



Updating ANZSCO

Reflecting a modern Australian labour market



ANZSCO [Preliminary] Proposed Changes

Version 2.0

Spatial, surveying and
mapping services

ANZSCO Comprehensive Review

Australian Bureau of Statistics

17/6/2024



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Essential Notes

The Australian and New Zealand Statistical Classification of Occupations (ANZSCO) describes all occupations for the Australian and New Zealand labour market.

The ABS has undertaken a comprehensive review of the Australian and New Zealand Standard Classification of Occupations (ANZSCO) to reflect the contemporary labour market and better meet stakeholders' needs. Public consultation rounds were held across 2023, with each round targeting selected occupations grouped by focus area.

Statistics New Zealand (Stats NZ) have elected not to participate in the current review and therefore occupation changes have only been considered in respect of the Australian labour market.

Updates to document

This document has been updated based on stakeholder feedback and further research. Minor updates have been made to a handful of occupations. The format of the document has also been updated to improve usability based on feedback received. A preliminary proposed changes document has been created for each of the 43 focus areas. Focus areas were designed to group occupations for consultation purposes only and will not be present in the classification structure.

The preliminary proposed changes presented do not include the full scope of not elsewhere classified categories (nec). Exclusion statements are incomplete and do not reference specific occupation locations within the classification. Outstanding nec categories, exclusion statements and final tweaks to occupations are currently being finalised in preparation for the release of the draft proposed classification in July on the ABS website. The July release will provide users with an opportunity to provide feedback on the structure of the proposed changes, before finalising the update for release by December 2024. These preliminary proposed changes documents are for information only.

Task lists

ABS recognises the potential of Artificial Intelligence (AI) to enhance our operations and efficiency. To this end, we have employed AI to assist in the creation of initial task lists. However, human experts are responsible for the final content, and AI serves as a tool, not a decision-maker. We value stakeholder input and incorporate it into our editing process placing importance on stakeholder submissions and other relevant research contributions.

Learn more about ANZSCO and the review at [Updating ANZSCO | Australian Bureau of Statistics \(abs.gov.au\)](https://abs.gov.au/anzsco)

Occupations in the Spatial surveying and mapping focus area include:

232212 Surveyor	5
232213 Cartographer	7
232214 Other Spatial Scientist.....	8
233212 Geotechnical Engineer.....	9
233213 Quantity Surveyor	10
821915 Surveyor's Assistant.....	11



About the focus area

The Spatial, surveying and mapping services focus area covers occupations which require specialised knowledge and skills to:

- plan, direct and conduct survey work to determine and delineate boundaries and features of tracts of land, marine floors and underground works
- prepare and revise maps, charts and other geographic products
- analyse, present and maintain geographical information about locations in space and time.

Summary of consultation

Stakeholders collectively expressed concerns regarding the existing representation of geospatial and surveying occupations within the classification, underscoring its inadequacy in capturing the contemporary growth and diversity within this field.

They also voiced a strong desire to differentiate between surveying and spatial science occupations and recommended new specialisations to be considered for several occupations across the focus area.

