



# Skills hierarchy progress report

## MAI 31-03

## Cover note

The draft hierarchy of the ESCO skills pillar (the two first levels that were available at that time) was presented to the MAI meeting of 24 May 2019. The aim was to explain to the MAI members the core principles applied in this exercise and to receive their support, feedback and suggestions to the work of the experts. Following that meeting and based on the discussions and advice received, the experts continued the exercise with constructing the third level of the new structure, while further work was done by the ESCO team for the allocation of ESCO's knowledge concepts.

This Progress Report, drafted by the experts and reported below, represents an updated version of the skills hierarchy and was submitted to the Commission for consideration.

At this stage, the draft hierarchy represents an important progress towards better structuring the ESCO skills pillar. Further adjustments of the hierarchy may be needed on the basis of concrete feedback on its practical usability, coming from CEDEFOP, Eures, the European Qualifications Framework and the new Europass. The outcome of the two workshops of the 31<sup>st</sup> MAI will also inform the assessment of the proposed structure, as they will give concrete indications on the practical results of the skills hierarchy for job matching purposes. The Commission will consolidate all feedback on the current draft skills hierarchy, including the outcomes of the two workshops, in a document that will be shared with the experts. A final meeting will be organised with the experts by early October in order to agree on a final draft, with the aim of starting with the allocation of skills in the draft hierarchy in October.

As part of this evaluation phase, the Commission invites the MAI's input on the following aspects:

- Current status of the hierarchy regarding the structure and groups proposed
- Its appropriateness for application in the various ESCO use cases, including:
  - Matching of jobseekers with job vacancies;
  - Annotating qualifications with ESCO skill and knowledge concepts;
  - Mapping national skill and knowledge classifications to ESCO;
  - Creating skill (self-)assessment tools;
  - Providing targeted career guidance.

### Way forward

Following the allocation of ESCO skills in the new groups, it will be important to test the hierarchy on the basis of usability tests in order to identify potential gaps. Workshop 1 of the MAI meeting of 20 September 2019 will examine the requirements of ESCO implementers from the new structure with the use of concrete examples of use cases. This will allow MAI members to gain insight into the applicability of the draft ESCO skills hierarchy, in view of testing that will follow the allocation of the 10,648 ESCO skills to the different groups of the hierarchy. The Commission therefore invites the MAI's input on **a usability testing plan for the skills hierarchy**, including the actors and use cases to be involved, the number of testing iterations and the metrics to collect through the exercise.

## Development of the ESCO Skills and Knowledge Classification Update on Progress for 31<sup>st</sup> ESCO MAI, 2 September 2019<sup>1</sup>

### Executive Summary

The ESCO Skills and Knowledge Classification is being developed as a single hierarchical framework containing several distinct sub-classifications: Knowledge; Skills/competences; Attitudes and values; and Language skills and knowledge. Within each of these broad sections the concepts are structured in a three-level hierarchy based on characteristics customized for each sub-classification.

The ESCO knowledge concepts have been mapped to the International Standard Classification of Education Fields of Education (ISCED-F) and the majority were allocated to a single ISCED detailed field. However, a significant proportion (almost 17%) requires further consideration. The current allocations are to be reviewed by an expert to correct them as required and make recommendations on adjustments to the hierarchy, and if necessary to some of the knowledge concepts, to improve relevance for the intended uses of ESCO.

A third level of the previously developed hierarchy for skills/competences has now been extended with the aim of providing categories that are as homogeneous as possible in relation to at least one of the following characteristics:

- a. Tools and equipment used;
- b. The type of object on which the work is performed;
- c. The function or outcome of the task or activity.

In total there are 12 Level 1 groups, 59 Level 2 groups and 223 Level 3 groups in the Skills/competences section of the hierarchy. Most of the Level 3 categories were based on the 332 Intermediate Work Activities (IWA) specified in the US O\*NET either singly or clustered. As part of the process of validating the hierarchy, several additional categories were created by clustering of concepts found in the ESCO Skills Pillar and almost 2000 ESCO concepts have already been allocated to the hierarchy.

All remaining ESCO skill/competence concepts are now to be mapped to the hierarchy using guidelines developed by the expert team. Once allocation of the ESCO Skill concepts has been completed, the allocations should be reviewed by experts in labour market classification in order to validate the allocations, make adjustments to the hierarchy and identify ESCO skills that need to be rationalised or adjusted.

We consider the current version of the hierarchy to be a working tool only and that a “final” Version 1 of a European KSC Classification will emerge once all or the large majority of KSCs have been assigned to it and once feedback from mapping national skill classifications has been incorporated. We are concerned, however, that it will be extremely difficult for member states to map their national classifications directly to the ESCO skill concepts unless these are first rationalised. We believe, therefore, that a high priority should be given to reviewing and rationalising the skill concepts whilst structuring them.

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<sup>1</sup> Prepared by David Hunter and Claudia Plaimauer

## Introduction

This report provides an update for the 31<sup>st</sup> meeting of the ESCO Maintenance Committee (ESCO MAI) on progress with the development of a hierarchical classification for the 13,486 knowledge, skills and competence (KSC) concepts defined in the ESCO Skills Pillar (ESCO Skills and Knowledge Classification). The skill and knowledge hierarchy<sup>2</sup> will enable users to search and retrieve the ESCO skill and knowledge concepts systematically for a variety of purposes, including:

- Compiling CVs and job vacancies;
- Matching of jobseekers with job vacancies;
- Annotating qualifications with ESCO skill and knowledge concepts;
- Mapping national skill and knowledge classifications to ESCO;
- Creating skill (self-)assessment tools;
- Providing targeted career guidance.

A single all-embracing hierarchical framework containing several distinct sub-classifications has been developed. Each subclassification is structured according to different principles and targets different types of knowledge and skill/competence concepts:

- Knowledge,
- Skills/Competences
- Attitudes & values,
- Language skills and knowledge.

Within each of these broad sections the concepts are structured differently, based on different types of characteristics. The principles and methods used for the design of the ESCO Skills and Knowledge Classification were described in detail in the progress report presented at the 30<sup>th</sup> ESCO MAI meeting and are not repeated here.

## Knowledge concepts

At the time of the 30<sup>th</sup> ESCO MAI meeting it was agreed that the 2,837 ESCO concepts defined as knowledge in the ESCO Skills Pillar would be mapped to the 80 detailed fields (4-digit classes) at the third level of the International Standard Classification of Education, Fields of Education (ISCED-F). The resulting allocations would then be assessed to determine whether any adjustments to the ISCED-F hierarchy would be necessary to adapt it for the purposes of ESCO.

Following that meeting, detailed guidelines for the allocation of ESCO Knowledge concepts to ISCED-F were developed by the team of three experts engaged to support the Commission Services in the development of the ESCO Skills and Knowledge Classification. These guidelines were then used to allocate each of the knowledge concepts to the third level of ISCED-F.

As proposed by the experts, the ESCO team carried out the allocation in two phases:

1. **First phase - bulk allocation of ESCO knowledge concepts to ISCED-F:** the ESCO team used as a starting point ISCED-F and searched from each ISCED detailed field for those ESCO knowledge concepts that fit to each one of the fields;

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<sup>2</sup> The terms “classification” and “hierarchy” are used more or less interchangeably in this report.

2. **Second phase - single knowledge concepts allocation:** the ESCO team used as starting point the ESCO and searched for the appropriate field in ISCED to which each ESCO knowledge concept can be allocated.

During the first phase, the work was divided among the members of the ESCO team by assigning specific ISCED-F broad and narrow fields to each person. Despite the challenges that came along, this proved to be a fast process. By the end of this exercise, the ESCO team had allocated 1706 ESCO knowledge concepts to the fields of ISCED. The remaining 1131 knowledge concepts passed to the second phase. Again, the work was divided among the members of the ESCO team who went through each single ESCO knowledge concept and allocated them to the fields of ISCED.

For a total number of 2 837 knowledge concepts, the exercise ended with:

- 198 equivocal allocations, i.e. ESCO concepts which colleagues classified under more than one field of ISCED;
- 219 doubtful allocations;
- 5 concepts were allocated to “not further defined” categories, meaning that they could be mapped to an ISCED broad or narrow field, but were not specified with sufficient detail or were broader than the relevant ISCED detailed fields;
- 15 were allocated to “not elsewhere classified” categories, meaning that they can be allocated to a narrow field but do not belong to any of the detailed fields included in the narrow field; and
- 37 knowledge concepts which the ESCO team was not able to map to any of the fields.

