

CONSTRUCTION AND BUILDING TECHNOLOGY

Cabinetmaking



WorldSkills Occupational Standards

WorldSkills Occupational Standards (WSOS)

Occupation description and WSOS

The name of the occupation is

Cabinetmaking

Description of the associated work role(s) or occupation(s)

Cabinetmaking covers the manufacture of free-standing and built-in furniture and units, using wood at the sole or main material. It may include the design of furniture, but normally comprises the creation of furniture and units from designs prepared by others. Cabinetmaking differs from joinery through the quality of the wood and associated materials used, and the intricacy and aesthetic quality of the finished items. There is, however, some overlap between cabinetmaking and joinery.

A cabinetmaker generally works on commercial and residential assignments of a high quality and value. They will therefore exhibit very high standards of skill and professionalism in order to justify clients' expectations and willingness to pay. Most cabinetmakers work in small companies which have to be very sensitive to their reputation and market in order to sustain their businesses' viability.

The cabinetmaker will produce furniture and fittings in a workshop, at least until installing fitted items. However, in order to meet clients' needs, including for the items to add to the aesthetic qualities of their environment they are placed in, they will know intimately where bespoke items are intended to be placed. For items produced speculatively rather than for known clients, the cabinetmaker will have a clear view of the types of location and setting that will show the items at their best.

The cabinetmaker will produce, interpret and/or adapt drawings, set out and measure, cut, form joints, assemble, install if need be, and finish to a high standard. The quality of their work will show in:

The selection of the wood and other materials;

The placing of the wood to bring out its particular characteristics;

Construction techniques which allow for the natural movement of timber to achieve longevity and quality in the furniture piece;

The selection of additional materials including veneers and fittings;

The near-perfect fit of each part following accurate measurement, cutting and assembly, and the final appearance of the item.

Work organization and self-management, communication and interpersonal skills, problem solving, innovation and creativity, working precisely and accurately are the universal attributes of the cabinetmaker. They assume a high level of personal responsibility and autonomy. From working safely through to exceptional planning and organizing, accuracy, concentration, and attention to detail to achieve an excellent finish every step in the process matters and mistakes are largely irreversible and very costly.

Modern technology and mass production have enabled furniture and fittings, previously available only to the wealthy, to be more widely available. However, for those with disposable income and an eye for quality, the cabinetmaker is able to produce furniture and fittings that are a lasting pleasure both to use and to look at. In this discerning market the outstanding cabinetmaker will always be in demand.

General notes on the WSOS

The WSOS specifies the knowledge, understanding, and specific skills that underpin international best practice in technical and vocational performance. It should reflect a shared global understanding of what the associated work role(s) or occupation(s) represent for industry and business (www.worldskills.org/WSOS).

The skill competition is intended to reflect international best practice as described by the WSOS, and to the extent that it is able to. The Standard is therefore a guide to the required training and preparation for the skill competition.

In the skill competition the assessment of knowledge and understanding will take place through the assessment of performance. There will only be separate tests of knowledge and understanding where there is an overwhelming reason for these.

The Standard is divided into distinct sections with headings and reference numbers added.

Each section is assigned a percentage of the total marks to indicate its relative importance within the Standards. This is often referred to as the “weighting”. The sum of all the percentage marks is 100. The weightings determine the distribution of marks within the Marking Scheme.

Through the Test Project, the Marking Scheme will assess only those skills that are set out in the Standards Specification. They will reflect the Standards as comprehensively as possible within the constraints of the skill competition.

The Marking Scheme will follow the allocation of marks within the Standards to the extent practically possible. A variation of up to five percent is allowed, provided that this does not distort the weightings assigned by the Standards.

WorldSkills Occupational Standards

Section	Relative importance (%)
1 Work organization and management	10

The individual needs to know and understand:

- Health and safety legislation, obligations, and regulations which control the work process
- The principles of working safely with electrical equipment and tools
- Emergency procedures and reporting processes for accidents, first-aid, and fire
- The situations when personal protective equipment (PPE) must be used
- The uses, care, maintenance, and storage of tools, machines, equipment, and materials
- The significance of keeping a clean and tidy work area
- Ways in which working practices can minimize wastage and manage/control costs
- Sustainability measures applying to the use of 'green' materials and recycling
- Principles of work planning, operations, and time management
- The significance of planning, accuracy, checking and attention to detail in all working practices
- The role of the individual in maintaining a successful business
- The value of managing own continuing professional development

The individual shall be able to:

- Follow health and safety standards, rules, and regulations
- Maintain a safe working environment
- Identify and use the appropriate personal protective equipment including safety footwear, ear, eye, and dust protection
- Select, use, clean, maintain, and store all hand and powered tools and equipment safely
- Select, use, and store all materials safely
- Plan the work area to maximize efficiency and maintain the discipline of regular tidying and cleaning
- Plan and work efficiently, checking progress, and outcomes regularly to avoid unnecessary costs or other penalties
- Critically evaluate own work

Section	Relative importance (%)
2 Communication and interpersonal skills	5

The individual needs to know and understand:

- The importance of establishing and maintaining client confidence and trust
- Non-verbal communication
- The negotiation process
- The roles and requirements of associated trades and professions
- Effective methods of communication with different groups and individuals
- The value of building and maintaining productive working relationships with colleagues and managers
- The importance of swiftly resolving misunderstandings and conflicting demands
- Reporting methods

The individual shall be able to:

- Gain the trust of clients and manage expectations positively
- Visualize and interpret clients' wishes, giving advice and making recommendations or providing options which meet/improve their design and budgetary requirements
- Liaise with suppliers to negotiate prices and place orders
- Produce estimates for clients
- Recognize, respect, and adapt to changing circumstances and requirements
- Order components from other departments, allowing for enough time for production, and in a timely manner for own production to continue without hinder
- Communicate with others with reference to drawings, variations to documents, and restrictions
- Follow instructions, meet deadlines, and report on progress in the appropriate format

