based on their correlations to each other.
2. **Each dimension is equally weighted.** Each of the four dimensions (employment pressure, vacancy pressure, wage pressure and priority/strategic demand) are all equally weighted at 0.25 or  $\frac{1}{4}$ . Each indicator within each dimension is then weighted equally.
3. **Each indicator is subjectively weighted.** In this case, if a particular indicator is shown-through literature review or stakeholder discussions- to be over-weighted or under-weighted, the authors then weighted indicators subjectively. This was done across various weighting scenarios as a robustness check to assess whether the list using equal weighting would change drastically if different weighting schemes were attached to different indicators.

This created various lists which were cross-checked with one another to obtain a draft 4-digit list of occupations which are revealed to be in high demand. This list spanned various 1-digit OFO codes (considered the "major category" in the OFO framework, which indicates the skill level and area of specialisation for these occupations). These categories are presented in Table 2, with the distribution of the major categories in the draft list being shown in Figure 2 overleaf:

**Table 2: Meaning of 1<sup>st</sup> digit of OFO code**

OFO-Code first digit	Description
1	Managers
2	Professionals
3	Technicians and Associate Professionals
4	Clerical Support Workers
5	Service and Sales Workers
6	Skilled Agricultural, Forestry, Fishery, Craft and Related Trades Workers
7	Plant and Machine Operators and Assemblers
8	Elementary Occupations

List of Occupations in High Demand  
DHET**Figure 1: Quantitative Analysis: Occupations by Major Category**

This process created a list of 154 "Unit Group" (4-digit) occupations, spread across the various "Major Group" OFO categories. Although there is representativity across the eight groups, the highest concentration is in the professionals' group (2), followed by technicians (3) and skilled trade workers (6).

### Qualitative Analysis

From this list of 154, the qualitative analysis was based on answering two main questions:

1. Which of the 6-digit occupation(s) corresponding to a 4-digit unit group found in the quantitative analysis showed signals of high demand?
- and
2. Which of the 4-digit unit groups appear due to statistical anomalies rather than actual high demand?

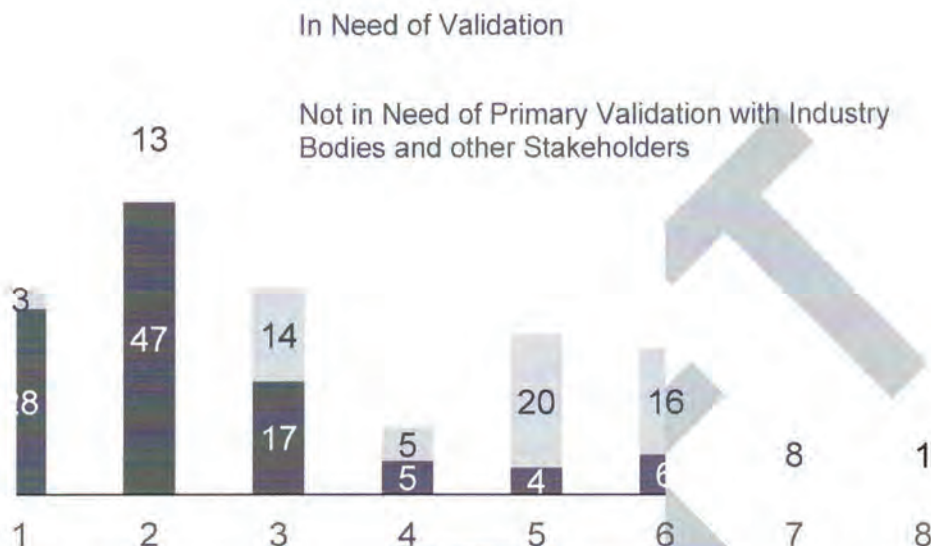






List of Occupations in High Demand  
DHET**6-digit Results**

This process provided the following distribution of occupations before primary validation processes took place:



*Note: The value in the middle the bars denotes the number of occupations within each OFO major category, which is shown on the x-axis, that exists in the 6-digit OFO list.*

As can be seen, the 6-digit OIHD in its current form has approximately 189 occupations, of which 79 still need to go through the primary validation process.

There is space in the list overleaf for colleagues to comment regarding whether a particular occupation should remain in the final OIHD or not as well, above and beyond this primary validation.

## The call for public comment

The methodology described above produces a preliminary list. This **"Call for public comment for the National List of Occupations in High Demand: 2020"** furthers the list toward a final "National List of Occupations in High Demand (2020)".

