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Indonesia's
Occupational
Tasks and Skills

Tasks and Skills Profiles
2020

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Indonesia's Occupational Tasks and Skills

2020 Tasks and Skills Profiles

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The findings, interpretations, and conclusions expressed in this document are those of the authors and do not necessarily reflect the views of the executive directors of the World Bank, the governments they represent, or the counterparts with whom they consulted or engaged during the study process.

Contents

Introduction	7
How to read the Occupational Tasks and Skills Profiles	8
Occupational Tasks and Skills Profiles	11
List of Indotask Occupations	12

Abbreviations

Bappenas	Ministry of Development Planning
COL	Indonesia's Critical occupation list
Indotask	Indonesia's Occupational Tasks and Skills
IOEO	Indonesia's Occupational Employment Outlook
KBJI-2014	Indonesian Standard Classification of Occupations (Klasifikasi Baku Jabatan Indonesia 2014)
O*NET	Occupational Information Network

Introduction

Indotask, which stands for Indonesia's Occupational Tasks and Skills, represents the first attempt to collect detailed occupational data on tasks and skills in Indonesia. The online instrument adapts modules of the U.S. Occupational Information Network (O*NET), a globally recognized and comprehensive database describing almost a thousand occupations in the United States. The pilot includes 51 occupations that were identified as in high demand and/or strategic for Indonesia's economy in the *Critical Occupation List 2018*¹ and in *Indonesia's Occupational Employment Outlook 2020*.² The survey instrument for this work was developed as a proof of concept to be scaled up by the Government of Indonesia.

This report presents a detailed description of the tasks and skills profiles of each surveyed occupation based on the Indotask data. The accompanying report, *Indonesia's Occupational Tasks and Skills Technical Report*, explains the methodology applied and its caveats for data use and interpretation, showcases potential applications of the data, discusses the reliability of the estimates, and presents lessons learned, which can be incorporated in subsequent rounds if the survey is scaled up.

The Indotask pilot adapts two modules of the O*NET content model to the Indonesian context: Worker Requirements and Occupation-Specific Information. These are the two modules related to skills and tasks, respectively. They provide direct links to measuring skills in demand through the task approach, and together they generate information that can be used by policymakers for workforce development policy and monitoring, by employers for human resource policy, and by education experts for education and training design.

¹ World Bank and CMEA. 2020. *Indonesia's Critical Occupation List 2018*. Social Protection & Jobs Global Practice. Washington, DC: World Bank.

² Forthcoming. *Indonesia's Occupational Employment Outlook 2020*. Washington, DC: World Bank.

How to read the Occupational Tasks and Skills Profiles

Each of the 51 occupations surveyed in Indotask has its own profile, summarizing the data from the three modules collected in the pilot: tasks, skills, and education and training requirements. The variables that did not pass the quality controls (see section 6 of the technical report) are excluded from the profiles. The statistical findings shown comprise responses from both incumbent workers and experts.

The profiles present information in four sections, organized as follows:

1221 Sales and marketing managers

Job titles: Sales Manager, Marketing Manager

Responsibilities include plan, direct and coordinate activities of sales and marketing of a company, organization, or of companies which provides sales and marketing services for other companies

Education, training, and experience requirements

Minimum education

Bachelor's Degree	48%
Academy	38%
Upper Secondary	10%
Master/PhD	5%

Field of study

Natural, Mathematics, and Computer Science	5%
Engineering	5%
Service	28%
Social Science, Business, and Law	62%

Training and experience

On-Site or In-Plant Training
1-3 months

On-The-Job Training
3-6 months

Related Work Experience
1-2 years

Apprenticeship

Important 3.2/5.0

Job-Related Professional Certification

Important 2.8/5.0

Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Develop and manage budgets and controlling expenditure to ensure the efficient use of resources	3.8	Daily
Determining the price list, discounts and delivery terms, sales promotion budgets, sales methods, incentives and special promotions	3.7	More than once a month
Overseeing the selection, training and performance of staff	3.5	More than once a month
Leading and managing the activities of sales and marketing staff	3.5	More than once a year
Plans and directs the daily operations	3.5	Daily

Skills

Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Speaking	4.4↑	1	4.8↑	15
Active Listening	4.2↑	2	4.3	29
Negotiation	4.1↑	3	5.5↑	1
Management of Personnel Resources	4.0↑	4	5↑	10

8

Indonesia's Occupational Tasks and Skills

Tasks and Skills Profiles

1. Occupation

This section includes the code, title, and description of the occupation, obtained from the *Indonesian Standard Classification of Occupations (Klasifikasi Baku Jabatan Indonesia, KBJI) Handbook*, which provides information on occupations disaggregated at a 4-digit level. The classifications are based on internationally agreed-on concepts, definitions, principles, and classification procedures, following the International Standard Classification of Occupations (ISCO) 2008 (third revision).

2. Education, training, and experience requirements

This second section presents the following information for each occupation, coming from raters' opinions on the qualifications needed to perform it.

Minimum Education Requirement. This bar chart shows the distribution of answers to the question: "What is the minimum education qualification that would be required if someone were hired to perform the job in the occupation?"

Most Common Field of Study. This pie chart presents the distribution of answers to the question: "What is the field of study that would be required if someone were hired to perform the job in the occupation?"

Required Experience and Training. This is presented as a combination of expected formal and informal training requirements. Specifically:

- **On-site or in-plant training** shows the most frequent answer (mode) to the following question: "If someone were being hired to perform this job, how much *on-site or in-plant training* would be required?" (That is, how much organized classroom study is provided by the employer?)
- **On-the-job training** shows the most frequent answer (mode) to the following question: "If someone were being hired to perform this job, how much *on-the-job training* would be required?" (That is, how much time serving as a learner or trainee on the job under the instruction of a more experienced worker?)
- **Related work experience** shows the most frequent answer (mode) to the following question: "If someone were being hired to perform this job, how much *related work experience* would be required?" (That is, how much experience having other jobs is needed to prepare for this job?)

In cases where two categories of required experience and training are chosen by respondents in the same proportion (the occupation has two modes for these variables), the lower category is selected here.

- **Apprenticeships** shows the average score given to the question: "How important is it to have completed a job-related apprenticeship to successfully perform this job?" The importance score ranges from 1 (*not important*) to 5 (*extremely important*).
- **Job-professional certification** presents the average score provided to the question: "If someone were being hired to perform this job, how important would it be to hold a job-related professional certification?" The importance scores ranges from 1 (*not important*) to 5 (*extremely important*).

3. Tasks

This third section of the profile presents a table with the average score given to the importance of each task performed in the occupation, along with the frequency with which each is commonly performed. A task is the smallest unit of activity with a meaningful outcome. Task statements were obtained from the *KBJI Handbook* and are unique to each occupation.

The table divides task statements into two types: core and supplemental. *Core* tasks—critical to the occupation—are those for which (a) the share of respondents who answered yes to whether the task is relevant is equal to or larger than 67 percent and (b) a mean importance rating for the task is equal to or larger than 3.0 (on a 1 [*important*] to 5 [*extremely important*] scale). *Supplemental* tasks are those that are less relevant and/or important to the occupation. The Importance column in the table displays the mean importance score for each task, while the Frequency column displays the most commonly answered frequency for each task.

4. Skills

This fourth section presents the mean importance score for each of the 35 skills assessed in Indotask along with its mean score for level of relevance. Skills are the procedures or ways of working given the acquired knowledge. Respondents to the skills questionnaire rate the skills using two scales: the importance scale, which ranges from 1 (*not important*) to 5 (*extremely important*); and the level of relevance scale, which ranges from 1 (*basic*) to 7 (*sophisticated*) and is often simply referred as “level.” Appendix F in the accompanying technical report contains the description and categorization of each of the 35 skills.

In this table, the scores for skills importance and skills level of use were calculated by computing the mean of respondents’ answers to these questions:

- a. “How **important** is [skill name] to the performance of your current job?”
- b. “What **level** of [skill name] is needed to perform your current job?”

Both questions asked the respondents to answer with a rating from 1 to 5 (*not important* to *very important*). It is important to note that the skill level variable did not pass all the quality controls they were subject to (see section 6 of the technical report).

The arrow (↑) symbol indicates that a score is higher than the average score of the occupation level group (high-skilled, mid-skilled, and low-skilled).

List of Indotask Occupations

Business services and administration managers not elsewhere classified	14
Sales and marketing managers	16
Construction managers	18
Supply, distribution, and related managers	20
Financial and insurance services branch managers	22
Industrial and production engineers	24
Civil engineers	26
Mechanical engineers	28
Engineering professionals not elsewhere classified	30
Building architects	32
Graphic and multimedia designers	34
Environmental and occupational health and hygiene professionals	36
Financial analysts	38
Advertising and marketing professionals	40
Software developers	42
Journalists	44
Chemical and physical science technicians	46
Civil engineering technicians	48
Mechanical engineering technicians	50
Draughts persons	52
Manufacturing supervisors	54
Construction supervisors	56
Power production plant operators	58
Environmental and occupational health inspectors and associates	60
Commercial sales representatives	62
Buyers	64

Clearing and forwarding agents	66
Office supervisors	68
Computer network and systems technicians	70
General office clerks	72
Secretaries (general)	74
Data entry clerks	76
Debt-collectors and related workers	78
Contact center information clerks	80
Personnel clerks	82
Cleaning and housekeeping supervisors in offices, hotels and other	84
Door to door salespersons	86
Contact center salespersons	88
Sales workers not elsewhere classified	90
Agricultural and industrial machinery mechanics and repairers	92
Handicraft workers in textile, leather, and related materials	94
Electrical mechanics and fitters	96
Chemical products plant and machine operators	98
Rubber products machine operators	100
Mechanical machinery assemblers	102
Car, taxi, and van drivers	104
Lifting truck operators	106
Garden and horticultural laborer	108
Manufacturing laborer not elsewhere classified	110
Shelf fillers	112
Messengers, package deliverers and luggage porters	114

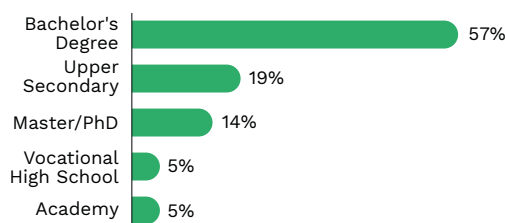
1219 Business services and administration managers not elsewhere classified

Job titles: Administerial Manager, Cleaning Service Manager, Business Service Manager, Facilities Manager

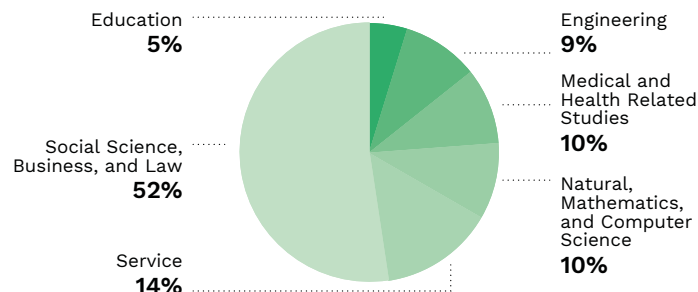
Responsibilities include representing the company or organization in negotiations and conventions, seminars, public hearings and forums and provide information and support for the preparation of financial statements

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



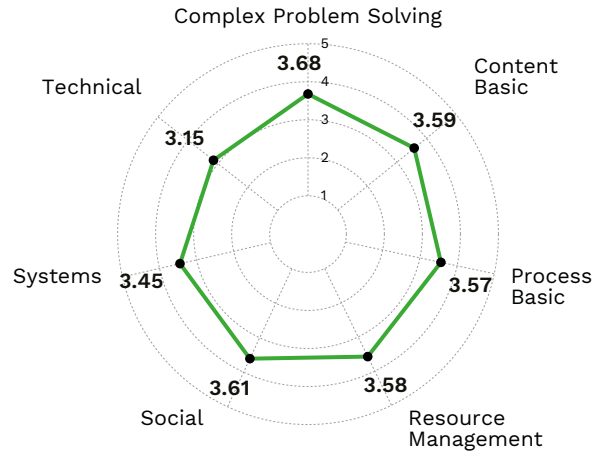
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Representing the company or organization in negotiations and conventions, seminars, public hearings and forums	3.4	More than once a year
Provide information and support for the preparation of financial statements and budgets	3.4	More than once a year
Leading, managing and developing administrative staff to ensure smooth business operations and the provision of accurate information and timely	3.4	More than once a year
Plans and directs the daily operations	3.3	More than once a year
Overseeing the selection, training and performance of staff	3.3	Daily
Provide administrative support, strategic and operational planning, research and advice to the top management on matters such as management of building facilities and administrative services	3.3	More than once a month
Developing and implementing administrative rules and guidelines that are used by all elements of the organization	3.2	More than once a year
Develop and manage budgets, controlling expenditure and ensuring the efficient use of resources	3.2	More than once a year
Analyze the issues and the various resource management initiatives that affect the organization, prepare reports, correspondence and submit related documents	3.1	More than once a year
Supplemental		
Develop and manage the administrative and physical resources organization	2.7	More than once a year

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Speaking	4.3↑	1	5.3↑	2
Active Listening	4↑	2	4.8↑	9
Time Management	3.9↑	3	4.7↑	11
Negotiation	3.8↑	4	5↑	4
Coordination	3.8↑	5	5↑	5
Reading Comprehension	3.8↑	6	4.4↑	18
Critical Thinking	3.8↑	7	4.3	22
Management of Personnel Resources	3.7↑	8	4.8↑	8
Monitoring	3.7↑	9	5.5↑	1
Operations Analysis	3.7↑	10	4.8↑	7
Instructing	3.6↑	11	5↑	3
Complex Problem Solving	3.6↑	12	4.5↑	13
Judgment and Decision Making	3.5↑	13	4.6↑	12
Management of Financial Resources	3.5↑	14	4.9↑	6
Service Orientation	3.5	15	4.2	26
Systems Evaluation	3.5	16	4.1	28
Persuasion	3.5	17	4.8↑	10
Active Learning	3.4	18	4.5↑	16
Operation and Control	3.4	19	4.1	27
Quality Control Analysis	3.4	20	4.4	19
Technology Design	3.3	21	4.5↑	14
Mathematics	3.3	22	4.2	25
Operation Monitoring	3.3	23	4.1	29
Social Perceptiveness	3.2	24	4.3	21
Systems Analysis	3.2	25	4.2	23
Learning Strategies	3.2	26	4.5↑	15
Writing	3.2	27	4.3	20
Management of Material Resources	3.1	28	4.5↑	17
Troubleshooting	3.0	29	4.1	30
Equipment Maintenance	3.0	30	4.0	31
Equipment Selection	3.0	31	4.2	24
Programming	2.9	32	3.6	33
Science	2.8	33	3.9	32
Installation	2.6	34	3.5	34
Repairing	2.5	35	3.5	35

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

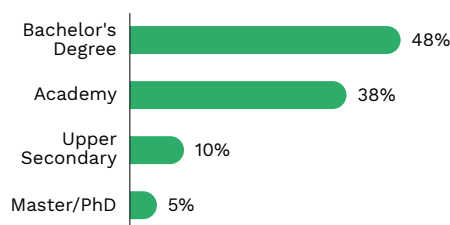
1221 Sales and marketing managers

Job titles: Sales Manager, Marketing Manager

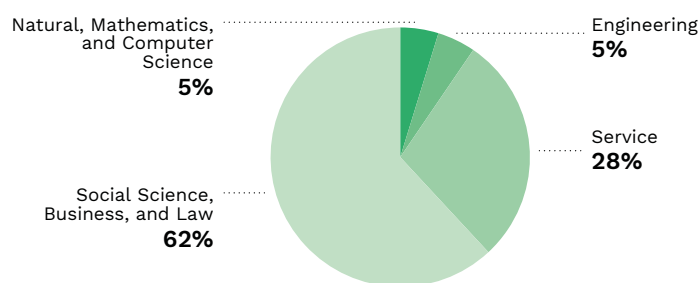
Responsibilities include plan, direct and coordinate activities of sales and marketing of a company, organization, or of companies which provides sales and marketing services for other companies

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
3-6 months



Related Work Experience
1-2 years

Apprenticeship



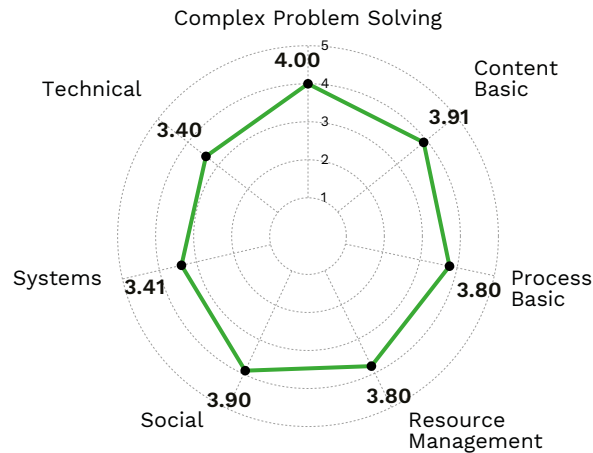
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Develop and manage budgets and controlling expenditure to ensure the efficient use of resources	3.8	Daily
Determining the price list, discounts and delivery terms, sales promotion budgets, sales methods, incentives and special promotions	3.7	More than once a month
Overseeing the selection, training and performance of staff	3.5	More than once a month
Leading and managing the activities of sales and marketing staff	3.5	More than once a year
Plans and directs the daily operations	3.5	Daily
Representing the company or organization at sales and marketing conventions, trade shows and other forums	3.4	More than once a month
Planning and organizing special sales and marketing programs based on sales records and market conditions	3.3	Daily
Establishing and directing operational and administrative procedures related to sales and marketing activities	3.3	More than once a month

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Speaking	4.4↑	1	4.8↑	15
Active Listening	4.2↑	2	4.3	29
Negotiation	4.1↑	3	5.5↑	1
Management of Personnel Resources	4.0↑	4	5↑	10
Operations Analysis	4.0↑	5	5.3↑	5
Coordination	4.0↑	6	5.4↑	3
Complex Problem Solving	4↑	7	4.6↑	23
Reading Comprehension	4↑	8	4.2	31
Management of Financial Resources	3.9↑	9	5.3↑	6
Persuasion	3.9↑	10	5.3↑	4
Monitoring	3.9↑	11	5.1↑	7
Critical Thinking	3.9↑	12	4.7↑	18
Service Orientation	3.8↑	13	4.7↑	20
Time Management	3.8↑	14	4.9↑	12
Instructing	3.8↑	15	5.1↑	8
Quality Control Analysis	3.7↑	16	4.5↑	24
Mathematics	3.7↑	17	4.5↑	25
Learning Strategies	3.7↑	18	4.7↑	19
Writing	3.6↑	19	4.0	35
Active Learning	3.6↑	20	4.9↑	11
Judgment and Decision Making	3.6↑	21	4.8↑	16
Social Perceptiveness	3.5↑	22	4.4↑	26
Operation and Control	3.5↑	23	4.4↑	27
Troubleshooting	3.4	24	4.8↑	14
Technology Design	3.4	25	5.0↑	9
Equipment Selection	3.4	26	4.6↑	21
Operation Monitoring	3.4	27	4.0	34
Science	3.3	28	4.0	33
Systems Evaluation	3.3	29	4.8↑	13
Management of Material Resources	3.2	30	5.4↑	2
Programming	3.2	31	4.1	32
Equipment Maintenance	3.2	32	4.4↑	28
Systems Analysis	3.2	33	4.3	30
Installation	2.9	34	4.7↑	17
Repairing	2.8	35	4.6↑	22

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

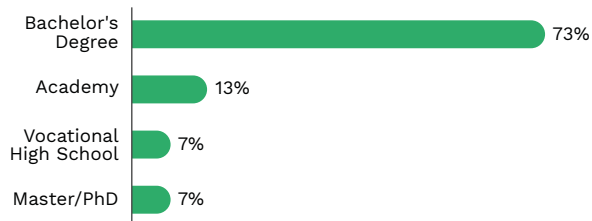
1323 Construction Managers

Job titles: Civil Engineering Manager, Residential Construction Manager

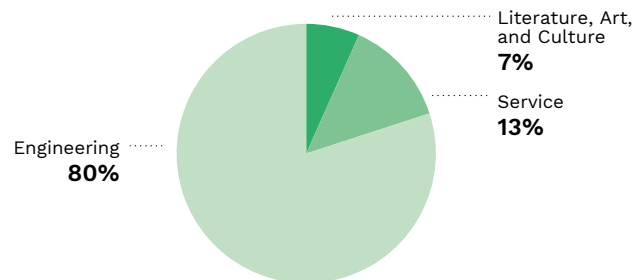
Responsibilities include plan, direct and coordinate development of civil engineering projects, buildings and residences.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
1-3 months



Related Work Experience
2-4 years

Apprenticeship



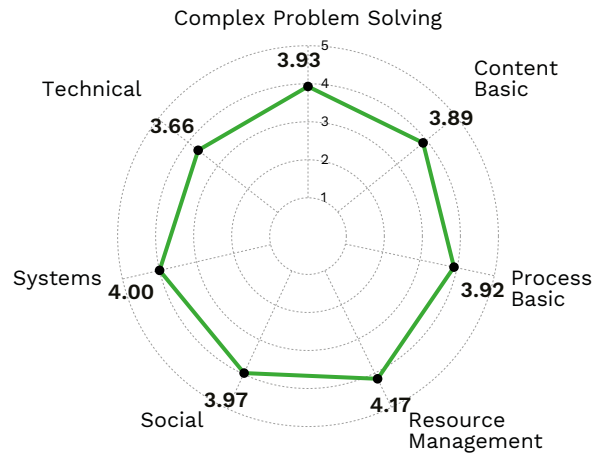
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Preparing tenders and contract bids	4.2	More than once a year
Coordinating labor resources, procurement and delivery of materials, plant and equipment	4.0	Daily
Arranging building inspections by relevant authorities	4	More than once a week
Interpret architectural drawings and specifications	3.9	More than once a month
Ensuring compliance with building codes and standards of performance, quality, cost, and security	3.8	More than once a month
Build under contract, or subcontracting specialized building services	3.8	More than once a month
Establishing and managing budgets, controlling expenditure and ensuring the efficient use of resources	3.8	More than once a year
Operate and implement a coordinated work program in the field	3.6	More than once a year
Overseeing the selection, training and performance of staff and subcontractors	3.6	More than once a year
Supplemental		
Arrange submission of the plan to local authorities	3.5	More than once a month
Arrange submission of the plan to local authorities	3.5	More than once a year

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Negotiation	4.3↑	1	4.9↑	24
Judgment and Decision Making	4.2↑	2	5↑	22
Monitoring	4.2↑	3	5.5↑	4
Time Management	4.1↑	4	5.1↑	11
Management of Personnel Resources	4.1↑	5	5.0↑	20
Speaking	4.1↑	6	5.0↑	19
Coordination	4.1↑	7	5.8↑	1
Management of Material Resources	4.1↑	8	5.6↑	3
Mathematics	4.1↑	9	5.2↑	9
Management of Financial Resources	4.1↑	10	5.1↑	15
Instructing	4.0↑	11	5.1↑	16
Quality Control Analysis	4.0↑	12	5.2↑	10
Complex Problem Solving	3.9↑	13	5.2↑	7
Systems Evaluation	3.9↑	14	5.0↑	18
Operations Analysis	3.9↑	15	5.4↑	5
Learning Strategies	3.8↑	16	4.6↑	28
Service Orientation	3.8↑	17	5.1↑	14
Operation and Control	3.8↑	18	4.9↑	25
Reading Comprehension	3.8↑	19	5↑	23
Critical Thinking	3.8↑	20	4.5↑	29
Equipment Selection	3.8↑	21	5.1↑	12
Systems Analysis	3.8↑	22	5↑	21
Active Learning	3.7↑	23	5.2↑	8
Writing	3.7↑	24	4.4	34
Science	3.7↑	25	4.4	32
Active Listening	3.7↑	26	4.4	33
Operation Monitoring	3.7↑	27	5.1↑	13
Troubleshooting	3.7↑	28	4.8↑	27
Persuasion	3.7↑	29	5.1↑	17
Technology Design	3.7↑	30	5.2↑	6
Installation	3.6↑	31	5.7↑	2
Social Perceptiveness	3.6↑	32	4.2	35
Equipment Maintenance	3.5↑	33	4.9↑	26
Repairing	3.2	34	4.5↑	30
Programming	3	35	4.4↑	31

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

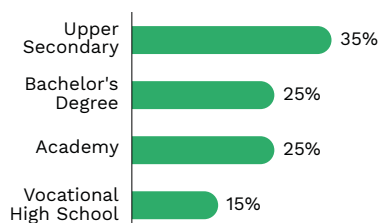
1324 Supply, distribution and related managers

Job titles: Logistic Manager, Supply and Distribution Manager, Supply Chain Manager, Warehouse Manager, Transportation Manager, Bus and Train Station Manager, Post Manager, Port Manager, etc.

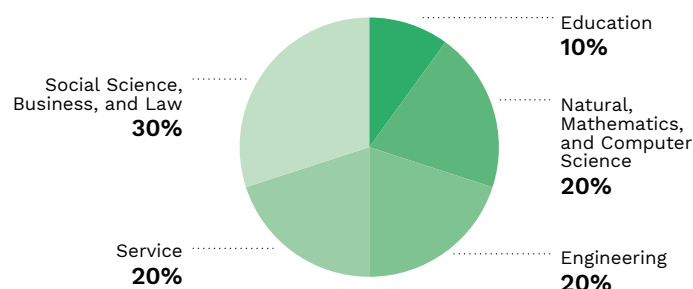
Responsibilities include plan, direct and coordinate the procurement, transportation, storage and distribution of goods

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
3-6 months



On-The-Job Training
1-3 months



Related Work Experience
2-4 years

Apprenticeship



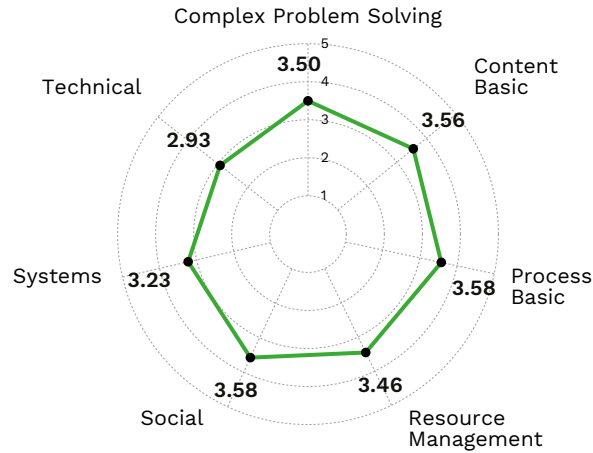
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
As a liaison with other departments and customer requirements for goods out and transport-related	4	Daily
Composing and directing operational and administrative procedures	3.7	Daily
Preparing and implementing a plan to maintain the required inventory levels at minimum cost	3.7	More than once a year
Overseeing the selection, training and performance of staff	3.7	More than once a month
Determining, implementing and monitoring the strategy, policy and plan the purchase, storage and distribution	3.6	Daily
Archiving oversee the purchase, storage and distribution	3.6	More than once a year
Monitoring and assessing the storage and inventory systems to meet supply requirements and control stock levels	3.6	Daily
Develop and manage budgets, controlling expenditure and ensuring the efficient use of resources	3.5	Daily
Operate recording systems to track all movements of goods, and ensuring re-ordering and restock at the optimal time	3.5	More than once a week
Negotiate contracts with suppliers to meet the requirements of quality, cost and delivery	3.5	More than once a month
Plans and directs the daily operations	3.3	More than once a year

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Monitoring	4↑	1	5.0↑	1
Coordination	4↑	2	4.8↑	2
Active Listening	3.9↑	3	3.4	35
Reading Comprehension	3.9↑	4	4.0	17
Time Management	3.8↑	5	4.6↑	3
Writing	3.7↑	6	4.3	12
Instructing	3.7↑	7	4.5↑	4
Speaking	3.6↑	8	4.2	14
Mathematics	3.5↑	9	4	20
Negotiation	3.5↑	10	3.7	30
Service Orientation	3.5↑	11	3.8	27
Critical Thinking	3.5↑	12	4.3	9
Complex Problem Solving	3.5	13	3.9	24
Judgment and Decision Making	3.5	14	4.0	18
Management of Personnel Resources	3.4	15	3.9	23
Active Learning	3.4	16	3.4	34
Management of Financial Resources	3.4	17	4.3	8
Persuasion	3.4	18	3.7	29
Equipment Selection	3.3	19	4.3	10
Quality Control Analysis	3.3	20	4.2	13
Learning Strategies	3.3	21	3.8	28
Systems Evaluation	3.2	22	4.0	19
Social Perceptiveness	3.2	23	3.8	26
Management of Material Resources	3.2	24	4.4↑	5
Equipment Maintenance	3.1	25	4	21
Operations Analysis	3.1	26	4.3	7
Operation and Control	3.0	27	4.2	16
Operation Monitoring	2.9	28	4.4↑	6
Systems Analysis	2.9	29	3.7	31
Troubleshooting	2.9	30	4.2	15
Technology Design	2.8	31	4	22
Installation	2.7	32	4.3	11
Science	2.4	33	3.5	33
Programming	2.4	34	3.6	32
Repairing	2.4	35	3.8	25

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

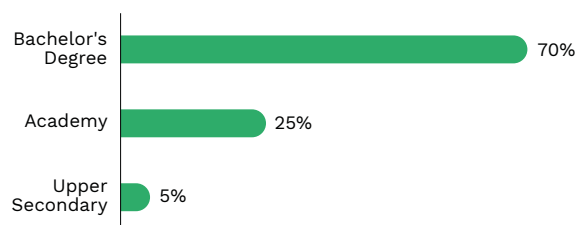
1346 Financial and insurance services managers

Job titles: Bank Manager, Credit Manager, Cooperation Manager, Invest Manager, Insurance Manager, Pension Manager, Pawn Shop Manager

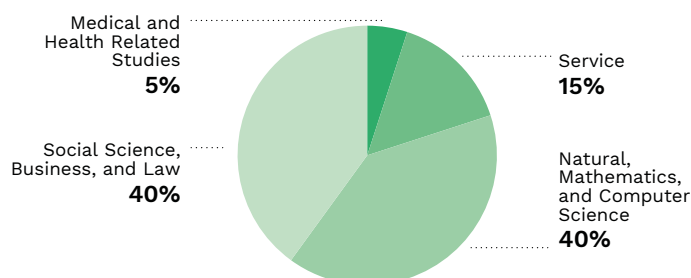
Responsibilities include representing the company or organization in negotiations and conventions, seminars, public hearings and forums and provide information and support for the preparation of financial statements and budgets