Whilst a large majority of the knowledge concepts could be allocated to a single ISCED detailed field, a significant proportion (almost 17%) require some further consideration. The problems encountered were due to a range of different types of reason, including:

- Several ESCO knowledge concepts are not the result of an official education program, e.g. gambling, betting; therefore, the team could not decide where to allocate them and placed these concepts to “9999 field Unknown”.
- Boundaries between ISCED-F categories were not always clear;
- ESCO knowledge concepts were related to more than one ISCED field;
- Several ESCO knowledge concepts were not sufficiently precise or too broad.

Based on these challenges the team concluded that a hierarchy based purely on ISCED-F - a statistical classification - would not address the majority of the ESCO users’ needs. We had indeed anticipated from the outset that there was likely to be a need to make some adjustments to ISCED-F in order to adapt it for the purposes of ESCO.

It is proposed to engage an expert with detailed knowledge of ISCED-F to review the current allocations, correct them if necessary, and make recommendations on adjustments to the ISCED-F hierarchy for the purposes of grouping ESCO knowledge concepts. In cases where ESCO knowledge concepts are broader than ISCED-F detailed fields, careful consideration will be necessary to decide, whether the classification or the knowledge concept should be amended.

## Skills

At the time of the 30<sup>th</sup> MAI meeting the draft Skills Section of the hierarchy comprised categories mainly at the first and second hierarchical levels, with only a few second level categories further broken down to give an idea of what a 3-level hierarchy might look like. The top two layers had been adapted mainly from the skill groupings in the Canadian Skills and Knowledge glossary but also incorporated some features adapted from other national hierarchies.

The primary consideration in the design of groups and in the allocation of skill/competence concepts to groups is the relevance of the skill and of groups of similar skills for mobility between occupations (skill transferability). In support of this objective, the groups were designed to be as homogeneous as possible in relation to at least one of the following characteristics:

- a. Tools and equipment used;
- b. The type of object on which the work is performed;
- c. The function or outcome of the task or activity.

Following the 30<sup>th</sup> MAI meeting the third level was developed further, using these same principles. To ensure comprehensive coverage, the process involved initially mapping the 332 Intermediate Work Activities (IWA) specified in US O\*NET to the second level of the hierarchy. Most of the Level 3 categories were created based on mapped IWAs that were used either singly or clustered to form Level 3 categories. For each proposed category based on the IWA, keyword searches and filtering of the ESCO skills concepts were used to ensure the relevance of the category for ESCO. All ESCO Skill concepts linked to more than 100 ESCO occupations were also mapped to the hierarchy. As a result, some additional Level 3 categories were created based on clustering of concepts found in the ESCO Skills Pillar. As a by-product of this process of validating the hierarchy, almost 2000 ESCO skills concepts were allocated to the hierarchy. Definitions and scope statements for level 3 categories were developed in those cases where we felt the content might not be obvious and in some other cases when this was easy.

Whilst this development strategy has allowed us to be reasonably sure that the hierarchy is comprehensive, the heterogeneity and overlapping nature of many of the IWAs made it a painstaking process which took longer than expected.

A code scheme starting with an initial character followed by up to 4 digits has been used to identify and order categories in the hierarchy. The initial characters K, S, A, and L are used to denote whether the concept belongs to the Knowledge, Skills, Attitudes and Values, or Language sections of the hierarchy. In the Skills section the first two digits denote the Level 1 group, the first three digits denote the level 2 group, and the full four digits denote the Level 3 group. To accommodate ESCO skill concepts and IWA that are broader than the Level 3 categories or that do not fit into any of the level 3 categories, 4-digit codes ending in zero have been assigned to each Level 1 and 2 category. This will allow any of the ESCO SC that cannot be allocated to the 4-digit categories to be assigned a 4-digit code ending in zero.

The full structure and definitions of categories in the Skills Section of the hierarchy can be found in the annexes to this report.

**Table 1: Extract from the Skills Section of the ESCO Skills and Knowledge Hierarchy showing 4-digit codes, Group Titles and Definitions**

<b>S0400</b>	<b>Operating Machinery, Vehicles and Specialised Equipment</b>	<b>Controlling, operating and monitoring vehicles, stationary and mobile machinery and precision instrumentation and equipment.</b>
<b>S0410</b>	<b>Operating mobile machinery and equipment</b>	<b>Controlling the operation of vehicles and of machinery whose mobility is an integral part of its function.</b>
S0411	Operating earthmoving equipment	Operating equipment for moving, excavating, smoothing or shaping earth
S0412	Operating agricultural or forestry equipment.	Operating mobile equipment specifically designed for agricultural or forestry purposes, such as cultivating land or harvesting crops and trees.
S0413	Operating lifting or moving equipment.	Operating equipment for lifting and moving objects, such as cranes, hoists, cable cars and lifting trucks
S0414	Driving heavy road vehicles.	Driving heavy vehicles, such as trucks and buses for the transportation of goods or people
S0415	Operating light vehicles	Controlling the movement of light vehicles such as motorcycles cars, taxis, vans and light trucks
S0416	Operating rail vehicles	Controlling the movement of rail vehicles such as trains and trams
S0417	Operating watercraft	Operating and controlling the movement of watercraft, including ships, boats and other vessels
S0418	Operating aircraft	Controlling the movement of aircraft including fixed wing aircraft, helicopters and drones

Six Level 2 categories have not yet been further broken down and are also denoted by 4-digit codes ending in zero:

- S0170 Using hand tools
- S0510 Programming computer systems
- S0530 Setting up computer systems, networks, or other information systems
- S0540 Resolving computer problems
- S0820 Washing and maintaining textiles and clothing
- S1130 Managing information

In total there are 12 Level 1 groups, 59 Level 2 groups and 223 substantive Level 3 groups including 6 that are identical to the Level 2 groups that have not yet been further disaggregated. Counting the 4-digit codes ending in zero to accommodate ESCO concepts that are broader than the defined Level 3 categories there are 288 valid 4-digit codes. During the mapping process it would also be prudent



to provide a code for ESCO Skill concepts that cannot be mapped to any category at any level of the ESCO hierarchy. S9990 is suggested for this purpose.

Once all ESCO Skills concepts have been allocated to the hierarchy, it will be necessary to review the concepts assigned a code ending in zero to determine the need to create new categories to accommodate them, or to adjust the scope of existing categories. This is likely to result in a slight increase in the total number of substantive categories at Level 3.

To accommodate the IWA and also important groups of concepts that were identified as part of validation of the hierarchy, the scope of some Level 2 categories was extended and some new Level 2 categories were created. As a result only four IWA are not able to be assigned to any category:

- Examine people or animals to assess health conditions or physical characteristics. (reason: the ESCO skills classification deals with animals and humans in different categories)
- Select materials or equipment for operations or projects.
- Perform agricultural activities. (reason: IWA is broader than level one categories of the ESCO skills classification)
- Care for plants or animals.(reason: the ESCO skills classification deals with caring for plants and animals in different categories)

All other IWA have been assigned a 4-digit code from the ESCO skills and knowledge hierarchy. In most cases these codes are substantive categories at the third level of the Skills Section of the ESCO hierarchy, while a few could only be allocated to higher level groups, as they are broader than the third level categories.

### Attitudes and values

The existing ESCO transversal skills hierarchy includes a section for attitudes and values, defined as “Individual work styles, preferences and work-related beliefs that underpin behaviour so that knowledge and skills are applied effectively”<sup>3</sup>. It is noted that the categories included among attitudes and values should be used “for describing behaviour which can be learned, improved and assessed” not for “labelling people's character” (ibidem). However, these concepts are strongly focussed on the attributes of persons rather than on characteristics of jobs or occupations such as tools and equipment used, the type of object on which the work is performed or even the function or outcome of a task or activity. Therefore, they cannot be organised into groups on the same basis as other skill concepts.

Sixteen attitude concepts and three value concepts are listed in the transversal skills hierarchy. Although not a single occupation is linked directly to any transversal attitude or value, significant numbers of cross-sectoral and sector-specific skills/competences have been linked to these and are in turn allocated to occupations. For example, the concept “finish project within budget” is listed as a narrower skill/competence of the attitude “meet commitments” and is represented as an essential skill/competence of some 27 occupations.