It should be noted that, as was the case in prior years, the planned 2020 National List of Occupations in High Demand uses the Department of Higher Education and Training's Organising Framework for Occupations (OFO) as the basis for the development of the list. The OFO is a classification system for occupations, which classifies occupations into 6 different digit levels. Stakeholders are requested to provide names of occupations in line with digit level 6 of the OFO.

This **"Call for public comment for the National List of Occupations in High Demand: 2020"** invites the public to review the preliminary list and either propose:

**exclusions** when an occupation appears on the preliminary list but there is a strong argument that it should not be included in the final list

or

**inclusions** when an occupation does not appear on the preliminary list but there is a strong argument that it should be included

The argument offered in either case should align with the definition of **an occupation in high demand**. The term "Occupation in High Demand" encompasses the idea of occupational growth (past and future), occupational shortages, and new or emerging occupations. An argument will be strengthened substantially if evidence for the exclusion or inclusion of an occupation is provided along with the submission.

Suggestions for evidence that will assist in strengthening the argument to **include/ exclude**:

- High/ low wage growth (above inflation)
- High/ low growth in the number of vacancies
- High/ low growth in expenditure on training for employees
- High/ low growth in recruitment for employees
- Difficulty/ ease in retaining staff in an occupation
- Vacancies that are hard/easy-to-fill

The table below sets out the occupations included in the preliminary list. Space has been provided to provide reasons (argument) for exclusion along with associated evidence. A table for inclusion is also provided below this table





List of Occupations in High Demand  
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6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
2019-111202	General Manager Public Service		
2019-111204	Senior Government Official		
2019-111207	Senior Government Manager		
2019-112101	Director (Enterprise / Organisation)		
2019-121101	Finance Manager		
2019-121103	Credit Manager		
2019-121104	Internal Audit Manager		
2019-121201	Human Resource Manager		
2019-121202	Business Training Manager This occupation might also be referred to by alternative titles or specialisations, namely: • Technical Training Manager		
2019-121204	Recruitment Manager		
2019-121205	Employee Wellness Manager		
2019-121206	Health and Safety Manager This occupation might also be referred to by alternative titles or specialisations, namely: • Health and Safety Compliance Officer		
2019-121207	Personnel Manager		
2019-121301	Policy and Planning Manager		
2019-121901	Corporate General Manager		

<sup>3</sup> Provide references for information sources or provide links to information sources, or provide the actual source of information. Use research publications, industry reports, annual reports, and other similar documents as sources of evidence.



## List of Occupations in High Demand

6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
2019-121903	<b>Physical Asset Manager</b>		
2019-121905	<b>Programme or Project Manager</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• Technical Project Manager</li> </ul>		
2019-121908	<b>Quality Systems Manager</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• Quality Assurance Systems Auditor</li> </ul>		
2019-122101	<b>Sales and Marketing Manager</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• Business Development Manager</li> <li>• Business Support Manager</li> <li>• Key Account Manager</li> <li>• Insurance Sale and Marketing Manager</li> <li>• Agricultural Sales and Marketing Manager</li> <li>• Sales Consulting Representative</li> </ul>		
2019-122102	<b>Sales Manager</b>		
2019-122105	<b>Customer Service Manager</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• Customer Manager</li> <li>• Client Services Advisor</li> <li>• Customer Representative</li> <li>• International and Local Client Manager</li> <li>• ICT Customer Service Manager</li> </ul>		
2019-122301	<b>Research and Development Manager</b>		
2019-131101	<b>Agricultural Farm Manager</b>		
2019-131103	<b>Forestry Operations Supervisor</b>		
2019-131201	<b>Aquaculture Farm Manager</b>		
2019-132101	<b>Manufacturer</b>		





List of Occupations in High Demand  
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6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
2019-133103	<b>Data Management Manager</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• Data Centre Operations Specialist</li> <li>• Data Centre Technician</li> <li>• Data Centre Operations Manager</li> <li>• Data Processing Manager</li> <li>• Data Operations Manager</li> </ul>		
2019-133104	Application Development Manager		
2019-133105	Information Technology Manager		
2019-133106	Information Systems Director		
2019-134202	Nursing Clinical Director		
2019-134203	Primary Health Care Manager		
2019-134204	Secondary Health Services Manager		
2019-134205	Health Service Specialised Clinic Manager		
2019-134206	Sport Science Manager		
2019-134207	Community Health Manager		
2019-134501	School Principal		
2019-134502	FET College Principal		
2019-134503	Faculty Head		
2019-134504	District Education Manager		
2019-134505	Educational Rector		
2019-134506	Educational Registrar		
2019-134507	Departmental Head		
2019-134901	Environmental Manager		
2019-134902	Laboratory Manager		
2019-134903	Small Business Manager		