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months

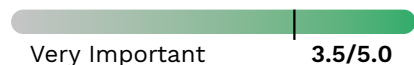


On-The-Job Training
3-6 months



Related Work Experience
1-2 years

Apprenticeship



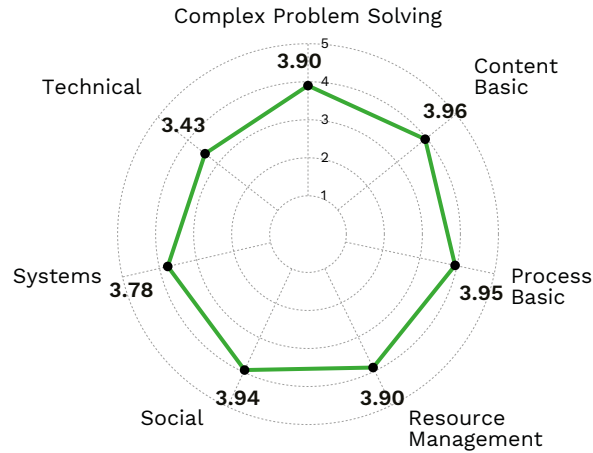
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Conducting financial investigations	3.9	More than once a month
Provide advice and assistance to customers about their financial needs and insurance related matters and legal changes that might affect customers	3.7	Daily
Managing budgets, controlling expenditure and ensuring the efficient use of resources	3.7	Daily
Overseeing the selection, training and performance of staff	3.7	More than once a month
Oversee the flow of cash and financial instruments, and prepare legislation and financial reports	3.6	More than once a month
Plan, direct and coordinate the activities of the staff at the branch	3.6	Daily
Build and maintain relationships with individual customers and businesses	3.5	Daily
Approving or rejecting, or coordinating, lines of credit, housing and personal loans	3.5	More than once a week
Monitor credit extension decision	3.3	Daily
To coordinate cooperation with other branches of the company	3.3	Daily
Examine, evaluate and process loan applications and insurance	3.3	More than once a month

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Speaking	4.3↑	1	4.9↑	12
Management of Personnel Resources	4.2↑	2	5.1↑	3
Reading Comprehension	4.1↑	3	4.1	35
Judgment and Decision Making	4.1↑	4	4.8↑	15
Time Management	4.1↑	5	5↑	5
Critical Thinking	4.1↑	6	4.7↑	18
Instructing	4.0↑	7	5.0↑	4
Active Listening	4.0↑	8	4.6↑	21
Monitoring	4.0↑	9	5.4↑	1
Management of Financial Resources	4↑	10	4.9↑	10
Service Orientation	3.9↑	11	4.9↑	8
Operations Analysis	3.9↑	12	4.9↑	7
Persuasion	3.9↑	13	4.8↑	13
Negotiation	3.9↑	14	4.6↑	22
Mathematics	3.9↑	15	4.9↑	11
Coordination	3.9↑	16	5.1↑	2
Complex Problem Solving	3.9↑	17	5↑	6
Writing	3.8↑	18	4.3	29
Active Learning	3.8↑	19	4.5↑	25
Social Perceptiveness	3.8↑	20	4.2	32
Learning Strategies	3.8↑	21	4.5↑	26
Systems Evaluation	3.7↑	22	4.9↑	9
Quality Control Analysis	3.6↑	23	4.3	31
Technology Design	3.5↑	24	4.7↑	19
Equipment Selection	3.5↑	25	4.7↑	17
Systems Analysis	3.4	26	4.1	34
Science	3.4	27	4.4	28
Troubleshooting	3.3	28	4.3	30
Operation and Control	3.3	29	4.4↑	27
Programming	3.3	30	4.5↑	24
Operation Monitoring	3.3	31	4.6↑	20
Equipment Maintenance	3.3	32	4.1	33
Management of Material Resources	3.1	33	4.8↑	14
Installation	3.1	34	4.7↑	16
Repairing	3	35	4.5↑	23

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

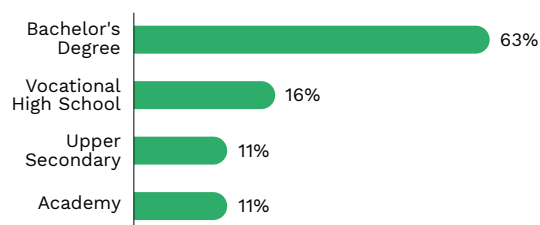
2141 Industrial and production engineers

Job titles: Industrial Efficiency Professional, System Engineer, Industrial Engineer

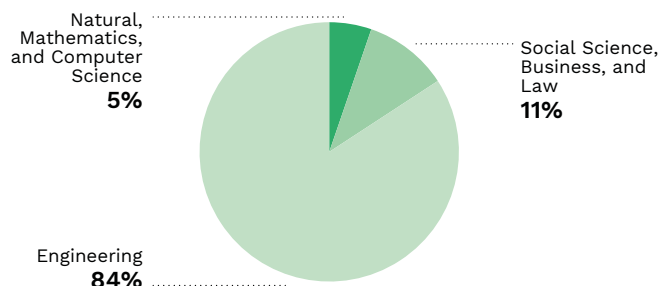
Responsibilities include doing research and designing, manage and supervise construction, operation and maintenance of plant and installation processes. They form a program for coordinating industrial activities, and assessing cost-effectiveness and safety.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



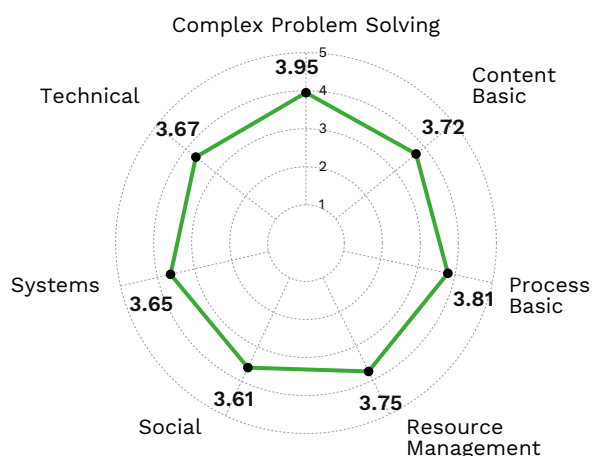
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
The functions and responsibilities of workers and work units and to identify areas of duplication	3.6	Less than once a year
As a liaison with the purchasing department of materials, storage and controls to ensure the supply flow	3.5	More than once a month
Directing the maintenance of buildings and equipment, and coordinating requirements for new designs, surveys and maintenance schedules	3.4	More than once a year
Studying functional statements, organizational charts and project information to determine	3.4	More than once a year
Organize and manage the project workforce and delivery of materials, plant and equipment	3.4	More than once a year
Develop specifications for processing, and determining materials, equipment, piping, material flows, capacities and layout of plant and systems	3.4	More than once a year
Analyzing the use of labor, facility layout, operational data and production schedules and costs to determine the optimal equipment and labor efficiency	3.3	More than once a year
Providing advice on the management of production methods, techniques and new equipment	3.2	More than once a month
Establishing standards and policies for installation, modification, quality control, testing, inspection and maintenance according to engineering principles and safety regulations	3.2	Less than once a year
Creating a work measurement programs and analyzing work samples of work to develop standards for the use of labor	3	More than once a month
Supplemental		
Checking the plant to improve and maintain performance	2.9	More than once a month

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Management of Personnel Resources	4.0↑	1	4.3	27
Critical Thinking	4.0↑	2	4.5↑	18
Troubleshooting	4↑	3	4.8↑	9
Reading Comprehension	3.9↑	4	4.3	30
Complex Problem Solving	3.9↑	5	4.4	25
Equipment Maintenance	3.8↑	6	4.5↑	21
Monitoring	3.8↑	7	5.0↑	1
Coordination	3.8↑	8	5↑	3
Quality Control Analysis	3.8↑	9	4.5↑	14
Instructing	3.8↑	10	5↑	4
Active Listening	3.8↑	11	4.3	26
Time Management	3.8↑	12	4.5↑	16
Operation and Control	3.8↑	13	4.7↑	11
Operation Monitoring	3.8↑	14	5↑	2
Writing	3.7↑	15	4.1	31
Active Learning	3.7↑	16	4.7↑	12
Mathematics	3.7↑	17	4.8↑	7
Equipment Selection	3.7↑	18	4.9↑	5
Service Orientation	3.7↑	19	4.5↑	22
Management of Material Resources	3.7↑	20	4.4↑	23
Systems Analysis	3.7↑	21	4.5↑	17
Judgment and Decision Making	3.7↑	22	4.5↑	15
Negotiation	3.5↑	23	4.0	34
Technology Design	3.5↑	24	4.9↑	6
Science	3.5↑	25	4.1	32
Installation	3.5↑	26	4.7↑	10
Learning Strategies	3.5↑	27	4.3	29
Systems Evaluation	3.5↑	28	4.5↑	20
Operations Analysis	3.5↑	29	4.8↑	8
Social Perceptiveness	3.5	30	4	35
Repairing	3.5	31	4.5↑	19
Speaking	3.5	32	4.3	28
Management of Financial Resources	3.4	33	4.6↑	13
Persuasion	3.2	34	4.4↑	24
Programming	3.0	35	4.1	33

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

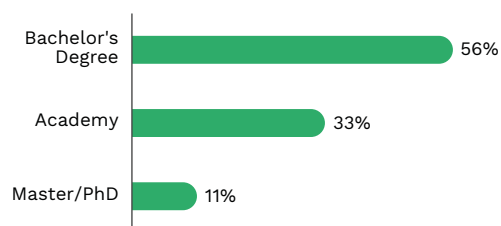
2142 Civil engineers

Job titles: Civil Engineer, Road Civil Engineer, Building Civil Engineer, Irrigation Engineer

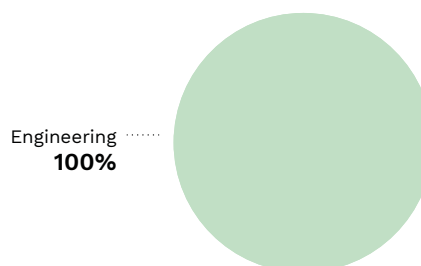
Responsibilities include research, advise, design, and direct development; managing the operation and maintenance of civil engineering structures; or study and provide advice on the technological aspects of a particular material.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
6-12 months



Related Work Experience
1-2 years

Apprenticeship



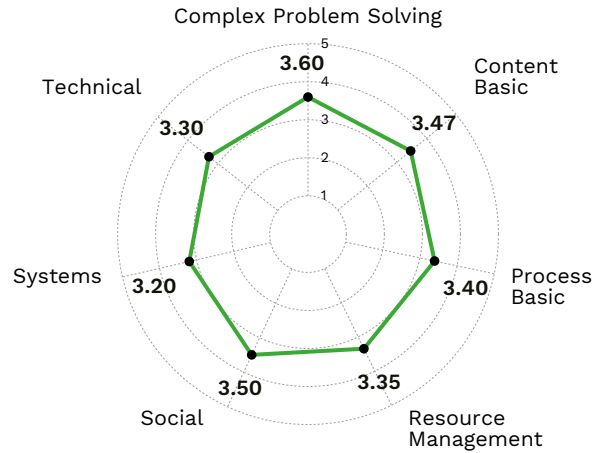
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Analyzing the behavior of soil and rock when placed under pressure by proposed structures and designing structural foundations	3.5	More than once a year
Define and establish construction methods, materials and quality standards, and directing construction work	3.3	Less than once a year
Providing advice and designing structures such as bridges, dams, docks, roads, airports, railways, canals, pipelines, sewerage and flood control systems, and industrial and other large buildings	3.3	More than once a year
Conduct research and develop new theories or improved and methods related to civil engineering	3.2	More than once a year
Develop control systems to ensure efficient functioning of structures as well as safety and environmental protection	3.2	More than once a year
Analyzing the stability of structures and testing the behavior and durability of materials used in its construction	3.2	More than once a year
Organizing and directing maintenance and repair of existing civil engineering structures	3.2	More than once a month

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Instructing	3.8↑	1	4.9↑	10
Coordination	3.8↑	2	5.8↑	1
Equipment Selection	3.7↑	3	5.1↑	3
Reading Comprehension	3.6↑	4	5.0↑	7
Active Listening	3.6↑	5	4.7↑	15
Complex Problem Solving	3.5↑	6	4.5↑	17
Critical Thinking	3.5↑	7	4.5↑	18
Installation	3.5↑	8	4.9↑	11
Speaking	3.5↑	9	5.4↑	2
Mathematics	3.5↑	10	4.7↑	14
Negotiation	3.5	11	4.0	30
Management of Personnel Resources	3.5	12	4.3	28
Quality Control Analysis	3.5	13	5.0↑	5
Operation Monitoring	3.4	14	4.4	24
Monitoring	3.4	15	4.5↑	16
Persuasion	3.4	16	4.4	22
Operations Analysis	3.4	17	5↑	8
Judgment and Decision Making	3.4	18	4.3	27
Time Management	3.4	19	5↑	9
Service Orientation	3.3	20	4.8↑	12
Science	3.3	21	3.9	34
Operation and Control	3.3	22	4.1	29
Management of Financial Resources	3.3	23	5.0↑	6
Learning Strategies	3.3	24	4.5↑	20
Active Learning	3.3	25	5.1↑	4
Technology Design	3.2	26	4.8↑	13
Equipment Maintenance	3.2	27	4	33
Social Perceptiveness	3.2	28	4.4	23
Management of Material Resources	3.2	29	4.5↑	19
Writing	3.1	30	4.0	31
Systems Analysis	3.0	31	4.4↑	21
Programming	3.0	32	3.8	35
Systems Evaluation	3.0	33	4.3	26
Troubleshooting	3	34	4.3	25
Repairing	2.9	35	4	32

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

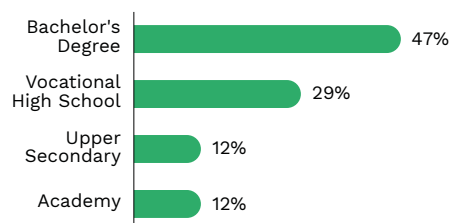
2144 Mechanical engineers

Job titles: Mechanical Engineer, Vehicle Motor Engineer, Ship Engineer, Aeronautical Engineer

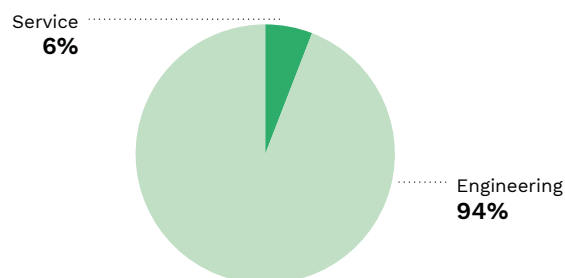
Responsibilities include conduct research; advises, designs and directs production of machinery, aircraft, ships, machinery and factories, industrial equipment and systems; giving advice and direct the use, maintenance and repair; or study and provide advice on the mechanical aspects of certain materials, products or processes.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
3-6 months



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship

Very Important

3.5/5.0

Job-Related Professional Certification

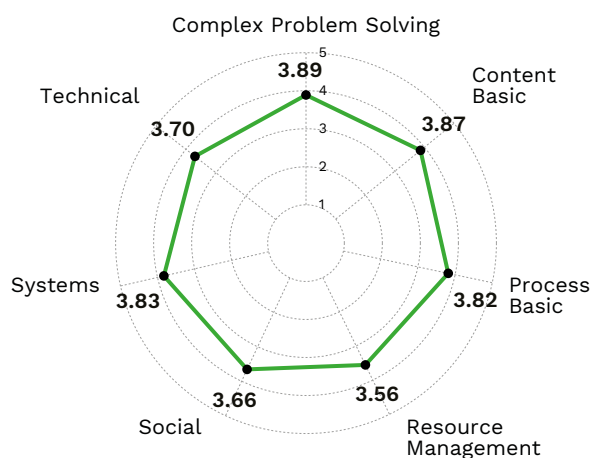
Very Important

3.5/5.0

Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Provide advice and design the steam engine, the internal combustion engine and the motor and non-electricity is used to drive a train locomotive, land transportation or aircraft, or to operate machinery or other industrial	3.9	Less than once a year
Ensuring that equipment, operation and maintenance in accordance with design specifications and safety standards	3.8	More than once a year
Providing advice and designing: the stomach, upper and ship propulsion systems, mechanical machinery and equipment for the release, control and utilize energy heating systems, ventilation and cooling systems, steering equipment, pumps, and other mechanical equipment	3.5	Less than once a year
Advising and designing the airframe, the bottom of the aircraft and other equipment for aircraft as well as suspension systems, brakes, vehicle bodies and other components of land transport	3	Less than once a year
Supplemental		
Providing advice and designing machinery and tools for industry, mining, construction, agriculture and other industrial purposes	3.2	Daily
Providing advice and designing non-power tools or products such as word processors, computers, precision instruments, cameras and projectors	3.1	Less than once a year
Establish control standards and procedures to ensure efficient functioning and safety of machines, machinery, tools, motors, engines, industrial plant, equipment, or system	2.6	More than once a week

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Reading Comprehension	4.2↑	1	4.7↑	10
Coordination	4.2↑	2	4.9↑	5
Troubleshooting	4.1↑	3	4.7↑	11
Time Management	4↑	4	4.7↑	14
Critical Thinking	3.9↑	5	4.5↑	20
Monitoring	3.9↑	6	5.1↑	4
Judgment and Decision Making	3.9↑	7	4.9↑	7
Active Listening	3.8↑	8	4.2	31
Operation Monitoring	3.8↑	9	4.5↑	22
Complex Problem Solving	3.8↑	10	4.2	30
Systems Analysis	3.8↑	11	4.5↑	21
Instructing	3.8↑	12	5.1↑	3
Repairing	3.8↑	13	4.5↑	23
Writing	3.8↑	14	4.3	27
Speaking	3.8↑	15	4.3	28
Operation and Control	3.7↑	16	4.5↑	19
Equipment Selection	3.7↑	17	4.7↑	9
Operations Analysis	3.7↑	18	4.9↑	6
Mathematics	3.7↑	19	5.1↑	2
Equipment Maintenance	3.7↑	20	4.6↑	17
Learning Strategies	3.7↑	21	4.2	32
Systems Evaluation	3.6↑	22	4.7↑	12
Science	3.6↑	23	4.4	25
Active Learning	3.6↑	24	5.2↑	1
Management of Personnel Resources	3.6↑	25	4.8↑	8
Quality Control Analysis	3.6↑	26	4.7↑	13
Service Orientation	3.5↑	27	4.5↑	18
Social Perceptiveness	3.5↑	28	4.5↑	24
Programming	3.4	29	4.1	33
Installation	3.4	30	4.6↑	15
Negotiation	3.4	31	3.8	35
Management of Material Resources	3.3	32	4.4	26
Technology Design	3.3	33	4.2	29
Persuasion	3.3	34	4.6↑	16
Management of Financial Resources	3.2	35	3.9	34

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

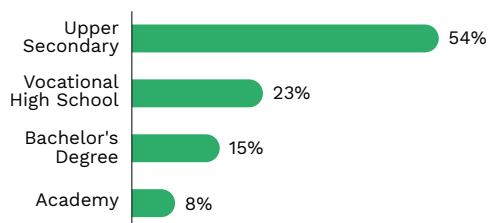
2149 Engineering professionals not elsewhere classified

Job titles: Glass Engineer, Agricultural Engineer, Food Engineer, Textile Engineer, Traffic Engineer

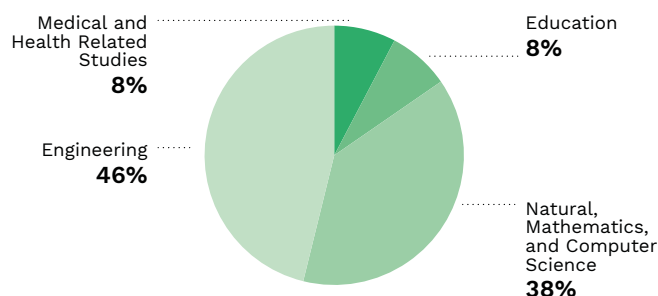
Responsibilities include conducts research, provides advice or develops technical procedures and solutions on occupational safety, biomedical engineering, optics, materials, nuclear power plants and explosives.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
6-12 months



Related Work Experience
1-2 years

Apprenticeship



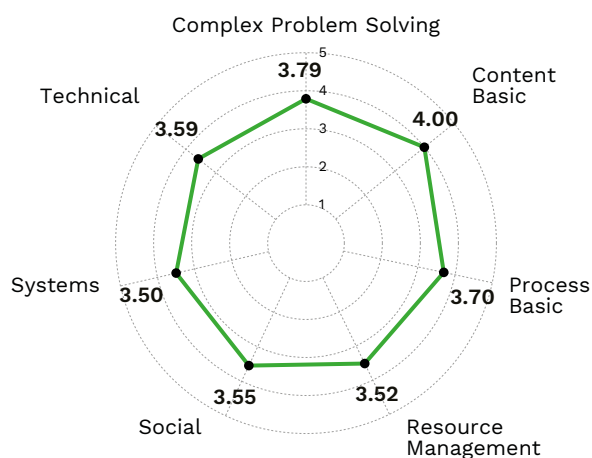
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Supplemental		
Designing and supervising the construction and operation of nuclear reactors and power plants and nuclear fuel processing and reclamation system	5	More than once a month
Identify potential hazards and introducing safety procedures and devices	5	More than once a month
Designing and developing tools such as the core of nuclear reactors, radiation shielding, and associated instrumentation and control mechanisms	5	More than once a year
Assessing damage and providing calculations for marine salvage operations	4.5	Daily
Designing devices used in various medical procedures, imaging systems such as magnetic resonance imaging, and tools for automating insulin injections or controlling body functions	4.3	More than once a month
Studying and advising on engineering aspects of certain industrial processes, such as those related to glass, ceramics, textiles, leather products, wood, and printing	4.2	More than once a month
Designing components of optical instruments such as lenses, microscopes, telescopes, lasers, optical disc systems and other equipment that utilize the properties of light	4.2	Daily
Designing, testing, and coordinating the development of explosives for weapons to meet military procurement specifications	3.7	Hourly or more
Applying engineering knowledge for the development, design, and evaluate the biological and health systems and products, such as artificial organs, prostheses, and instrumentation	3.6	More than once a year

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Reading Comprehension	4.4↑	1	4	26
Quality Control Analysis	4.2↑	2	4.9↑	5
Writing	4.0↑	3	4.4↑	11
Instructing	4.0↑	4	4.5↑	10
Mathematics	4.0↑	5	5.0↑	3
Active Listening	4.0↑	6	4.1	24
Operation Monitoring	4↑	7	4.5↑	9
Coordination	4↑	8	5↑	4
Management of Personnel Resources	3.9↑	9	4.3	12
Speaking	3.9↑	10	4.2	21
Operation and Control	3.8↑	11	4.3	15
Active Learning	3.7↑	12	4.5↑	8
Complex Problem Solving	3.7↑	13	3.6	30
Critical Thinking	3.7↑	14	4.2	19
Monitoring	3.7↑	15	5.2↑	2
Equipment Selection	3.7↑	16	4.7↑	7
Troubleshooting	3.7↑	17	4.3	16
Systems Analysis	3.6↑	18	4.0	25
Installation	3.6↑	19	3.7	29
Judgment and Decision Making	3.6↑	20	4.3	18
Equipment Maintenance	3.5↑	21	4.1	23
Learning Strategies	3.5	22	3.5	31
Time Management	3.5	23	3.8	27
Operations Analysis	3.4	24	5.5↑	1
Management of Material Resources	3.4	25	4.2	22
Science	3.4	26	4.2	20
Service Orientation	3.3	27	4.3	17
Technology Design	3.3	28	4.9↑	6
Persuasion	3.3	29	4.3	13
Negotiation	3.2	30	3.3	33
Social Perceptiveness	3.2	31	3.2	35
Management of Financial Resources	3.2	32	4.3	14
Systems Evaluation	3.2	33	3.8	28
Repairing	3.0	34	3.4	32
Programming	2.9	35	3.2	34

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

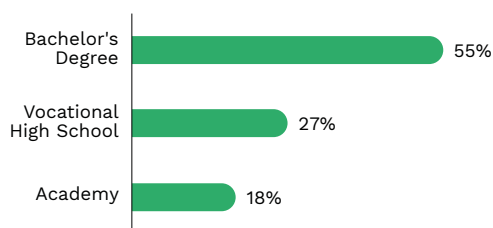
2161 Building architects

Job titles: Building Architect, Interior Designer

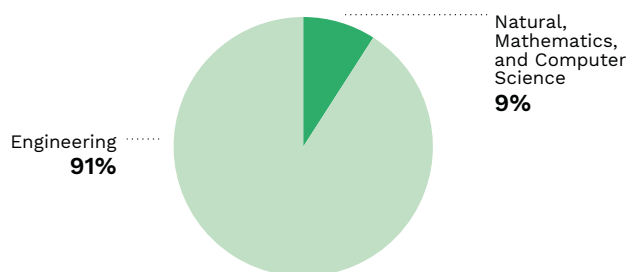
Responsibilities include planning and designing landscaping, exteriors and building interiors, products for the processing industry; and information for, publications, communications and visual display.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1 month or less



On-The-Job Training
None



Related Work Experience
2-4 years

Apprenticeship



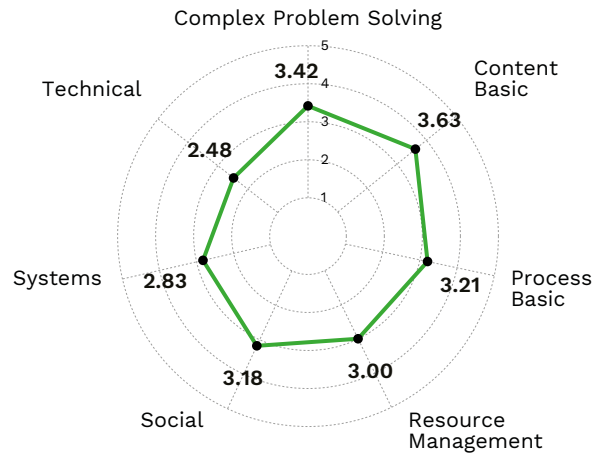
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Develop theories and methods of new or improved architecture	3.5	More than once a year
Provides information about the design, and the expected use of building materials	3.5	More than once a year
Make the necessary contacts to ensure feasibility of projects regarding the appearance, cost, time, and compliance with regulations	3.4	More than once a year
Maintaining technical relations and consultation with other relevant specialists	3.4	More than once a year
Checking location and provides consulting, management to clients and other stakeholders to determine type, style and size of proposed buildings and alteration of buildings	3.2	More than once a year
Identify and find the best solution to the problem of the function and quality of the interior of the building and create designs, drawings and plans necessary	3.1	Less than once a year
Monitor the construction or rehabilitation work to ensure compliance with specifications and quality standards	3.1	Less than once a year
Supplemental		
Writing specifications and contract documents for use by builders and calling tenders on behalf of clients	2.7	More than once a year
Preparing project documentation, including sketches and scale drawings, and integrating structural elements, mechanical and aesthetic in the final design	2.6	More than once a year

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Reading Comprehension	4.4↑	1	4.7↑	9
Active Listening	3.9↑	2	4.4↑	13
Coordination	3.7↑	3	5.4↑	1
Instructing	3.6↑	4	4.2	22
Critical Thinking	3.6↑	5	4.3	19
Speaking	3.5↑	6	5.1↑	2
Mathematics	3.4	7	4.6↑	10
Negotiation	3.4	8	4.4↑	14
Time Management	3.4	9	4.4↑	12
Complex Problem Solving	3.4	10	4.0	26
Equipment Selection	3.2	11	5↑	5
Monitoring	3.2	12	4.9↑	6
Writing	3.2	13	4.4↑	17
Management of Personnel Resources	3.1	14	4.4↑	16
Operations Analysis	3.1	15	4.9↑	7
Active Learning	3.1	16	5.0↑	4
Science	3.1	17	3.7	29
Service Orientation	3	18	5.0↑	3
Systems Evaluation	2.9	19	4	27
Quality Control Analysis	2.9	20	4.3	20
Learning Strategies	2.8	21	4.1	25
Judgment and Decision Making	2.8	22	3.5	31
Systems Analysis	2.7	23	3.4	35
Management of Material Resources	2.7	24	4.8↑	8
Persuasion	2.6	25	4.4↑	15
Management of Financial Resources	2.6	26	4.5↑	11
Technology Design	2.5	27	4.2	21
Social Perceptiveness	2.4	28	4.1	24
Equipment Maintenance	2.3	29	3.5	33
Operation Monitoring	2.3	30	3.5	34
Operation and Control	2.3	31	4	28
Installation	2.2	32	4.1	23
Troubleshooting	2.2	33	3.6	30
Programming	2.0	34	3.5	32
Repairing	1.8	35	4.3	18

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

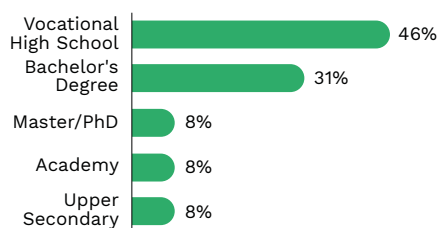
2166 Graphic and multimedia designers

Job titles: Animator, Digital Designer, Graphic Designer, Illustrator, Web Designer, Publication Designer, Multimedia Designer

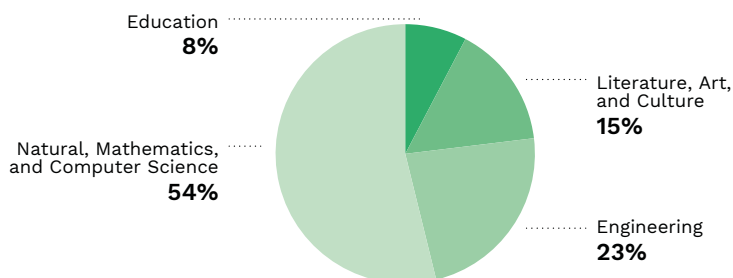
Responsibilities include design information content for communications and publications visual and audio displays, using print media, film, electronics, digital forms and other visual and audio media.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1 month or less



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



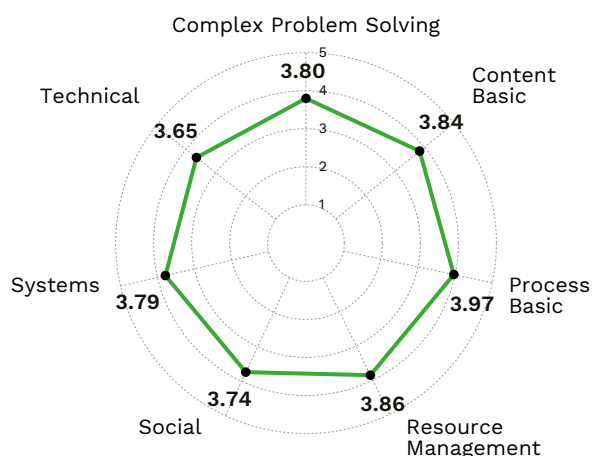
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Determine the objectives and constraints of the design in consultation with clients and stakeholders	4.2	More than once a month
Negotiations design solutions with clients, management, sales staff and production	3.9	More than once a week
Supervise or carry out production in the chosen media	3.8	More than once a week
Selecting, specifying or recommending functional and aesthetic materials and media for publication, delivery or display	3.7	More than once a week
Preparing sketches, diagrams, illustrations and layouts to communicate design concepts	3.7	More than once a week
Designing complex graphics and animation to satisfy functional requirements, aesthetic and creative design	3.6	More than once a month
Conducting research and analyzing functional communication requirements	3.6	More than once a week
Create two-dimensional images and three-dimensional depicting an object in motion or describe the process, using computer animation or modeling programs	3.5	More than once a month
Formulating design concepts for the subject to be communicated	3.5	More than once a week
Detailing and documenting the selected design for production	3.3	More than once a week