232212 Surveyor

Existing	Proposed			
<p>232212 Surveyor</p> <p>Plans, directs and conducts survey work to determine, plan and precisely position tracts of land, natural and constructed features, coastlines, marine floors and underground works, and manage related information systems.</p> <p>Registration or licensing may be required.</p> <p>Skill Level: 1</p> <p>Specialisations:</p> <ul style="list-style-type: none"> • Cadastral Surveyor • Engineering Surveyor • Geodetic Surveyor • Hydrographic Surveyor • Mine Surveyor • Photogrammetric Surveyor 	<p>232215 Engineering Surveyor</p> <p>Inspects, evaluates, measures, sets out and monitors infrastructure and construction works to ensure structures are built to plan.</p> <p>Registration or licensing may be required.</p> <p>Skill Level: 1</p> <p>Main Tasks:</p> <ul style="list-style-type: none"> • Measures, sets-out and monitors construction projects including high rise buildings, roads, tunnels, airports and other forms of infrastructure to ensure they are built in accordance with design specifications • Performs surveys, fieldwork, calculations, data reduction and manipulation on construction sites using specialised software and technical equipment such as theodolites, Global Positioning System (GPS), lasers and aerial and terrestrial scanners 	<p>232216 Land Surveyor</p> <p>Locates and defines public and private land boundaries by using precise measuring equipment.</p> <p>Registration or licensing may be required.</p> <p>Skill Level: 1</p> <p>Main Tasks:</p> <ul style="list-style-type: none"> • Uses specialised technical equipment such as theodolites, Global Positioning System (GPS), lasers and aerial and terrestrial scanners to take, record and collate measurements and locations in relation to land boundaries • Establishes site horizontal and vertical height data • Determines the position of boundaries of public or private land and prepares plans and associated documents • Develops and establishes reference systems for 	<p>232217 Mine Surveyor</p> <p>Designs and measures mines, tunnels and other underground works, maps out mineral deposits and determines the commercial viability of open cut and underground mines.</p> <p>Registration or licensing may be required.</p> <p>Skill Level: 1</p> <p>Main Tasks:</p> <ul style="list-style-type: none"> • Identifies limits for excavation purposes and marks drill patterns for blasting in open cut mines • Determines, controls and maps the location and direction of tunnels in underground mines • Establishes site horizontal and vertical height data • Calculates the volume of materials moved or minerals mined 	<p>232299 Surveyors and Spatial Scientists nec</p> <p>This occupation comprises Surveyors and Spatial Scientists not elsewhere classified.</p> <p>Registration or licensing may be required.</p> <p>Examples:</p> <ul style="list-style-type: none"> • Geodetic Surveyor • Hydrographic Surveyor <p>Skill Level: 1</p>

	<ul style="list-style-type: none"> • Completes as-constructed survey reports and plans to confirm a construction project conforms to the intended design and specifications • Prepares data models for set-out and machine guidance to assist in planning, executing, monitoring and evaluating surveying work • Works with construction professionals, Architects, property owners and Civil Engineers to provide accurate survey information for project planning and design phases <p>Specialisation:</p> <ul style="list-style-type: none"> • Construction Surveyor 	<p>geographic and land information</p> <ul style="list-style-type: none"> • Consults with other professionals such as Architects and engineers to ensure land development projects are completed to plan • Works with government officials and other stakeholders to ensure that land development projects are completed in compliance with regulations and local laws • Sets-out land and building developments • May map out positions of boundaries where land is subdivided, bought or sold and plan and provide critical professional advice for project developments in land and buildings <p>Specialisation:</p> <ul style="list-style-type: none"> • Registered or Licensed Land Surveyor 	<ul style="list-style-type: none"> • Uses Geographic Information System (GIS) to create site maps, including mine structures and deposit layers • Identifies potential risks and environmental effects of mining activities 	
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232213 Cartographer

Existing	Proposed
<p>232213 Cartographer</p> <p>Applies scientific, mathematical and cartographic design principles to prepare and revise maps, charts and other forms of cartographic output.</p> <p>Skill Level: 1</p>	<p>232213 Cartographer</p> <p>Applies scientific, mathematical and cartographic design principles to prepare and revise maps, charts and other forms of cartographic output.</p> <p>Skill Level: 1</p> <p>Main Tasks:</p> <ul style="list-style-type: none">• Collects, researches and analyses geographic data for map and chart creation• Utilises Geographic Information System (GIS) to organise and analyse spatial data• Creates and updates digital maps and charts using computer software• Prepares reports and presentations for cartographic communication

232214 Other Spatial Scientist

Existing	Proposed
<p>232214 Other Spatial Scientist</p> <p>Acquires, integrates, analyses, interprets, presents, manages and distributes information about locations in time and space, and develops related equipment, software and services.</p> <p>Skill Level: 1</p> <p>Specialisations:</p> <ul style="list-style-type: none">• Geographic Information Systems Manager• Geospatial Analyst	<p>232214 Geospatial Specialist</p> <p>Acquires, integrates, analyses, interprets, presents, manages and distributes information about locations in time and space, and develops related equipment, software and services.</p> <p>Skill Level: 1</p> <p>Main Tasks:</p> <ul style="list-style-type: none">• Gathers geospatial data through satellite imagery, aerial photography, Global Positioning System (GPS), surveys and other sources• Cleans, organises and formats geospatial data for analysis• Uses geospatial technology such as Geographic Information System (GIS) to analyse spatial data to describe and infer trends and patterns, solve problems and answer spatial data-related queries• Communicates findings and insights from geospatial data using reports, dashboards and interactive maps to technical and non-technical stakeholders• Develops and maintains databases and information systems for geospatial data management <p>Specialisations:</p> <ul style="list-style-type: none">• Geospatial Analyst• GIS Consultant• GIS Manager