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6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
2019-134912	Commissioned Fire and Rescue Officer		
2019-134915	Fresh Produce Packhouse Manager		
2019-134916	Fresh Produce Packhouse Foreman		
2019-141101	Hotel or Motel Manager		
2019-141201	Café (Licensed) or Restaurant Manager		
2019-141202	Licensed Club Manager		
2019-141203	Catering Production Manager		
2019-141204	Reservations Manager		
2019-142101	Importer or Exporter		
2019-142102	Wholesaler		
2019-142103	Retail General Manager		
2019-142104	Post Office Manager		
2019-143105	Sports Administrator		
2019-143901	Facilities Manager		
2019-143902	Cleaning Services Manager		
2019-143903	Boarding Kennel or Cattery Manager		
2019-143904	Security Services Manager		
2019-143905	Call or Contact Centre Manager This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• Contact Centre Manager: Resource Planner</li> <li>• Contact Centre Workforce Manager</li> <li>• Telesales Manager</li> <li>• Call or Contact Centre Quality Manager</li> </ul>		
2019-143906	Caravan Park and Camping Ground Manager		
2019-143907	Dockmaster		
2019-143908	Travel Accommodation Inspector		

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6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
2019-143909	Travel Agency Manager		
2019-211201	Meteorologist		
2019-211301	Chemist		
2019-211401	Geologist		
2019-211402	Geophysicist		
2019-211403	Materials Scientist		
2019-211405	Mineralogist		
2019-211406	Hydrologist		
2019-211407	Oceanographer		
2019-212101	Actuary		
2019-213105	Biotechnologist		
2019-213107	<b>Marine Biologist</b> This occupation might also be referred to by alternative titles or specialisations, namely: • Fisheries Researcher		
2019-213109	<b>Zoologist</b>		
2019-213201	<b>Agriculture Consultant</b> This occupation might also be referred to by alternative titles or specialisations, namely: • Horticulture Consultant • Horticulture Advisor • Agriculture Mentor • Agriculture Advisor • Agriculture Economic Advisor		
2019-213202	<b>Agricultural Scientist</b> This occupation might also be referred to by alternative titles or specialisations, namely: • Seed Analyst • Soil Scientist • Plant Pathologist		



List of Occupations in High Demand  
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6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
	<ul style="list-style-type: none"> <li>• Plant/Seed Breeder</li> <li>• Pomologist</li> <li>• Agronomist</li> <li>• Soil and Plant Scientist</li> <li>• Seed Production Horticulturist</li> <li>• Plant Breeder</li> <li>• Plant Pathologist</li> <li>• Soil and Pasture Scientist</li> <li>• Plant Scientist</li> <li>• Animal Scientist</li> </ul>		
2019-213204	<b>Wine Maker</b>		
	<b>Food and Beverage Scientist</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• Food Technologist</li> <li>• Food Safety Standards Auditor</li> <li>• Food Sanitation and Safety Inspector</li> <li>• Food Chemist</li> <li>• Food Engineer</li> <li>• Protein Development Technologist</li> <li>• Milling Nutritionist</li> <li>• Food Quality Consultant</li> <li>• Food Safety Standards Manager</li> </ul>		
2019-213205			
2019-213302	<b>Environmental Scientist</b>		
2019-213304	Earth and Soil Scientist		
2019-213306	<b>Water Quality Analyst</b>		
2019-213307	<b>Park Ranger</b>		
2019-214101	<b>Industrial Engineer</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• Manufacturing Technology Engineer</li> <li>• Process Design Engineer</li> </ul>		