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Technology Design	4.1↑	1	4.8↑	3
Reading Comprehension	4.1↑	2	4.5↑	8
Coordination	4.1↑	3	4.8↑	2
Monitoring	4.1↑	4	4.4↑	10
Time Management	4.0↑	5	4.5↑	9
Management of Personnel Resources	4.0↑	6	4.2	16
Speaking	4.0↑	7	4.1	23
Active Listening	4.0↑	8	3.8	33
Negotiation	4↑	9	4.7↑	4
Active Learning	3.9↑	10	4.8↑	1
Critical Thinking	3.9↑	11	4.7↑	5
Learning Strategies	3.8↑	12	3.8	30
Systems Analysis	3.8↑	13	3.7	34
Complex Problem Solving	3.8↑	14	4.4	14
Operations Analysis	3.8↑	15	4.1	24
Equipment Selection	3.8↑	16	4.1	22
Systems Evaluation	3.7↑	17	4.2	18
Writing	3.7↑	18	4.4↑	11
Service Orientation	3.7↑	19	4.1	19
Operation and Control	3.7↑	20	4.0	25
Judgment and Decision Making	3.7↑	21	4.1	20
Management of Material Resources	3.7↑	22	4	29
Installation	3.6↑	23	4.1	21
Instructing	3.5↑	24	4.2	17
Quality Control Analysis	3.5↑	25	4.0	27
Programming	3.5↑	26	4.4↑	12
Mathematics	3.5↑	27	4.7↑	6
Management of Financial Resources	3.5↑	28	4	28
Operation Monitoring	3.5↑	29	4.0	26
Social Perceptiveness	3.5↑	30	3.8	32
Equipment Maintenance	3.5↑	31	3.8	31
Troubleshooting	3.5	32	4.2	15
Persuasion	3.4	33	4.6↑	7
Science	3.4	34	4.4↑	13
Repairing	3.1	35	3.7	35

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

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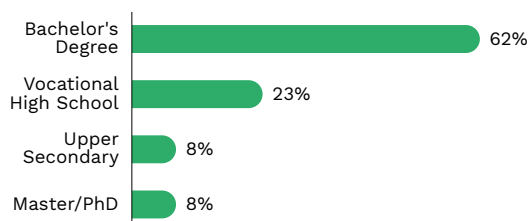
2263 Environmental and occupational health and hygiene professionals

Job titles: Environmental Professional, Radiation Protection Officer, Hygienists Officer, Occupational Health and Safety Advisers

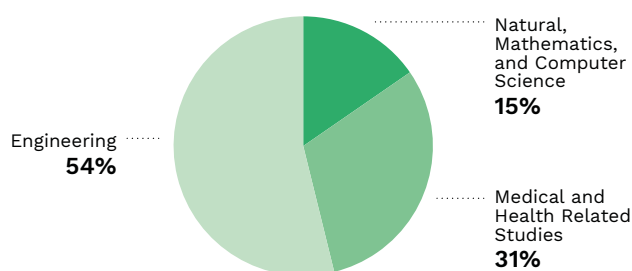
Responsibilities include assess, plan and implement programs to recognize, monitor and control environmental factors potentially affect human health, to ensure safe working conditions and healthy, and to prevent disease or accidents caused by chemical, physical, radiology and biological or ergonomic agents.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
3-6 months



On-The-Job Training
3-6 months



Related Work Experience
6-12 months

Apprenticeship



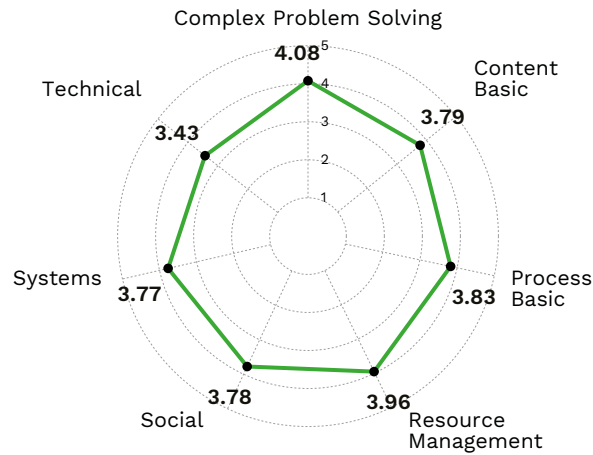
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Providing education, information, training and advice to people at all levels on hygiene and healthy working environment	3.8	More than once a month
Developing, implementing and reviewing programs and policies to minimize the risk of potential environmental and occupational health and safety	3.7	More than once a year
Promoting ergonomic principles within the workplace such as matching furniture, equipment and work activities to the needs of employees	3.6	Daily
Suggests methods to prevent, eliminate, control, or reduce exposure of workers, students, the public and the environment to radiological and other hazards	3.6	Daily
Preparing and implementing plans and strategies that are safe, economical and suitable disposal of commercial, industrial, medical and household waste	3.5	More than once a month
Coordination arrangements for rehabilitation, compensation and time of return to work for workers who are injured	3.4	More than once a month
Recording and investigating injuries and equipment damage, and reporting safety	3.4	More than once a year
Implement prevention programs and strategies for communicable diseases, food safety, waste water and sewage systems, domestic and recreational water quality, contaminated and hazardous substances	3.3	More than once a year
Identifying, reporting and documenting hazards, and assessing and controlling risks in the environment and workplace and advising on compliance with relevant laws and regulations	3.3	More than once a week
Developing, implementing and monitoring programs to minimize workplace and environmental pollution involving chemical hazards, physical and biological	3.1	More than once a year

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Instructing	4.2↑	1	5.3↑	1
Time Management	4.2↑	2	5.0↑	2
Reading Comprehension	4.0↑	3	4.5↑	17
Monitoring	4.0↑	4	4.8↑	4
Complex Problem Solving	4.0↑	5	4.8↑	6
Speaking	4↑	6	4.6↑	10
Active Listening	4↑	7	4.6↑	9
Coordination	3.9↑	8	5↑	3
Critical Thinking	3.9↑	9	4.5↑	15
Operations Analysis	3.9↑	10	4.5↑	16
Management of Personnel Resources	3.9↑	11	4.3	25
Management of Financial Resources	3.8↑	12	4.8↑	5
Management of Material Resources	3.8↑	13	4.6↑	11
Service Orientation	3.7↑	14	4.6↑	12
Systems Evaluation	3.7↑	15	4.3	23
Negotiation	3.7↑	16	4.4↑	21
Judgment and Decision Making	3.7↑	17	4.5↑	13
Operation and Control	3.7↑	18	4.8↑	7
Operation Monitoring	3.7↑	19	4.5↑	14
Systems Analysis	3.7↑	20	4.0	29
Active Learning	3.7↑	21	4.6↑	8
Quality Control Analysis	3.7↑	22	4.5↑	18
Writing	3.6↑	23	4.2	27
Persuasion	3.6↑	24	4.3	24
Science	3.6↑	25	4	31
Equipment Maintenance	3.6↑	26	4.5↑	19
Equipment Selection	3.6↑	27	4.3	22
Learning Strategies	3.5↑	28	4.2	26
Troubleshooting	3.4	29	4.5↑	20
Mathematics	3.3	30	4.2	28
Social Perceptiveness	3.3	31	4	30
Technology Design	3.1	32	3.9	32
Repairing	3	33	3.7	33
Programming	2.9	34	3.3	34
Installation	2.7	35	3.2	35

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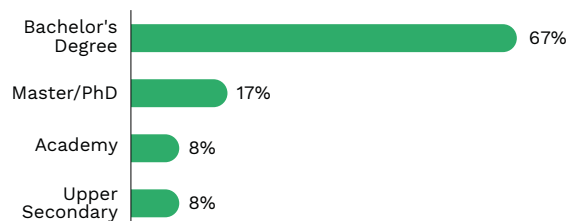
2413 Financial analysts

Job titles: Administerial Manager, Cleaning Service Manager, Business Service Manager, Facilities Manager

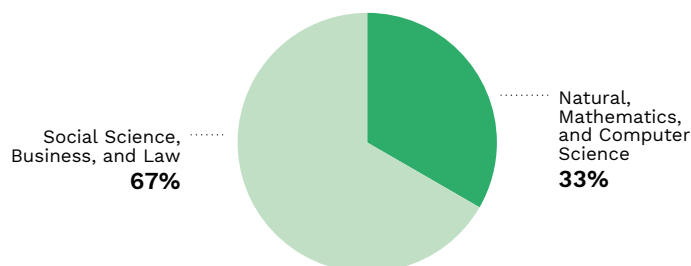
Responsibilities include perform a quantitative analysis of information affecting investment programs for public or private institutions

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-2 years



On-The-Job Training
3-6 months



Related Work Experience
4-6 years

Apprenticeship



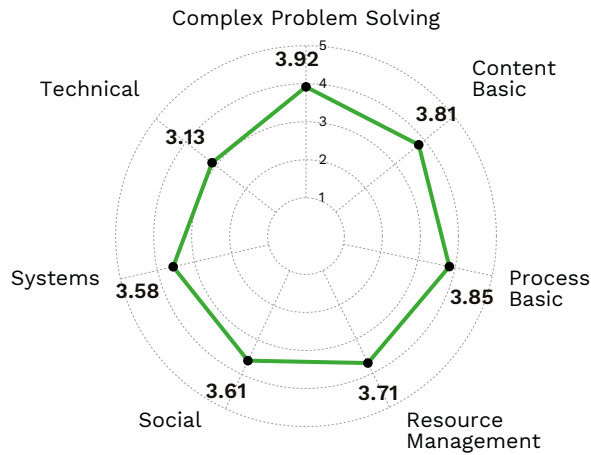
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Interpret data affecting investment programs, such as price, returns, stability, future trends in investment risks, and economic influences	4.0	More than once a year
Develop an action plan based on the analysis of financial investments	3.6	More than once a week
Monitor the development of economic, industrial, and enterprise through analysis of information obtained from financial publications and services, investment banking firms, government agencies, trade publications, company sources, and personal interviews	3.6	More than once a week
Determining the current price of securities must join and offered to the public	3.6	More than once a year
Presenting oral and written reports on general economic trends, individual companies and entire industries	3.5	More than once a year
Maintain knowledge and to follow the developments in the field of industrial technology, business, finance, and economic theory	3.5	More than once a month
Recommend investment and time investment for the company, investment firm staff, or public investors	3.3	More than once a year
Analyzing financial information to produce forecasts of business conditions, industry, and economy for use in making investment decisions	3.2	More than once a year
Supplemental		
Evaluate and compare the relative quality of various securities in a particular industry	3.3	Daily

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Reading Comprehension	4.0↑	1	4.7↑	14
Active Listening	4↑	2	4.9↑	10
Critical Thinking	4↑	3	4.9↑	9
Speaking	4↑	4	4.7↑	16
Coordination	4↑	5	5.5↑	1
Monitoring	4↑	6	5.4↑	2
Time Management	3.9↑	7	4.8↑	11
Management of Financial Resources	3.9↑	8	5.3↑	4
Mathematics	3.9↑	9	5.3↑	3
Complex Problem Solving	3.9↑	10	5↑	7
Judgment and Decision Making	3.9↑	11	4.6↑	18
Active Learning	3.8↑	12	5↑	6
Persuasion	3.8↑	13	4.7↑	15
Operations Analysis	3.8↑	14	5.0↑	5
Management of Personnel Resources	3.7↑	15	4.7↑	12
Operation Monitoring	3.6↑	16	5↑	8
Negotiation	3.5↑	17	4.2	28
Instructing	3.5↑	18	4.6↑	20
Learning Strategies	3.5↑	19	4.7↑	13
Writing	3.5	20	4.4↑	24
Quality Control Analysis	3.5	21	4	31
Systems Analysis	3.5	22	4.6↑	21
Operation and Control	3.4	23	4.3	26
Social Perceptiveness	3.3	24	4.5↑	22
Science	3.3	25	3.9	32
Service Orientation	3.3	26	4.7↑	17
Systems Evaluation	3.3	27	4.6↑	19
Equipment Selection	3.3	28	4.3	27
Management of Material Resources	3.2	29	4.4↑	23
Technology Design	3.1	30	4.3	25
Programming	3.0	31	4.1	30
Troubleshooting	2.8	32	3.9	34
Installation	2.7	33	3.9	33
Equipment Maintenance	2.5	34	4.2	29
Repairing	2.3	35	3.6	35

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

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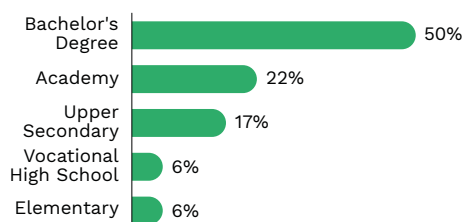
2431 Advertising and marketing professionals

Job titles: Advertising Professional, Marketing Analyst, Marketing Specialists

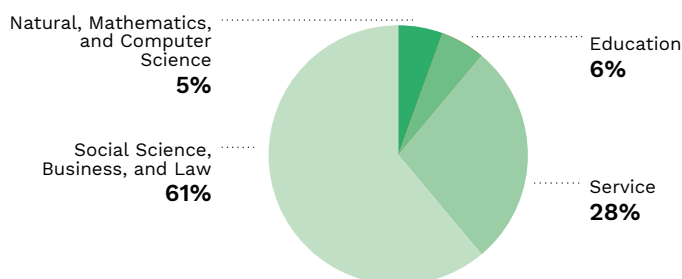
Responsibilities include develop and coordinate advertising strategies and campaigns, determine markets for new goods and services, and identify and develop market opportunities for new and existing goods and services

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



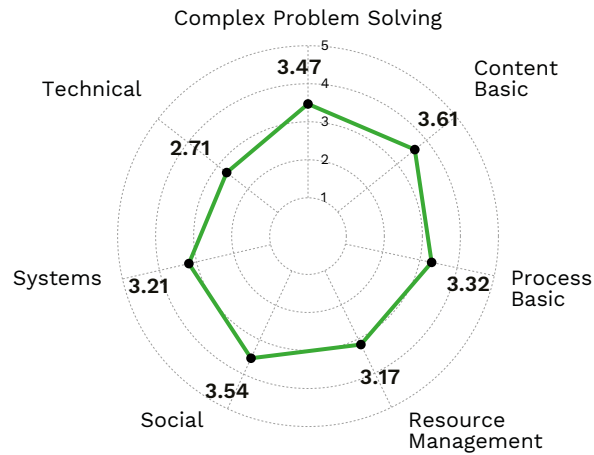
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Supervise and conduct market research to identify market opportunities for goods and services new and existing	3.8	More than once a month
Writing advertising copy and media scripts, and arranging television and film production and media placement	3.6	More than once a week
Researching potential demand and market characteristics for new goods and services and collecting and analyzing data and other statistical information	3.5	More than once a month
Give advice on all elements of marketing such as product mix, pricing, advertising and sales promotion, sales, and distribution channels	3.3	More than once a month
Plan, develop and manage advertising policies and campaigns to support sales objectives	3.3	More than once a month
Advising managers and clients on strategies and campaigns to reach target markets, creating consumer awareness and effectively promoting goods and services	3.2	More than once a month
Supporting business growth and development through the preparation and implementation of the objectives, policies and marketing program	3.2	More than once a year
Interpret and predict consumer trends and the future is now	3.0	More than once a month
Supplemental		
Analyzing data on patterns and consumer preferences	3.4	More than once a month

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Speaking	3.9↑	1	4.3	3
Coordination	3.9↑	2	4.7↑	1
Reading Comprehension	3.9↑	3	3.6	22
Active Listening	3.7↑	4	3.7	18
Negotiation	3.6↑	5	4	10
Mathematics	3.5↑	6	4	9
Monitoring	3.5↑	7	4.5↑	2
Critical Thinking	3.5	8	3.8	14
Persuasion	3.4	9	3.8	15
Time Management	3.4	10	3.8	13
Complex Problem Solving	3.4	11	3.6	23
Writing	3.4	12	3.5	28
Instructing	3.4	13	3.7	16
Service Orientation	3.4	14	4.0	7
Systems Evaluation	3.3	15	3.7	20
Judgment and Decision Making	3.3	16	3.7	19
Management of Personnel Resources	3.3	17	4	8
Social Perceptiveness	3.3	18	3.4	31
Active Learning	3.2	19	4.1	6
Management of Financial Resources	3.1	20	3.6	21
Operations Analysis	3.1	21	4.3	4
Science	3.0	22	3.2	34
Learning Strategies	3.0	23	3.6	26
Systems Analysis	3	24	3.4	32
Quality Control Analysis	3	25	3.2	33
Operation and Control	2.8	26	3.5	27
Equipment Selection	2.8	27	3.6	24
Programming	2.7	28	3.5	30
Technology Design	2.7	29	4.2	5
Management of Material Resources	2.7	30	3.6	25
Operation Monitoring	2.6	31	3.9	11
Equipment Maintenance	2.5	32	3.5	29
Installation	2.4	33	3.9	12
Troubleshooting	2.4	34	3.7	17
Repairing	2.2	35	3.0	35

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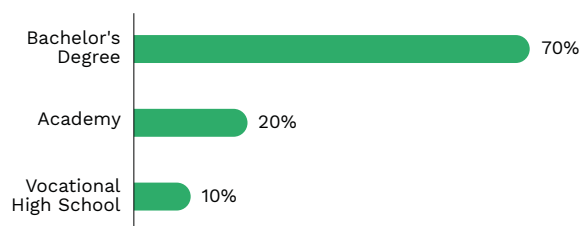
2512 Software developers

Job titles: Programming Analyst, Software Designer, Software Developer, Software Technician

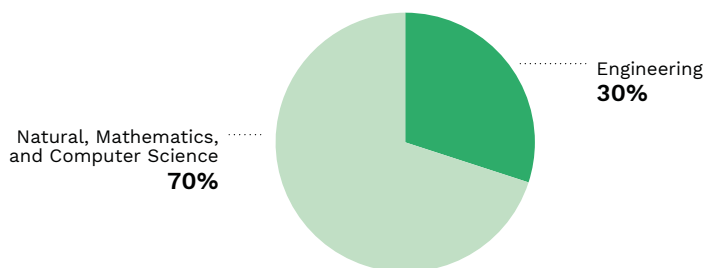
Responsibilities include conduct research, analyze and evaluate requirements for applications existing or new software and operating systems, and designing, develop, test and maintain software solutions to meet requirements this.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
3-6 months



Related Work Experience
3-6 months

Apprenticeship



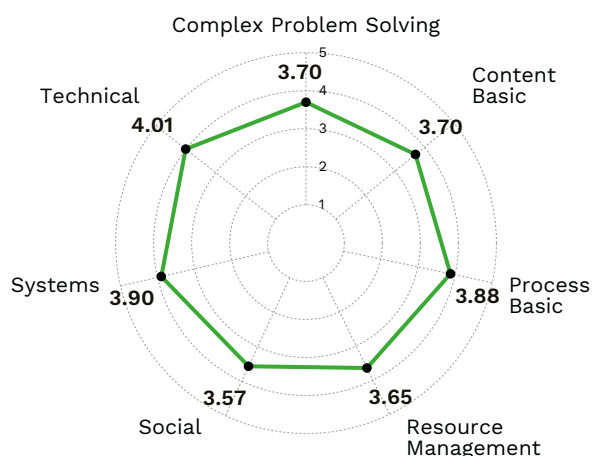
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Directing programming documentation and software development	4.3	More than once a month
Consulting with customers concerning maintenance of software systems	4.2	More than once a week
Consulting with engineering staff to evaluate interface between hardware and software	4	More than once a month
Researching, designing, and developing computer software systems	4	More than once a year
Developing and directing software testing and validation procedures	3.7	Daily
Modify existing software to correct errors, adapt it to new hardware or to upgrade interfaces and improve performance	3.7	More than once a month
Researching, analyzing and evaluating requirements for software applications and operating systems	3.7	More than once a year
Assessing, developing, improving and documenting maintenance procedures for operating systems, communications environments and applications software	3.7	More than once a month

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Troubleshooting	4.5↑	1	6.3↑	1
Installation	4.3↑	2	5.8↑	3
Repairing	4.1↑	3	5.3↑	11
Coordination	4.1↑	4	5.8↑	4
Equipment Selection	4.0↑	5	5.3↑	9
Reading Comprehension	4.0↑	6	4.5↑	26
Active Learning	4.0↑	7	5.0↑	15
Systems Analysis	4.0↑	8	5.3↑	12
Technology Design	4↑	9	5↑	18
Critical Thinking	4↑	10	4.5↑	29
Equipment Maintenance	3.9↑	11	5.0↑	16
Programming	3.9↑	12	5.3↑	7
Quality Control Analysis	3.9↑	13	4.9↑	22
Systems Evaluation	3.9↑	14	5.8↑	2
Speaking	3.9↑	15	4.6↑	25
Instructing	3.8↑	16	5.3↑	8
Time Management	3.8↑	17	5.1↑	13
Operation Monitoring	3.8↑	18	4.8↑	23
Operations Analysis	3.8↑	19	4.9↑	21
Learning Strategies	3.8↑	20	4.6↑	24
Complex Problem Solving	3.7↑	21	4.5↑	27
Service Orientation	3.7↑	22	5↑	19
Operation and Control	3.7↑	23	4.4	30
Writing	3.7↑	24	5↑	20
Active Listening	3.7↑	25	4	34
Judgment and Decision Making	3.7↑	26	4.5↑	28
Management of Financial Resources	3.5↑	27	5↑	17
Monitoring	3.5↑	28	5.3↑	10
Management of Material Resources	3.5↑	29	5.4↑	6
Management of Personnel Resources	3.5↑	30	5.0↑	14
Mathematics	3.5	31	5.5↑	5
Social Perceptiveness	3.4	32	3.9	35
Persuasion	3.3	33	4.2	32
Science	3.3	34	4.1	33
Negotiation	3	35	4.3	31

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

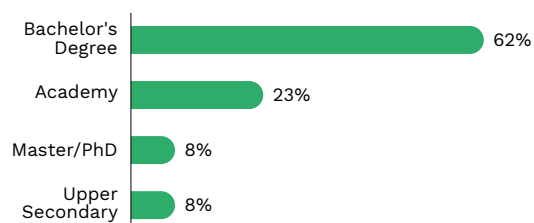
2642 Journalists

Job titles: Journalist, Copy Editor, News Editor, Newspaper Reporter, Sport Journalist, Sub editor, TV/Radio Reporter

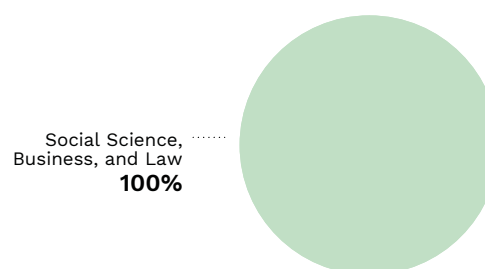
Responsibilities include researching, investigating, interpreting and communicating news and affairs to the public through newspapers, television, radio and other media

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
1-3 months



Related Work Experience
3-6 months

Apprenticeship



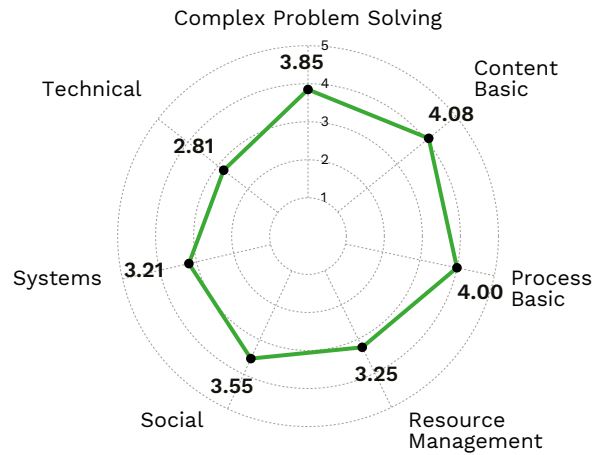
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Collecting, reporting and commenting on news and current issues for publication in newspapers and newsletters, or for broadcasting by radio, television or webcast media	4.0	More than once a month
Interviewing politicians and other public figures in a press conference and others, including the recording of individual interviews to media radio, television or webcast	4	Daily
Writing editorials and commentary on current topics to stimulate public interest and express the views of the publication or broadcasting station	3.8	More than once a month
Selecting, arranging and preparing publicity material about business or other organizations through the press, television, radio, and other media	3.6	More than once a month
Connecting with production staff in checking final proof copies before printing	3.5	Daily
Supplemental		
Receiving, analyzing and verifying news and other copy for accuracy	4.1	Daily
Wrote a critical review of the literary work of art, music and more based on knowledge, judgment and experience for newspapers, television, radio and other	4	Daily
Researching and reporting on developments in specialized fields such as medicine, science and technology	3.8	Daily
Collects local news, national and international through interviews, investigation and observation, attending public events, seeking records, reviewing written work, attending film and stage performances	3.5	Daily
Selecting material for publication, checking style, grammar, accuracy and legality of content and arranging any necessary revisions	3.1	Daily

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Reading Comprehension	4.7↑	1	5.6↑	4
Writing	4.6↑	2	6.3↑	1
Active Listening	4.5↑	3	6↑	2
Critical Thinking	4.4↑	4	5.7↑	3
Coordination	4.1↑	5	5.5↑	5
Speaking	4.0↑	6	5.2↑	8
Time Management	4↑	7	4.1	27
Monitoring	4↑	8	5.0↑	10
Active Learning	3.9↑	9	5.3↑	6
Complex Problem Solving	3.8↑	10	4.9↑	13
Social Perceptiveness	3.6↑	11	5.0↑	11
Quality Control Analysis	3.6↑	12	5.1↑	9
Learning Strategies	3.6↑	13	5↑	12
Service Orientation	3.5↑	14	4.6↑	17
Science	3.4	15	3.8	31
Persuasion	3.3	16	5.3↑	7
Systems Evaluation	3.3	17	4.7↑	16
Judgment and Decision Making	3.3	18	4.0	29
Equipment Selection	3.3	19	4.3	23
Instructing	3.3	20	4.9↑	14
Negotiation	3.2	21	4.5↑	18
Management of Personnel Resources	3.1	22	4.8↑	15
Operations Analysis	3.1	23	4.5↑	19
Operation Monitoring	3.0	24	4.4	22
Systems Analysis	2.9	25	4.0	28
Management of Material Resources	2.9	26	4.4↑	20
Management of Financial Resources	2.9	27	4.4↑	21
Troubleshooting	2.9	28	3.5	34
Mathematics	2.9	29	4.2	26
Operation and Control	2.8	30	4.3	24
Equipment Maintenance	2.8	31	3.8	32
Technology Design	2.7	32	4.3	25
Installation	2.2	33	4	30
Programming	2.1	34	3.7	33
Repairing	2	35	3.5	35

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

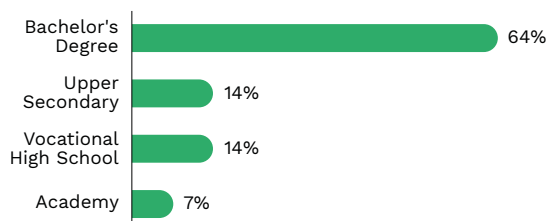
3111 Chemical and physical science technicians

Job titles: Chemical Technician, Geology Technician, Meteorology Technician, Physics Technician

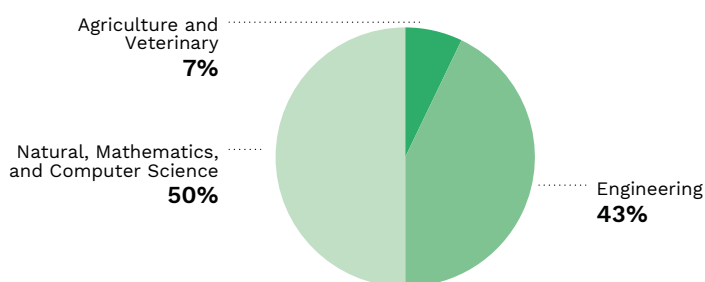
Responsibilities include doing perform technical tasks to assist in research in chemistry, physics, geology, geophysics, meteorology and astronomy, and in development industrial, medical, military and other practical applications of research results

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1 month or less



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



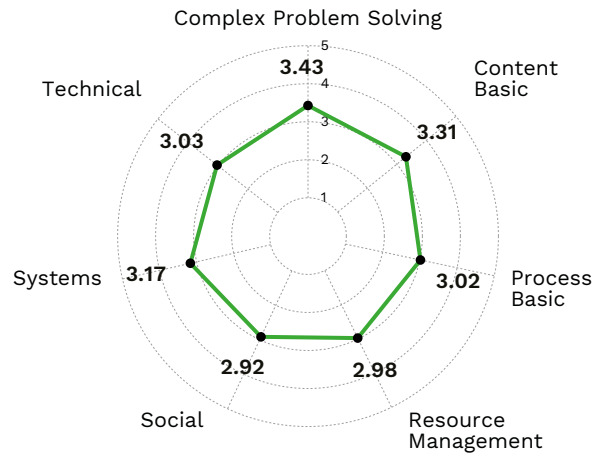
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Collecting samples and preparing materials and equipment for experiments, testing and analysis	3.7	Daily
Preparing materials for experimentation such as freezing and slicing specimens and mixing chemicals	3.5	Daily
Collect and test soil and water samples, recording observations and analyzing data in support of a geologist or geophysicist	3.4	Daily
Control the quality and quantity of laboratory supplies by testing samples and monitoring usage and preparing detailed estimates of quantities and costs of materials and labor required for the project, according to the specifications given	3.3	More than once a week
Perform routine laboratory tests and performing various functions of technical support to assist chemical and physical scientists in the research, development, analysis and testing	3.1	Less than once a year
Organize, operate and maintain the equipment and laboratory equipment, monitoring experiments, making observations, and calculating and recording results	3.1	Daily

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Quality Control Analysis	3.9↑	1	4.9↑	2
Coordination	3.6↑	2	4.6↑	5
Operations Analysis	3.6↑	3	4.4↑	10
Reading Comprehension	3.5↑	4	3.7	27
Complex Problem Solving	3.4	5	3.7	24
Science	3.4	6	4	17
Equipment Maintenance	3.3	7	3.5	31
Systems Evaluation	3.3	8	4.7↑	4
Critical Thinking	3.3	9	3.9	20
Instructing	3.3	10	4.5↑	8
Operation Monitoring	3.3	11	4.6↑	6
Time Management	3.2	12	4.3	13
Operation and Control	3.2	13	5↑	1
Active Listening	3.2	14	3.7	25
Judgment and Decision Making	3.2	15	4.5↑	7
Mathematics	3.2	16	4.1	15
Speaking	3.2	17	4	16
Equipment Selection	3.2	18	4.4↑	11
Technology Design	3.1	19	4.3	14
Management of Material Resources	3.1	20	4.8↑	3
Writing	3.0	21	3.9	19
Management of Personnel Resources	3.0	22	4.4↑	12
Monitoring	3	23	3.6	30
Active Learning	3	24	3.8	22
Service Orientation	2.8	25	3.8	23
Systems Analysis	2.8	26	3.9	18
Troubleshooting	2.7	27	3.9	21
Learning Strategies	2.7	28	4.4↑	9
Negotiation	2.5	29	3.7	26
Social Perceptiveness	2.5	30	3.2	33
Installation	2.5	31	3.2	32
Persuasion	2.5	32	3.6	28
Management of Financial Resources	2.4	33	3.6	29
Repairing	2.2	34	2.4	35
Programming	1.9	35	3	34

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

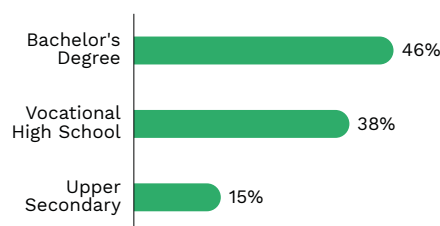
3112 Civil engineering technicians

Job titles: Building Inspector, Building Technician, Civil Engineering Technician, Fire Safety Officer, Geotechnics Technician, Surveyor Assistant