233212 Geotechnical Engineer

Existing

233212 Geotechnical Engineer

Plans, directs and conducts survey work to analyse the likely behaviour of soil and rock when placed under pressure by proposed structures, and designs above and below ground foundations.

Registration or licensing may be required.

Skill Level: 1

Proposed

233212 Geotechnical Engineer

Plans, directs and conducts survey work to analyse the mechanics of soil and rock and its applications to engineering problems to support the safe and efficient design and construction of infrastructure projects.

Registration or licensing may be required.

Skill Level: 1

Main Tasks:

- Assesses construction plans to determine its feasibility based on the understanding of the construction site gathered from geological maps, aerial photographs, project data, collected historical information and other sources
- Collects and tests soil and rock samples to determine their properties and assist in the assessment of geotechnical parameters used in design
- Assesses the impact of soil and rock mechanical properties on the stability of existing structures
- Performs geotechnical calculations and modelling to evaluate the characteristics of the site under study and use the results from their analysis to design foundations and other geotechnical structures
- Investigates, identifies and analyses geological risks and hazards related to the site such as landslides, liquefaction or soil erosion
- Develops strategies to minimise risks and recommend appropriate safety measures such as drainage systems, soil improvement techniques, slope stabilisation methods to incorporate in the project design

233213 Quantity Surveyor

Existing	Proposed
<p>233213 Quantity Surveyor</p> <p>Alternative Titles:</p> <ul style="list-style-type: none">• Building Economist• Construction Economist <p>Estimates and monitors construction costs from the project feasibility stage, through tender preparation, to the construction period and beyond.</p> <p>Registration or licensing may be required.</p> <p>Skill Level: 1</p>	<p>233213 Quantity Surveyor</p> <p>Determines, analyses and manages the costs associated with construction projects including the feasibility, design, construction and operation stages.</p> <p>Registration or licensing may be required.</p> <p>Skill Level: 1</p> <p>Main Tasks:</p> <ul style="list-style-type: none">• Prepares cost estimates for construction projects based on varying levels of design• Prepares detailed cost plans for budgetary control, including bills of quantities, and manages progress payments• Monitors the project through the construction phases and adjusts cost based on variations• Prepares tender documents and evaluates contractor bids• Prepares tax depreciation reports• Prepares replacement cost assessments for insurance purposes• Engages with key stakeholders including asset owners, financiers, architects, builders, engineers and developers <p>Specialisations:</p> <ul style="list-style-type: none">• Cost Engineer• Cost Manager• Cost Planner• Estimating Manager

821915 Surveyor's Assistant

Existing	Proposed
<p>821915 Surveyor's Assistant</p> <p>Performs routine tasks to assist Surveyors and Geologists by transporting, assembling, maintaining and laying out prospecting and surveying equipment, and collecting and labelling samples.</p> <p>Skill Level: 5</p> <p>Specialisations:</p> <ul style="list-style-type: none">• Geological Survey Field Assistant• Seismic Survey Assistant	<p>821916 Surveyor's Assistant</p> <p>Alternative Title:</p> <ul style="list-style-type: none">• Surveying Assistant <p>Transports, assembles, maintains and lays out surveying equipment in support of surveyors.</p> <p>Geology Field Assistants are excluded from this occupation.</p> <p>Skill Level: 4</p> <p>Main Tasks:</p> <ul style="list-style-type: none">• Transports surveying equipment to and from work sites and assembles, operates and disassembles surveying equipment as required• Maintains and calibrates surveying equipment to ensure accuracy• Operates and maintains vehicles and equipment used in surveying activities• Assists in the marking and setting out of survey marks• Records and maintains accurate data and measurements for surveyors• Assists in the interpretation of surveying data and the preparation of surveying reports and maps