A separate section for attitudes and values is provided in the new hierarchy reflecting their different nature. This section includes separate categories at Level 1 for attitudes and for values. At level 2 separate categories are included for each of the sixteen transversal attitudes and the three

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<sup>3</sup> <http://daa.europa.eu/esco/skill/81c66e05-0b64-4cc5-8707-432f59fb6528>



transversal values concepts. At this stage two of these Level 2 categories have been further disaggregated to provide Level 3 categories for distinct clusters of similar concepts. As with the Skills Section of the hierarchy, 4-digit codes ending in zero have been created for each Level 1 and 2 category to allow the allocation of ESCO concepts to these categories as required.

**Table 2: Extract from the Attitudes and Values Section of the ESCO Skills and Knowledge Hierarchy showing 4-digit codes, Group Titles and Definitions**

<b>A1120</b>	<b>Manage quality</b>	<b>Pursue excellence in workplace processes, products and activities.</b>
A1121	Assure quality of processes and products	Ensure the quality of all factors involved in a production process and establish quality standards and procedures for quality control
A1122	Apply quality standards	Follow defined procedures and standards which prevent errors in the creation and delivery of a product or a service to customers
A1123	Provide high quality client service	Respond to the expectations of clients and customers in a professional manner, anticipating and addressing their needs and desires, to ensure customer satisfaction and loyalty.
<b>A1130</b>	<b>Meet commitments</b>	<b>Perform one's tasks in a self-disciplined, reliable and goal-oriented manner.</b>
A1131	Meet deadlines	Ensuring that operative processes are finished at a previously agreed time
A1132	Assume responsibility	Accepting responsibility and accountability for one's own professional decisions and actions, or those delegated to others.
A1132	Stay within budget	Sticking to an agreed budget and adapting work and materials to budget

### Language skills and knowledge

A different approach was taken for language skills and knowledge, at least partly because the languages themselves are labelled as knowledge concepts and the four categories of language competence “interact verbally”, “write”, “understand spoken” and “understand written” (structured in accordance with the Common European Framework for Languages (CEFR)) are listed as skills for almost all of the languages included. A Level 1 category was created for each living language as well as for generic language skills – E.g. (Use foreign languages) and for dead languages. Level 2 then covers each of the four categories of language competence for each language, thus:

- Language skills and knowledge
  - Generic language skills and knowledge
    - Speak different languages
    - Translate and interpret
  - Albanian
    - interact verbally in Albanian
    - write Albanian
    - understand spoken Albanian

understand written Albanian  
Armenian  
and so forth.

Few of the KSC related to specific languages are linked directly to a particular occupation. Identification of each individual language, however, will be useful for applications of the skills pillar in activities such as matching job seekers with job vacancies, as skills in one or more specific languages will be a requirement for many jobs.

In the case of English, the skills pillar does include KSC that are directly linked to occupations, including Aviation English and Use maritime English. A separate level 3 category termed “Technical language in English” allows these related skills to be grouped together.

Each living language is listed in alphabetical order in English, and the classification codes are based on that order. This is somewhat arbitrary, however, and may not make a lot of sense when the hierarchy is translated into other languages. Any new languages added to the skills pillar would need to be added at the end. Alternative approaches to ordering or grouping of the languages could be considered but would have limited benefit for most practical purposes.

## Next steps and recommendations

### Allocate ESCO concepts to the hierarchy

The ESCO team will map all ESCO skill/competence concepts to the hierarchy using guidelines developed by the expert team. This exercise should involve an initial process of bulk mapping using keyword searching similar to the process used for the knowledge concepts. All concepts not mapped using this bulk method will need to be mapped individually.

The correspondence table between the O\*NET IWA and the ESCO hierarchy will be a useful resource to assist with the mapping process. Searching the IWA to identify terms used in the ESCO concepts would allow relevant categories in the ESCO hierarchy to be identified. The heterogeneity of some of the IWA, however, means that a full one-to-one correspondence between the IWA and the 3rd level categories cannot always be assumed. In all cases, therefore, it would be important to compare the description of the ESCO Skill concept with the description of the category in the hierarchy, before making a final decision on the allocation.

If necessary the O\*NET Detailed Work Activities (DWA) (2,070 concepts) which are further contextualised into Tasks (17,368 concepts) and linked to the IWA could be used as supplementary search resources. These data could also be exploited by the ESCO mapping platform to support the mappings between national skills systems and ESCO.

Each concept should be allocated to one and only one subcategory in the hierarchy, while making note of any cases where ESCO KSCs might usefully be assigned to more than one higher level category.

### Orphaned skill concepts

914 of the 13,486 concepts defined in the skills pillar are not (at least not directly) linked to any occupation. Approximately half of these are transversal KSCs having been considered too general for occupational skills profiles. Most of these transversal KSCs are used as broader terms of cross-sectoral, or sector-specific skills which are in turn linked to occupations. The remaining KSCs also unused in occupational skills profiles are cross-sectoral or sector-specific ones. Only very few of these have been used as broader terms for grouping cross-sectoral or sector-specific KSCs, whilst the majority has not even been used for this purpose either, and thus must be regarded as “orphaned”, e.g.

- “address side effects of menopause” (a sector-specific skill)
- “airport terminal standards” (sector-specific knowledge)
- “create working methodology” (a cross-sectoral skill)
- “fishing industry” (cross-sectoral knowledge)

We recommend excluding those orphaned KSCs from structuring or firstly adding them to appropriate occupational skills profiles. All other skills/competence and knowledge concepts so far unused in occupational profiles should be incorporated into the new hierarchy, no matter what skill reusability level is assigned to them

### Review allocations and adjust the hierarchy

Once allocation of the ESCO Skill concepts has been completed we recommend that the allocations be reviewed by experts in labour market classification in order to:

1. Validate the allocations;
2. Propose adjustments to the hierarchy to accommodate any clearly defined ESCO skill

- concepts that could not be allocated to any of the substantive third level categories;
3. Identify groups at all levels that are excessively heterogeneous
  4. Identify groups that are not linked to a sufficiently significant number of skill concepts or occupations to justify their separate identification
  5. Propose adjustments to the hierarchy to improve its useability, including the ordering of categories at all levels.
  6. Amend ESCO skills if they proved to be too heterogeneous, too vague or too complex to be allocated to the skills classification.

We recognize that the current ordering of categories at all levels in the hierarchy is not the most intuitive or user-friendly for purposes such as browsing, or a classified display of occupational skills profiles. Comments have been made to this effect. Changing the ordering, however, is a relatively complex process as it involves reassignment of classification codes. We have therefore avoided significant reordering until all allocations of skills and adjustments to the hierarchy are completed. At that point we recommend consideration of improvements to the ordering of categories and coding scheme.

We still consider the current version of the hierarchy to be a working tool only. The “final” Version 1 of a European KSC Classification will emerge once all or the large majority of KSCs have been assigned to it and once feedback from mapping national skill classifications has been incorporated.

#### [Review and rationalise ESCO Skill concepts](#)

As noted in our report to the 30<sup>th</sup> MAI, skills concepts in the ESCO skills pillar overlap with each other or are effectively the same, as they have been drafted by different sectoral working groups, not paying sufficient attention to cross-sectoral applicability and a uniform terminology. Many are specified in such a way that they include different skills that should be assigned to different categories at the top level of the skills hierarchy. Others are excessively specific. We are concerned, that it will be extremely difficult for member states to map their national classifications directly to the ESCO skill concepts unless these are first rationalised. We believe, therefore, that a high priority should be given to also reviewing and rationalising the skill concepts whilst structuring them.

#### [Looking further ahead](#)

In the context of ESCO’s ongoing improvement programme the development of the ESCO skills and knowledge structure should not end with this first classification of concepts but strive towards an even more refined structure in the future. This could potentially take the form of a fourth layer in the classification or of transformation of the repository of skills and knowledge into a thesaurus, leading from the general to the more specific, within the framework of a relatively flat classification hierarchy. Once ESCO’s KSCs have been classified according to the hierarchy, options for further development may become clearer.