3 Problem solving, innovation, and creativity	5
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The individual needs to know and understand:

- Principles of style, form, and aesthetics
- The available options for enhancing quality through style and technique
- The common types of problem which occur during the work process
- Diagnostic approaches to problem solving
- The challenges of complex projects
- Trends and developments in the industry

Section	Relative importance (%)
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The individual shall be able to:

- Consider, explore, and discuss style, form, and aesthetics with clients and specialists
- Check work regularly to minimize problems at a later stage
- Recognize, clarify, and resolve problems swiftly, and through appropriate processes
- Develop creative solutions to challenges when working on complex projects
- Contribute ideas to improve the product and overall level of client satisfaction
- Keep up to date with changes and trends in the industry
- Show willingness to try new methods

4 Working with drawings	15
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The individual needs to know and understand:

- The essential information that should be included in a working drawing
- The ISO standards which govern drawings
- Geometry and trigonometry
- The significance of an accurate working drawing as a basis for high quality work
- The importance of identifying and correcting errors and omissions
- The options for adding value through construction style and technique

The individual shall be able to:

- Establish the required uses and environment of the finished product
- Establish the required or appropriate materials for the product
- Establish the dimensions, characteristics, and style of the required product
- Produce drawings both to scale and full size
- Produce drawings which clearly indicate the type of construction
- Interpret given drawings, optimizing the potential for high quality construction
- Clarify and correct missing or incorrect information
- Determine the types and quantities of the required materials for the product

Section	Relative importance (%)
5 Selecting and preparing materials	25

The individual needs to know and understand:

- The importance of thinking through each project to ensure that everything is in place to enable completion
- The implications for the business/organization of not setting out correctly
- Calculations to assist accuracy and the efficient use of time and materials
- The characteristics and uses of hardwood and softwood
- The characteristics and uses of board materials
- The characteristics and uses of veneers
- Methods for identifying defects and limitations in the materials selected
- The characteristics of the selected material when in use by the client
- The basis for selecting fittings for hinges, locks, catches, stays, handles, and shelves

The individual shall be able to:

- Visualize whole projects to identify and resolve challenges
- Select the material in order to avoid defects and enhance appearance
- Select fittings for use and appearance
- Set out materials in order to determine all the measurements, sections, angles, mitres, and joints
- Use geometric methods to determine complex angles, joints, and intersections
- Label material and items as appropriate
- Transfer points, measurements, and angles accurately from plans to materials
- Set out directly on materials where appropriate
- Produce components which will fit together with items from CNC machines.

6 Joining and assembly	25
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The individual needs to know and understand:

- How solid wood and manufactured panel material components are joined to create and assemble items
- The balance to be struck between the quality of joinery and the available time
- The properties, uses and limitations of glues, and other fixing materials

Section	Relative importance (%)
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The individual shall be able to:

- Use prepared solid wood to set out the required type and size of joints for an assembly
- Use traditional hand tools, portable power tools and assorted stationary woodworking machines including the option of CNC to cut and prepare a wide range of joints including mortise and tenon, finger joints, mitres, dowel joints, halving joints, and dovetail joints, etc.
- Use woodworking machines or a combination of machines and hand tools to produce woodworking joints of various types
- Use woodworking machines to form grooves, rebates, and mouldings
- Cut manufactured panel materials and prepare joints using a dimension saw
- Apply edging strips and face veneers to panels
- Work with parts from external suppliers, such as mechanical parts for drawers and doors.
- Incorporate parts of the projects made by other departments, including parts made on CNC machines.

7	Preparation of surfaces and finishing	15
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The individual needs to know and understand:

- How various components are prepared for polishing (finishing) with clear coating such as lacquer and the like
- The uses and limitations of preparatory techniques and materials such as abrasives
- Methods of fitting doors and drawers into cabinet carcasses
- The uses and limitations of polishing materials and agents
- The importance of checking finish against client requirements and expectations and personal standards

The individual shall be able to:

- Position and fit hinges
- Control the fit around door edges
- Fit drawers and other moving items into carcasses to achieve a glide fit
- Produce surfaces that are free from defects
- Produce surfaces on complete assemblies that are free from defects
- Produce soft edges to components or assemblies
- Polish components or assemblies
- Review items for harmony, proportion, fit, and finish

Total	100
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References for industry consultation

WorldSkills is committed to ensuring that the WorldSkills Occupational Standards fully reflect the dynamism of internationally recognized best practice in industry and business. To do this WorldSkills approaches a number of organizations across the world that can offer feedback on the draft Description of the Associated Role and WorldSkills Occupational Standards on a two-yearly cycle.

In parallel to this, WSI consults three international occupational classifications and databases:

- ISCO-08: (<http://www.ilo.org/public/english/bureau/stat/isco/isco08/>) ILO 7522
- ESCO: (<https://ec.europa.eu/esco/portal/home>)
- O*NET OnLine (www.onetonline.org/)

This WSOS appears most closely to relate to Cabinetmakers and Bench Carpenters:

<https://www.onetonline.org/link/summary/51-7011.00>

and Cabinet Maker:

<http://data.europa.eu/esco/occupation/e1416610-ad08-4f37-8b46-9f99632a5c0f>

Adjacent occupations can also be explored through these links.

The following table indicates which organizations were approached and provided valuable feedback for the Description of the Associated Role and WorldSkills Occupational Standards in place for WorldSkills Shanghai 2022.

Organization	Contact name
Edward Johnson Ltd. (United Kingdom)	Edward Johnson, Designer, Cabinetmaker, and Director