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6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation?
	<ul style="list-style-type: none"> <li>• Process Engineer</li> <li>• Operations Research Engineer</li> <li>• Produce Process Engineer</li> <li>• Automation and Control Engineer</li> <li>• Quality Management Engineer</li> </ul>		
2019-214102	<b>Industrial Engineering Technologist</b>		
	<b>Civil Engineer</b>		
2019-214201	This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• GIS Management Engineer</li> <li>• Land-use Management Engineer</li> </ul>		
2019-214202	<b>Civil Engineering Technologist</b>		
2019-214301	<b>Environmental Engineer</b>		
2019-214302	<b>Environmental Impact and Restoration Analyst</b>		
2019-214401	<b>Mechanical Engineer</b>		
2019-214402	<b>Mechanical Engineering Technologist</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• Clinical Technologist</li> </ul>		
2019-214403	<b>Aeronautical Engineer</b>		
2019-214404	<b>Aeronautical Engineering Technologist</b>		
2019-214405	<b>Naval Architect</b>		
2019-214501	<b>Chemical Engineer</b>		
2019-214502	<b>Chemical Engineering Technologist</b>		
2019-214601	<b>Mining Engineer</b>		
2019-214904	<b>Quantity Surveyor</b>		
2019-214905	<b>Agricultural Engineer</b>		
2019-214906	<b>Agricultural Engineering Technologist</b>		
2019-215101	<b>Electrical Engineer</b>		

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6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
2019-215102	Electrical Engineering Technologist		
2019-215103	Energy Engineer		
2019-215104	Energy Engineering Technologist		
2019-216101	Architect		
2019-216201	Landscape Architect		
2019-216301	Fashion Designer		
2019-216302	Industrial Designer		
2019-216401	Urban and Regional Planner		
2019-216502	Surveyor		
2019-216601	Digital Artist		
2019-216602	<b>Illustrator</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• Gamification Illustrator</li> <li>• E-Learning Illustrator</li> <li>• Coding Illustrator</li> <li>• Graphic Design Illustrator</li> </ul>		
2019-216603	Multimedia Designer		
2019-216604	Web Designer		
2019-221101	General Medical Practitioner		
2019-221203	Emergency Medicine Specialist		
2019-221210	General Medicine Specialist Physician		
2019-221214	Nuclear Medicine Specialist		
2019-221218	Medical Geneticist		
2019-221221	Public Health Medicine Specialist		
2019-221222	Public Health Occupational Medicine Specialist		
2019-222103	Registered Nurse (Child and Family Health)		









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6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
2019-241204	Financial Markets Practitioner		
2019-241301	Financial Investment Advisor		
2019-242101	Management Consultant This occupation might also be referred to by alternative titles or specialisations, namely: • Strategic Business Policy Analyst • Business Analyst • Process Engineer		
2019-242102	Organisation and Methods Analyst		
2019-242103	Business Development Officer		
2019-242104	AML Surveillance Analyst		
2019-242201	Intelligence Officer		
2019-242202	Policy Analyst		
2019-242203	Company Secretary		
2019-242204	Corporate Treasurer		
2019-242207	Compliance Officer		
2019-242208	Organisational Risk Manager This occupation might also be referred to by alternative titles or specialisations, namely: • Organisational Risk Officer • Organisational Risk Adviser • Organisational Risk Assessor		
2019-242209	Accounting Officer		
2019-242210	Business Administrator		
2019-242211	Internal Auditor		
2019-242212	Diplomat		
2019-242213	Regulatory Affairs Officer		
2019-242214	Intellectual Property Special Advisor		



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6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
2019-242215	Fraud Examiner		
2019-242302	Skills Development Practitioner		
2019-242303	Human Resource Advisor		
2019-242304	Industrial Relations Advisor		
2019-243101	Advertising Specialist		
2019-243102	Market Research Analyst		
2019-243103	Marketing Practitioner		
2019-243104	Market Campaign Analyst This occupation might also be referred to by alternative titles or specialisations, namely: • Customer Analyst		
2019-243201	Communication Coordinator		
2019-243202	Communication Strategist		
2019-243203	Corporate Communication Manager		
2019-243204	Event Producer		
2019-243301	Industrial Products Sales Representative		
2019-243302	Medical and Pharmaceutical Products Sales Representative		
2019-243303	Educational Products and Services Sales Representative		
2019-243304	Printing and Publishing Equipment Sales Representative		
2019-243401	ICT Account Manager		
2019-243402	ICT Business Development Manager		
2019-243403	ICT Sales Representative		
2019-251101	ICT Systems Analyst This occupation might also be referred to by alternative titles or specialisations, namely: • ICT Systems Designer • ICT Systems Specialist • ICT Business Systems Analyst		