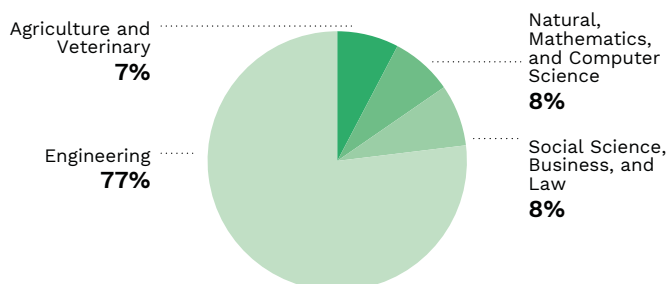
Responsibilities include performs technical tasks in civil engineering research, design, construction, operation, maintenance, and repair of buildings and other structures, such as systems water supply and wastewater treatment, bridges, roads, dams and airports

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
1-3 months



Related Work Experience
6-12 months

Apprenticeship



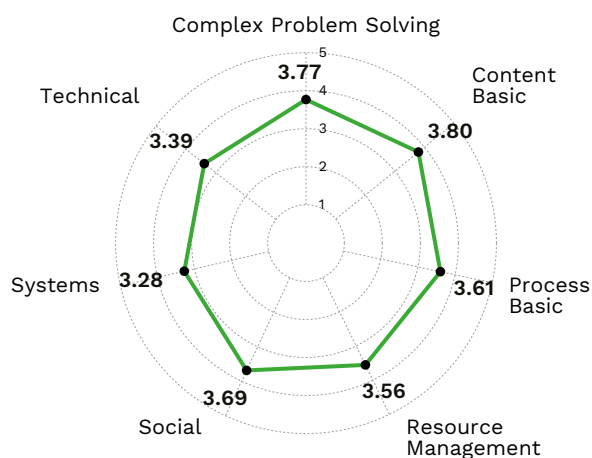
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Arranging maintenance and repair	3.7	More than once a year
Applying technical knowledge of building and the principles and practice of civil engineering to identify and solve problems that occur	3.6	More than once a year
Inspect buildings and structures during and after construction to ensure compliance with the law building, grading, zoning and safety and approved plans, specifications and standards, as well as with other rules concerning the quality and safety of buildings	3.5	More than once a month
Help prepare detailed estimates of quantities and costs of materials and labor required for the project, according to the specifications given	3.4	More than once a year
Inspect industrial plants, hotels, cinemas and other buildings and structures to detect fire hazards and advise on how to cope	3.4	More than once a year
Ensure conformance to design specifications, laws and relevant regulations, and maintenance of the standard set of materials and work	3.3	More than once a year
Give advice on the installation of fire detectors and sprinkler systems and the use of materials in construction of buildings and transportation facilities to reduce the risk of fire and extent of damage and danger in case of fire	3.1	Less than once a year
Supplemental		
Provide technical assistance related to the construction of buildings and other structures, and with surveys or the preparation of survey reports	3.1	Less than once a year
Perform or assist field and laboratory testing of soil and construction materials	3	More than once a year

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Instructing	4.3↑	1	5.2↑	2
Active Listening	4.2↑	2	4.3	19
Reading Comprehension	4.1↑	3	4.6↑	14
Speaking	4.0↑	4	4.2	21
Installation	3.9↑	5	4.7↑	11
Time Management	3.9↑	6	4.8↑	7
Coordination	3.9↑	7	5.5↑	1
Complex Problem Solving	3.7↑	8	4.8↑	8
Quality Control Analysis	3.7↑	9	4	29
Management of Personnel Resources	3.7↑	10	4.5↑	15
Monitoring	3.7↑	11	5.0↑	5
Writing	3.7↑	12	4.2	22
Service Orientation	3.6↑	13	4.7↑	10
Equipment Maintenance	3.6↑	14	4.0	27
Active Learning	3.6↑	15	5.1↑	3
Mathematics	3.6↑	16	4.6↑	12
Persuasion	3.6↑	17	4.3	18
Negotiation	3.6↑	18	4.9↑	6
Critical Thinking	3.5↑	19	4.0	28
Management of Financial Resources	3.5↑	20	4.2	24
Repairing	3.5↑	21	4.7↑	9
Judgment and Decision Making	3.4	22	4.0	26
Troubleshooting	3.4	23	4.2	23
Operations Analysis	3.4	24	4.3	20
Learning Strategies	3.4	25	3.9	31
Systems Evaluation	3.4	26	4	30
Equipment Selection	3.3	27	4.6↑	13
Operation Monitoring	3.3	28	3.8	33
Operation and Control	3.0	29	4.4↑	17
Management of Material Resources	3	30	4.4↑	16
Social Perceptiveness	3	31	3.9	32
Science	3	32	3.6	35
Systems Analysis	2.9	33	4.0	25
Programming	2.8	34	3.7	34
Technology Design	2.8	35	5.1↑	4

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

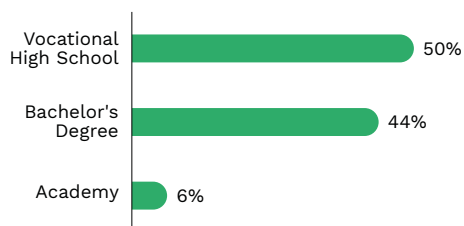
3115 Mechanical engineering technicians

Job titles: Aeronautical Technician, Marine Technician, Mechanical Technician, Mechanical Estimator

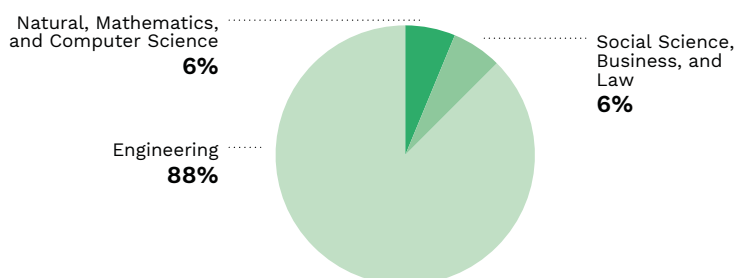
Responsibilities include performs technical tasks to assist in mechanical engineering research, and in design, manufacture, assembly, construction, operation, maintenance, and repair machinery, mechanical components and equipment.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



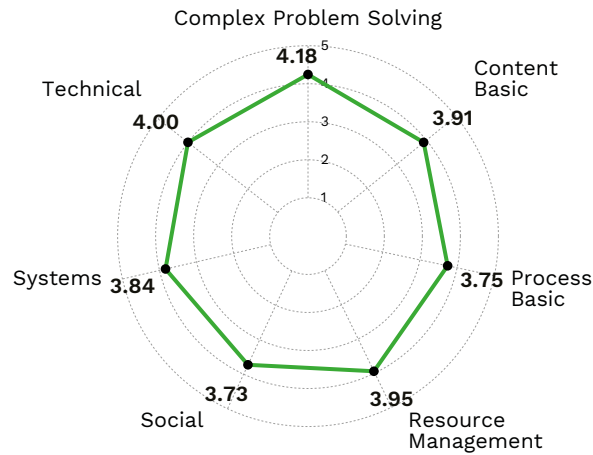
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Develop and monitor the implementation of safety standards and procedures for marine survey work in relation to the hull, equipment and cargo	3.8	More than once a month
Ensuring that the design of mechanical engineering and the work has been completed according to specifications, regulations and contract provisions	3.7	Daily
Assembling and installing new and modified mechanical assemblies, components, equipment and engine controls, and hydraulic power systems	3.7	More than once a year
Preparing detailed estimates of quantities and costs of materials and labor required for manufacture and installation according to the specifications given	3.7	Less than once a year
Designing and preparing the layout of machines and installations, facilities and mechanical components according to specifications given	3.6	More than once a year
To test the mechanical systems, collecting and analyzing data, and assembling and installing mechanical assemblies in support of mechanical expert	3.4	More than once a month
Monitor the technical aspects of the manufacture, use, maintenance, and repair of machines and installations, facilities and mechanical components to ensure satisfactory performance and the appropriate specifications and regulations	3.4	More than once a year
Supplemental		
Providing technical assistance in research and development of machines and installations, infrastructure and mechanical components, or testing prototypes	3.5	More than once a month

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Equipment Maintenance	4.5↑	1	4.6↑	20
Installation	4.4↑	2	5.1↑	5
Management of Material Resources	4.1↑	3	5.1↑	6
Complex Problem Solving	4.1↑	4	5↑	8
Reading Comprehension	4.1↑	5	4.4↑	26
Speaking	4.1↑	6	4.8↑	13
Active Listening	4.0↑	7	4.5↑	25
Coordination	4.0↑	8	5↑	11
Repairing	4.0↑	9	4.9↑	12
Management of Personnel Resources	4↑	10	4.8↑	14
Troubleshooting	4↑	11	4.5↑	21
Instructing	4↑	12	4.7↑	17
Time Management	3.9↑	13	4	34
Systems Analysis	3.9↑	14	4.4↑	27
Operation and Control	3.9↑	15	4.8↑	15
Equipment Selection	3.9↑	16	5.2↑	2
Negotiation	3.9↑	17	4	33
Quality Control Analysis	3.8↑	18	4.7↑	18
Monitoring	3.8↑	19	5.1↑	3
Judgment and Decision Making	3.8↑	20	4.5↑	23
Writing	3.8↑	21	4.0	31
Operation Monitoring	3.8↑	22	5↑	10
Programming	3.8↑	23	3.9	35
Active Learning	3.8↑	24	5.1↑	4
Technology Design	3.7↑	25	5.0↑	7
Mathematics	3.7↑	26	5.3↑	1
Systems Evaluation	3.7↑	27	4.5↑	22
Management of Financial Resources	3.6↑	28	4.6↑	19
Operations Analysis	3.6↑	29	5↑	9
Learning Strategies	3.6↑	30	4.1	30
Critical Thinking	3.6↑	31	4	32
Persuasion	3.6↑	32	4.5↑	24
Service Orientation	3.5↑	33	4.8↑	16
Science	3.5↑	34	4.1	29
Social Perceptiveness	3.1	35	4.1	28

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

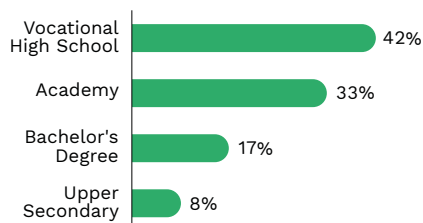
3118 Draughtspersons

Job titles: Draughtperson, Technical Illustrator

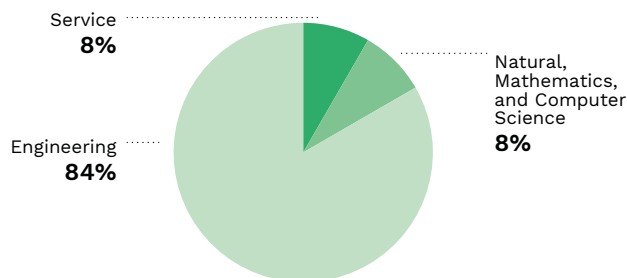
Responsibilities include prepare technical drawings, maps and illustrations from sketches, measurements and other data, and copying the final image and painting onto the printing plate

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
3-6 months



On-The-Job Training
1-3 months



Related Work Experience
2-4 years

Apprenticeship



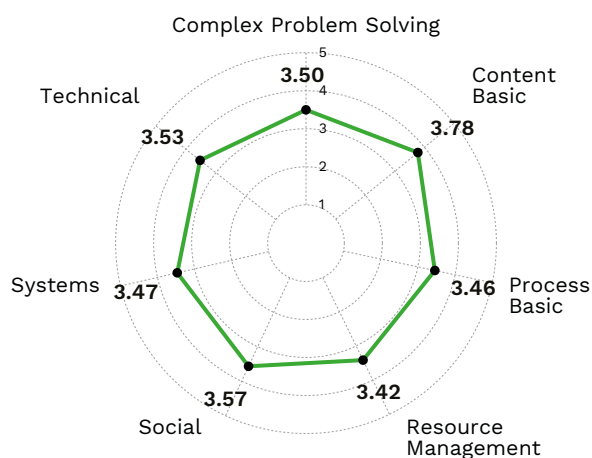
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Preparing and reviewing the working drawings from sketches and specifications prepared by experts and designers for the manufacture, installation, and installation of machinery and equipment or for the construction, modification, maintenance, and repair of buildings, dams, bridges, roads and architectural projects and other civil engineering	4	Several times a day
Operating the digitizing table or similar equipment to transfer hard copy representation of working drawings, maps and other curves to digital form	3.9	Daily
Preparing wiring diagrams, circuit board assembly diagrams, and layout drawings used for manufacture, installation, and repair of electrical equipment in factories, power plants, and buildings	3.5	Daily
Computer literate and develop tools to create, modify and generate hard-copy and digital representations of working drawings	3.5	Daily
Supplemental		
Make a detailed working diagrams of machine tools and mechanical equipment, including dimensions, methods, and other technical information	4.1	Daily
Set the completed images to be reproduced for use as working drawings	4	More than once a month
Copying pictures and paintings to stone or metal plates for printing	4	Several times a day
Preparing and reviewing the illustrations for reference work, brochures and technical manuals with the assembly, installation, operation, maintenance, and repair of machinery and equipment and other goods	3.5	Several times a day

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Active Listening	4.2↑	1	3.5	33
Coordination	4.1↑	2	4.8↑	10
Reading Comprehension	4↑	3	4.2	24
Mathematics	3.9↑	4	4.6↑	16
Time Management	3.8↑	5	4.3	19
Instructing	3.7↑	6	4	26
Operation and Control	3.7↑	7	4.7↑	13
Writing	3.6↑	8	4.2	22
Technology Design	3.6↑	9	4.5↑	17
Monitoring	3.6↑	10	5.3↑	2
Quality Control Analysis	3.6↑	11	5.1↑	5
Judgment and Decision Making	3.6↑	12	4.6↑	15
Troubleshooting	3.5↑	13	4.8↑	11
Equipment Selection	3.5↑	14	5↑	6
Speaking	3.5↑	15	4.1	25
Repairing	3.5	16	4.2	23
Social Perceptiveness	3.5	17	3.5	32
Negotiation	3.5	18	4.8↑	12
Operation Monitoring	3.5	19	4.9↑	9
Complex Problem Solving	3.5	20	4.9↑	7
Programming	3.4	21	3.9	28
Installation	3.4	22	5.5↑	1
Equipment Maintenance	3.4	23	3.4	34
Active Learning	3.4	24	4.7↑	14
Service Orientation	3.4	25	3.7	31
Systems Evaluation	3.4	26	4.3	20
Critical Thinking	3.4	27	4.4↑	18
Operations Analysis	3.3	28	4.9↑	8
Systems Analysis	3.3	29	3.9	29
Learning Strategies	3.3	30	3.9	27
Management of Financial Resources	3.3	31	5.2↑	3
Management of Personnel Resources	3.2	32	4.3	21
Science	3.2	33	3.8	30
Management of Material Resources	3.2	34	5.1↑	4
Persuasion	3.0	35	3.4	35

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

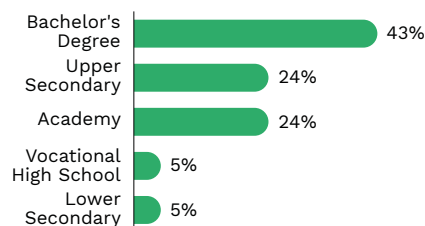
3122 Manufacturing supervisors

Job titles: Administerial Manager, Cleaning Service Manager, Business Service Manager, Facilities Manager

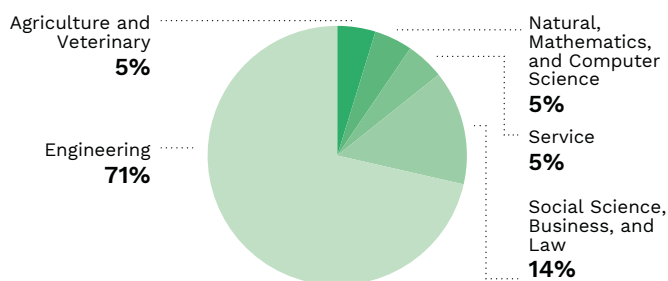
Responsibilities include coordinate and supervise the activities of process technicians, machine operators, assemblers, and other manufacturing workers.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1 month or less



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



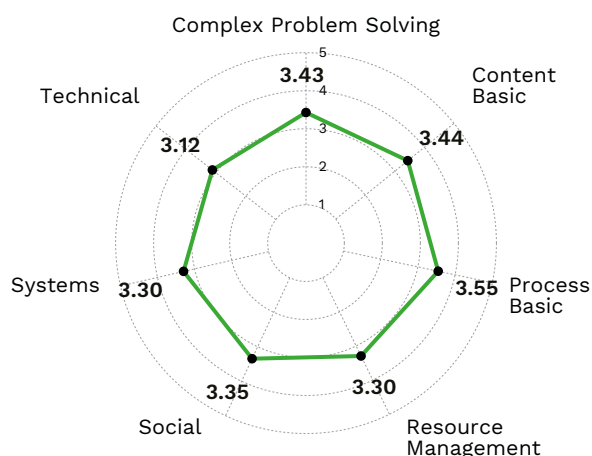
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Identifies shortage of staff or components	3.9	Daily
Preparing cost estimates, records and reports	3.9	Daily
Organize and plan the daily work related to planning, economy, staff and environment	3.6	Daily
Ensure the safety of workers	3.6	More than once a month
Teach and train new staff	3.6	Daily
Coordinate and supervise the activities of process control technicians, machine operators, assemblers, and other manufacturing laborers	3.3	More than once a month

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Instructing	4.0↑	1	4.7↑	4
Coordination	3.9↑	2	4.9↑	1
Speaking	3.8↑	3	4.4↑	6
Monitoring	3.8↑	4	4.8↑	2
Time Management	3.7↑	5	4.3	8
Active Listening	3.7↑	6	3.7	31
Reading Comprehension	3.6↑	7	3.6	32
Critical Thinking	3.6↑	8	4.0	17
Quality Control Analysis	3.6↑	9	4.2	9
Operation and Control	3.6↑	10	4.5↑	5
Judgment and Decision Making	3.5↑	11	4.1	15
Management of Personnel Resources	3.5↑	12	4.2	10
Operation Monitoring	3.4	13	4.7↑	3
Complex Problem Solving	3.4	14	3.8	25
Active Learning	3.4	15	4.0	19
Equipment Selection	3.3	16	4.1	13
Learning Strategies	3.3	17	4.0	20
Operations Analysis	3.2	18	4.0	18
Mathematics	3.2	19	4.4↑	7
Writing	3.2	20	4.1	14
Systems Analysis	3.1	21	4.1	12
Systems Evaluation	3.1	22	3.8	27
Equipment Maintenance	3.1	23	3.9	22
Persuasion	3.1	24	3.8	26
Troubleshooting	3.0	25	3.8	24
Social Perceptiveness	3.0	26	3.8	29
Negotiation	2.9	27	3.2	35
Science	2.9	28	3.7	30
Management of Financial Resources	2.9	29	3.8	28
Management of Material Resources	2.9	30	4	21
Service Orientation	2.9	31	3.9	23
Technology Design	2.9	32	3.4	34
Installation	2.8	33	4.2	11
Programming	2.5	34	3.6	33
Repairing	2.4	35	4.1	16

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

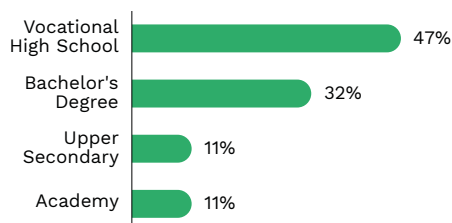
3123 Construction supervisors

Job titles: Construction Supervisor, Location Manager

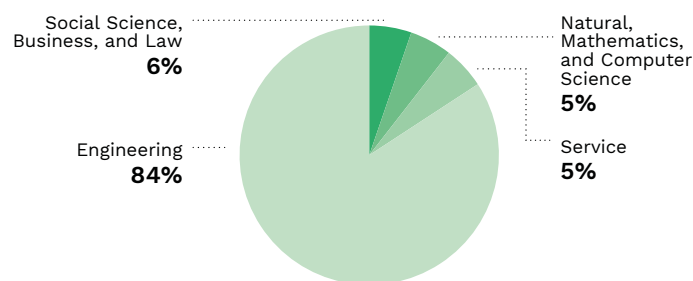
Responsibilities include coordinate, supervise and schedule the activities of workers involved in the construction and repair of buildings and structures

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
6-12 months



On-The-Job Training
3-6 months



Related Work Experience
1-2 years

Apprenticeship



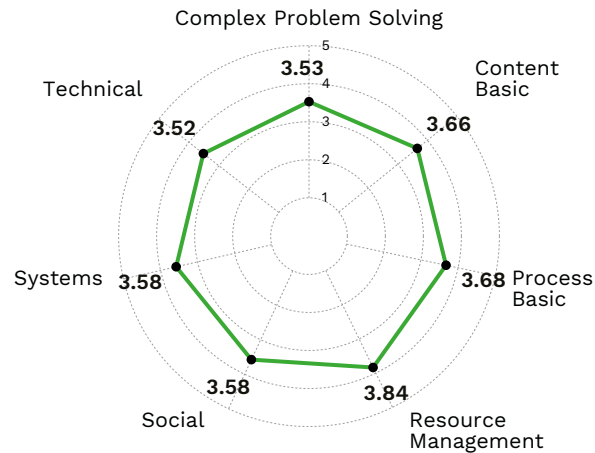
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Read specifications to determine construction requirements and planning procedures	3.8	Daily
Supervise construction sites and coordinating work with other construction projects	3.6	More than once a week
Examining equipment and construction sites to ensure compliance with health and safety requirements	3.6	Daily
Organize and coordinate the human and material resources needed to complete the job	3.5	More than once a week
Supervise the activities of construction workers, laborers and other construction workers	3.5	Daily
Examine and inspect the progress of work	3.2	More than once a week

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Reading Comprehension	4↑	1	4.2	27
Coordination	4↑	2	5.4↑	1
Active Listening	4↑	3	4.2	30
Time Management	3.9↑	4	4.7↑	8
Management of Financial Resources	3.9↑	5	4.7↑	9
Equipment Maintenance	3.8↑	6	4.8↑	4
Judgment and Decision Making	3.8↑	7	4.3	26
Monitoring	3.8↑	8	5.3↑	2
Instructing	3.7↑	9	4.8↑	5
Management of Personnel Resources	3.7↑	10	5↑	3
Speaking	3.7↑	11	4.6↑	12
Troubleshooting	3.7↑	12	4.4↑	22
Critical Thinking	3.7↑	13	4.3	25
Negotiation	3.6↑	14	4.4↑	21
Equipment Selection	3.6↑	15	4.6↑	15
Operation Monitoring	3.6↑	16	4.7↑	10
Management of Material Resources	3.6↑	17	4.6↑	11
Active Learning	3.6↑	18	4.7↑	6
Writing	3.6↑	19	4.1	31
Installation	3.5↑	20	4.5↑	19
Quality Control Analysis	3.5↑	21	4.6↑	14
Complex Problem Solving	3.5↑	22	4	33
Learning Strategies	3.5↑	23	4	32
Operation and Control	3.5↑	24	4.3	24
Mathematics	3.4	25	4.7↑	7
Operations Analysis	3.4	26	4.5↑	18
Systems Evaluation	3.4	27	4.6↑	16
Repairing	3.4	28	4.5↑	20
Systems Analysis	3.4	29	4.2	28
Service Orientation	3.3	30	4.6↑	13
Social Perceptiveness	3.3	31	4.2	29
Technology Design	3.3	32	4.4↑	23
Persuasion	3.2	33	4.6↑	17
Science	3.1	34	3.9	34
Programming	2.8	35	3.7	35

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

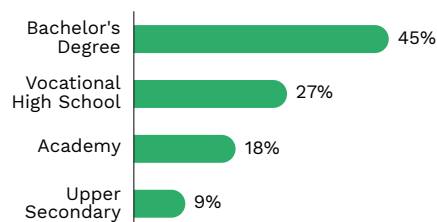
3131 Power production plant operators

Job titles: Steam power plant operators, nuclear power plant operators, solar power plant operators, hydropower operators, electric power system operators, generating station operators

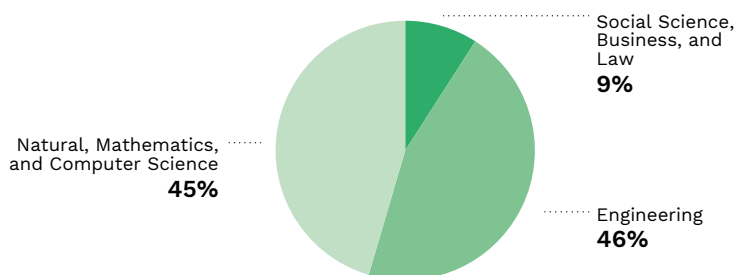
Responsibilities include doing operate, monitor and maintain switchboards and related equipment in an electrical control center that controls the production and distribution of electricity on the transmission network

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1 month or less

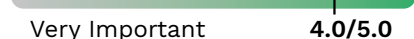


On-The-Job Training
1-3 months



Related Work Experience
2-4 years

Apprenticeship



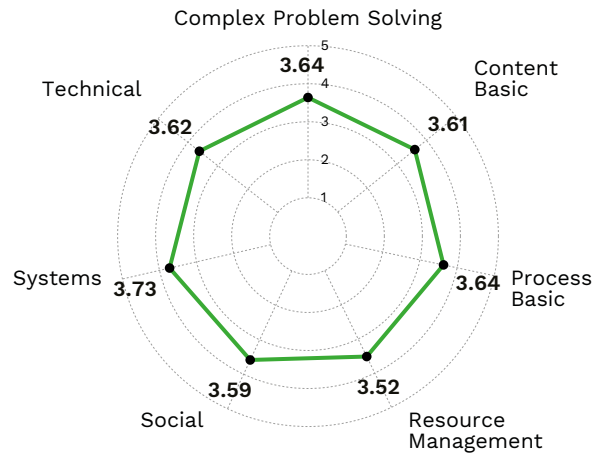
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Controlling start-up and shut-down of power plant equipment, controlling switching operations, regulating water levels and communicating with systems operators to regulate and coordinate transmission loads, frequency and voltage channels	4	More than once a month
Read graphs, meters and measuring devices at defined intervals, overcome and perform corrective action as necessary	3.8	Daily
Cleaning and maintaining equipment such as generators, boilers, turbines, pumps, and compressors to prevent failure or damage to equipment	3.8	More than once a week
Operate, monitor and inspect various types of engine power	3.7	Daily
Completing and maintaining records, logs and reports the station, and communicate with other machines personnel to assess equipment operating status	3.7	More than once a week
Operate and control the system and power generation equipment including boilers, turbines, generators, condensers, and reactors in hydro power plant, heat, coal, oil, natural gas, and nuclear to generate and distribute electricity	3.6	Daily

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Coordination	4.1↑	1	4.5↑	20
Reading Comprehension	4.0↑	2	4.2	27
Equipment Maintenance	3.9↑	3	4.9↑	8
Systems Analysis	3.9↑	4	4.2	26
Monitoring	3.9↑	5	5.2↑	1
Installation	3.8↑	6	5.1↑	4
Instructing	3.8↑	7	4.1	29
Operation and Control	3.7↑	8	5↑	6
Repairing	3.7↑	9	4.7↑	14
Mathematics	3.7↑	10	4.3	25
Complex Problem Solving	3.6↑	11	4.1	28
Writing	3.6↑	12	4.4↑	23
Time Management	3.6↑	13	4.5↑	19
Troubleshooting	3.6↑	14	4.9↑	9
Judgment and Decision Making	3.6↑	15	4.0	30
Equipment Selection	3.6↑	16	5.1↑	2
Active Listening	3.6↑	17	3.5	35
Management of Financial Resources	3.6↑	18	4.5↑	21
Learning Strategies	3.6↑	19	3.5	34
Systems Evaluation	3.6↑	20	3.9	31
Programming	3.5↑	21	4.5↑	22
Active Learning	3.5↑	22	4.4↑	24
Negotiation	3.5↑	23	3.9	33
Service Orientation	3.5↑	24	5.1↑	3
Operations Analysis	3.5↑	25	4.9↑	7
Critical Thinking	3.4	26	3.9	32
Technology Design	3.4	27	5↑	5
Management of Personnel Resources	3.4	28	4.6↑	17
Speaking	3.4	29	4.6↑	16
Quality Control Analysis	3.4	30	4.8↑	11
Operation Monitoring	3.3	31	4.7↑	13
Management of Material Resources	3.3	32	4.8↑	10
Persuasion	3.2	33	4.7↑	15
Social Perceptiveness	3.1	34	4.5↑	18
Science	3.0	35	4.8↑	12

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

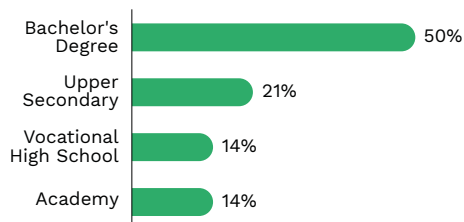
3257 Environmental and occupational health inspectors and associates

Job titles: Health and safety supervisor, Supervisor of food hygiene and safety, Health supervisor, Sanitarian

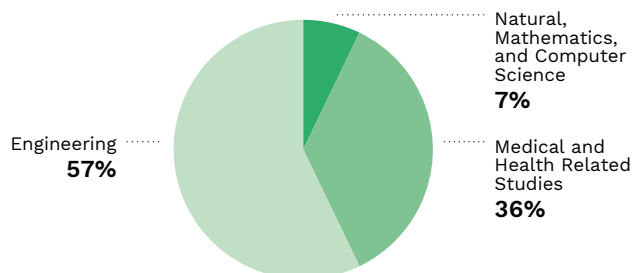
Responsibilities include investigate the implementation of the rules and regulations relating to environmental factors that can affect human health, safety in the workplace, and process safety for the production of goods and services.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
6-12 months



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship

Very Important

3.5/5.0

Job-Related Professional Certification

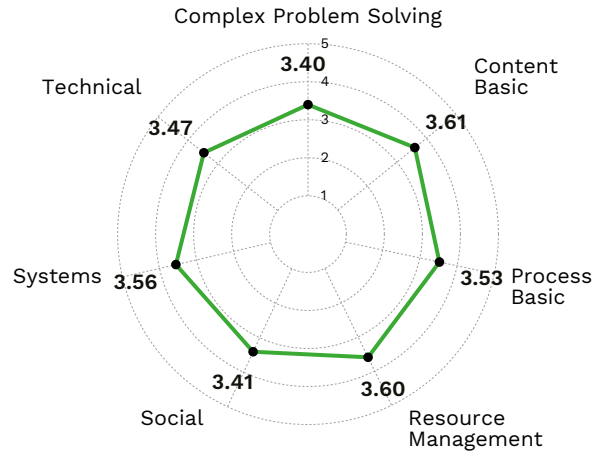
Very Important

3.9/5.0

Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Inspect workplaces to ensure that the working environment, machinery and equipment according to government regulations, and other regulations and standards related to sanitation and / or health, safety and environment	3.8	More than once a year
Giving advice to employers and employees' representatives about the implementation of government regulations and other rules and regulations concerning safety and working environment	3.7	More than once a year
Estimating the number and cost of materials and labor required for the project improved health, safety and sanitation	3.7	More than once a year
Promote preventive measures and corrective such as disease control containing organisms and harmful substances in the air, hygienic food handling, waste disposal and cleanliness of public places	3.5	More than once a year
Provide technical advice on issues and environmental sanitation	3.5	More than once a year
Check out the company to ensure compliance with rules and regulations (and others) on pollutant emissions and hazardous waste disposal	3.4	More than once a year
Check the area of production, processing, transportation, handling, storage, and sale of products to ensure compliance with the rules, regulations and other government standards	3.4	More than once a month
Inspect the workplace and (through interviews, observation and others) to obtain information about the practices and accidents to determine compliance with the rules and safety regulations	3.4	More than once a year
Initiate action to maintain or improve hygiene and prevent pollution of water, air food, or soil	3.3	Less than once a year
Providing advice to companies and the general public about the implementation of rules and regulations (and others) about hygiene, sanitation, purity and assessment of primary products, food, drugs, cosmetics and similar items	3.2	More than once a year