## Annex 1: Level 1 Categories in the Skills Section of the ESCO Skills and Knowledge Hierarchy

- S01 Handling and moving
- S02 Working with animals
- S03 Constructing
- S04 Operating machinery, vehicles and specialised equipment
- S05 Interacting with computers
- S06 Installing, maintaining and repairing equipment and machinery
- S07 Assisting and caring for others
- S08 Cleaning and waste disposal
- S09 Creative thinking and expression
- S10 Communication, collaboration and social interaction
- S11 Collecting, storing, monitoring, and using information
- S12 Managing people, activities, resources, and organisations

## Annex 2: Level 1 and 2 Categories in the Skills Section of the ESCO Skills and Knowledge Hierarchy

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### **S010 Handling and moving**

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**S011** Sorting and packaging goods and materials

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**S012** Moving and lifting

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**S013** Transforming and blending materials

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**S014** Tending plants and crops

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**S015** Assembling and fabricating products

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**S016** Making moulds, casts, models and patterns

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**S017** Using hand tools

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**S018** Positioning materials, tools or equipment

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### **S020 Working with animals**

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**S021** Handling animals

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**S022** Caring for animals

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### **S030 Constructing**

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**S031** Building and repairing structures

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**S032** Installing interior or exterior Infrastructure

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**S033** Finishing interior or exterior of structures

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### **S040 Operating Machinery, Vehicles and Specialised Equipment**

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**S041** Operating mobile machinery and equipment

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**S042** Operating machinery for the extraction and processing of raw materials

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**S043** Operating machinery for the manufacture of products

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**S044** Using precision instrumentation and equipment

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### **S050 Interacting with computers**

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**S051** Programming computer systems

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**S052** Implementing security measures for computers or information systems

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**S053** Setting up computer systems, networks, or other information systems

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**S054** Resolving computer problems

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**S055** Using digital tools

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### **S060 Installing, Maintaining and Repairing Equipment and Machinery**

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**S061** Installing, maintaining and repairing mechanical equipment

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**S062** Installing, maintaining and repairing electrical, electronic and precision equipment

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**S070** Assisting and Caring for Others

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**S071** Counselling and nurturing

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**S072** Providing health care or medical treatments

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**S073** Protecting and enforcing

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**S074** Providing information and support to the public and clients

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**S075** Preparing, cooking, serving

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**S076** Providing general personal care

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**S080** Cleaning and waste disposal

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**S081** Cleaning

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**S082** Washing and maintaining textiles and clothing

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**S083** Handling and disposing of waste and hazardous materials

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**S090** Creative thinking and expression

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**S091** Solving problems

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**S092** Designing systems and products

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**S093** Creating artistic, visual or instructive materials

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**S094** Writing and composing

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**S095** Performing and entertaining

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**S100** Communication, collaboration and social interaction

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**S101** Negotiating and adjudicating

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**S102** Liaising and networking

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**S103** Teaching and training

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**S104** Presenting information

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**S105** Advising and consulting

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**S106** Promoting, selling and purchasing

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**S107** Obtaining information verbally

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**S108** Working with others

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**S110** Collecting, storing, monitoring, and using information

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**S111** Conducting studies, investigations and examinations

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**S112** Documenting and recording information

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**S113** Managing information

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**S114** Processing information

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**S115** Measuring physical properties

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**S116** Calculating and estimating

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**S117** Analysing and evaluating information and data

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**S118** Monitoring, inspecting and testing

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**S120** Managing people, activities, resources, and organisations

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**S121** Developing objectives and strategies

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**S122** Organising, planning and scheduling work and activities

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**S123** Allocating and controlling resources

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**S125** Performing administrative activities

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**S129** Supervising people

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## Annex 3: Skills Section of the ESCO Skills and Knowledge Classification to 3 Levels Showing Codes, Labels and Definitions

<b>S0100</b>	<b>Handling and moving</b>	<b>Sorting, arranging, moving, transforming, and fabricating goods and materials by hand or using hand held tools and equipment. Tending plants and crops.</b>
<b>S0110</b>	<b>Sorting and packaging goods and materials</b>	<b>Sorting, packaging, separating or arranging materials, according to established patterns or procedures.</b>
<b>S0111</b>	Sorting materials or products.	Arranging materials into predetermined categories or groups, according to established patterns of procedures
<b>S0112</b>	Marking materials or objects for identification.	Marking or labelling objects or materials for identification by type or individually
<b>S0113</b>	Packaging objects.	Enclosing or protecting products for distribution or storage according to a coordinated system of preparing goods for transport, warehousing, logistics, sale, and use.
<b>S0120</b>	<b>Moving and lifting</b>	<b>Performing physical activities to move, load, unload or store objects or to climb structures, by hand or with the aid of equipment</b>
<b>S0121</b>	Loading and unloading goods and, materials	Loading, securing or unloading products, materials, or equipment for transportation, storage or further processing.
<b>S0122</b>	Moving or lifting materials, equipment, or supplies.	Moving or lifting goods, materials supplies or resources, by hand or with the aid of equipment, using actions such as lifting, pushing, carrying or shovelling.
<b>S0123</b>	Storing goods and materials	Placing goods and materials in storage
<b>S0124</b>	Climbing	Climbing equipment and structures
<b>S0130</b>	<b>Transforming and blending materials</b>	<b>Transforming materials from one form to another by blending, heating, chemical reaction, smoothing, or cutting, by hand or using hand held tools and equipment</b>
<b>S0131</b>	Preparing mixtures or solutions.	Mixing and blending various types of solid or liquid materials, by hand or using hand held tools and equipment
<b>S0132</b>	Cutting materials.	Cutting various types of materials using hand held tools and equipment
<b>S0133</b>	Preparing industrial materials for processing or use.	Preparing various types of materials for further processing or for use, by employing techniques such as heating, skimming to remove impurities or immersing objects in cleaning or coating solutions
<b>S0134</b>	Shaping materials to create products	Altering the shape of various types of materials by hand or using hand tools
<b>S0135</b>	Smoothing surfaces of objects or equipment.	Creating smooth surfaces on various types of materials and employing techniques such as grinding, planing, sanding and polishing, using hand held tools
<b>S0136</b>	Preparing specimens or materials for testing.	
<b>S0140</b>	<b>Tending plants and crops</b>	<b>Propagating, cultivating, pruning, caring for and harvesting plants and crops.</b>
<b>S0141</b>	Cultivating land.	Preparing land for agricultural or horticultural use

<b>S0142</b>	Planting crops, trees, or other plants.	Propagating and planting trees, flowers and other plants for production of food crops and other products, enhancing the environment or for scientific research
<b>S0143</b>	Cultivating crops, lawns, or gardens.	Performing activities to grow and optimise the growth rate and/or quality of plants cultivated for food, industrial or ornamental purposes
<b>S0144</b>	Irrigating lawns, trees, or plants.	
<b>S0145</b>	Pruning, cutting and harvesting, trees crops and other plants	Reducing the size, removing limbs, or cutting down trees, shrubs and other crops, by hand or with hand-held tools for purposes such as improving appearance, promoting the growth of fruits, and harvesting
<b>S0150</b>	<b>Assembling and fabricating products</b>	<b>Fabricating, assembling or repairing products or work aids by hand, or using hand-held tools and equipment.</b>
<b>S0151</b>	Assembling products or work aids	Assembling, fabricating or repairing products or work aids, excluding decorative objects and medical or prosthetic devices, by hand or using hand-held tools and equipment
<b>S0155</b>	Fabricating medical and prosthetic devices.	Fabricating, maintaining or repairing medical, orthotic or prosthetic devices.
<b>S0160</b>	<b>Making moulds, casts, models and patterns</b>	
<b>S0161</b>	Making production moulds and casts	Constructing moulds for the manufacture of objects in various materials, and making casts by filling moulds with liquid materials for solidification
<b>S0162</b>	Making patterns and templates	
<b>S0163</b>	Making models	Constructing physical models of products
<b>S0170</b>	<b>Using hand tools</b>	<b>Using tools that can be held in the hands, including power tools.</b>
<b>S0180</b>	<b>Positioning materials, tools or equipment</b>	
<b>S0181</b>	Positioning tools or equipment.	
<b>S0182</b>	Positioning workpieces or materials on equipment	
<b>S0183</b>	Positioning materials or components for assembly.	
<b>S0200</b>	<b>Working with animals</b>	<b>Moving, feeding and caring for live animals.</b>
<b>S0210</b>	<b>Handling animals</b>	<b>Breeding, tending, moving, capturing or slaughtering live animals</b>
<b>S0211</b>	Breeding and tending livestock	Breeding, raising and tending non-aquatic livestock such as cattle, poultry, and honeybees,
<b>S0212</b>	Breeding and tending aquatic animals	Breeding, raising and harvesting aquatic and aquaculture stock such as fin fish and shellfish.
<b>S0213</b>	Moving and herding animals	Directing, controlling or restraining the movement of live animals to move them into vehicles pens, feeding areas and