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6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
	<ul style="list-style-type: none"> <li>• ICT Systems Consultant</li> <li>• Computer Analyst</li> <li>• Systems Programmer</li> <li>• LAN/WAN Specialist</li> <li>• ICT Systems Strategist</li> <li>• ICT Systems Architect</li> <li>• ICT Systems Coordinator</li> <li>• Assistant Director: IT Programmer</li> <li>• ICT Systems Analyst</li> <li>• Artificial Intelligence Specialist</li> <li>• Machine Learning Specialist</li> </ul>		
2019-251102	<b>Data Scientist</b>		
	<b>Software Developer</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• Software Engineer</li> <li>• Software Architect</li> <li>• Software Designer</li> <li>• ICT Risk Specialist</li> <li>• Front-End Engineer</li> <li>• UX Designer</li> </ul>		
2019-251201			
	<b>Programmer Analyst</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• Digital Content Creator</li> <li>• Solutions Architect</li> <li>• Business Solutions Architect</li> <li>• Cloud Support Engineer</li> <li>• Systems Architect</li> <li>• Applications Architect</li> <li>• Call Centre Architect</li> <li>• Computing Architect</li> </ul>		
2019-251202			



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6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
	<ul style="list-style-type: none"> <li>• Desktop Architect</li> <li>• E-Commerce Architect</li> <li>• Machine Learning Specialist</li> <li>• Artificial Intelligence Specialist</li> <li>• Robotic Process Automation Specialist</li> </ul>		
2019-251203	<b>Developer Programmer</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• Digital Content Creator</li> <li>• Integrated Developer (PHP, Perl, Java, C++, C#, etc.)</li> <li>• Developer (PHP, Perl, Java, C++, C#, etc.)</li> </ul>		
2019-251301	<b>Multimedia Specialist</b>		
2019-251302	<b>Web Developer</b>		
2019-251401	<b>Applications Programmer</b>		
2019-251901	<b>Computers Quality Assurance Analyst</b> <b>Database Designer and Administrator</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• Information and Data Business Analyst</li> <li>• Data and Real-Time Streaming Analyst</li> <li>• Database Analyst</li> <li>• Database Architect</li> <li>• Database Analyst</li> <li>• Database Administrator</li> <li>• Data Administrator</li> <li>• Data Analyst</li> </ul>		
2019-252101			
2019-252201	<b>Systems Administrator</b> <b>Computer Network and Systems Engineer</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• Cisco Engineer</li> </ul>		
2019-252301			

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6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
	• Solution Specialist		
2019-252302	Network Analyst		
2019-252303	Transmission Engineer		
2019-252901	ICT Security Specialist This occupation might also be referred to by alternative titles or specialisations, namely: • Cyber Security Specialist		
2019-261101	Attorney This occupation might also be referred to by alternative titles or specialisations, namely: • Employee Relations Attorney		
2019-261106	Advocate		
2019-261201	Judge		
2019-261202	Magistrate		
2019-261901	Adjudicator		
2019-261905	Notary		
2019-262202	Information Services Manager This occupation might also be referred to by alternative titles or specialisations, namely: • Information Management Specialist		
2019-263101	Economist This occupation might also be referred to by alternative titles or specialisations, namely: • Econometrician		
2019-263102	Economic Research Managers		
2019-263206	Heritage Consultant		
2019-263401	Clinical Psychologist		
2019-263403	Organisational Psychologist		
2019-263501	Social Counselling Worker		
2019-264101	Author		



6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
2019-264102	<b>Book or Script Editor</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• Digital Marketing Script Editor</li> <li>• Online Marketing Script Editor</li> <li>• Script Manager</li> <li>• Script Writer</li> </ul>		
2019-264103	<b>Technical Writer</b>		
2019-264201	Copywriter		
2019-264202	Editor		
2019-265201	Composer		
2019-265202	Music Director		
2019-265203	Musician (Instrumental)		
2019-265204	Singer		
2019-265205	Music Researcher		
2019-265206	Music Copyist		
2019-311101	Chemistry Technician		
2019-311201	Civil Engineering Technician		
2019-311203	<b>Town Planning Technician</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• Town and Regional Planner</li> </ul>		
2019-311301	Electrical Engineering Technician		
2019-311302	Electric Substation Operations Manager		
2019-311401	Electronic Engineering Technician		
2019-311501	Mechanical Engineering Technician		
2019-311502	Pressure Equipment Inspector		