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Speaking	3.8↑	1	5↑	3
Equipment Maintenance	3.8↑	2	4.6↑	13
Reading Comprehension	3.8↑	3	4.3	29
Management of Personnel Resources	3.8↑	4	4.8↑	5
Monitoring	3.7↑	5	5.3↑	1
Coordination	3.7↑	6	5.2↑	2
Equipment Selection	3.7↑	7	4.5↑	14
Instructing	3.7↑	8	4.5↑	17
Time Management	3.7↑	9	4.4	23
Active Listening	3.6↑	10	4.4	26
Troubleshooting	3.6↑	11	4.4↑	21
Judgment and Decision Making	3.5↑	12	4.4	24
Systems Analysis	3.5↑	13	4.8↑	6
Management of Financial Resources	3.5↑	14	4.6↑	11
Critical Thinking	3.5↑	15	4.1	33
Repairing	3.5↑	16	4.5↑	16
Active Learning	3.5↑	17	4.4	27
Mathematics	3.5↑	18	4.4	25
Negotiation	3.5↑	19	4.5↑	15
Operation Monitoring	3.5↑	20	4.6↑	10
Science	3.4	21	4.2	31
Systems Evaluation	3.4	22	4.7↑	9
Quality Control Analysis	3.4	23	4.5↑	18
Installation	3.4	24	4.6↑	12
Writing	3.4	25	4.4↑	22
Complex Problem Solving	3.4	26	4.1	32
Operation and Control	3.4	27	4.8↑	8
Operations Analysis	3.3	28	4.8↑	7
Management of Material Resources	3.2	29	4.5↑	19
Persuasion	3.2	30	4.5↑	20
Learning Strategies	3.2	31	4.1	34
Technology Design	3.2	32	4.8↑	4
Social Perceptiveness	3.1	33	4.3	28
Service Orientation	3.0	34	4.3	30
Programming	3	35	4.0	35

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

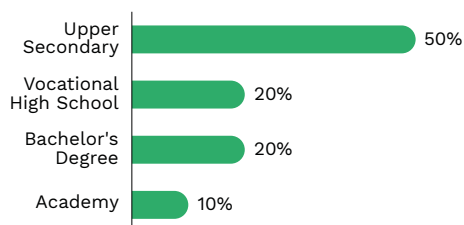
3322 Commercial sales representatives

Job titles: After sales service advisor, Canvasser, Commercial Traveller

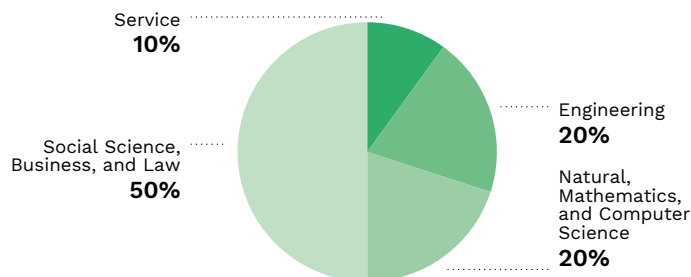
Responsibilities include represents the company to sell various goods and services to other businesses and organizations and provides product-specific information as needed

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



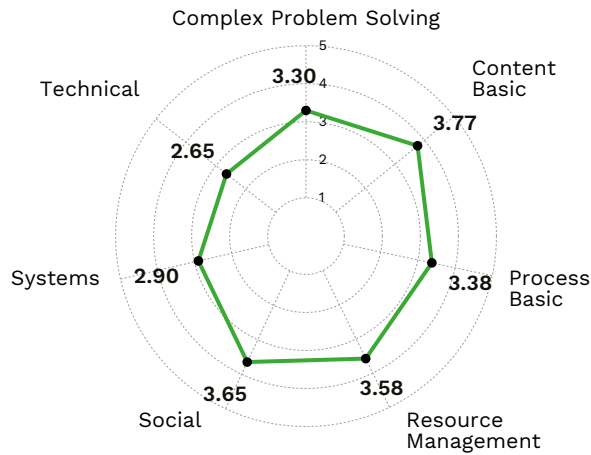
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Ask for the order and sell goods to retailers, industrial, wholesale and other	4.1	More than once a month
Offer prices and credit terms, recording orders and arranging deliveries	3.5	More than once a week
Acquiring and updating knowledge of market conditions and the goods and services companies and competitors	3.5	More than once a month
Provide information to prospective customers regarding the characteristics and function of the products and equipment sold, and demonstrates the use or quality	3.5	More than once a month
Follow up clients to ensure satisfaction with products purchased	3.4	More than once a week
Reaction reporting and customer requirements to suppliers and manufacturers	3.3	Daily
Supplemental		
Selling equipment, supplies and related services to companies or individuals	3.8	Daily

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Active Listening	4.0↑	1	3.5	21
Speaking	4.0↑	2	4.1	3
Reading Comprehension	3.9↑	3	3.8	14
Writing	3.9↑	4	3.2	30
Negotiation	3.9↑	5	4.1	4
Mathematics	3.9↑	6	3.7	18
Management of Personnel Resources	3.8↑	7	3.9	9
Service Orientation	3.8↑	8	3.2	28
Coordination	3.8↑	9	4	6
Persuasion	3.7↑	10	3.3	27
Time Management	3.5↑	11	3.7	17
Critical Thinking	3.5↑	12	3.8	13
Management of Financial Resources	3.5	13	3.6	20
Monitoring	3.5	14	4.3	2
Instructing	3.4	15	3.3	26
Management of Material Resources	3.4	16	4	7
Active Learning	3.3	17	3.9	8
Social Perceptiveness	3.3	18	3.2	29
Complex Problem Solving	3.3	19	3	32
Judgment and Decision Making	3.2	20	3.3	25
Learning Strategies	3.0	21	2.7	35
Operations Analysis	3	22	3.7	15
Quality Control Analysis	2.9	23	3.6	19
Systems Evaluation	2.9	24	4.6↑	1
Operation and Control	2.8	25	3.8	10
Troubleshooting	2.8	26	3.7	16
Equipment Maintenance	2.7	27	3.1	31
Repairing	2.7	28	3.3	23
Science	2.7	29	2.7	33
Systems Analysis	2.5	30	4.1	5
Equipment Selection	2.5	31	3.3	24
Technology Design	2.5	32	3.3	22
Installation	2.5	33	3.8	11
Programming	2.3	34	2.7	34
Operation Monitoring	2.3	35	3.8	12

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

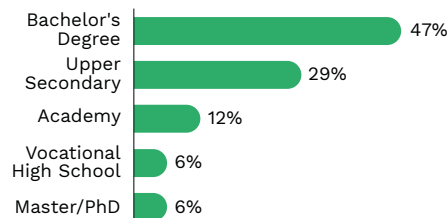
3323 Buyers

Job titles: Buyer, Agent, Supply Officer, Stock Officer, Buying Officer

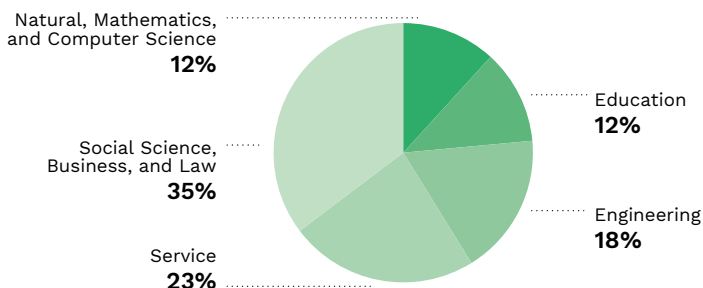
Responsibilities include purchase goods and services for use or resale on behalf of industrial, commercial, governmental or other companies and organizations.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



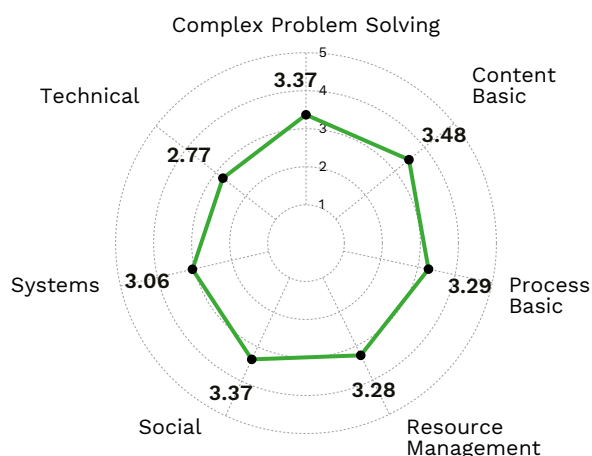
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Oversee the distribution of goods to outlets and maintain adequate stock levels	3.8	More than once a year
Buying general and special equipment, materials or business services for use or for further processing by the company	3.7	More than once a year
Studying market reports, trade magazines and sales promotion materials and visit trade shows, showrooms, factories and product design events	3.7	More than once a month
obtaining information about requirements and stock and developing specifications of quantity and quality to be purchased, costs, delivery dates and other contract conditions;	3.7	Less than once a year
Attending the auction tenders, consulting with suppliers and reviewing deals	3.6	More than once a year
Select items or products that best fit the requirements of the company	3.4	More than once a month
Interviewing suppliers and negotiating prices, discounts, credit terms and the transport arrangements	3.2	More than once a month
Supplemental		
Buy merchandise for resale by retail or wholesale firms	3.2	More than once a month
Establish delivery schedules, monitor progress and contact clients and suppliers	2.8	More than once a year
Determine or negotiate the terms and conditions of the contract, awarded contracts to suppliers or recommend the contract for the purchase of equipment, raw material products, services and purchasing merchandise for resale	2.7	More than once a year

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Negotiation	4.0↑	1	4.2	2
Coordination	3.9↑	2	4	6
Reading Comprehension	3.8↑	3	3.8	9
Active Listening	3.8↑	4	3.3	24
Speaking	3.7↑	5	3.6	13
Management of Financial Resources	3.5↑	6	4.0	4
Monitoring	3.5↑	7	4.3	1
Mathematics	3.5↑	8	3.5	15
Time Management	3.5	9	3.8	10
Active Learning	3.4	10	3.7	11
Writing	3.3	11	3.4	21
Complex Problem Solving	3.3	12	3.4	19
Instructing	3.3	13	3.4	20
Judgment and Decision Making	3.2	14	3.1	32
Critical Thinking	3.1	15	3.4	16
Equipment Selection	3.1	16	4.0	5
Systems Evaluation	3.0	17	4.1	3
Management of Material Resources	3.0	18	3.9	7
Operations Analysis	3.0	19	3.7	12
Social Perceptiveness	3.0	20	3.2	27
Learning Strategies	3	21	3.2	26
Service Orientation	3	22	3.1	33
Management of Personnel Resources	3	23	3.4	17
Quality Control Analysis	3	24	3.2	29
Equipment Maintenance	3	25	3.6	14
Persuasion	2.8	26	3.4	22
Systems Analysis	2.8	27	3.4	18
Troubleshooting	2.7	28	3.1	31
Operation Monitoring	2.7	29	3.2	28
Operation and Control	2.7	30	3.3	23
Technology Design	2.6	31	3.8	8
Programming	2.6	32	3.2	25
Science	2.5	33	2.8	35
Installation	2.4	34	3.2	30
Repairing	2.3	35	3.0	34

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

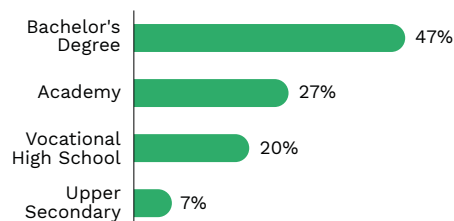
3331 Clearing and forwarding agents

Job titles: Clearing Agent, Forwarding Agent, Shipping Agent

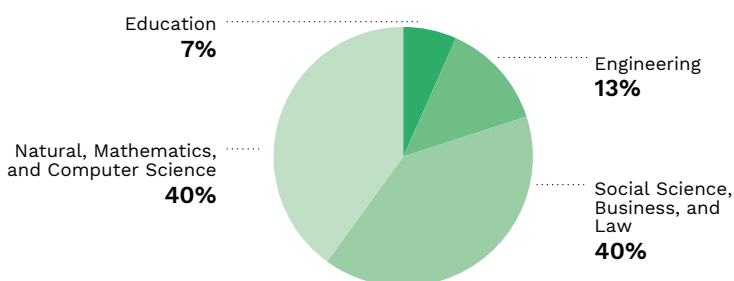
Responsibilities include carry out customs clearing procedures and ensure that insurance, export / import licenses and other formalities have been carried out.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months

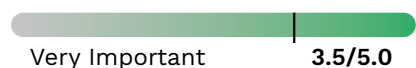


On-The-Job Training
3-6 months



Related Work Experience
1-2 years

Apprenticeship



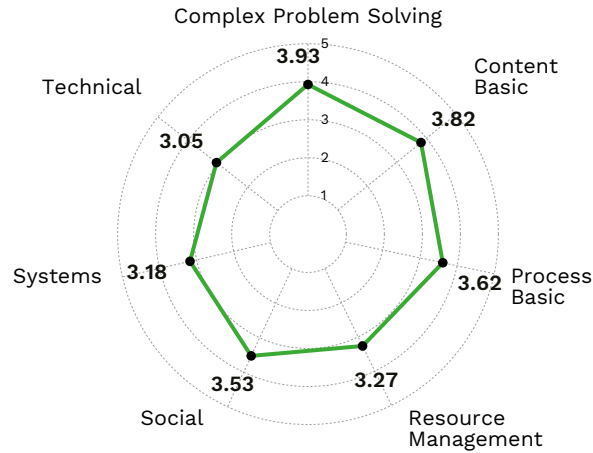
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Ensure that the license export / import and other formalities have been done	4.6	Daily
Customs clearing procedures for exports or imports	4.6	More than once a month
Check the documentation of import / export to determine the contents of the cargo, and classifies into groups of different fees or rates, using a tariff coding system	4.4	More than once a month
Sign and settle the bill of charges	4.3	Daily
Ensure that insurers have done	4.1	More than once a month

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Reading Comprehension	4.3↑	1	5.1↑	3
Active Listening	4.1↑	2	4.4	23
Coordination	4↑	3	5.4↑	1
Writing	3.9↑	4	4.7↑	12
Complex Problem Solving	3.9↑	5	5.2↑	2
Speaking	3.9↑	6	5.0↑	5
Negotiation	3.8↑	7	4.5↑	18
Critical Thinking	3.8↑	8	4.8↑	11
Mathematics	3.7↑	9	3.9	31
Monitoring	3.7↑	10	5.0↑	6
Judgment and Decision Making	3.6↑	11	4.6↑	16
Time Management	3.6↑	12	4.9↑	9
Instructing	3.5↑	13	4.6↑	15
Learning Strategies	3.4	14	4.2	28
Operations Analysis	3.4	15	4.7↑	14
Active Learning	3.4	16	4.9↑	10
Operation and Control	3.4	17	5.1↑	4
Service Orientation	3.4	18	4.5↑	21
Troubleshooting	3.4	19	5↑	8
Management of Financial Resources	3.2	20	4.4↑	22
Management of Personnel Resources	3.2	21	4.6↑	17
Social Perceptiveness	3.2	22	3.8	33
Operation Monitoring	3.1	23	5↑	7
Persuasion	3.1	24	4.3	25
Quality Control Analysis	3.0	25	4.5↑	19
Equipment Maintenance	3.0	26	3.8	34
Systems Analysis	2.9	27	4	30
Systems Evaluation	2.9	28	4.3	27
Management of Material Resources	2.9	29	4.3	24
Programming	2.9	30	4.7↑	13
Technology Design	2.8	31	3.9	32
Repairing	2.8	32	4.3	26
Science	2.8	33	3.7	35
Equipment Selection	2.7	34	4.0	29
Installation	2.6	35	4.5↑	20

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

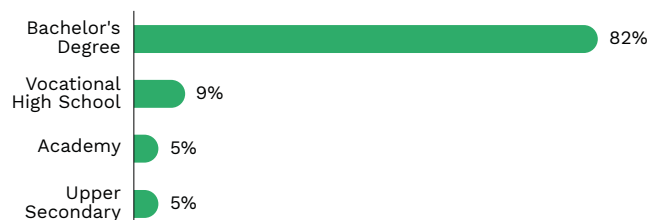
3341 Office supervisors

Job titles: Administrator Supervisor, Data Entry Supervisor, Archive Supervisor, HR Supervisor

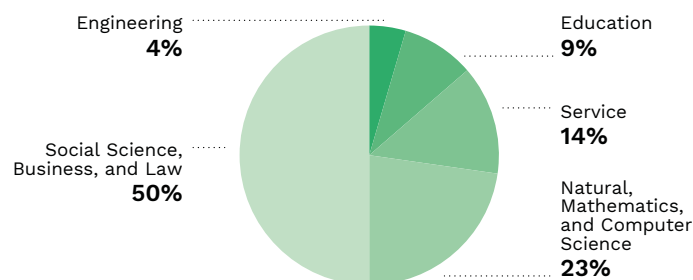
Responsibilities include supervises and coordinates the activities of workers in administrative groups.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



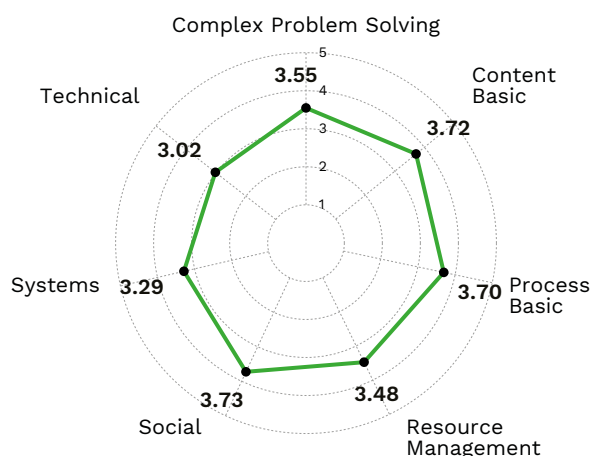
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Addressed issues related to work and prepare and submit progress and other reports	3.5	More than once a week
Co-ordinate, assign and review the work of clerks engaged in the following tasks: word processing, recording and archiving, operate the telephone and switchboards, data entry, desktop publishing and other activities involving general office and administrative skills	3.5	More than once a year
Evaluating employee performance and conformance to regulations, and recommending appropriate action	3.4	More than once a year
Establish work schedules and procedures and coordinate activities with other work units or departments	3.4	Daily
Assist in the recruitment, interviewing, and selection of employees	3.3	Daily
Train and teach employees in job duties, safety procedures and company policies, or arranging training	3.2	More than once a year

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Reading Comprehension	4.2↑	1	4.0	23
Speaking	4.1↑	2	4.2	13
Coordination	4.0↑	3	5↑	1
Monitoring	3.9↑	4	4.6↑	3
Critical Thinking	3.8↑	5	4.1	17
Active Listening	3.7↑	6	3.8	30
Writing	3.7↑	7	4.0	21
Social Perceptiveness	3.7↑	8	4.2	12
Instructing	3.7↑	9	4.3	10
Management of Personnel Resources	3.7↑	10	4.1	15
Time Management	3.6↑	11	4.3	11
Persuasion	3.6↑	12	4.5↑	5
Negotiation	3.6↑	13	4.1	16
Service Orientation	3.5↑	14	4.5↑	4
Active Learning	3.5↑	15	4.0	22
Judgment and Decision Making	3.5↑	16	3.6	34
Complex Problem Solving	3.5↑	17	4.6↑	2
Mathematics	3.4	18	4.3	7
Management of Financial Resources	3.4	19	3.9	27
Learning Strategies	3.4	20	4	26
Quality Control Analysis	3.4	21	4.1	18
Operation and Control	3.3	22	4.1	19
Operations Analysis	3.3	23	4.4↑	6
Systems Evaluation	3.2	24	4.1	14
Equipment Selection	3.2	25	4.3	9
Equipment Maintenance	3.1	26	4.1	20
Management of Material Resources	3.0	27	4.3	8
Operation Monitoring	3.0	28	3.7	32
Systems Analysis	3.0	29	3.7	33
Troubleshooting	2.9	30	3.9	28
Science	2.8	31	4	25
Installation	2.8	32	4	24
Technology Design	2.7	33	3.6	35
Programming	2.6	34	3.8	29
Repairing	2.5	35	3.8	31

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

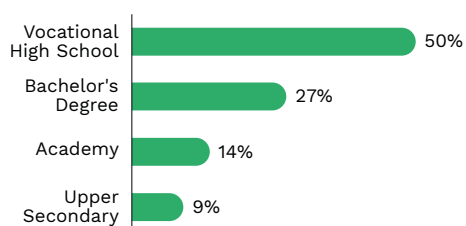
3513 Computer network and systems technicians

Job titles: Computer network technician, System technician

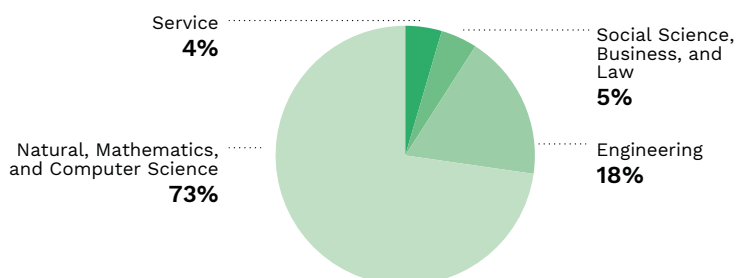
Responsibilities include create, operate and maintain networks and other data communication systems.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
3-6 months

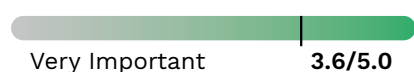


On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



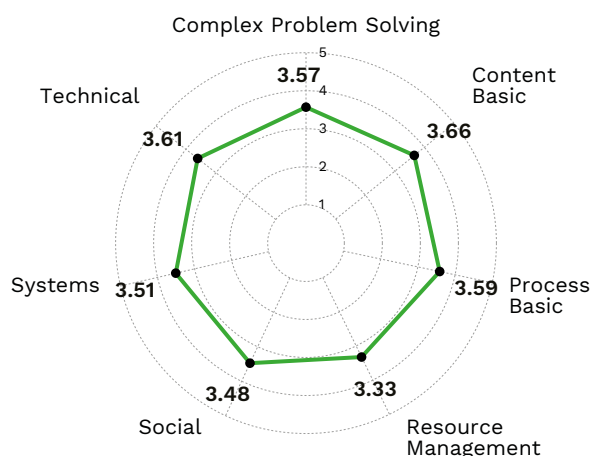
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Operate and maintain the network in addition to data communication systems	3.7	More than once a month
Identify areas that require upgrades of equipment and software	3.5	More than once a year
Installation of computer hardware, network software, operating system software and application software	3.4	More than once a year
Close start up and down as well as backup and disaster recovery for computer networks	3.4	More than once a week
Operate, maintain and troubleshoot network systems	3.4	Daily
Helps users with network and data communications problems	3.3	More than once a week

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Reading Comprehension	4.2↑	1	4.4↑	18
Active Listening	4↑	2	4.3	25
Installation	3.9↑	3	5.0↑	2
Troubleshooting	3.9↑	4	5.0↑	3
Coordination	3.8↑	5	5.1↑	1
Equipment Maintenance	3.7↑	6	4.7↑	9
Monitoring	3.7↑	7	5↑	4
Quality Control Analysis	3.7↑	8	4.4↑	19
Speaking	3.7↑	9	4.5↑	14
Equipment Selection	3.6↑	10	4.8↑	5
Writing	3.6↑	11	4.1	32
Systems Evaluation	3.6↑	12	4.7↑	6
Critical Thinking	3.6↑	13	4.1	31
Instructing	3.5↑	14	4.6↑	10
Complex Problem Solving	3.5↑	15	4.6↑	12
Service Orientation	3.5↑	16	4.7↑	7
Operations Analysis	3.4	17	4.7↑	8
Learning Strategies	3.4	18	4.2	27
Systems Analysis	3.4	19	4.5↑	15
Programming	3.4	20	4.1	33
Active Learning	3.4	21	4.4↑	17
Operation Monitoring	3.4	22	4.3	26
Repairing	3.4	23	4.6↑	11
Operation and Control	3.4	24	4.4↑	20
Time Management	3.4	25	4.2	29
Management of Personnel Resources	3.4	26	4.3	23
Judgment and Decision Making	3.4	27	4.3	24
Social Perceptiveness	3.3	28	3.4	35
Negotiation	3.3	29	4.2	28
Persuasion	3.3	30	4.5↑	16
Technology Design	3.2	31	4.2	30
Management of Financial Resources	3.2	32	4.4	22
Mathematics	3.1	33	4.6↑	13
Management of Material Resources	3.1	34	4.4↑	21
Science	3.1	35	3.8	34

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among high-skilled occupations.

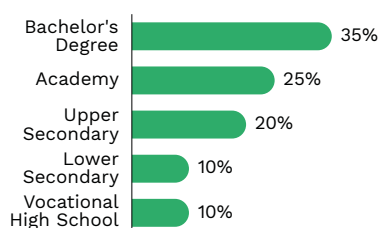
4110 General office clerks

Job titles: General office clerks

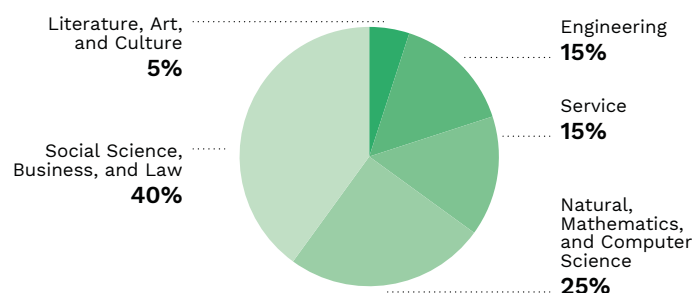
Responsibilities include perform various administrative tasks according to procedure.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
1-3 months



Related Work Experience
6-12 months

Apprenticeship



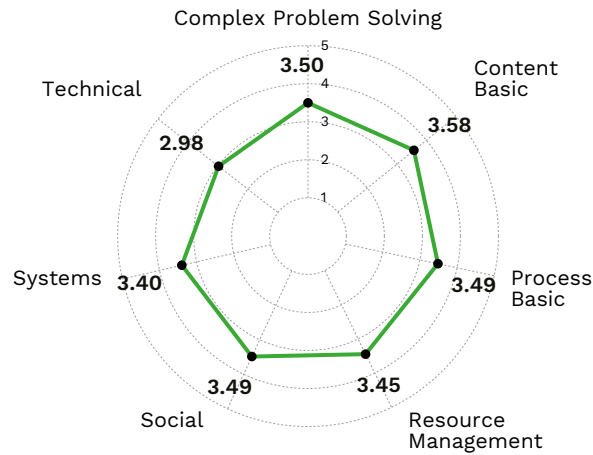
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Checking figures, preparing invoices and recording details of financial transactions	3.8	Daily
Responding to questions by phone or electronically, or continue to the right person	3.5	Daily
Copy the information into the computer, and to correct the record and to fix copy	3.5	Daily
Notes, preparing, sorting, classifying and archiving information	3.5	Daily
Noting the equipment problems to staff	3.4	More than once a week
Sorting, opening and sending mail	3.4	More than once a month
Copying and fax documents	3.4	Daily
Prepare reports and correspondence that are routine	3.2	Daily

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Active Listening	4↑	1	3.6	30
Reading Comprehension	3.9↑	2	3.7	25
Coordination	3.9↑	3	5.1↑	1
Writing	3.8↑	4	3.9↑	19
Judgment and Decision Making	3.8↑	5	4.1↑	7
Speaking	3.7↑	6	4.4↑	3
Monitoring	3.7↑	7	4.5↑	2
Time Management	3.6↑	8	4.1↑	10
Management of Personnel Resources	3.5↑	9	3.5	31
Negotiation	3.5↑	10	4.1↑	11
Complex Problem Solving	3.5↑	11	4.2↑	5
Critical Thinking	3.5↑	12	3.9↑	21
Instructing	3.5↑	13	4.3↑	4
Management of Financial Resources	3.4↑	14	3.9↑	20
Quality Control Analysis	3.4↑	15	3.8↑	22
Service Orientation	3.4↑	16	4↑	16
Learning Strategies	3.4↑	17	3.3	34
Systems Evaluation	3.3↑	18	4.1↑	6
Active Learning	3.3↑	19	3.8↑	23
Operations Analysis	3.3↑	20	3.7	29
Social Perceptiveness	3.3↑	21	3.1	35
Persuasion	3.2	22	4.0↑	14
Equipment Maintenance	3.1	23	4.0↑	13
Equipment Selection	3.1	24	4.0↑	15
Management of Material Resources	3.0	25	4↑	18
Operation and Control	3.0	26	4↑	17
Systems Analysis	3.0	27	3.4	33
Science	3	28	3.5	32
Mathematics	3	29	3.7	26
Technology Design	2.9	30	3.7	28
Operation Monitoring	2.8	31	3.7	27
Installation	2.7	32	3.8↑	24
Programming	2.7	33	4.1↑	8
Troubleshooting	2.7	34	4.0↑	12
Repairing	2.6	35	4.1↑	9

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among semi-skilled occupations.