		other enclosed spaces, or to facilitate grooming, veterinary procedures or slaughter.
<b>S0214</b>	Hunting, trapping and slaughtering animals	Hunt or trap animal wildlife or birds, or slaughter captive animals, or purposes such as gaining food or animal products, pest control or wildlife management.
<b>S0220</b>	<b>Caring for animals</b>	<b>Providing care, training, therapy or veterinary treatment for animals.</b>
<b>S0221</b>	Feeding and grooming animals	Feeding and grooming domestic and captive animals of all types including aquatic.
<b>S0222</b>	Training animals	Training animals to facilitate their routine husbandry, for professional purposes or as companion animals, for treatment, and/or public demonstrations.
<b>S0223</b>	Providing therapy or veterinary treatment for animals	Diagnosing and treating illnesses in animals and providing veterinary services such as artificial insemination and implanting microchips
<b>S0300</b>	<b>Constructing</b>	
<b>S0310</b>	<b>Building and repairing structures</b>	<b>Forming, shaping and joining materials to form structures such as buildings, bridges, or underground mines according to specifications and plans.</b>
<b>S0311</b>	Installing structural masonry materials.	Forming structures using masonry materials such as bricks, stone, blocks, and mortar
<b>S0312</b>	Installing metal structural components	Installing and assembling metal parts such as steel girders, frames and reinforcing rods
<b>S0313</b>	Installing wooden structural components	Installing, assembling and repairing structural timber such as beams and
<b>S0314</b>	Installing concrete components	Setting concrete forms and pouring concrete for construction of footings, pilings, pillars and walls for buildings, bridges and other structures
<b>S0315</b>	Installing roofing	
<b>S0316</b>	Joining parts using soldering, welding or brazing techniques	
<b>S0317</b>	Installing and assembling building fixtures	Installing, assembling or constructing building fixtures such as drywall, doors, windows and staircases
<b>S0318</b>	Installing and assembling rigging equipment	Installing and assembling rigging equipment such as cables, ropes, pulleys and winches to safely secure high structures or lift heavy weights.
<b>S0320</b>	<b>Installing interior or exterior Infrastructure</b>	<b>Installing, repairing and testing systems and their components in buildings and other structures such as trains and aircraft.</b>
<b>S0321</b>	Installing heating, ventilation and air conditioning equipment.	
<b>S0322</b>	Installing plumbing or piping equipment or systems.	
<b>S0323</b>	Installing insulation materials	

<b>S0330</b>	<b>Finishing interior or exterior of structures</b>	<b>Applying interior and exterior finishes to buildings and other structures.</b>
<b>S0331</b>	Applying material to fill gaps in surfaces	
<b>S0332</b>	Applying textured or masonry coatings	
<b>S0333</b>	Applying protective or decorative solutions or coatings	
<b>S0334</b>	Installing floor and wall coverings.	Installing various types of floor and wall coverings, including tiling, carpets, linoleum and parquet.
<b>S0400</b>	<b>Operating Machinery, Vehicles and Specialised Equipment</b>	<b>Controlling, operating and monitoring vehicles, stationary and mobile machinery and precision instrumentation and equipment.</b>
<b>S0410</b>	<b>Operating mobile machinery and equipment</b>	<b>Controlling the operation of vehicles and of machinery whose mobility is an integral part of its function.</b>
<b>S0411</b>	Operating earthmoving equipment	Operating equipment for moving, excavating, smoothing or shaping earth
<b>S0412</b>	Operating agricultural or forestry equipment.	Operating mobile equipment specifically designed for agricultural or forestry purposes, such as cultivating land or harvesting crops and trees.
<b>S0413</b>	Operating lifting or moving equipment.	Operating equipment for lifting and moving objects, such as cranes, hoists, cable cars and lifting trucks
<b>S0414</b>	Driving heavy road vehicles.	Driving heavy vehicles, such as trucks and buses, for the transportation of goods or people by road
<b>S0415</b>	Operating light vehicles	Controlling the movement of light vehicles such as motorcycles cars, taxis, vans and light trucks
<b>S0416</b>	Operating rail vehicles	Controlling the movement of rail vehicles such as trains and trams
<b>S0417</b>	Operating watercraft	Operating and controlling the movement of watercraft, including ships, boats and other vessels
<b>S0418</b>	Operating aircraft	Controlling the movement of aircraft including fixed wing aircraft, helicopters and drones
<b>S0420</b>	<b>Operating machinery for the extraction and processing of raw materials</b>	<b>Operating and monitoring various types of mechanically-controlled or computer-controlled stationary machinery for the extraction or processing of raw materials</b>
<b>S0421</b>	Operating mining, drilling and mineral processing machinery	Operating machinery for the extraction and processing of rocks and minerals, or for drilling and boring wells and tunnels
<b>S0422</b>	Operating metal processing and finishing machinery	
<b>S0423</b>	Operating pumping systems or equipment.	
<b>S0424</b>	Operating energy production or	

	distribution equipment.	
<b>S0425</b>	Operating petroleum, chemical or water processing systems or equipment.	
<b>S0426</b>	Operating wood processing and papermaking machinery	
<b>S0427</b>	Operating kilns, furnaces and drying equipment	Operating, monitoring and adjusting the controls of equipment for heating or drying materials and products at high temperatures, such as kilns or furnaces
<b>S0428</b>	Operating recycling equipment.	
<b>S0430</b>	<b>Operating machinery for the manufacture of products</b>	<b>Operating and monitoring various types of mechanically-controlled or computer-controlled stationary machinery for the manufacture of goods</b>
<b>S0431</b>	Operating painting or coating equipment.	
<b>S0432</b>	Operating packaging equipment.	
<b>S0433</b>	Operating machinery for the manufacture and treatment of textile, fur and leather products	
<b>S0434</b>	Operating food processing equipment.	
<b>S0435</b>	Operating mixing and separating equipment.	
<b>S0436</b>	Operating print and photographic production equipment.	
<b>S0437</b>	Operating metal, plastic or rubber forming equipment.	
<b>S0438</b>	Operating cutting, grinding and smoothing equipment	
<b>S0440</b>	<b>Using precision instrumentation and equipment</b>	<b>Controlling, monitoring, and adjusting precision instrumentation and equipment for a wide range of purposes.</b>
<b>S0441</b>	Operating medical equipment	Controlling, monitoring, and adjusting precision instrumentation and equipment used for medical purposes
<b>S0442</b>	Operating audio-visual equipment	Controlling, monitoring, and adjusting precision instrumentation and equipment for recording and of sound, video and images, and for use in live performances or exhibitions