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6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
2019-311503	Aeronautical Engineering Technician		
2019-311601	Chemical Engineering Technician		
2019-311801	Draughtsperson		
2019-311903	Food and Beverage Technician		
2019-311904	Manufacturing Technician		
2019-311905	Industrial Engineering Technician This occupation might also be referred to by alternative titles or specialisations, namely: • Process Engineer		
2019-312101	Mining Production Supervisor		
2019-312103	Engineering Supervisor		
2019-312201	Production / Operations Supervisor (Manufacturing)		
2019-312301	Building Associate This occupation might also be referred to by alternative titles or specialisations, namely: • Building Technician • Building Manager		
2019-313106	Concentrated Solar Power (CSP) Plant Process Controller		
2019-313907	Food and Beverage Manufacturing Process Controller		
2019-314101	Life Science Technician		
2019-314102	Environmental Science Technician		
2019-314201	Agricultural Technician		
2019-321101	Medical Diagnostic Radiographer		
2019-321122	Occupational Therapy Technician		
2019-321201	Medical Technician		
2019-321206	Medical Technologist		
2019-324101	Veterinary Nurse		
2019-324102	Veterinary Technician		









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6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
	<ul style="list-style-type: none"> <li>Workplace Ergonomic Designer</li> </ul>		
2019-343202	Interior Decorator		
2019-343203	Visual Merchandiser		
2019-343204	Set Designer		
2019-343401	Chef		
2019-343902	Light Technician		
2019-351101	Computer Operator		
2019-351201	ICT Communications Assistant		
2019-351301	Computer Network Technician		
2019-351302	Geographic Information Systems Technicians		
2019-351303	Marine GIS Technician		
2019-411101	<b>General Clerk</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>Administrative Assistant</li> </ul>		
2019-413201	<b>Data Entry Operator</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>Data Capturer</li> </ul>		
2019-421102	<b>Bank Worker</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>Personal Banking Consultant</li> <li>Bank Customer Services Officer</li> <li>ATM Custodian</li> <li>Mortgage Banker</li> <li>Credit Support Officer</li> </ul>		
2019-421202	Gaming Worker		
2019-421204	Bookmaker's Clerk		





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6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
	<p>This occupation might also be referred to by alternative titles or specialisations, namely:</p> <ul style="list-style-type: none"> <li>• Distribution Controller</li> <li>• Logistics Clerk</li> <li>• Logistics Assistant</li> <li>• Logistics Controller</li> <li>• Logistics Coordinator</li> <li>• Planning Liaison Officer</li> <li>• Production Leader</li> <li>• Production Recorder</li> <li>• Production Leader</li> </ul>		
2019-432301	Transport Clerk		
2019-441201	Courier		
2019-441202	Postal Delivery Officer		
2019-441203	Mail Clerk		
2019-441301	<p>Coding Clerk</p> <p>This occupation might also be referred to by alternative titles or specialisations, namely:</p> <ul style="list-style-type: none"> <li>• Pricing Clerk</li> <li>• IT Coding Clerk</li> </ul>		
2019-441601	Human Resources Clerk		
2019-441903	Program or Project Administrators		
2019-511101	Flight Attendant		
2019-511102	<p>Bus Hostess</p> <p>This occupation might also be referred to by alternative titles or specialisations, namely:</p> <ul style="list-style-type: none"> <li>• Transport Coordinator</li> <li>• Transport Manager</li> </ul>		
2019-511103	Marine Steward		
2019-511104	Railway Steward		

6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
2019-511302	Tour Guide		
2019-514101	Hairdresser		
2019-516301	Funeral Director		
2019-522201	Retail Supervisor		
2019-522301	Sales Assistant (General)		
2019-522302	Motorised Vehicle or Caravan Salesperson		
2019-522303	Automotive Parts Salesperson		
2019-522304	ICT Sales Assistant		
2019-524201	Sales Demonstrator		
2019-524401	Call Centre Salesperson		
2019-531101	Child Care Worker		
2019-531102	Family Day Care Worker		
2019-531103	Nanny		
2019-531104	Out of School Hours Care Worker		
2019-531105	Child or Youth Residential Care Assistant		
2019-531106	Hostel Parent		
2019-532201	Residential Care Officer		
2019-532202	Aged or Disabled Carer		
2019-532203	Community Health Worker		
2019-541101	Fire Fighter		
2019-541102	<b>Hazardous Materials Removal Workers</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>• Health and Safety Representative</li> <li>• Health and Safety Manager</li> <li>• Health and Safety Expert</li> </ul>		
2019-541201	Traffic Officer		