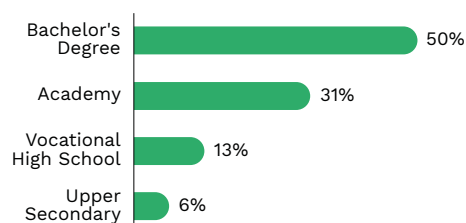
4120 Secretaries (general)

Job titles: Secretaries, Word-processing secretaries, Typing secretaries

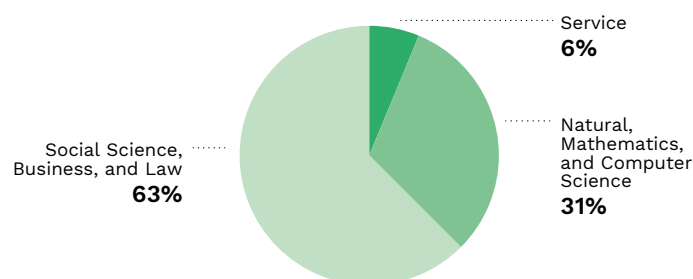
Responsibilities include use a typewriter, personal computer or other word processing equipment to make correspondence and other documents, check and format the prepared documents by other staff, handling incoming and outgoing mail, filtering meeting or appointment requests, and perform various administrative support tasks.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
3-6 months



On-The-Job Training
3-6 months



Related Work Experience
1-2 years

Apprenticeship



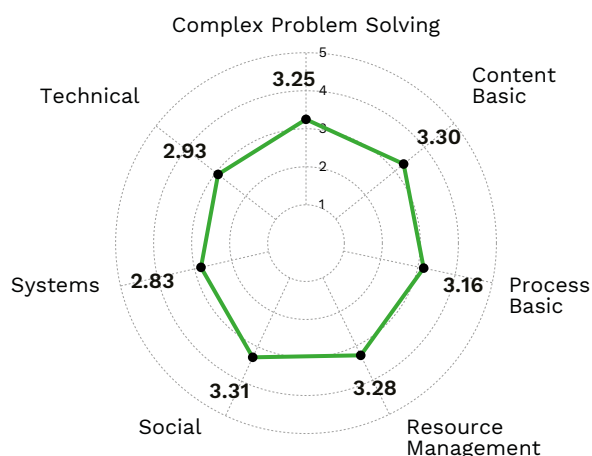
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Handle routine correspondence on their own initiative	3.8	Daily
Handle incoming or outgoing email	3.8	More than once a month
Checking, formatting and copying correspondence, check and make reports from dictation, electronic documents or written drafts to meet office standards, using typewriter, personal computer or other word processing equipment	3.7	More than once a month
Organize and supervise filing systems	3.5	Daily
Using a variety of computer software packages, including spreadsheets, to provide administrative support	3.5	Daily
Scan, recording and distributing mail, correspondence and documents	3.4	More than once a week
Filtering and recording leave and other staff rights	3.2	More than once a month
Supplemental		
Filtering meeting requests or appointments and help arrange meetings	2.6	Daily

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Coordination	3.6↑	1	4.2↑	3
Active Listening	3.6↑	2	3.8↑	15
Reading Comprehension	3.6↑	3	4↑	5
Time Management	3.5↑	4	3.6	29
Writing	3.3↑	5	4↑	7
Management of Financial Resources	3.3↑	6	3.8	17
Speaking	3.3↑	7	3.8	21
Instructing	3.3↑	8	3.8	23
Negotiation	3.3↑	9	3.9↑	12
Monitoring	3.3↑	10	4.3↑	2
Complex Problem Solving	3.2	11	3.7	27
Persuasion	3.1	12	3.9↑	13
Service Orientation	3.1	13	3.8	22
Social Perceptiveness	3.1	14	3.8	20
Operations Analysis	3.1	15	3.8↑	16
Learning Strategies	3.1	16	4↑	8
Equipment Maintenance	3.1	17	3.5	31
Mathematics	3.1	18	3.7	26
Judgment and Decision Making	3.1	19	3.4	33
Management of Material Resources	3.1	20	3.8	18
Critical Thinking	3.0	21	3.8	19
Quality Control Analysis	3.0	22	4.3↑	1
Management of Personnel Resources	3.0	23	3.5	32
Active Learning	3.0	24	4↑	10
Operation and Control	3.0	25	4↑	11
Programming	3	26	3.8	25
Troubleshooting	3	27	3.5	30
Operation Monitoring	2.9	28	3.8	24
Installation	2.8	29	4.0↑	4
Equipment Selection	2.8	30	4↑	6
Systems Analysis	2.6	31	3.9↑	14
Systems Evaluation	2.6	32	4↑	9
Science	2.6	33	2.9	35
Technology Design	2.6	34	3.7	28
Repairing	2.5	35	3.2	34

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among semi-skilled occupations.

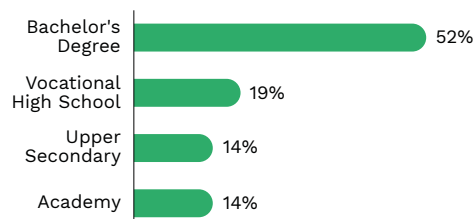
4132 Data entry clerks

Job titles: Entry Data Operator, Entry Data Officer, Purchasing Data Operator

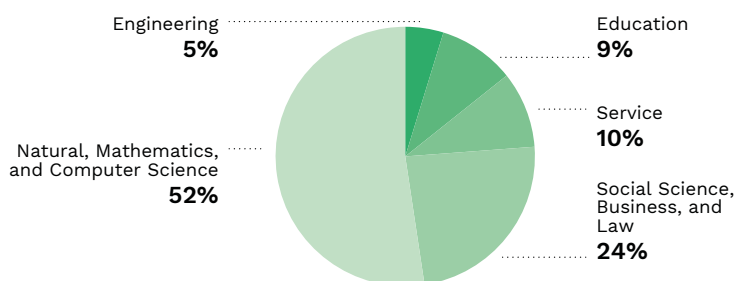
Responsibilities include entering code, statistics, financial and other numerical data into electronic equipment, computerized databases, spreadsheets or other data storage with a keyboard, mouse, or optical scanner, voice recognition device or other data entry tool.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1 month or less

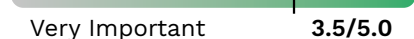


On-The-Job Training
1-3 months



Related Work Experience
1-3 months

Apprenticeship



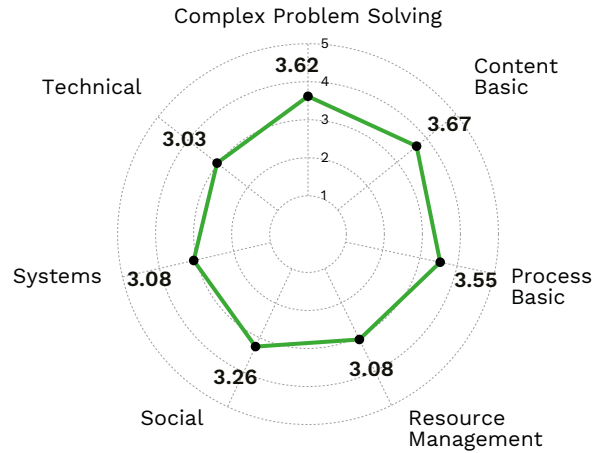
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Importing and exporting data between database systems and different software	3.9	Daily
Entering numerical data, codes and text from source material into computer compatible storage and processing devices	3.9	Daily
Receive and register invoices, forms, records and other documents for data capture	3.8	Daily
Operate bookkeeping machines and counting	3.7	Daily
Supplemental		
Verify the accuracy and completeness of the data and correct the data is entered, if necessary	3.5	Daily

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Reading Comprehension	4.1↑	1	4.4↑	7
Active Listening	4.0↑	2	4↑	18
Writing	4↑	3	4.5↑	4
Speaking	3.8↑	4	4.0↑	16
Critical Thinking	3.7↑	5	4.5↑	2
Coordination	3.7↑	6	4.6↑	1
Time Management	3.7↑	7	4.2↑	10
Complex Problem Solving	3.6↑	8	4.4↑	6
Monitoring	3.5↑	9	4.1↑	13
Learning Strategies	3.5↑	10	3.8	21
Instructing	3.3↑	11	4.2↑	9
Active Learning	3.3↑	12	3.7	23
Troubleshooting	3.3↑	13	4.5↑	3
Equipment Maintenance	3.3↑	14	3.9↑	20
Programming	3.3↑	15	4↑	17
Equipment Selection	3.2↑	16	4.5↑	5
Social Perceptiveness	3.2	17	3.5	30
Operation and Control	3.1	18	4.2↑	12
Mathematics	3.1	19	3.5	31
Management of Personnel Resources	3.1	20	3.2	34
Quality Control Analysis	3.1	21	4.1↑	15
Systems Evaluation	3.0	22	3.6	28
Service Orientation	3.0	23	3.8	22
Judgment and Decision Making	3.0	24	3.5	32
Installation	3.0	25	4.1↑	14
Systems Analysis	3.0	26	3.6	29
Negotiation	3.0	27	3.6	26
Persuasion	3.0	28	3.7	25
Operations Analysis	2.9	29	4.2↑	11
Science	2.8	30	3	35
Operation Monitoring	2.7	31	3.7	24
Management of Material Resources	2.7	32	4.2↑	8
Management of Financial Resources	2.6	33	3.6	27
Technology Design	2.5	34	4↑	19
Repairing	2.4	35	3.4	33

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among semi-skilled occupations.

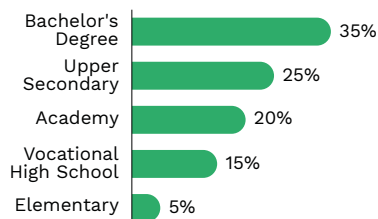
4214 Debt-collectors and related workers

Job titles: Debt Collector, Charities Collector, Bill and Account Collector

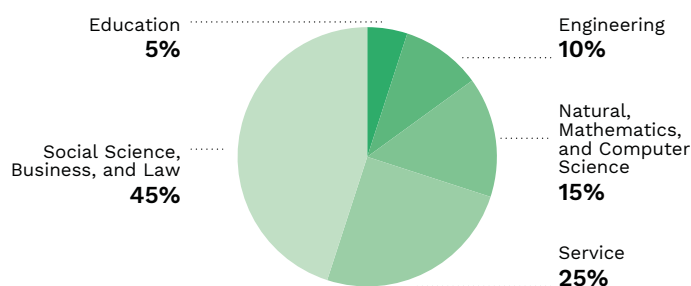
Responsibilities include collect payments on accounts due and checks blank and collect charity payments.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



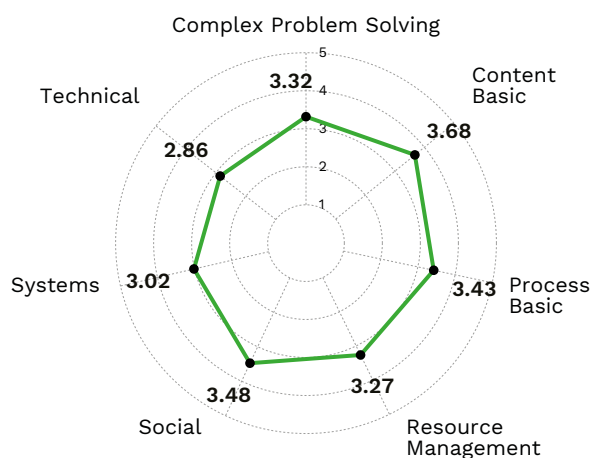
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Recommending legal action or discontinuation of service when payment is not obtained	3.9	More than once a month
Call, visit, or write to customers to collect money or arrange the next payment	3.8	Daily
Prepare reports including amounts collected and maintain records and files related to billing	3.8	Daily
Asking for and collecting charity payments	3.0	Daily
Supplemental		
Search for and find debtors	3	More than once a year

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Active Listening	4.1↑	1	4.1↑	6
Coordination	3.9↑	2	4.4↑	4
Writing	3.8↑	3	3.9↑	14
Speaking	3.8↑	4	4.1↑	8
Reading Comprehension	3.8↑	5	4.0↑	12
Mathematics	3.7↑	6	3.6	23
Negotiation	3.6↑	7	4.1↑	7
Critical Thinking	3.5↑	8	4.1↑	5
Monitoring	3.5↑	9	4.9↑	1
Persuasion	3.5↑	10	4.0↑	11
Time Management	3.4↑	11	3.9↑	17
Management of Financial Resources	3.3↑	12	4.4↑	2
Management of Personnel Resources	3.3↑	13	4.4↑	3
Active Learning	3.3↑	14	3.8	18
Complex Problem Solving	3.3↑	15	3.7	21
Learning Strategies	3.2↑	16	3.5	30
Social Perceptiveness	3.2↑	17	3.5	27
Instructing	3.2↑	18	3.9↑	16
Service Orientation	3.2	19	3.7	22
Operations Analysis	3.1	20	3.9↑	15
Judgment and Decision Making	3.1	21	4.0↑	10
Systems Evaluation	3	22	3.7	20
Quality Control Analysis	3	23	3.5	25
Management of Material Resources	2.9	24	4.1↑	9
Science	2.9	25	3.3	33
Systems Analysis	2.9	26	3.4	32
Equipment Selection	2.9	27	3.5	26
Operation and Control	2.9	28	3.6	24
Equipment Maintenance	2.8	29	4↑	13
Programming	2.8	30	3	35
Technology Design	2.8	31	3.5	28
Operation Monitoring	2.8	32	3.8	19
Installation	2.7	33	3.5	29
Troubleshooting	2.6	34	3.2	34
Repairing	2.5	35	3.5	31

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among semi-skilled occupations.

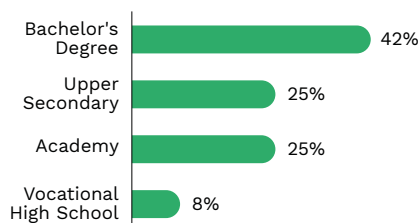
4222 Contact centre information clerks

Job titles: Contact centre information clerks

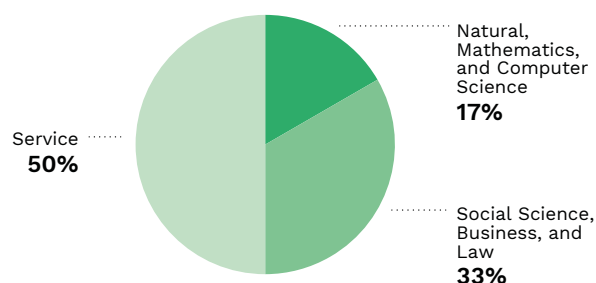
Responsibilities include provide advice and information to clients, respond to requests regarding the company's or organizational capabilities, services or policies and process financial transactions using telephone or electronic communication media, such as email.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



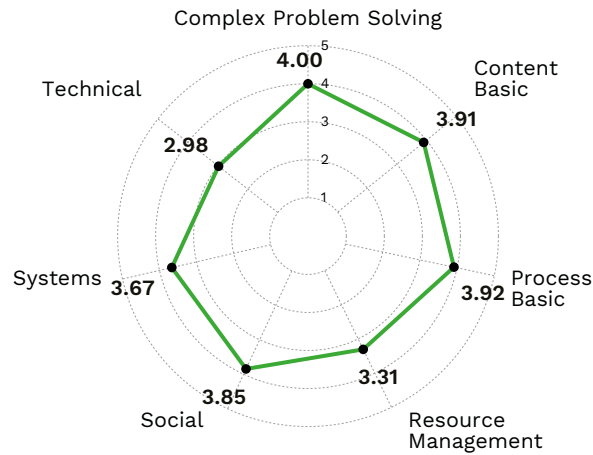
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Identifying requirements and entering events into a computer system	3.6	Daily
Advising clients about additional products or services	3.5	Daily
Send tasks to other units	3.5	Daily
Handle incoming calls and messages from clients, to answer questions, handle calls for service or sort out complaints	3.4	Daily
Handle invoice or payment	3.3	Several times a day
Supplemental		
Send a letter or information sheets and other documents to clients	3.5	Daily

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Speaking	4.6↑	1	4.3↑	9
Coordination	4.2↑	2	4.6↑	2
Instructing	4.1↑	3	4.4↑	5
Critical Thinking	4.0↑	4	4.3↑	8
Complex Problem Solving	4↑	5	4.2↑	11
Active Learning	4↑	6	4↑	16
Active Listening	4↑	7	3.7	24
Reading Comprehension	4↑	8	3.6	29
Monitoring	3.9↑	9	5↑	1
Negotiation	3.8↑	10	3.3	34
Judgment and Decision Making	3.8↑	11	3.5	31
Time Management	3.7↑	12	3.7	23
Writing	3.6↑	13	4.4↑	7
Social Perceptiveness	3.6↑	14	4.0↑	15
Learning Strategies	3.6↑	15	4.2↑	12
Systems Evaluation	3.6↑	16	3.6	28
Mathematics	3.6↑	17	3.9↑	21
Service Orientation	3.6↑	18	4.0↑	14
Systems Analysis	3.5↑	19	3.5	30
Operations Analysis	3.5↑	20	4.6↑	3
Science	3.5↑	21	3.8	22
Persuasion	3.5↑	22	4.5↑	4
Operation and Control	3.3↑	23	3.9↑	19
Management of Personnel Resources	3.3↑	24	3.9↑	20
Quality Control Analysis	3.3↑	25	3.5	32
Equipment Maintenance	3.0	26	3.7	26
Management of Financial Resources	3.0	27	4.2↑	10
Equipment Selection	3.0	28	4↑	18
Management of Material Resources	3	29	4.4↑	6
Troubleshooting	2.9	30	3.5	33
Programming	2.8	31	3.7	27
Technology Design	2.8	32	3.0	35
Operation Monitoring	2.6	33	4↑	17
Repairing	2.5	34	3.7	25
Installation	2.5	35	4.0↑	13

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among semi-skilled occupations.

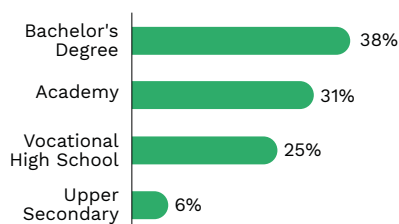
4416 Human resource clerical

Job titles: Human resource assistant, Human resource clerical

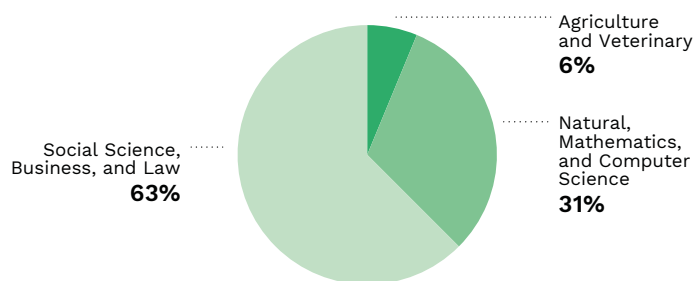
Responsibilities include maintain and update personnel records such as information transfers and promotions, performance evaluations, employee leaves that have been taken and remaining, salaries, qualifications and training.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



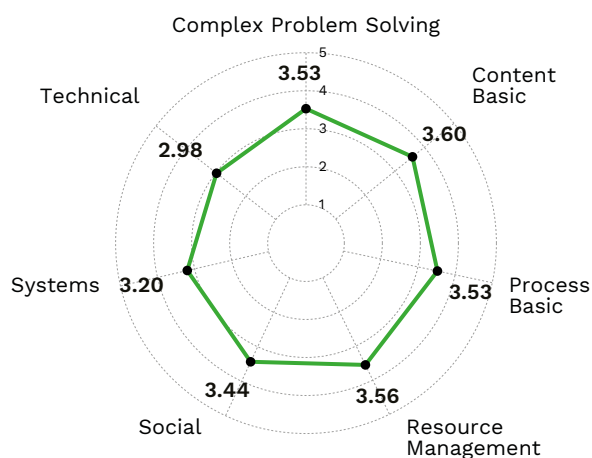
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Started records for newly appointed workers and checking records for completeness	3.8	More than once a month
Receive and answer questions about the rights and working conditions	3.6	More than once a month
Maintaining and updating manual and computerized filing and registration systems, and compiling and preparing reports and documents relating to personnel activities	3.4	More than once a year
Submitting job applications and announce the vacancy and test / interview for a job	3.3	More than once a month
Storing and retrieving personnel records and files on request	3.3	More than once a year
Update information about your work history, salaries, performance evaluations, qualifications and training and leave taken and accumulated	3.2	More than once a month
Processing of applications for employment and promotions and notifying the results	3.0	More than once a month

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Reading Comprehension	4.1↑	1	4.3↑	9
Speaking	3.9↑	2	4.5↑	6
Management of Personnel Resources	3.9↑	3	4.7↑	2
Time Management	3.8↑	4	4.0↑	17
Active Listening	3.8↑	5	4.6↑	5
Critical Thinking	3.7↑	6	4↑	20
Monitoring	3.7↑	7	4.7↑	1
Writing	3.7↑	8	4.2↑	11
Coordination	3.6↑	9	4.2↑	12
Instructing	3.5↑	10	4.4↑	7
Complex Problem Solving	3.5↑	11	4↑	21
Quality Control Analysis	3.4↑	12	4.1↑	14
Social Perceptiveness	3.4↑	13	4.3↑	10
Service Orientation	3.4↑	14	4.6↑	4
Operation Monitoring	3.3↑	15	4.1↑	13
Learning Strategies	3.3↑	16	4↑	18
Active Learning	3.2↑	17	3.5	30
Systems Evaluation	3.2	18	3.6	28
Systems Analysis	3.2	19	3.6	27
Persuasion	3.2	20	4.4↑	8
Management of Financial Resources	3.2	21	3.4	32
Negotiation	3.2	22	4.0↑	16
Management of Material Resources	3.1	23	4↑	19
Mathematics	3.1	24	4.7↑	3
Judgment and Decision Making	3.1	25	3.6	29
Equipment Maintenance	3.1	26	3.9↑	22
Troubleshooting	3.0	27	4.0↑	15
Operation and Control	3.0	28	3.8↑	23
Equipment Selection	3	29	3.8	24
Programming	2.9	30	3.2	33
Operations Analysis	2.9	31	3.4	31
Science	2.8	32	3.6	26
Repairing	2.7	33	2.8	35
Technology Design	2.7	34	3.8	25
Installation	2.3	35	3.1	34

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among semi-skilled occupations.

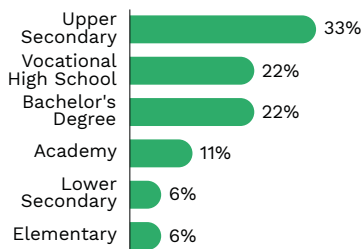
5151 Cleaners supervisors

Job titles: Cleaner supervisor, Head of Dormitory

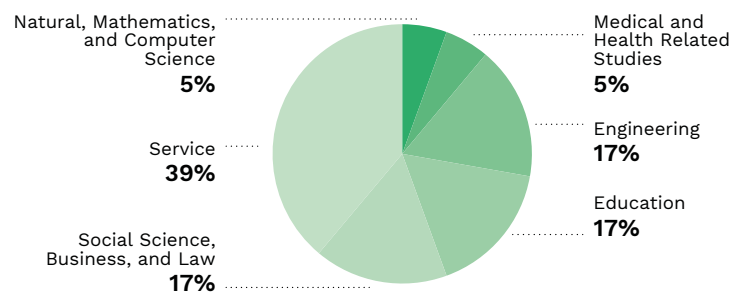
Responsibilities include organize, supervise and perform household functions to keep the interior clean and tidy, equipment and facilities within the company.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1 month or less



On-The-Job Training
1-3 months



Related Work Experience
1-3 months

Apprenticeship



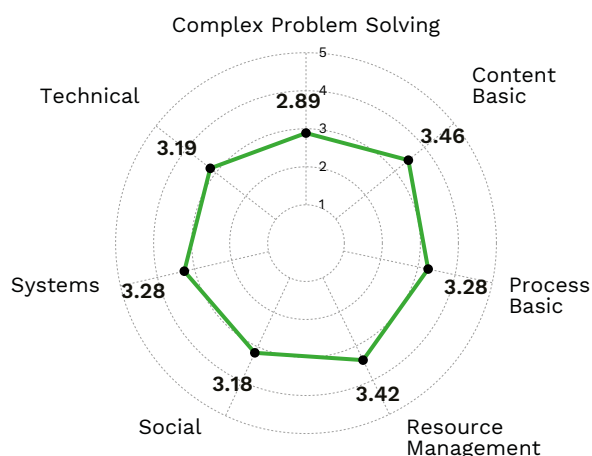
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Oversee the general welfare and behavior of individuals in institutions	3.4	More than once a month
Pay or controlling inventory purchases	3.4	Daily
Sweep or vacuum cleaning, washing and polishing floors, furniture and other equipment	3.3	Daily
Supplemental		
Engage, train, fire, organize and supervise helpers, cleaners and other household staff	3.7	More than once a month
Storage and inventory control problems	3.7	Daily
Make the beds, clean the bathroom, provide towels, soap and related goods	3.6	Daily
Restocking minibars and replenishing items such as drinking glasses and writing utensils	3.1	Daily
Clean the kitchen and assist the work of the kitchen, including dishwasher	2.8	More than once a month

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Reading Comprehension	3.9↑	1	3.9↑	9
Active Listening	3.8↑	2	3.1	31
Speaking	3.7↑	3	4↑	7
Equipment Selection	3.6↑	4	3.7	17
Coordination	3.6↑	5	4.3↑	2
Time Management	3.6↑	6	3.1	30
Equipment Maintenance	3.5↑	7	3.9↑	8
Writing	3.5↑	8	3.8↑	13
Service Orientation	3.4↑	9	3.8↑	12
Management of Financial Resources	3.4↑	10	4.1↑	5
Critical Thinking	3.3↑	11	3.5	20
Monitoring	3.3↑	12	4.2↑	3
Judgment and Decision Making	3.3↑	13	3.7	16
Management of Material Resources	3.3↑	14	4.1↑	4
Systems Analysis	3.2↑	15	3.1	29
Systems Evaluation	3.2	16	3.9↑	11
Management of Personnel Resources	3.2	17	4.0↑	6
Learning Strategies	3.2	18	2.8	35
Instructing	3.2	19	3.2	28
Troubleshooting	3.1	20	3.7	15
Operation Monitoring	3.1	21	3.5	19
Quality Control Analysis	3.1	22	3.6	18
Repairing	3.1	23	3.0	32
Active Learning	3.1	24	3.2	26
Social Perceptiveness	3.1	25	2.8	34
Installation	3.1	26	3.9↑	10
Technology Design	3.0	27	3.4	24
Mathematics	3.0	28	3.4	23
Operation and Control	3.0	29	3.8↑	14
Operations Analysis	3	30	4.5↑	1
Negotiation	3	31	3.3	25
Programming	2.9	32	2.9	33
Complex Problem Solving	2.8	33	3.2	27
Science	2.7	34	3.5	21
Persuasion	2.6	35	3.5	22

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among semi-skilled occupations.

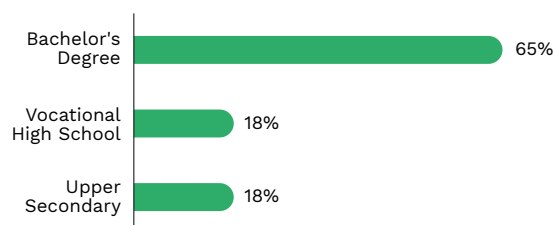
5243 Traveling salesman

Job titles: Door-to-door salesman, Party Planner Salesman

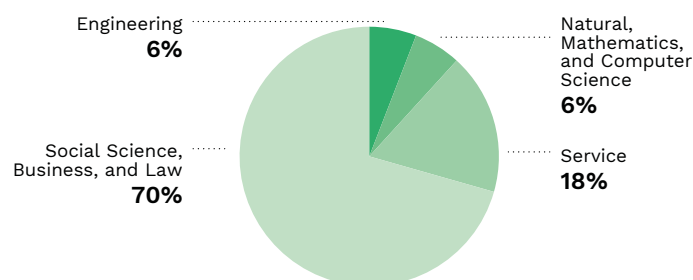
Responsibilities include selling goods and services and lobbying business for a company, by approaching or visiting potential customers, usually residents at home private, door to door.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1 month or less



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



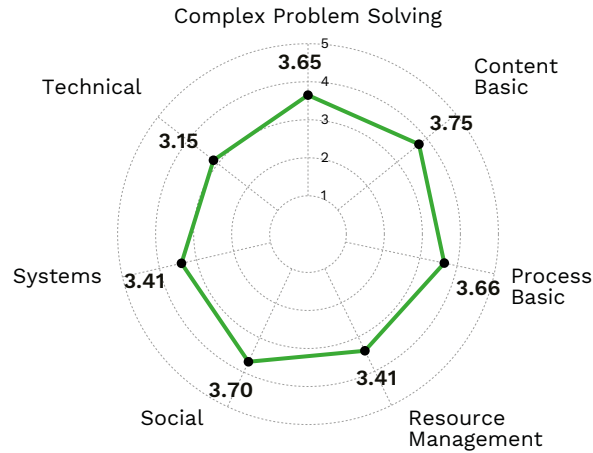
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Compile a list of prospective clients and contacting clients to get new business	3.9	Daily
Show or explain the goods or services offered	3.7	Daily
Travel between sales territories and clients and transporting samples or goods for sale	3.6	Daily
Giving details of various goods or services and the terms of sale by visiting clients and potential clients from door to door	3.6	Daily
Prepare invoices and sales contracts and accepting payment	3.6	Daily
Taking orders and transactions and placing orders received with suppliers	3.5	More than once a month
Distributing letters, information sheets and other documents to clients	3.5	Daily

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Speaking	4.2↑	1	4.5↑	6
Coordination	4.0↑	2	4.5↑	7
Reading Comprehension	4.0↑	3	3.7	27
Active Listening	4↑	4	3.7	29
Service Orientation	3.8↑	5	4.1↑	16
Time Management	3.8↑	6	4↑	21
Negotiation	3.7↑	7	4.0↑	20
Critical Thinking	3.7↑	8	3.7	26
Active Learning	3.6↑	9	4.2↑	11
Complex Problem Solving	3.6↑	10	4.1↑	18
Instructing	3.6↑	11	4.1↑	15
Monitoring	3.6↑	12	4.3↑	9
Learning Strategies	3.6↑	13	3.5	32
Mathematics	3.5↑	14	3.7	28
Writing	3.5↑	15	3.4	34
Persuasion	3.5↑	16	4.2↑	13
Judgment and Decision Making	3.5↑	17	3.5	31
Operations Analysis	3.4↑	18	4.2↑	14
Management of Personnel Resources	3.4↑	19	5↑	1
Systems Analysis	3.3↑	20	3.9↑	22
Systems Evaluation	3.3↑	21	4.3↑	10
Quality Control Analysis	3.3↑	22	4.4↑	8
Social Perceptiveness	3.3↑	23	3.4	35
Management of Financial Resources	3.2↑	24	4.5↑	3
Equipment Selection	3.2↑	25	4.6↑	2
Operation and Control	3.2	26	3.7	30
Operation Monitoring	3.1	27	4.1↑	17
Programming	3.1	28	4.0↑	19
Management of Material Resources	3.0	29	4.5↑	5
Technology Design	3.0	30	4.5↑	4
Science	3	31	3.5	33
Equipment Maintenance	3	32	3.8	24
Installation	3	33	4.2↑	12
Repairing	2.9	34	3.9↑	23
Troubleshooting	2.9	35	3.8	25

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among semi-skilled occupations.