<b>S0443</b>	Operating scientific and laboratory equipment	Controlling, monitoring, and adjusting precision instrumentation and equipment for the conduct of scientific experiments and diagnostic tests.
<b>S0444</b>	Operating communications equipment	Controlling, monitoring, and adjusting telecommunication, radio transmission or broadcasting equipment
<b>S0445</b>	Operating precision industrial equipment	Controlling, monitoring, and adjusting precision instrumentation and equipment for industrial production
<b>S0500</b>	<b>Interacting with computers</b>	<b>Using computers and other digital tools to develop, install and maintain ICT software and infrastructure and to browse, search, filter, organise, store, retrieve, and analyse data, to collaborate and communicate with others, to create and edit new content.</b>
<b>S0510</b>	<b>Programming computer systems</b>	<b>Writing and submitting instructions, specifications and programmes for computers</b>
<b>S0520</b>	<b>Implementing security measures for computers or information systems</b>	<b>Making use of tools and methods to protect and maximize security of ICT devices and to secure private information and identity in digital spaces.</b>
<b>S0521</b>	Protecting ICT devices	Making use of tools and methods to protect and maximize security of ICT devices and information by controlling access, such as by requiring passwords, digital signatures, and biometric identification, and by protecting systems through the use of software such as firewalls, antivirus, and spam filters.
<b>S0522</b>	Protecting online privacy and personal data	Estimating the results of an action or a series of actions.
<b>S0530</b>	<b>Setting up computer systems, networks, or other information systems</b>	<b>Installing computer software, and configuring computer networks.</b>
<b>S0540</b>	<b>Resolving computer problems</b>	<b>Identifying technical problems with ICT systems and devices and performing actions which solve the problems.</b>
<b>S0550</b>	<b>Using digital tools</b>	<b>Using digital tools to browse, search, filter, organise, store, retrieve, and analyse data, information and digital content, to collaborate and communicate with others, and create and edit new content.</b>
<b>S0551</b>	Browsing, searching and filtering digital data	Articulating information needs, searching for data, information and content in digital environments, accessing and navigating them. Creating and updating personal search strategies.
<b>S0552</b>	Managing and analysing digital data	Using digital tools to organise, store, retrieve, and analyse data, information and digital content.
<b>S0553</b>	Using digital tools for collaboration, content creation and problem solving	Using ICT software and hardware to collaborate and communicate with others, creating and editing new content (from word processing to images and video) and solving conceptual, technical and practical problems.
<b>S0554</b>	Using digital tools to control machinery	Issuing commands to computer controlled machines and equipment by despatching the appropriate data and input



<b>S0600</b>	<b>Installing, Maintaining and Repairing Equipment and Machinery</b>	<b>Installing, maintaining and repairing stationary and mobile mechanical, electrical and electronic equipment, systems, components and devices.</b>
<b>S0610</b>	<b>Installing, maintaining and repairing mechanical equipment</b>	<b>Installing, maintaining and repairing stationary and mobile mechanical equipment, components and devices.</b>
<b>S0611</b>	Disassembling mechanical equipment	Disassembling stationary and mobile mechanical equipment, components and devices
<b>S0612</b>	Repairing and installing mechanical equipment	Repairing, reassembling and installing stationary and mobile mechanical equipment, components and devices.
<b>S0613</b>	Maintaining mechanical equipment	Perform basic or general maintenance of mechanical equipment, components and devices to ensure continued or optimal functioning
<b>S0620</b>	<b>Installing, maintaining and repairing electrical, electronic and precision equipment</b>	<b>Installing, setting-up, maintaining and repairing electrical and electronic equipment, and control systems, scientific devices, instrumentation and precision equipment</b>
<b>S0621</b>	Installing and repairing electrical, electronic and precision equipment	Installing, setting-up, and repairing electrical, electronic, mechatronic and precision equipment, and control systems, scientific and medical devices, instrumentation and precision equipment
<b>S0622</b>	Maintaining electrical, electronic and precision equipment	Maintaining electrical and electronic and mechatronic equipment, control systems, scientific and medical devices, instrumentation and precision equipment to ensure continued or optimal functioning
<b>S0700</b>	<b>Assisting and Caring for Others</b>	<b>Providing assistance, nurturing, care, service and support to other people, and ensuring compliance to rules, standards, guidelines or laws.</b>
<b>S0710</b>	<b>Counselling and nurturing</b>	<b>Responding to clients' needs by interpreting their emotional and motivational states, and determining and providing appropriate support or interventions.</b>
<b>S0711</b>	Counselling others about personal, family or social issues	Responding to clients' needs by interpreting their emotional and motivational states, and assisting them to understand their situation
<b>S0712</b>	Providing support to resolve problems	Providing appropriate support or interventions to others to assist them to resolve their personal, family or social problems
<b>S0713</b>	Assisting others to access services	Assist others to gain access to social, legal or other services and benefits, including making referrals to other professionals and organisations
<b>S0720</b>	<b>Providing health care or medical treatments</b>	<b>Treating injuries and health conditions through the provision of health care and medical treatments to people.</b>
<b>S0721</b>	Administering therapeutic treatments	Treating injuries and health conditions through provision of therapeutic treatments to people.

<b>S0722</b>	Prescribing and ordering medical tests, treatments or devices	Ordering medical tests such as blood tests or medical imaging, planning courses of treatment and prescribing medication, or medical and prosthetic devices.
<b>S0723</b>	Fitting assistive devices	Fitting assistive devices such as prostheses or othotics to patients or clients
<b>S0730</b>	<b>Protecting and enforcing</b>	<b>Responding to public and personal safety and security needs and ensuring compliance to rules, standards, guidelines or laws.</b>
<b>S0731</b>	Complying with health and safety procedures	Ensuring compliance to rules, standards, guidelines or laws relating to the health and safety of oneself, coworkers, employees and the public
<b>S0732</b>	Complying with environmental protection requirements	Ensuring compliance to regualtions, standards, guidelines or laws relating to the protection of the environment
<b>S0733</b>	Complying with general legislative and organisational guidelines	Ensuring compliance with rules, standards, guidelines or laws relating to matters other than health, safety and the environment
<b>S0734</b>	Verifying identities and documentation	Check an individuals' documentation, such as driver's licenses, official identification documents, travel documents and tickets, to ensure compliance with legal regulations, identify individuals, and assess their right to access services, areas or facilities
<b>S0735</b>	Maintaining and enforcing physical security	Ensuring safety and security of persons and property through physical actions
<b>S0740</b>	<b>Providing information and support to the public and clients</b>	<b>Assisting the public by answering questions, making recommendations, and providing information or support in response to requests.</b>
<b>S0741</b>	Providing information to members of the public and clients	Answering questions, making recommendations, and providing information or support in response to requests from clients, customers, guests or members of the public
<b>S0742</b>	Accompanying others	Accompanying, escorting or guiding other people or groups of people on trips, social events, outings or crossing roads
<b>S0743</b>	Assisting others with paperwork	
<b>S0744</b>	Providing general assistance to others	Welcoming and supporting clients, patrons, visitors and others by helping them to feel at ease, supporting special requirements, and assisting them with general activities such as finding seats, making reservations and using facilities
<b>S0750</b>	<b>Preparing, cooking, serving</b>	<b>Providing food and beverage services.</b>
<b>S0751</b>	Preparing and cooking food and beverages	
<b>S0752</b>	Serving food and beverages	

<b>S0760</b>	<b>Providing general personal care</b>	<b>Responding to the daily and occasional personal care needs of people</b>
<b>S0761</b>	Assisting others with mobility	Moving or assisting movement of persons with restricted mobility due to illness, accidents, disability, or medical procedures
<b>S0762</b>	Assisting others with personal needs	Assisting others with personal needs such as bathing, dressing, feeding, relaxation and comfort
<b>S0763</b>	Grooming or styling hair and providing beauty treatments	Grooming, styling or removing hair, applying make-up and providing beauty treatments, to meet the appearance desired by clients or required for the purposes such as theatrical performance.
<b>S0800</b>	<b>Cleaning and waste disposal</b>	<b>Cleaning tools, equipment, buildings, public spaces, textiles and clothing; handling and disposing of waste and hazardous materials</b>
<b>S0810</b>	<b>Cleaning</b>	<b>Cleaning buildings, work areas, equipment, machinery and vehicles</b>
<b>S0811</b>	Cleaning tools, equipment, workpieces and vehicles	Performing cleaning routines after tools, equipment, machinery and vehicles have been used and cleaning workpieces during or after fabrication
<b>S0812</b>	Cleaning interior and exterior of buildings	Cleaning the interior spaces and furnishings and the exterior of buildings and similar structures
<b>S0813</b>	Cleaning outdoor spaces	Cleaning outdoor public spaces such as streets or parks.
<b>S0820</b>	<b>Washing and maintaining textiles and clothing</b>	<b>Washing or cleaning clothing and other textile products by hand or by use of a washing or laundry machine, maintaining textile items in good order.</b>
<b>S0830</b>	<b>Handling and disposing of waste and hazardous materials</b>	<b>Collecting, storing and disposing of unwanted materials or hazardous, according to established waste management procedures</b>
<b>S0831</b>	Handling and disposing of hazardous materials	Handling, collecting, storing and disposing of materials that pose substantial threats to public or personal health or the environment
<b>S0832</b>	Disposing of non-hazardous waste or debris	Collecting and disposing of unwanted non-hazardous materials according to established waste management procedures
<b>S0900</b>	<b>Creative thinking and expression</b>	<b>Developing solutions to problems, creating plans or specifications for the design of objects and systems, composing text or music, performing to entertain an audience.</b>
<b>S0910</b>	<b>Solving problems</b>	<b>Developing and implementing solutions to practical, operational or conceptual problems problems which arise in the execution of work in a wide range of contexts.</b>
<b>S0911</b>	Developing solutions to operational problems	Developing solutions to practical, operational or conceptual problems problems which arise in the execution of work in a wide range of contexts.
<b>S0912</b>	Implementing procedures or processes	Implementing new procedures or processes to resolve practical, operational or conceptual problems problems which arise in the execution of work in a wide range of contexts.
<b>S0920</b>	<b>Designing systems and products</b>	<b>Creating or executing a plan or specification for the construction of an object, system or work of visual art, or for</b>