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6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
2019-541202	Non - commissioned Police Official		
2019-541203	Military Police Official		
2019-541401	Security Officer This occupation might also be referred to by alternative titles or specialisations, namely: • Security Manager		
2019-541402	Alarm, Security or Surveillance Monitor		
2019-541403	Retail Loss Prevention Officer		
2019-541404	Close protector		
2019-611202	Horticultural Farmer		
2019-611302	Landscape Contractor		
2019-611304	Nurseryperson		
2019-613101	Mixed Crop and Livestock Farmer		
2019-621101	Tree Feller		
2019-622401	Hunter		
2019-641201	Bricklayer		
2019-641402	Fibre-cement Moulder		
2019-641403	Civil Engineering Constructor		
2019-641501	Carpenter and Joiner		
2019-641502	Carpenter		
2019-641503	Joiner		
2019-641903	Scaffolder		
2019-642201	Wall and Floor Tiler		
2019-642202	Floor Finisher		
2019-642302	Plasterer		
2019-642601	Plumber		





6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
2019-653303	<b>Mechanical Fitter</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>Fitter</li> </ul>		
2019-653304	<b>Diesel Fitter</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>Diesel Electrical Fitter</li> <li>Diesel Fitter-Mechanic</li> </ul>		
2019-653305	<b>Small Engine Mechanic</b>		
2019-653306	<b>Diesel Mechanic</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>Diesel Fitter-Mechanic</li> <li>Diesel Fuel Injection Mechanic</li> <li>Diesel Fuel Injection Technician</li> <li>Field Service Technician (Diesel)</li> <li>Truck Mechanic</li> </ul>		
2019-653307	<b>Heavy Equipment Mechanic</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>Earthmoving Mechanic</li> </ul>		
2019-653308	<b>Tractor Mechanic</b>		
2019-653309	<b>Forklift Mechanic</b>		
2019-653310	<b>Lubrication Equipment Mechanic</b>		
2019-662202	<b>Small Offset Lithography Operator</b>		
2019-671101	<b>Electrician</b> This occupation might also be referred to by alternative titles or specialisations, namely: <ul style="list-style-type: none"> <li>Electrical Fitter</li> <li>Electrician (General)</li> </ul>		
2019-671102	<b>Electrical Installation Inspector</b>		

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6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
2019-671202	Millwright		
2019-671203	Mechatronics Technician		
2019-671204	Lift Mechanic This occupation might also be referred to by alternative titles or specialisations, namely: • Elevator Repair Person		
2019-671205	Weapon Systems Mechanic		
2019-671206	Electrical Equipment Mechanic		
2019-671207	Armature Winder		
2019-671208	Transportation Electrician		
2019-671301	Electrical Line Mechanic		
2019-671302	Cable Joiner		
2019-672102	Radar Mechanic		
2019-672104	Electronic Equipment Mechanician		
2019-672105	Instrument Mechanician		
2019-672107	Special Class Electrician		
2019-672108	Radiotrician		
2019-681101	Slaughterer		
2019-681103	Butcher This occupation might also be referred to by alternative titles or specialisations, namely: • Blockman • Processed Meat Maker • Sosati Maker • Smallgoods Maker • Sausage Maker		
2019-681104	Fishmonger		





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6-Digit OFO Code	6-Digit Occupation Description	If occupation should be excluded, please provide a reason why?	Evidence for exclusion of occupation <sup>3</sup>
2019-711405	Concrete Batching Plant Operator		
2019-711406	Industrial Diamond Polishing Machine Operator		
2019-715101	Fibre Preparation Production Machine Operator		
2019-715102	Yarn Production Machine Operator		
2019-715103	Man-made Fibre Production Machine Operator		
2019-721901	Product Assembler		
2019-73211	Remotely Operated Vehicle (ROV) Pilot This occupation might also be referred to by alternative titles or specialisations, namely: • Drone Operator • Drone Pilot		
2019-734101	Agricultural Mobile Plant (Equipment) Operator		
2019-735101	Deck Hand		



Which occupation should be included in the final list that do not appear in the preliminary list above?

[illegible]

<sup>4</sup> Provide references for information sources or provide links to information sources, or provide the actual source of information. Use research publications, industry reports, annual reports, and other similar documents as sources of evidence.

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