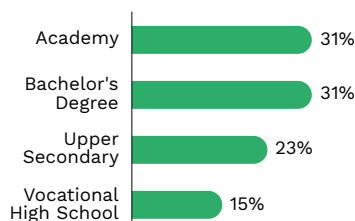
5244 Contact centre salespersons

Job titles: Telemarketer, Contact centre salesperson, Internet salesperson

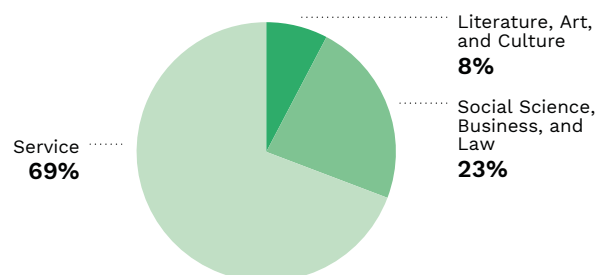
Responsibilities include contact customers and prospective customers, using telephone or other electronic communication media, to promote goods and services, obtaining sales and arranging sales visits.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1 month or less



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



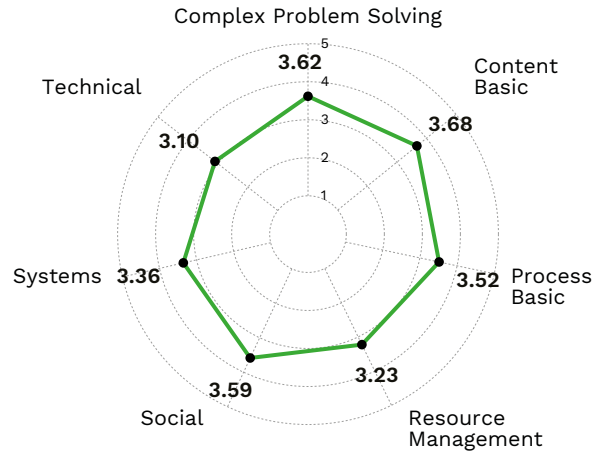
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Arranging appointments for sales representatives	3.9	More than once a month
Creating interest in goods and services, and seeking a sale or agreement to see sales representatives	3.8	More than once a month
Set the processing and delivery of goods and services, information kits and brochures to customers	3.6	More than once a week
Maintaining statistics of calls made and successes achieved	3.5	More than once a month
To submit periodic reports on telemarketing activities and results	3.4	Daily
Reporting on the activities of competitors and issues raised by contacts for attention by managers	3.3	Daily
Promoting goods and services by telephone or electronic mail, following scripts and work in the form of a list of contacts	3.2	More than once a month
Supplemental		
Recording notes for follow-up and updating marketing databases to reflect the change in status of each customer	3.4	More than once a week

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Reading Comprehension	4.3↑	1	4.6↑	11
Active Listening	4.1↑	2	4.1↑	26
Coordination	3.8↑	3	4.7↑	6
Monitoring	3.8↑	4	5↑	3
Service Orientation	3.7↑	5	4.6↑	7
Speaking	3.7↑	6	4.6↑	8
Writing	3.6↑	7	4.9↑	4
Operations Analysis	3.6↑	8	4.6↑	9
Instructing	3.6↑	9	4.4↑	15
Complex Problem Solving	3.6↑	10	4.6↑	10
Judgment and Decision Making	3.6↑	11	4.0↑	28
Quality Control Analysis	3.6↑	12	4.4↑	16
Learning Strategies	3.5↑	13	3.8	30
Critical Thinking	3.5↑	14	4.4↑	14
Management of Financial Resources	3.5↑	15	4.3↑	17
Social Perceptiveness	3.4↑	16	4↑	29
Negotiation	3.4↑	17	5.1↑	1
Operation and Control	3.4↑	18	4.1↑	25
Systems Evaluation	3.3↑	19	4.2↑	21
Mathematics	3.3↑	20	5.0↑	2
Equipment Selection	3.3↑	21	4.1↑	24
Time Management	3.3↑	22	4.2↑	20
Management of Personnel Resources	3.3↑	23	4.5↑	12
Persuasion	3.3↑	24	4.5↑	13
Operation Monitoring	3.1	25	4.2↑	19
Troubleshooting	3.1	26	4.3↑	18
Active Learning	3.1	27	4.2↑	22
Technology Design	3.0	28	4.7↑	5
Systems Analysis	3.0	29	3.7	33
Management of Material Resources	2.7	30	4.1↑	23
Science	2.7	31	3.8	32
Equipment Maintenance	2.7	32	4.0↑	27
Installation	2.7	33	3.8	31
Programming	2.7	34	3.4	35
Repairing	2.3	35	3.4	34

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among semi-skilled occupations.

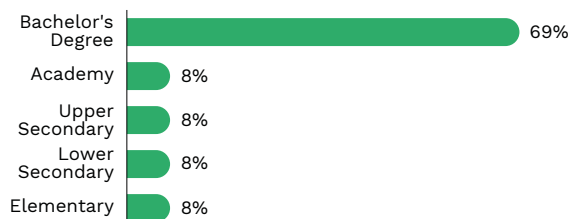
5249 Sales workers not elsewhere classified

Job titles: Sales worker in rental service

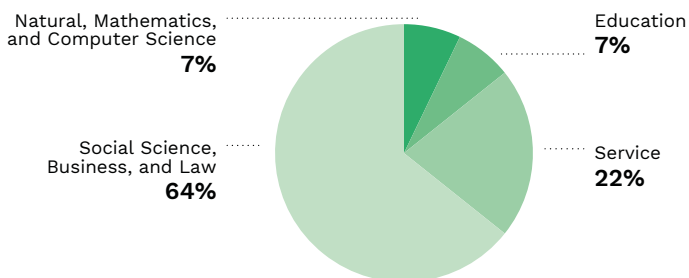
Sales workers who are not classified elsewhere in the group.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1 month or less



On-The-Job Training
3-6 months



Related Work Experience
1-2 years

Apprenticeship



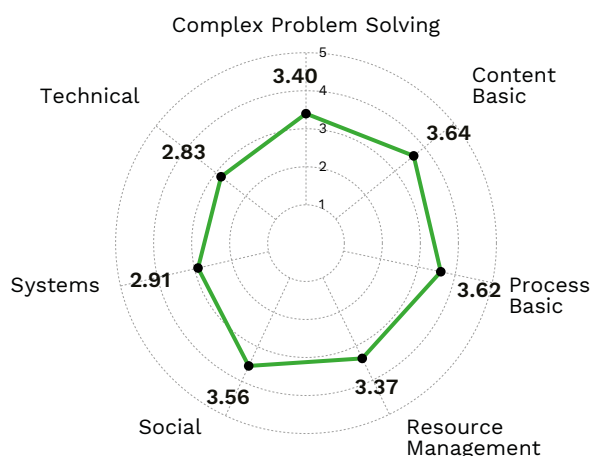
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Receive payments for goods / services can be in rental	3.4	Daily
Supplemental		
Display, show the goods / services can be in rental	3.8	More than once a week
Offering goods / services can be in rental	3.7	More than once a week

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Speaking	4.1↑	1	4.5↑	5
Service Orientation	3.9↑	2	4.1↑	15
Active Listening	3.8↑	3	3.8	22
Negotiation	3.8↑	4	4.5↑	4
Active Learning	3.8↑	5	4.4↑	6
Monitoring	3.7↑	6	4.8↑	2
Mathematics	3.6↑	7	4.2↑	11
Reading Comprehension	3.6↑	8	4.4↑	7
Time Management	3.6↑	9	4.4↑	8
Coordination	3.6↑	10	4.9↑	1
Writing	3.5↑	11	4↑	18
Critical Thinking	3.5↑	12	4.3↑	9
Management of Financial Resources	3.5↑	13	3.7	28
Judgment and Decision Making	3.4↑	14	3.6	30
Social Perceptiveness	3.4↑	15	3.8	26
Complex Problem Solving	3.4↑	16	4.2↑	13
Instructing	3.4↑	17	4.1↑	14
Learning Strategies	3.4↑	18	3.8	23
Quality Control Analysis	3.3↑	19	3.8	27
Management of Personnel Resources	3.3↑	20	4.2↑	12
Operations Analysis	3.2	21	3.5	32
Technology Design	3.1	22	3.8	24
Persuasion	3.0	23	4.6↑	3
Operation and Control	3.0	24	3.9↑	19
Management of Material Resources	2.9	25	3.9↑	20
Science	2.8	26	3.2	35
Troubleshooting	2.8	27	3.9↑	21
Equipment Maintenance	2.7	28	3.6	29
Operation Monitoring	2.7	29	4.0↑	17
Programming	2.7	30	3.5	31
Equipment Selection	2.6	31	4.1↑	16
Systems Analysis	2.6	32	3.8	25
Systems Evaluation	2.5	33	4.3↑	10
Installation	2.4	34	3.5	34
Repairing	2.3	35	3.5	33

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among semi-skilled occupations.

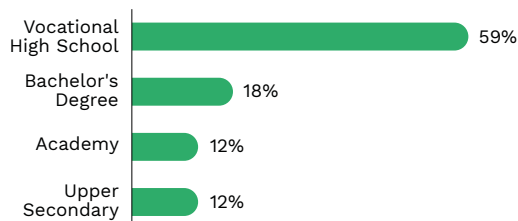
7233 Agricultural and industrial machinery mechanics and repairers

Job titles: Mechanics And Construction Machinery Repairmen, Mechanics And Industrial Machine Repairmen, Mechanics And Agricultural Machinery Repairmen, Mining Mechanics And Repairmen, Mechanics And Railway Engine Repairmen

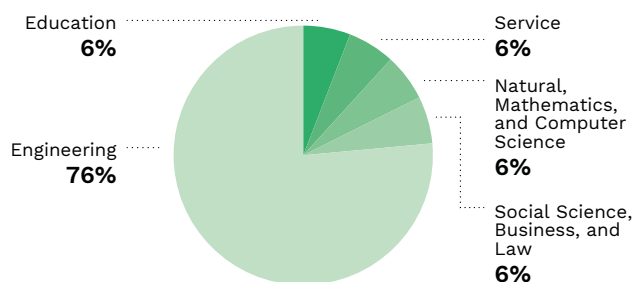
Responsibilities include tuning, installing, checking, service and repair machinery, agricultural and industrial machinery and mechanical equipment, except motorized vehicles, airplanes and electric motors.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
3-6 months



On-The-Job Training
3-6 months



Related Work Experience
1-2 years

Apprenticeship

Very Important

3.5/5.0

Job-Related Professional Certification

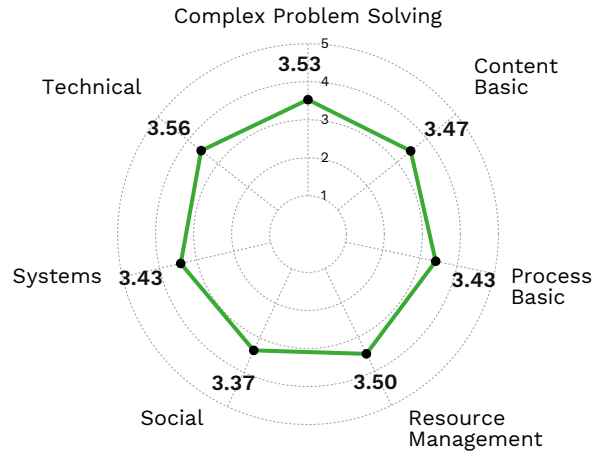
Important

3.3/5.0

Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Checking and testing new machinery and mechanical equipment for conformity standards and specifications	4.1	Daily
Examine the parts of defects such as breakage and excessive wear	4.0	Daily
Operate the machine and the newly repaired equipment to verify the eligibility of repair	3.9	Daily
Dismantling of machinery and equipment to dispose of parts and make repairs	3.9	More than once a year
Noting repair and maintenance has been done	3.8	More than once a year
Setting, install, inspect, maintain and repair machinery, machinery and mechanical equipment	3.7	Daily
Lubricate and greasing stationary engines and machinery	3.4	More than once a month

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Reading Comprehension	4.0↑	1	4↑	25
Troubleshooting	4↑	2	4.3↑	15
Coordination	3.8↑	3	4.9↑	3
Repairing	3.8↑	4	4.9↑	4
Installation	3.7↑	5	4.5↑	11
Equipment Maintenance	3.7↑	6	4.5↑	12
Time Management	3.7↑	7	4.3↑	16
Active Listening	3.7↑	8	2.9	34
Quality Control Analysis	3.7↑	9	4.2↑	20
Operation Monitoring	3.6↑	10	4.6↑	10
Judgment and Decision Making	3.5↑	11	4.0↑	24
Instructing	3.5↑	12	4.4↑	13
Critical Thinking	3.5↑	13	3.7	31
Complex Problem Solving	3.5↑	14	3.9↑	26
Equipment Selection	3.5↑	15	4.8↑	6
Mathematics	3.5↑	16	5.0↑	1
Monitoring	3.5↑	17	4.7↑	7
Management of Personnel Resources	3.4↑	18	3.8↑	28
Management of Financial Resources	3.4↑	19	4.3↑	18
Operations Analysis	3.4↑	20	4.8↑	5
Operation and Control	3.4↑	21	4.3↑	17
Learning Strategies	3.3↑	22	3.8	30
Service Orientation	3.3↑	23	4.1↑	22
Management of Material Resources	3.3↑	24	5↑	2
Systems Evaluation	3.3↑	25	4.4↑	14
Systems Analysis	3.3↑	26	4.1↑	21
Negotiation	3.2↑	27	3.7	32
Active Learning	3.2↑	28	4.6↑	9
Writing	3.2↑	29	3.8	29
Speaking	3.1	30	3.9↑	27
Technology Design	3.1	31	4.7↑	8
Persuasion	3.1	32	4.0↑	23
Science	3.0	33	4.2↑	19
Social Perceptiveness	3.0	34	3.1	33
Programming	2.9	35	2.8	35

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among semi-skilled occupations.

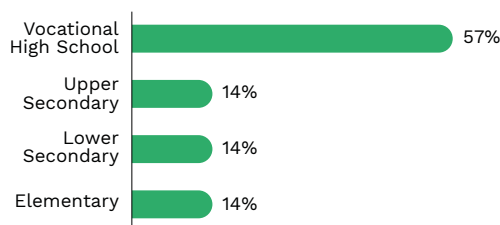
7318 Handicraft workers in textile, leather and related materials

Job titles: Handicraft workers in textile, leather, textile, Drawer, Comber, Rover, Weaver, Woven Fabric Sewer

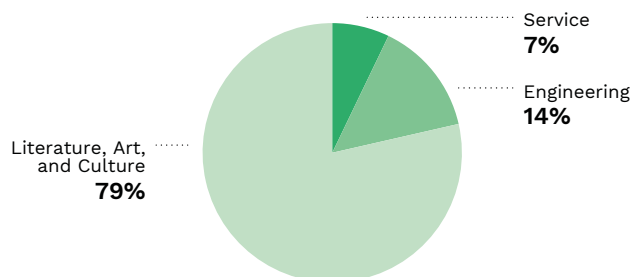
Responsibilities include apply traditional techniques and patterns to produce woven, knitted, embroidery, weaving and other clothing as well as goods for household, and traditional footwear, bags, belts and other accessories.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1 month or less



On-The-Job Training
1 month or less



Related Work Experience
1 month or less

Apprenticeship



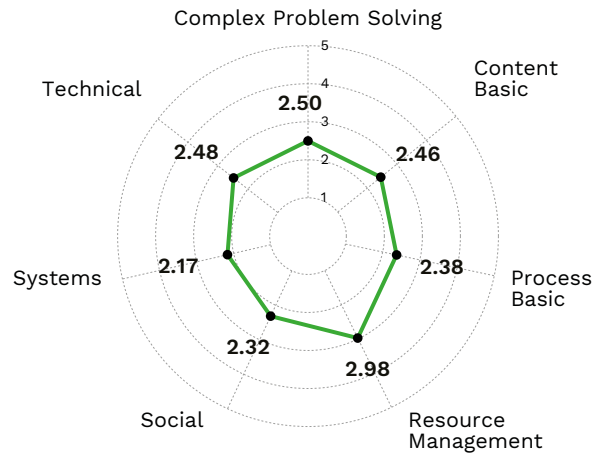
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Cleaning and patted textile fibers	3.4	More than once a week
Supplemental		
Crocheting or making braid by hand	4	Daily
Made rugs using a knotting technique	4	Daily
Making nets by hand	3.7	More than once a month
Grading and classifying natural textile fibers	3.6	Daily
Washing the wool fibers	3.5	Daily
Preparing and dip natural dye leather and making traditional footwear or handbags, belts and other accessories	3.5	More than once a month
Forming fibers in the piece, comb, combining fiber in pieces or fibers formed into rove	3.3	More than once a year
Make lace and weaving, knitting, or embroidering various garments and household articles	3.3	Daily
Attractive warp to the loom by hand	3.3	More than once a month
Knitting garments and other articles with powered hand tools or by hand	3.3	Daily
Twisting and twining yarn by hand	3.2	Daily
Twisting and dyeing with natural dyes, wool, cotton and other fibers	3.1	Daily
Plain weave fabric or clothing description, tapestry, lace, carpet or other fabrics on hand looms	3	Daily

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Quality Control Analysis	3.6↑	1	2.2	17
Management of Financial Resources	3.4↑	2	2.6	10
Operation and Control	3.1	3	2.6	11
Management of Personnel Resources	3.1	4	2.6	9
Instructing	2.9	5	2.6	8
Writing	2.8	6	1.8	30
Time Management	2.7	7	2.6	7
Equipment Maintenance	2.7	8	2.2	18
Coordination	2.7	9	1.7	31
Management of Material Resources	2.6	10	2.0	21
Active Learning	2.6	11	1.7	32
Reading Comprehension	2.6	12	2.3	16
Mathematics	2.6	13	1.6	33
Equipment Selection	2.6	14	2.8	4
Active Listening	2.5	15	1.9	28
Technology Design	2.5	16	2.5	12
Speaking	2.5	17	1.9	29
Operations Analysis	2.5	18	1.5	34
Complex Problem Solving	2.5	19	2	27
Learning Strategies	2.5	20	2	24
Social Perceptiveness	2.4	21	2.0	22
Operation Monitoring	2.3	22	2	26
Critical Thinking	2.2	23	2.4	13
Negotiation	2.2	24	2.7	5
Systems Analysis	2.2	25	2	25
Systems Evaluation	2.2	26	2	23
Programming	2.1	27	1.3	35
Monitoring	2.0	28	2.4	14
Troubleshooting	2	29	2.4	15
Judgment and Decision Making	2	30	2.8	3
Service Orientation	1.9	31	2.7	6
Repairing	1.8	32	3.2	1
Installation	1.7	33	2.1	20
Persuasion	1.6	34	3	2
Science	1.5	35	2.2	19

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among semi-skilled occupations.

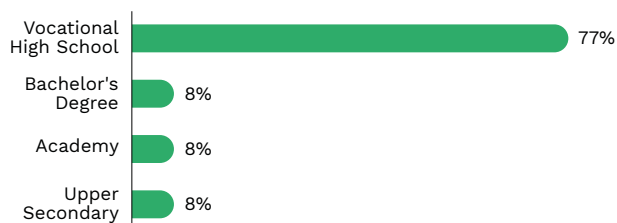
7412 Electrical mechanics and fitters

Job titles: Dinamo Armature Builder, Electric Generator Installer, Lift Mechanic

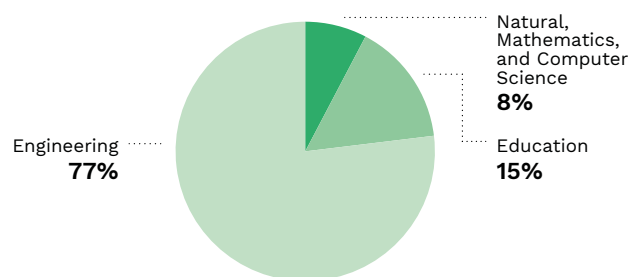
Responsibilities include install, adjust, install and repair electrical machinery and other electrical equipment and equipment in buildings, factories, workshops, or another place.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months

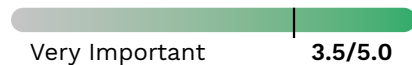


On-The-Job Training
6-12 months



Related Work Experience
1-2 years

Apprenticeship



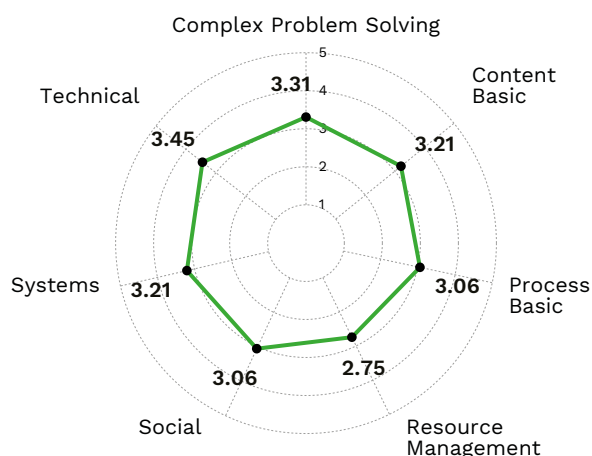
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Connecting the electrical system for power supply	3.6	More than once a month
Installing, testing, connecting, supervising, maintaining and modifying electrical equipment, wiring and control systems	3.3	Several times a day
Replace and repair the defective parts	3.3	More than once a month
Installing, adjusting and repairing various kinds of electrical machinery and motors, generators, switchgear and control equipment, instruments, or electrical parts of elevators and related equipment	3.3	Several times a day
Inspect and test electrical products manufactured	3.3	More than once a month
Installing, adjusting and repairing electrical parts in domestic appliances, industrial machinery and other equipment	3.2	Daily
Designing, installing, maintaining, servicing and repairing electric passenger and freight elevators, and hydraulic, escalators, moving roads and other lifting equipment	3.1	More than once a year

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Installation	3.8↑	1	4.6↑	3
Repairing	3.7↑	2	4.6↑	2
Reading Comprehension	3.7↑	3	3.3	30
Troubleshooting	3.6↑	4	4.4↑	5
Equipment Maintenance	3.6↑	5	4.1↑	8
Equipment Selection	3.6↑	6	4.0↑	10
Coordination	3.6↑	7	4↑	11
Operation Monitoring	3.5↑	8	4↑	15
Operation and Control	3.4↑	9	4↑	14
Active Listening	3.3↑	10	3.0	34
Instructing	3.3↑	11	3.9↑	17
Systems Analysis	3.3↑	12	4.2↑	7
Complex Problem Solving	3.3↑	13	3.6	22
Quality Control Analysis	3.3↑	14	3.8	20
Operations Analysis	3.3↑	15	4.3↑	6
Speaking	3.3↑	16	3.5	24
Mathematics	3.3↑	17	4.1↑	9
Judgment and Decision Making	3.2	18	3.1	32
Critical Thinking	3.2	19	3.4	25
Time Management	3.2	20	3.4	27
Monitoring	3.1	21	4.6↑	1
Service Orientation	3.1	22	3.3	29
Active Learning	3.0	23	3.6	23
Persuasion	3	24	3.4	26
Technology Design	3	25	3.8	19
Systems Evaluation	3	26	4↑	12
Writing	2.9	27	3.9↑	16
Management of Personnel Resources	2.9	28	4.5↑	4
Learning Strategies	2.7	29	3.0	33
Programming	2.7	30	3.3	31
Negotiation	2.6	31	3.4	28
Social Perceptiveness	2.5	32	4↑	13
Science	2.5	33	2.9	35
Management of Financial Resources	2.4	34	3.8↑	18
Management of Material Resources	2.3	35	3.8	21

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among semi-skilled occupations.

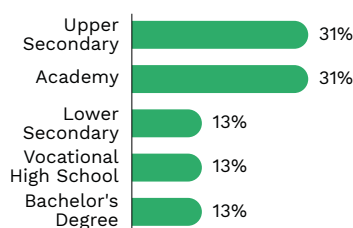
8131 Chemical products plant and machine operators

Job titles: Blender machine operators, Petroleum and natural gas refining machine operators, Operators of refining machines other than petroleum and natural gas, Operators of pharmaceutical products and personal hygiene needs, Candle production machine operators, Explosive product machine operators

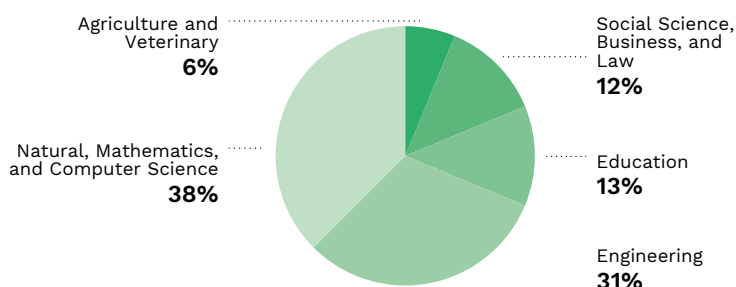
Responsibilities include monitor and operate units and machines for blending, mixing, processing and packaging a wide variety of chemical products.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
3-6 months



On-The-Job Training
3-6 months



Related Work Experience
1-2 years

Apprenticeship



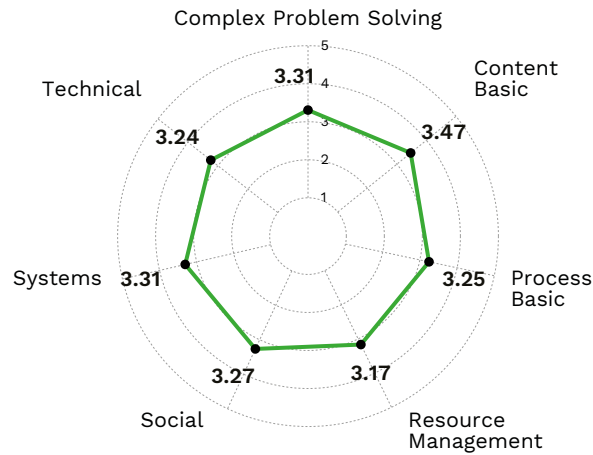
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Cleaning and minor repairs to machinery and equipment	4.1	Daily
Set up, start, controlling, adjusting and stopping machines and equipment	4	Daily
Monitor the reaction process and move the appropriate product safety procedures	3.9	Daily
Measure, weigh and load chemical ingredients following the formulation	3.7	Daily
Take samples and conduct chemical and physical tests on a regular basis to perform data recording products and production results	3.6	Daily
Monitor gauges and electronic equipment at one or more chemical or formulation units, such as a mixer machine, kettle, blenders, dryers, tableting, encapsulation, granulation and coating	3.4	Several times a day

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Time Management	3.9↑	1	4.1↑	15
Reading Comprehension	3.8↑	2	3.8↑	25
Coordination	3.8↑	3	4.9↑	1
Quality Control Analysis	3.7↑	4	4.8↑	4
Instructing	3.6↑	5	4.4↑	9
Operation Monitoring	3.6↑	6	4.2↑	13
Active Listening	3.6↑	7	3.6	32
Operation and Control	3.5↑	8	4.3↑	12
Equipment Maintenance	3.5↑	9	4.2↑	14
Judgment and Decision Making	3.5↑	10	3.7	31
Monitoring	3.5↑	11	4.8↑	2
Speaking	3.4↑	12	4.5↑	5
Operations Analysis	3.3↑	13	4.8↑	3
Management of Personnel Resources	3.3↑	14	4.0↑	16
Mathematics	3.3↑	15	4.5↑	6
Complex Problem Solving	3.3↑	16	4↑	19
Science	3.2↑	17	4.0↑	18
Equipment Selection	3.2	18	4.5↑	7
Troubleshooting	3.2	19	3.9↑	24
Critical Thinking	3.2	20	4↑	21
Systems Analysis	3.2	21	3.8↑	26
Writing	3.2	22	3.9↑	22
Systems Evaluation	3.1	23	4.3↑	11
Active Learning	3.1	24	4.4↑	8
Persuasion	3.1	25	4.3↑	10
Learning Strategies	3.0	26	3.5	33
Installation	3.0	27	3.8	28
Service Orientation	3.0	28	3.9↑	23
Repairing	3	29	4.0↑	17
Social Perceptiveness	2.9	30	3.8	29
Negotiation	2.8	31	3.1	35
Management of Material Resources	2.8	32	3.7	30
Technology Design	2.6	33	3.8	27
Management of Financial Resources	2.5	34	4↑	20
Programming	2.5	35	3.3	34

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among semi-skilled occupations.

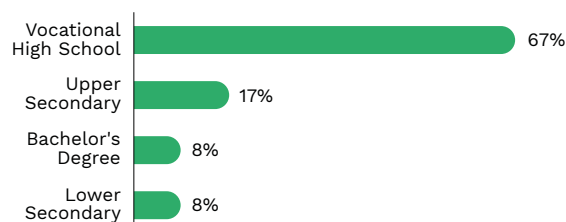
8141 Rubber products machine operators

Job titles: Extrusion / rubber machine operators, Rubber milling machine operators, Rubber molding machine operators, Rubber product machine operators, Tire making machine operators, Tire retreaders

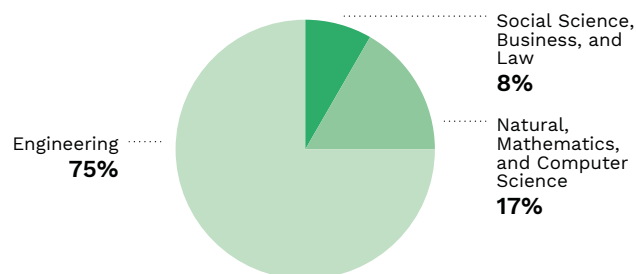
Responsibilities include operate and monitor machines kneading, mixing rubber and mixing rubber and producing various components and natural and synthetic rubber products such as molded footwear, household supplies, insulating materials, industrial accessories, and tires.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
1-3 months



Related Work Experience
6-12 months

Apprenticeship



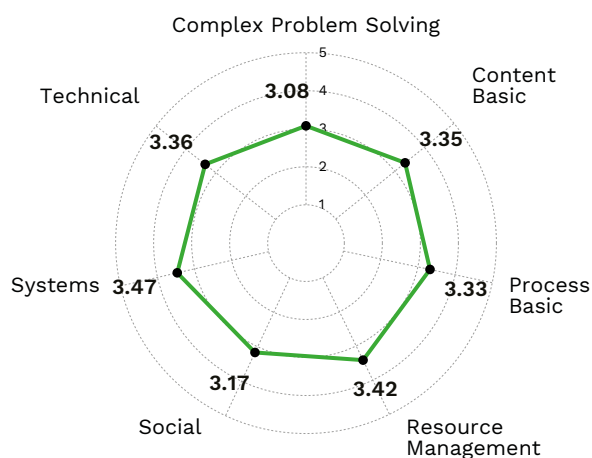
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Operate and monitor machines that make and shape of tires, tire retreading and print or reprocess used tires that have been	3.7	Daily
Test results to adapt them to the specifications required	3.6	Daily
Operate and monitor machines which produce sheets of rubber or rubber-coated fabric through a process of rolling	3.5	Daily
Supplemental		
Operate and monitor machine kneading, mixing and stirring of rubber and rubber merge for further processing	3.5	Daily
Looking for defective products and improve tire wear and defects, through vulcanization process or other processes	3.5	Daily
Operate and monitor machines or a mixture of rubber vulcanized rubber formed by mold	3.4	Daily

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Reading Comprehension	3.8↑	1	3.5	26
Operation and Control	3.7↑	2	4.1↑	7
Management of Personnel Resources	3.6↑	3	3.7	16
Systems Evaluation	3.5↑	4	3.7	14
Instructing	3.5↑	5	3.5	23
Installation	3.5↑	6	3.7	19
Monitoring	3.5↑	7	4.1↑	6
Operation Monitoring	3.5↑	8	3.7	13
Quality Control Analysis	3.5↑	9	3.8	10
Equipment Maintenance	3.5↑	10	3.5	25
Speaking	3.4↑	11	3.8	12
Mathematics	3.4↑	12	4.5↑	2
Active Learning	3.4↑	13	4.0↑	8
Time Management	3.4↑	14	3.7	15
Judgment and Decision Making	3.4↑	15	3.2	31
Systems Analysis	3.4↑	16	3.6	21
Operations Analysis	3.4↑	17	4.5↑	1
Writing	3.3↑	18	3.3	28
Critical Thinking	3.3↑	19	3.8	11
Management of Financial Resources	3.3↑	20	3.7	17
Repairing	3.2	21	3.9↑	9
Coordination	3.2	22	4.1↑	5
Equipment Selection	3.2	23	4.3↑	3
Management of Material Resources	3.2	24	3.6	20
Active Listening	3.1	25	2.9	33
Troubleshooting	3.1	26	3.5	24
Service Orientation	3.1	27	3.2	30
Technology Design	3.0	28	4.2↑	4
Complex Problem Solving	3.0	29	3.3	27
Negotiation	3.0	30	3.1	32
Learning Strategies	3.0	31	3.2	29
Programming	3	32	2.5	35
Social Perceptiveness	3	33	2.9	34
Science	2.9	34	3.6	22
Persuasion	2.9	35	3.7	18

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among semi-skilled occupations.