<b>the implementation of an activity or process based on aesthetic and/or functional design concepts.</b>		
<b>S0921</b>	Designing computer or information systems or applications.	Creating a plan or specification for the design of information systems, databases and computer networks, systems and applications,
<b>S0922</b>	Designing electrical or electronic systems or equipment.	
<b>S0923</b>	Developing recipes or menus.	
<b>S0924</b>	Designing structures or facilities.	
<b>S0925</b>	Designing industrial materials, systems or products	
<b>S0930</b>	<b>Creating artistic, visual or instructive materials</b>	
<b>S0931</b>	Creating visual displays and decorations	Creating and arranging visual displays, exhibits and decorations.
<b>S0932</b>	Developing instructive or promotional materials.	
<b>S0933</b>	Creating artistic designs or performances	
<b>S0940</b>	<b>Writing and composing</b>	<b>Writing text or composing music, creating original work with regard to format, style and content.</b>
<b>S0941</b>	Composing music	
<b>S0942</b>	Artistic and creative writing	Writing original text of an artistic or creative nature
<b>S0943</b>	Functional writing	Writing original text of a primarily functional, technical or academic nature; editing text
<b>S0950</b>	<b>Performing and entertaining</b>	<b>Performing to entertain an audience.</b>
<b>S0951</b>	Perform athletic activities	Performing and practising athletic activities for fitness, competition, or artistic purposes.
<b>S0952</b>	Presenting arts or entertainment performances	Performing, practising or rehearsing music, dance, drama or other other types of performance (excluding athletic performance) to entertain a live audience, or as part of a recording session
<b>S0953</b>	Conducting amusement or gaming activities	
<b>S1000</b>	<b>Communication, collaboration and social interaction</b>	<b>Communicating, collaborating, liaising, and negotiating with other people and imparting information, knowledge and skills, using written, oral, visual or electronic means.</b>
<b>S1010</b>	<b>Negotiating and adjudicating</b>	<b>Exchanging ideas while analyzing issues and interests at stake, enabling opposing sides to resolve disputes and reach</b>

		<b>agreement, or making decisions to resolve disputes or impose justice</b>
<b>S1011</b>	Negotiating contracts and agreements	Negotiating contracts and agreements with others concerning matters such as prices, terms of service, employment conditions, access to land and facilities
<b>S1012</b>	Mediating and resolving disputes	Working with two or more separate people or groups involved in a disagreement or dispute to bring about an agreement, settlement or compromise, and in some cases making decisions to resolve disputes or legal cases
<b>S1013</b>	Discussing legal matters	Discussing legal matters with clients, disputants, or legal professionals or staff.
<b>S1014</b>	Responding to complaints	Handling and responding to complaints from clients or staff
<b>S1020</b>	<b>Liaising and networking</b>	<b>Developing alliances, contacts or partnerships, and exchanging information with others.</b>
<b>S1021</b>	Communicating with others about operational plans or activities.	Communicating and liaising with colleagues, clients and other agencies on operational matters, problems and activities
<b>S1022</b>	Coordinating activities with clients, agencies, or organizations.	Cooperating and liaising with outside agencies, clients and other organizational units to adapt the timing and nature of the activities of all concerned are in harmony
<b>S1023</b>	Developing professional relationships or networks.	
<b>S1024</b>	Advocating for individual or community needs.	
<b>S1030</b>	<b>Teaching and training</b>	<b>Facilitating the acquisition of new knowledge and skills. Leading and guiding individuals and groups through a process in which they are taught the necessary skills and knowledge for a particular job or set of jobs.</b>
<b>S1031</b>	Teaching academic or vocational subjects.	
<b>S1032</b>	Teaching safety procedures or standards to others.	
<b>S1033</b>	Training others on operational or work procedures.	Training employees, students or clients on operational procedures in the work place or on the use of equipment or products
<b>S1034</b>	Training others on health or medical topics.	Training patients, health providers, or carers on health or hygiene practices, medical procedures or physical fitness
<b>S1035</b>	Coaching others and teaching life skills	Actively helping individuals or groups to improve their strengths, performance, learning skills and confidence and to optimise specific methods, skills or abilities
<b>S1040</b>	<b>Presenting information</b>	<b>Presenting oral or visual material to an audience in order to provide or interpret information</b>
<b>S1041</b>	Presenting general information to groups or in public	Presenting information of a non-technical nature to an audience

<b>S1042</b>	Presenting research or technical information.	Presenting information of a technical or academic nature to an audience, including presenting the results of research
<b>S1043</b>	Presenting information in legal proceedings.	Testifying, presenting evidence or representing clients during legal proceedings
<b>S1050</b>	<b>Advising and consulting</b>	<b>Providing guidance and advice to enable decision-making about tasks, situations, and processes.</b>
<b>S1051</b>	Advising on legal, regulatory or procedural matters.	Explaining and providing advice to others on legal matters, regulations, policies or procedures
<b>S1052</b>	Providing financial advice and information	Explaining financial information and providing financial advice
<b>S1053</b>	Advising on products and services	Advising others on products or services explaining technical details
<b>S1054</b>	Providing medical and healthcare information and advice	Explaining medical and healthcare information to patients or family members and/or advising them on medical, health or wellness issues.
<b>S1055</b>	Advising on environmental issues	Providing information and advice on environmental protection and sustainability
<b>S1056</b>	Advising others on the design or use of technologies.	
<b>S1057</b>	Advising others on business or operational matters.	
<b>S1058</b>	Advising others on educational or vocational matters.	
<b>S1059</b>	Advising others on workplace health and safety issues.	
<b>S1060</b>	<b>Promoting, selling and purchasing</b>	<b>Using communication strategies or techniques to encourage acceptance of products, services, or ideas.</b>
<b>S1061</b>	Selling products or services.	
<b>S1062</b>	Promoting products, services, or programs.	
<b>S1063</b>	Purchasing goods or services.	
<b>S1070</b>	<b>Obtaining information verbally</b>	<b>Asking questions and listening to others to obtain information</b>
<b>S1071</b>	Interviewing	Interacting verbally in a formal way, usually using structured questioning, to collect information, determine opinions, or determine suitability of individuals for jobs, roles or tasks
<b>S1072</b>	Conferring with others to identify needs	Engaging in discussions in order to identify expectations, requirements, desires, needs and problems of clients, co-workers, students and others
<b>S1073</b>	Active listening and questioning	Listen carefully to what other people say, patiently understanding points being made, formulating and asking

		appropriate questions, without interrupting at inappropriate times
<b>S1080</b>	<b>Working with others</b>	<b>Working with other people, understanding and respecting the roles and competencies of others</b>
<b>S1081</b>	Working in teams	Working confidently within a group with each doing their part in the service of the whole. Understanding and respecting the roles and competencies of other team members.
<b>S1082</b>	Giving constructive feedback	Providing founded feedback on the performance of subordinates, co-workers and students through both criticism and praise in a respectful, clear, and consistent manner. Highlighting achievements as well as mistakes and set up methods of formative assessment to evaluate work.
<b>S1083</b>	Accepting direction and constructive criticism	React to valid and well-reasoned opinions and directions about one's work in a positive manner.
<b>S1084</b>	Issuing directions and instructions	Giving instructions to co-workers, subordinates or students or members of the public by employing various communication techniques. Adjusting communication style to the target audience in order to convey instructions as intended.
<b>S1100</b>	<b>Collecting, storing, monitoring, and using information</b>	<b>Conducting studies, investigations and tests; maintaining records; managing, evaluating, processing, analysing and monitoring information and projecting outcomes.</b>
<b>S1110</b>	<b>Conducting studies, investigations and examinations</b>	<b>Conducting studies, investigations, and examinations to increase knowledge and understanding, diagnose problems or identify needs and requirements.</b>
<b>S1111</b>	Conducting investigations	Conducting studies, investigations, and surveys to increase knowledge and understanding.
<b>S1112</b>	Diagnosing health conditions	Diagnosing physical and mental illnesses, injuries and medical conditions in humans and animals
<b>S1113</b>	Interpreting technical documentation and diagrams	Reading and interpreting documentation such as blueprints, electrical wiring diagrams, architectural plans
<b>S1120</b>	<b>Documenting and recording information</b>	<b>Maintaining records of information, transactions and activities in digital, paper or other forms.</b>
<b>S1121</b>	Preparing financial documents, records, reports, or budgets.	Preparing and maintaining records and standardized reports on transactions, sales, financial information and budgets
<b>S1122</b>	Recording information about legal matters.	Recording information and preparing standardized documentation and reports on legal matters
<b>S1123</b>	Preparing documentation for contracts, applications, or permits.	
<b>S1124</b>	Recording information about environmental conditions.	
<b>S1125</b>	Recording images with photographic or audiovisual equipment.	



<b>S1126</b>	Maintaining or preparing medical documentation	Maintaining health and medical records, and preparing standardized reports on health status, medical conditions, or medical test results
<b>S1127</b>	Maintaining operational records and inventories	Keeping records required for operational purposes such as those related to staff, clients, production and stock inventories.
<b>S1128</b>	Documenting technical designs, procedures, problems or activities.	
<b>S1130</b>	<b>Managing information</b>	<b>Setting up and using manual or electronic systems for storing , selecting, organizing, retrieving, distributing and safeguarding information.</b>
<b>S1140</b>	<b>Processing information</b>	<b>Inputting, recording, transcribing and updating data using electronic or manual information systems.</b>
<b>S1141</b>	Gathering information from physical or electronic sources.	
<b>S1142</b>	Entering and transforming information	Entering and transforming information in electronic or other information systems
<b>S1150</b>	<b>Measuring physical properties</b>	<b>Measuring the dimensions, weight, density and other physical properties of objects, materials and spaces.</b>
<b>S1151</b>	Measuring dimensions and related properties	Measuring the dimensions, density and other physical properties of objects, materials and spaces.
<b>S1152</b>	Weighing	Measuring the weight of objects.
<b>S1153</b>	Taking physical measurements of patients or clients.	
<b>S1160</b>	<b>Calculating and estimating</b>	<b>Performing mathematical calculations and estimating the results of an action or a series of actions.</b>
<b>S1161</b>	Performing calculations	Performing mathematical calculations on financial, spatial, scientific or other data with or without the used of electronic tools
<b>S1162</b>	Determining values or prices of goods or services.	Determining or estimating values or prices of goods or services.
<b>S1163</b>	Estimating resource needs of projects or operations.	
<b>S1170</b>	<b>Analysing and evaluating information and data</b>	<b>Examining data or facts to determine appropriate actions or recommendations; comparing and critically evaluating the credibility and reliability of sources of data; making and defending judgements based on internal evidence and external criteria.</b>
<b>S1171</b>	Assessing the characteristics of land or real estate	
<b>S1172</b>	Analysing and evaluating scientific and medical data and information	

<b>S1173</b>	Analysing financial and economic data	
<b>S1174</b>	Analysing and evaluating business operations and production	Analysing and evaluating information and data on production and business operations
<b>S1175</b>	Evaluating systems, programmes, equipment and products	Evaluating and analysing information on the performance of systems, processes, practices, programmes equipment or products
<b>S1176</b>	Evaluating the performance, needs and capabilities of individuals or groups	Evaluating the performance and capabilities of employees, students, clients or others based on objective criteria and information on their activities, behaviour or social environment
<b>S1180</b>	<b>Monitoring, inspecting and testing</b>	<b>Examining and investigating problems, sites or objects to assess functioning or compliance with standards, laws or regulations</b>
<b>S1181</b>	Monitoring and testing equipment, systems and products	
<b>S1182</b>	Monitoring business operations	Monitoring the operations of a business or organisation to ensure adequate performance and compliance with regulatory requirements
<b>S1183</b>	Monitoring financial and economic resources and activity	
<b>S1184</b>	Monitoring safety or security	Monitoring, inspecting the safety or security of work areas, facilities, or properties.
<b>S1185</b>	Monitoring environmental conditions	
<b>S1186</b>	Monitoring health conditions	Monitoring health conditions of humans or animals.
<b>S1187</b>	Monitoring developments in area of expertise	Monitoring and keeping knowledge up-to-date concerning new research, methodologies, regulations, policies technological developments and other significant changes relevant to a particular field of specialisation.
<b>S1200</b>	<b>Managing people, activities, resources, and organisations</b>	<b>Developing objectives and strategies, organising work activities, allocating and controlling resources and leading, motivating, recruiting and supervising people and teams.</b>
<b>S1210</b>	<b>Developing objectives and strategies</b>	<b>Envisioning a future state and developing strategies, goals, objectives and action plans to achieve it.</b>
<b>S1211</b>	Identifying opportunities	Identifying business or organizational opportunities.
<b>S1212</b>	Developing financial, business or marketing plans	
<b>S1213</b>	Developing operational policies and procedures	Developing organisational and operational methods, policies, procedures or standards

<b>S1214</b>	Developing research plans	Developing plans and programmes for the conduct of research and investigations to extend human knowledge or develop new products
<b>S1215</b>	Developing health programmes	Developing plans for the promotion and protection of public and community health and the provision of health services
<b>S1216</b>	Developing educational programmes	Developing educational programs, plans, or procedures.
<b>S1217</b>	Developing contingency and emergency response plans	
<b>S1220</b>	<b>Organising, planning and scheduling work and activities</b>	<b>Directing activities and tasks, establishing schedules and co-ordinating the activities of groups and individuals to complete objectives on time and within budget.</b>
<b>S1221</b>	Directing operational activities	Directing and coordinating operational activities, projects and tasks
<b>S1222</b>	Planning and scheduling events and activities	
<b>S1230</b>	<b>Allocating and controlling resources</b>	<b>Determining the distribution and availability of people, assets, materials or capital to accomplish organizational goals and putting in place financial and administrative controls.</b>
<b>S1231</b>	Managing budgets or finances	Determining the distribution and availability financial assets and putting in place financial and administrative controls.
<b>S1232</b>	Managing human resources	Determining the distribution and availability of people to accomplish organizational goals
<b>S1233</b>	Allocating and controlling physical resources	Determining the distribution and availability of physical assets such as tools and equipment
<b>S1250</b>	<b>Performing administrative activities</b>	<b>Performing administrative tasks such as typing up reports, ordering supplies, and maintaining mail correspondence, and ensuring administrative systems, processes and databases are efficient.</b>
<b>S1251</b>	Administering human resources	Performing administrative and clerical tasks concerned with human resource administration
<b>S1252</b>	Executing financial transactions	Executing financial or commercial transactions such as issuing invoices for sales or issuing purchase orders
<b>S1253</b>	Performing general clerical and administrative tasks	Performing general clerical and administrative tasks not involving administration of human resources, execution of financial transactions, or processing and transforming information or data
<b>S1260</b>	Leading and motivating	Reinforcing an organization's vision, inspiring and enthusing others to achieve positive outcomes. The focus of this group is on skills in motivating and inspiring others, rather than on managing and supervising a team
<b>S1270</b>	Building and developing teams	Encouraging team members and building a relationship of mutual trust, respect and cooperation; stimulating teambuilding activities;
<b>S1280</b>	Recruiting and hiring	Acquiring the right talent to achieve the organization's mission.

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<b>S1290</b>	<b>Supervising people</b>	<b>Assigning responsibilities to others and directing and monitoring their performance.</b>
<b>S1291</b>	Managing a team or group	Managing, leading or supervising the activities a team or group of workers or students
<b>S1292</b>	Assigning work to others	Assigning specific tasks to workers or students
<b>S1293</b>	Monitoring the performance of individuals	Monitoring the behaviour or performance of workers or students to ensure that work is completed satisfactorily and to evaluate their performance and capabilities

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