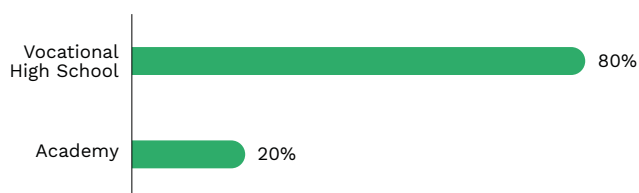
8211 Mechanical machinery assemblers

Job titles: Gearbox assemblers, Drive engine assemblers, Drive engine installers, Vehicle assemblers, Bench Fitters, Aircraft assemblers, Turbine assemblers

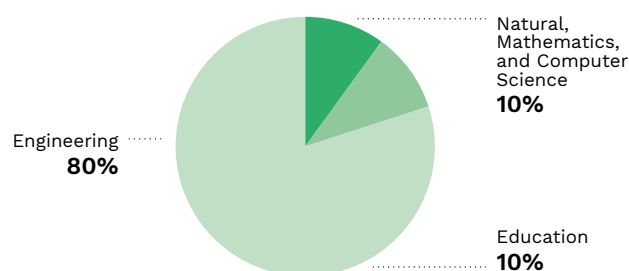
Responsibilities include assemble according to the specified installation procedure, assemble component parts of mechanical machines such as motor vehicle engines, engines turbines and aircraft engines.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months

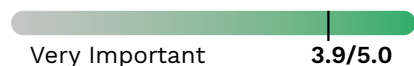


On-The-Job Training
1-3 months



Related Work Experience
6-12 months

Apprenticeship



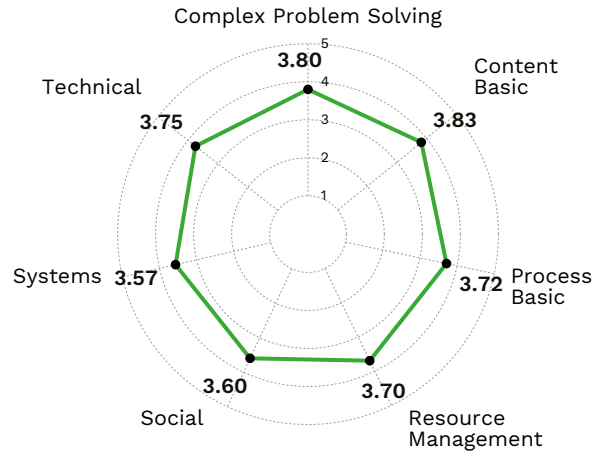
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Rejection / cancellation of the installation and components that are wrong	4	More than once a month
Record data of production and how to work under certain conditions	3.7	Daily
Reviewing work orders, details, charts and drawings to determine materials needed and give the command assembly	3.7	Daily
Assembling and installing prefabricated parts or components that are used to form products, assemble mechanical machines, assembling machines and vehicles	3.7	Daily
Inspect and test components that have been assembled	3.6	Daily

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Reading Comprehension	4.4↑	1	4.3↑	15
Quality Control Analysis	4.1↑	2	4.3↑	16
Coordination	4.0↑	3	5.5↑	1
Operation Monitoring	4.0↑	4	4↑	22
Active Listening	4.0↑	5	3.5	31
Technology Design	4↑	6	4.5↑	12
Equipment Maintenance	4↑	7	3.3	34
Time Management	3.9↑	8	4.1↑	18
Mathematics	3.9↑	9	5.3↑	3
Equipment Selection	3.9↑	10	4.8↑	8
Judgment and Decision Making	3.8↑	11	3.9↑	26
Management of Material Resources	3.8↑	12	4.8↑	7
Critical Thinking	3.8↑	13	4.0↑	21
Speaking	3.8↑	14	4.1↑	19
Complex Problem Solving	3.8↑	15	4.5↑	10
Active Learning	3.8↑	16	5↑	5
Instructing	3.8↑	17	4.5↑	9
Negotiation	3.7↑	18	3.9↑	27
Monitoring	3.7↑	19	5.4↑	2
Operations Analysis	3.7↑	20	4.9↑	6
Writing	3.7↑	21	3.5	32
Troubleshooting	3.5↑	22	3.7	29
Service Orientation	3.5↑	23	3.9↑	28
Management of Financial Resources	3.5↑	24	5↑	4
Learning Strategies	3.5↑	25	3.7	30
Installation	3.5↑	26	4.5↑	11
Management of Personnel Resources	3.5↑	27	4.1↑	17
Programming	3.5↑	28	4.3↑	14
Systems Evaluation	3.5↑	29	4.4↑	13
Systems Analysis	3.4↑	30	4↑	24
Operation and Control	3.4↑	31	4.0↑	20
Repairing	3.3↑	32	3.5	33
Social Perceptiveness	3.3↑	33	3.2	35
Science	3.0	34	4↑	23
Persuasion	3.0	35	4↑	25

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among semi-skilled occupations.

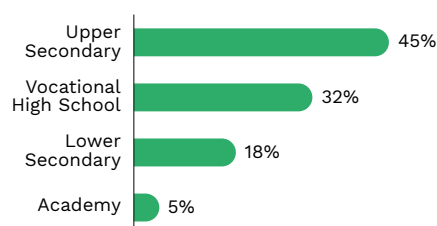
8322 Car, taxi and van drivers

Job titles: Car, taxi, van driver

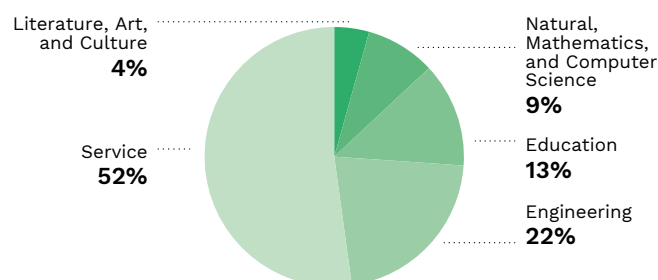
Responsibilities include purchase drive and maintain car vehicles and van to transport passengers, letters or goods.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
6-12 months



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



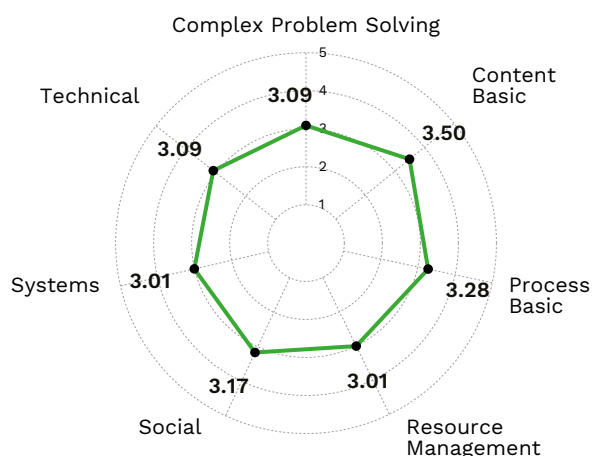
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Determining the most appropriate service	4.0	Less than once a year
Operate telecommunications equipment to report location and availability and follow the instructions from the control center	3.8	More than once a year
Drive and maintain passenger, truck, car or taxi	3.7	Daily
Attractive fees, payment of delivery, or the cost of delivery of official documents	3.6	Daily
Operate equipment to facilitate the loading and unloading of passengers with disabilities	3.3	Daily
Supplemental		
Assisting passengers to adjust the luggage	3.8	Daily
Assist passengers with disabilities	3.5	Daily
Directing and taking care of the car, truck or small truck used to send letters or goods	2.9	Daily

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Active Listening	4↑	1	3.3	30
Speaking	3.7↑	2	3	35
Reading Comprehension	3.7↑	3	3.7	17
Coordination	3.6↑	4	3.6	21
Equipment Maintenance	3.6↑	5	4.5↑	1
Writing	3.5↑	6	3.5	25
Learning Strategies	3.5↑	7	3.9↑	11
Service Orientation	3.4↑	8	3.5	26
Repairing	3.3↑	9	3.9↑	10
Judgment and Decision Making	3.2	10	3.3	32
Critical Thinking	3.2	11	3.4	27
Troubleshooting	3.2	12	4.0↑	9
Time Management	3.2	13	3.7	20
Operation and Control	3.2	14	4.2↑	5
Active Learning	3.1	15	3.0	34
Equipment Selection	3.1	16	4.0↑	7
Monitoring	3.1	17	4.3↑	2
Mathematics	3.1	18	3.4	29
Installation	3.0	19	3.8	16
Quality Control Analysis	3.0	20	4.2↑	4
Complex Problem Solving	3.0	21	3.4	28
Management of Personnel Resources	3.0	22	4.1↑	6
Social Perceptiveness	3.0	23	3.3	31
Systems Analysis	3	24	3.9↑	13
Operations Analysis	3	25	3.5	24
Operation Monitoring	2.9	26	4.3↑	3
Negotiation	2.9	27	3.3	33
Persuasion	2.9	28	3.9↑	12
Management of Financial Resources	2.9	29	3.8↑	15
Instructing	2.9	30	3.6	22
Management of Material Resources	2.8	31	3.7	19
Systems Evaluation	2.7	32	3.8↑	14
Science	2.7	33	3.6	23
Technology Design	2.6	34	4.0↑	8
Programming	2.5	35	3.7	18

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among semi-skilled occupations.

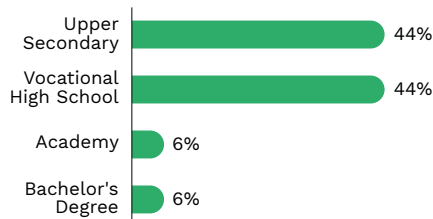
8344 Lifting truck operators

Job titles: Lifting truck operators

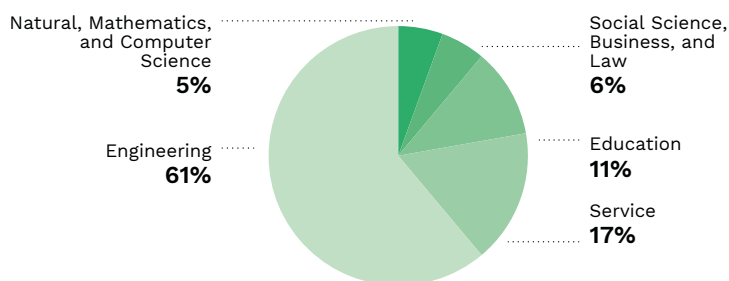
Responsibilities include drive, operate and supervise lift trucks or similar vehicles for transporting, lifting and palletizing goods.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



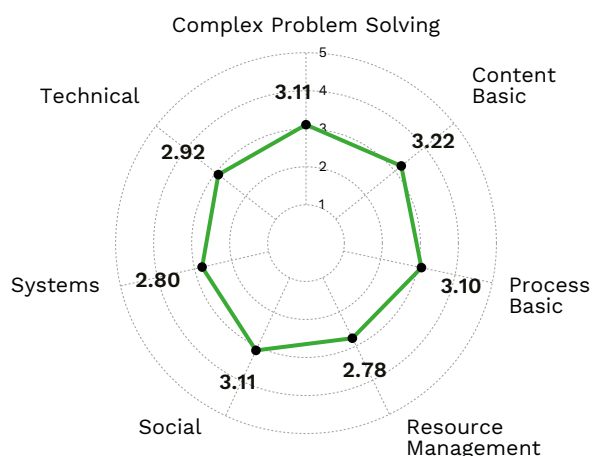
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Keep records of the work done and damage to equipment	3.8	Daily
Lifting equipment positioned below, above, or around the pallet load, sliding pallets and containers, as well as securing material or product to be transported to the designated place	3.8	Daily
Checking equipment to identify wear and damage	3.5	Daily
Operate and supervise the lifting trucks and equipment like for raising and lowering the load, transport, lifting and develop goods and pallets in terminals, ports, warehouses, factories and other buildings	3.4	Daily
Perform routine maintenance on equipment and accessories	3.4	Daily

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Coordination	3.5↑	1	4.1↑	4
Equipment Maintenance	3.5↑	2	4.1↑	3
Reading Comprehension	3.5↑	3	3.5	19
Speaking	3.5↑	4	3.6	16
Active Listening	3.4↑	5	3.5	25
Service Orientation	3.3↑	6	3.7	11
Monitoring	3.2	7	4.2↑	2
Writing	3.2	8	3.8	9
Time Management	3.2	9	3.6	17
Operation and Control	3.1	10	3.6	14
Operation Monitoring	3.1	11	3.5	21
Learning Strategies	3.1	12	3.5	27
Complex Problem Solving	3.1	13	3.3	31
Instructing	3.0	14	3.2	34
Active Learning	3.0	15	4.0↑	6
Critical Thinking	3	16	3.7	13
Troubleshooting	3	17	3.5	24
Mathematics	3	18	3.6	15
Negotiation	2.9	19	3	35
Persuasion	2.9	20	3.5	23
Judgment and Decision Making	2.9	21	3.9↑	7
Quality Control Analysis	2.9	22	3.5	20
Equipment Selection	2.8	23	3.7	12
Repairing	2.8	24	4.0↑	5
Systems Evaluation	2.8	25	3.5	18
Social Perceptiveness	2.7	26	3.5	26
Management of Material Resources	2.7	27	3.8	10
Management of Personnel Resources	2.7	28	4.3↑	1
Installation	2.7	29	3.5	22
Operations Analysis	2.7	30	3.4	28
Systems Analysis	2.6	31	3.3	30
Technology Design	2.5	32	3.8	8
Science	2.5	33	3.3	32
Programming	2.4	34	3.3	33
Management of Financial Resources	2.3	35	3.4	29

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among semi-skilled occupations.

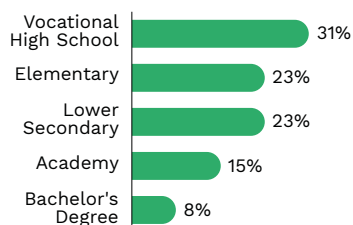
9214 Garden and horticultural labourers

Job titles: Garden labourer, lawn labourer

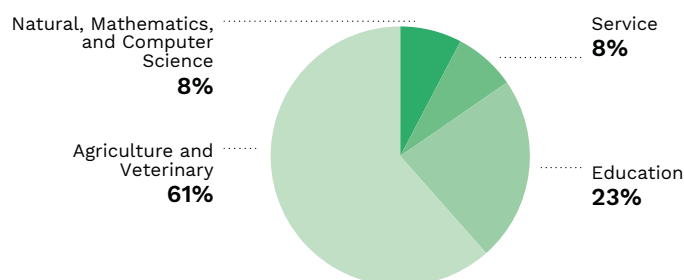
Responsibilities include perform simple and routine tasks in planting and caring activities trees, shrubs, flowers and other plants in gardens and private gardens, producing saplings, bulbs and seeds, or care for vegetables and flowers with intensive cultivation techniques.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
3-6 months



On-The-Job Training
1-3 months



Related Work Experience
3-6 months

Apprenticeship



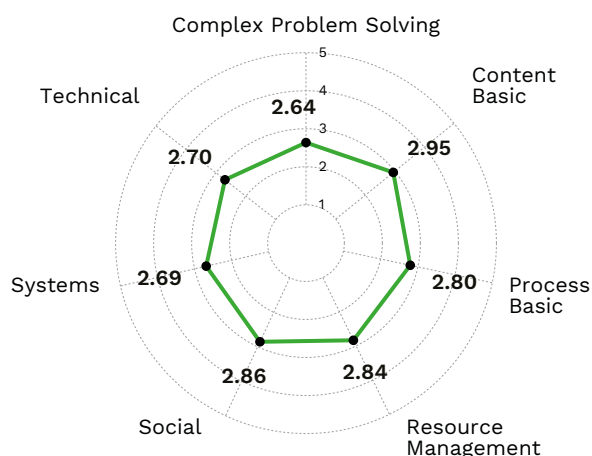
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Maintaining the garden by watering, weeding, and mowing the lawn	3.9	More than once a week
Help spread, grow and plant the seeds, bulbs and cuttings	3.7	Daily
Cleaning the garden and dispose of waste	3.5	More than once a month
Caring for the plants, watering, and weeding by hand	3.3	Daily
Perform minor repairs on fixtures, buildings and fences	3.1	More than once a week
Helping planting and transplanting flowers, shrubs, trees and lawns	3.1	Daily
Preparing the plantations and land use hand tools and simple machines	3.0	More than once a month
Harvesting and packing plants for sale and transported	3.0	More than once a month

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Speaking	3.2↑	1	2.6	32
Service Orientation	3.2↑	2	2.8	27
Equipment Maintenance	3.1↑	3	3.7↑	1
Active Listening	3.1↑	4	2.7	30
Reading Comprehension	3.1↑	5	3.2	16
Monitoring	3↑	6	3.3↑	10
Writing	3↑	7	3.3	11
Time Management	3↑	8	3.0	23
Quality Control Analysis	3↑	9	3.6↑	2
Coordination	2.9↑	10	3.5↑	6
Equipment Selection	2.9↑	11	3.0	24
Critical Thinking	2.9↑	12	3.6↑	3
Repairing	2.9↑	13	3.5↑	4
Instructing	2.8↑	14	3.0	19
Negotiation	2.8↑	15	3.0	20
Management of Material Resources	2.8↑	16	3.3	12
Judgment and Decision Making	2.8↑	17	3.5↑	5
Mathematics	2.8↑	18	3.3↑	9
Management of Financial Resources	2.7	19	3.0	21
Social Perceptiveness	2.7	20	2.5	33
Management of Personnel Resources	2.7	21	3.4↑	8
Operation and Control	2.7	22	2.6	31
Active Learning	2.7	23	3.1	17
Complex Problem Solving	2.6	24	2.8	28
Systems Evaluation	2.6	25	3.0	22
Technology Design	2.6	26	3.2	14
Operation Monitoring	2.6	27	3.0	18
Learning Strategies	2.5	28	2.5	34
Systems Analysis	2.5	29	3.5↑	7
Operations Analysis	2.5	30	3.2	13
Installation	2.5	31	3	26
Troubleshooting	2.4	32	3.2	15
Persuasion	2.4	33	3	25
Science	2.2	34	2.8	29
Programming	2.2	35	2.4	35

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among low-skilled occupations.

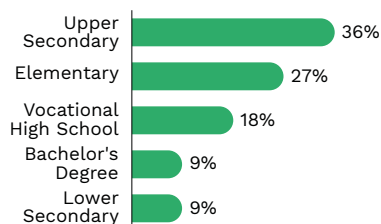
9329 Manufacturing labourers not elsewhere classified

Job titles: Bottle sorters, Production Workers, Loading and Unloading Workers

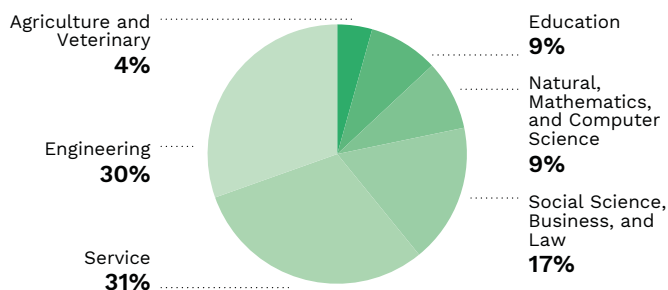
Responsibilities include help operators and machine assemblers work and perform various tasks manuals in the processing industry, in addition to packaging and labeling of the final product.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1-3 months



On-The-Job Training
None



Related Work Experience
None

Apprenticeship



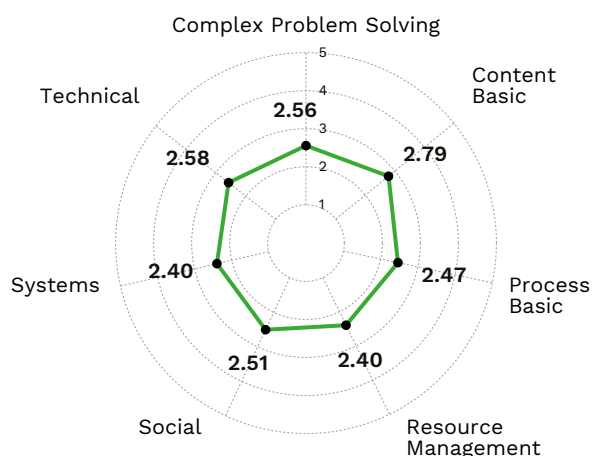
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Cleaning the machine blockages, cleaning machinery, equipment and supplies	4.1	Daily
Doing sorting of products or components manually	3.5	Several times a day
Supplemental		
Transporting goods, materials, equipment, etc. to the work area, moving parts that have been completed	3.6	Daily
Unload and load vehicles, trucks and trolleys	3.5	Daily

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Active Listening	3.3↑	1	2.7	29
Reading Comprehension	3.0↑	2	2.8	27
Equipment Maintenance	3.0↑	3	4↑	1
Quality Control Analysis	3↑	4	3.1	13
Operation and Control	2.9↑	5	3.2	12
Writing	2.8↑	6	3.2	11
Instructing	2.8↑	7	3.0	20
Speaking	2.8↑	8	3.3	4
Troubleshooting	2.7	9	3.2	8
Time Management	2.6	10	3	23
Mathematics	2.6	11	3.2	9
Coordination	2.6	12	3.1	15
Repairing	2.6	13	3.2	7
Service Orientation	2.6	14	2.8	28
Monitoring	2.5	15	3.1	14
Operation Monitoring	2.5	16	3.1	17
Complex Problem Solving	2.5	17	2.7	31
Management of Personnel Resources	2.5	18	2.8	25
Equipment Selection	2.4	19	3.6↑	2
Active Learning	2.4	20	3.5↑	3
Operations Analysis	2.4	21	3	22
Judgment and Decision Making	2.4	22	2.4	34
Critical Thinking	2.4	23	2.7	30
Systems Analysis	2.4	24	3.0	19
Systems Evaluation	2.3	25	3.3	5
Learning Strategies	2.3	26	2.5	33
Installation	2.3	27	3.2	10
Negotiation	2.3	28	2.5	32
Social Perceptiveness	2.3	29	2.2	35
Persuasion	2.2	30	3.1	16
Programming	2.2	31	3	21
Management of Material Resources	2.2	32	3.2	6
Management of Financial Resources	2.2	33	2.8	26
Science	2.0	34	3.0	18
Technology Design	1.9	35	2.9	24

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among low-skilled occupations.

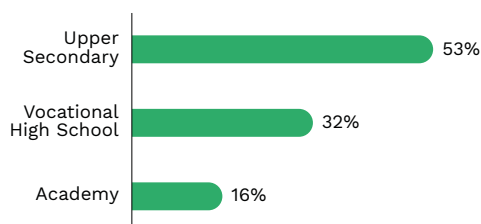
9334 Shelf fillers

Job titles: Cargo workers, Supply controllers

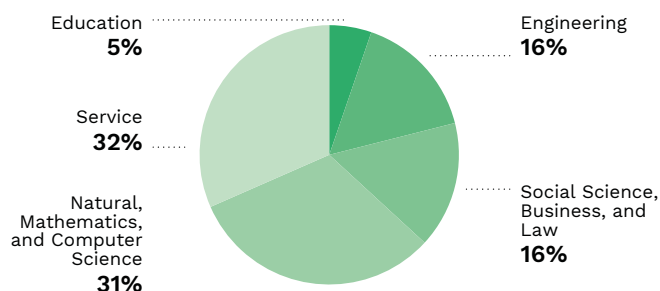
Responsibilities include fill shelves and storefronts and keep stocks clean and organized in supermarkets and other retail and wholesale shops.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1 month or less



On-The-Job Training
1-3 months



Related Work Experience
1-2 years

Apprenticeship



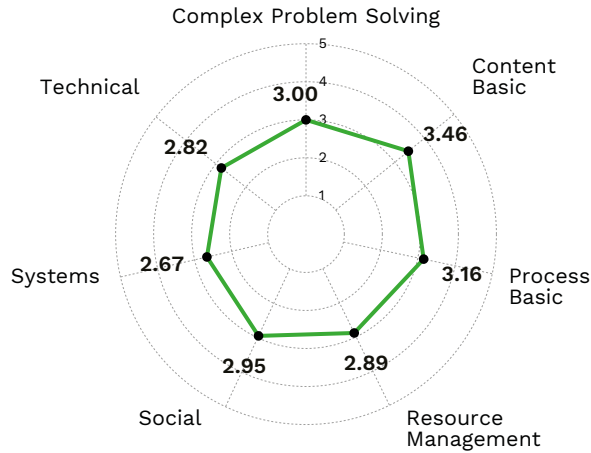
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Placing goods neatly in crates and shelves, as well as large items piled on the floor	4	Daily
Directing customers to the location of items sought	3.9	Daily
Dispose of goods with expired date of use	3.8	Daily
Receive, open, disassemble and inspect the damaged merchandise from the manufacturer or distributor	3.7	Daily
Filling shelves with goods ensuring goods with the earliest date of use are at the front of the rack	3.7	Daily
Getting goods to customers from shelves or warehouses	3.6	More than once a week
Noting the goods that have been sold and collecting goods needed from the supply room	3.6	Daily
Supplemental		
Maintain the shelf arrangement by moving stock that is in a different location	3.0	More than once a month

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Reading Comprehension	4↑	1	3.4↑	25
Active Listening	3.8↑	2	2.8	35
Writing	3.7↑	3	3.6↑	20
Mathematics	3.5↑	4	4.5↑	3
Coordination	3.4↑	5	3.8↑	16
Monitoring	3.4↑	6	4.2↑	7
Time Management	3.4↑	7	3.4↑	24
Speaking	3.3↑	8	3.6↑	19
Equipment Maintenance	3.1↑	9	3.9↑	14
Operation and Control	3.1↑	10	4.3↑	4
Learning Strategies	3.1↑	11	3.3↑	29
Instructing	3.1↑	12	3.5↑	21
Critical Thinking	3.1↑	13	3.3↑	27
Quality Control Analysis	3.0↑	14	4.0↑	12
Complex Problem Solving	3↑	15	3.1	33
Active Learning	3↑	16	3.8↑	15
Operations Analysis	2.9↑	17	4.3↑	5
Troubleshooting	2.9↑	18	4.1↑	10
Social Perceptiveness	2.9↑	19	3.3↑	28
Operation Monitoring	2.8↑	20	4.1↑	11
Management of Financial Resources	2.8↑	21	4.1↑	9
Service Orientation	2.8↑	22	3.5↑	22
Equipment Selection	2.7↑	23	4.6↑	1
Management of Personnel Resources	2.7↑	24	4.1↑	8
Systems Evaluation	2.7	25	3.6↑	18
Negotiation	2.7	26	3.0	34
Technology Design	2.6	27	4↑	13
Installation	2.6	28	4.2↑	6
Systems Analysis	2.6	29	3.8↑	17
Judgment and Decision Making	2.6	30	3.2	32
Persuasion	2.6	31	3.3↑	30
Management of Material Resources	2.5	32	4.6↑	2
Repairing	2.4	33	3.4↑	23
Programming	2.3	34	3.2	31
Science	2.2	35	3.4↑	26

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among low-skilled occupations.

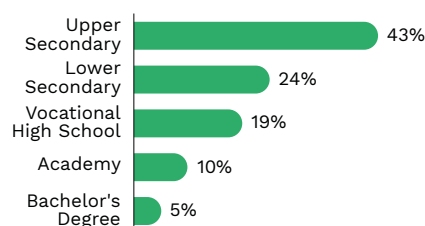
9621 Messengers, package deliverers and luggage porters

Job titles: Newspaper deliverers, Messengers, Porters, Postal messengersz

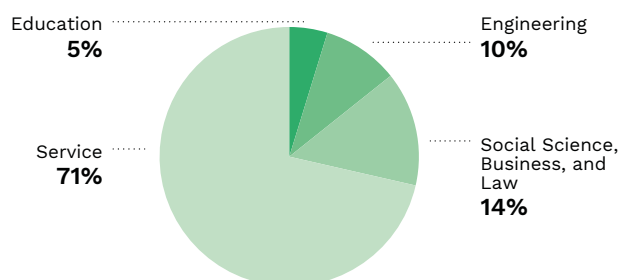
Responsibilities include carry and convey messages, packages and other items within the company or between companies, to households and other places, or carry baggage especially at hotel stations and airports.

Education, training, and experience requirements

Minimum education



Field of study



Training and experience



On-Site or In-Plant Training
1 month or less



On-The-Job Training
1-3 months



Related Work Experience
1-3 months

Apprenticeship



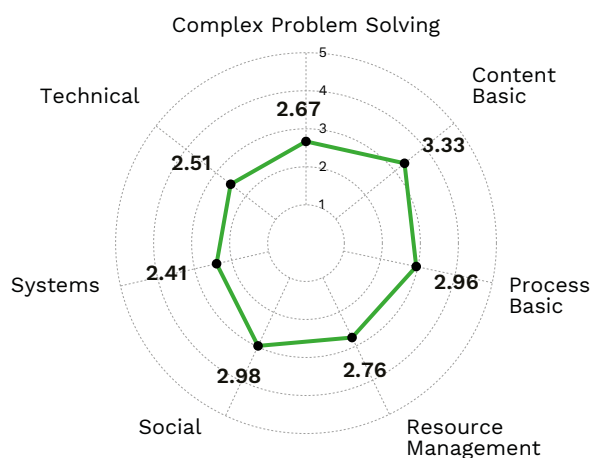
Job-Related Professional Certification



Tasks

Task	Mean importance (out of 5)	Frequency
Core		
Receiving and marking baggage by completing the claim check attachments	4.1	Daily
Sorting items to be delivered according to the delivery route	3.9	Daily
Plan and follow the most efficient route	3.9	Daily
Deliver a wide range of goods to and from enterprises, shops, households and other places	3.8	Daily
Task as a janitor	3.6	Daily
Supplemental		
Carrying and delivering luggage at hotels, stations, airports, and other places	3.7	Daily
Deliver messages, packages and other items within a company or between companies, or other	3.4	Daily

Skills



Skill	Mean importance (out of 5)		Mean level*(out of 7)	
	Value**	Rank	Value**	Rank
Reading Comprehension	3.8↑	1	3.4↑	17
Active Listening	3.6↑	2	3.0	32
Coordination	3.5↑	3	3.5↑	13
Speaking	3.4↑	4	3.1	30
Writing	3.4↑	5	3.5↑	9
Service Orientation	3.3↑	6	3.1	26
Time Management	3.3↑	7	3.2	24
Mathematics	3.1↑	8	3.4↑	18
Critical Thinking	3.0↑	9	3.3↑	21
Equipment Maintenance	3.0↑	10	3.3↑	20
Active Learning	3↑	11	3.3	22
Monitoring	2.9↑	12	4↑	2
Social Perceptiveness	2.9↑	13	3.1	28
Equipment Selection	2.8↑	14	3.5↑	12
Learning Strategies	2.8↑	15	3.1	29
Instructing	2.7	16	3.3↑	19
Negotiation	2.7	17	3	33
Management of Financial Resources	2.7	18	3.4↑	14
Judgment and Decision Making	2.6	19	2.6	35
Complex Problem Solving	2.6	20	3.2	25
Operations Analysis	2.6	21	3.5↑	8
Management of Personnel Resources	2.6	22	3.4↑	16
Operation Monitoring	2.5	23	3.1	27
Operation and Control	2.4	24	3.6↑	6
Persuasion	2.4	25	3.6↑	7
Quality Control Analysis	2.4	26	4↑	3
Installation	2.3	27	3.4↑	15
Technology Design	2.3	28	3.6↑	5
Science	2.3	29	2.8	34
Systems Evaluation	2.3	30	3.9↑	4
Repairing	2.3	31	3.1	31
Management of Material Resources	2.2	32	3.5↑	10
Systems Analysis	2.2	33	3.5↑	11
Programming	2.2	34	3.2	23
Troubleshooting	2.1	35	4.1↑	1

* The skill level did not pass all the quality controls it was subject to (see section 6 of accompanying technical report).

**↑ indicates higher score relative to average score of the corresponding skill among low-skilled occupations.

