

SOCIAL AND PERSONAL SERVICES

# Bakery



## Technical Description

WorldSkills International, by a resolution of the Competitions Committee and in accordance with the Constitution, the Standing Orders, and the Competition Rules, has adopted the following minimum requirements for this skill for the WorldSkills Competition.

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# 1 Introduction

## 1.1 Name and description of the skill competition

### 1.1.1 The name of the skill competition is

Bakery

### 1.1.2 Description of the associated work role(s) or occupation(s).

The baker is a highly skilled professional, with high level of knowledge about food and nutrition, who produces a wide range of bread and pastry items.

The baker produces all varieties of fresh and tasty bakery products, made of any kind of grains. Different types of fermentation and other processes will be used to turn the raw material in to sweet or savoury products. For example, wheat bread, rye bread, artisan bread, enriched breads, laminated products, and ingredients to flavour their bakery products.

These items will appear in a large number of bakeries. Bakers may also produce elaborate displays of decorative breads using creative skills and knowledge.

A high degree of specialist knowledge and skill is required. Bakers have undergone years of training in order for them to develop the level of skill required and a good understanding of sustainability. Bakers will be proficient in a wide range of specialist techniques and technology to develop and create a variety of bakery products. An artistic talent and artisan skills with the attention to detail are required, alongside the ability to work effectively and economically in order to achieve outstanding results within set timeframes.

Bakers must have knowledge about the functions, compatibility, and reactions of ingredients to create a new recipe.

Bakers must have a good understanding about reformulating recipes and adapting to a changing environment. The ability to work on their own initiative is essential. They will use a range of specialist equipment, technology, and materials in an environmentally friendly manner. The professional baker must take account of the quality of ingredients and the health and safety requirements of customers. They must respect those ingredients and work to high levels of food hygiene and safety.

Specialist bakers can develop careers, such as owning, managing, and working in all types of bakeries including high quality, family, and specialized shops. Careers in teaching and working with ingredients and machinery companies within the baking industry are also options.

It is often the case that specialist retail shops sell hand-made and decorated pastry products, artisan breads, and decorative dough's, which are prepared using the skills of a specialist baker.

### 1.1.3 Number of Competitors per team

Bakery is a single Competitor skill competition.

### 1.1.4 Age limit of Competitors

The Competitors must not be older than 22 years in the year of the Competition.

## 1.2 The relevance and significance of this document

This document contains information about the standards required to compete in this skill competition, and the assessment principles, methods and procedures that govern the competition.

Every Expert and Competitor must know and understand this Technical Description.

In the event of any conflict within the different languages of the Technical Descriptions, the English version takes precedence.

## 1.3 Associated documents

Since this Technical Description contains only skill-specific information it must be used in association with the following:

- WSI – Code of Ethics and Conduct
- WSI – Competition Rules
- WSI – WorldSkills Occupational Standards framework
- WSI – WorldSkills Assessment Strategy
- WSI online resources as indicated in this document
- WorldSkills Health, Safety, and Environment Policy and Regulations.

## 2 The WorldSkills Occupational Standards (WSOS)

### 2.1 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](http://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.

## 2.2 WorldSkills Occupational Standards

Section	Relative importance (%)
<b>1 Work organization and communication</b>	<b>8</b>

The individual needs to know and understand:

- Principles of business
- The stages from buying raw material to producing valuable products and selling them to costumers
- The importance of minimizing waste and maximizing sustainability
- The factors bearing on ingredients used in bakery including seasons, availability, costs, storage, and use
- The range of tools and equipment used in bakery
- Legislation and good practice relating to the purchase, storage, preparation, cooking, baking, and service of food products
- How bakery products should be displayed for sale
- The importance of displays and notices as sales and communication tools
- Legal restrictions on the presentation of promotional materials
- The importance of appearance when on public view and dealing with customers
- The importance of effective communications across teams, colleagues, contractors, and other professionals
- The need to communicate effectively with customers

The individual shall be able to:

- Prepare and correctly use tools and equipment
- Prioritize and plan work effectively to work within a given time
- Show respect for raw materials
- Use ingredients cost-effectively and minimize waste
- Prepare products within prescribed costs
- Pre-order goods and materials accurately for planned work
- Work efficiently and cleanly, paying attention to the workplace and the people in it
- Demonstrate good workflow skills
- Demonstrate inspiration, flair, and innovation in design and work techniques
- Work within given themes
- Produce large quantities of bakery products to a consistent standard
- Be consistent with size and weight of products in order to maintain customer satisfaction and profit margins
- React professionally and effectively to unexpected situations
- Work to deadlines
- Have all costumers' orders ready at the right time
- Have professional conversations with customers
- Work out the right products with customers according to their wishes for their special orders
- Work effectively with colleagues and other professionals

Section	Relative importance (%)
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- Be an effective team member
- Display products in order to maximize sales
- Always pay attention to own cleanliness and appearance
- Communicate effectively with colleagues, teams, and customers
- Provide advice and guidance on specialist matters to managers, colleagues, and customers
- Develop recipes in a way that every other baker can read them and achieve good quality products

<b>2 Food hygiene and workplace health, safety, and environment</b>	<b>8</b>
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The individual needs to know and understand:

- Legislation and good practice relating to the purchase, storage, preparation, cooking, and service of food
- Quality indicators for fresh and preserved foods
- The causes of deterioration of food
- The range of tools and equipment used in bakery
- Legislation and safe working practices in a bakery kitchen and for using commercial equipment

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The individual shall be able to:

- Follow all personal hygiene standards and safety regulations for food storage, preparation, cooking, and service (HACCP)
- Comply with all Health and Food Safety regulations and best practices
- Store all commodities safely according to HACCP
- Ensure all work areas are cleaned based on the highest standards
- Apply the business internal HACCP concept to the last detail
- Work safely and uphold accident prevention regulations
- Use all tools and equipment safely and within manufacturer's instructions
- Promote health, safety, and environment and food hygiene within the working environment

Section	Relative importance (%)
<b>3 Enriched breads</b>	<b>12</b>

The individual needs to know and understand:

- The factors that impact on the performance of yeast
- The use of yeast in its various forms
- The range of sweet and enriched dough products
- How to produce and enriched dough enhancing with such ingredients as sugar, eggs, butter, and milk
- The impact of enriching ingredients on the proving process
- How sweet or enriched dough products should be displayed for sale
- The different techniques for shaping like braiding, moulding in different shapes, baking or frying these products
- How sweet or enriched dough products should be stored

The individual shall be able to:

- Produce a range of sweet or enriched doughs
- Produce a range of bakery products using sweet or enriched dough
- Produce products in bulk to a consistent size, shape, appearance, flavour, and standard
- Undertake appropriate frying, baking or boiling process
- Use appropriate flavourings effectively
- Finish or decorate products as appropriate
- Display products for sale

<b>4 Wheat Breads</b>	<b>25</b>
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The individual needs to know and understand:

- The factors that impact on the performance of yeast
- The use of yeast in its various forms
- The stages in the bread producing process
- The range of large and small bread products
- The range and characteristics of bread products from around the world
- The importance of appearance, texture, and taste
- The influence of different working techniques to produce bakery products
- The importance of the dough temperature
- The importance of developing gluten structure in wheat doughs
- How the different doughs must be handled and stored
- The science of fermentation such as types of fermentation, substances involved in the fermentation process, and acidification
- When to use an all-in dough method for a bakery product
- The benefits of using a preferment dough leavening method, with starters like polish, sponge, biga, and levains
- The benefits of refrigeration technology systems to control the fermentation to the next day for long-term leavening methods

Section	Relative importance (%)
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- The purpose of pre-absorption or starch gelatinization methods known as soaker, boiled dough, or mash
- The sourdough leavening method with and without baker's yeast

The individual shall be able to:

- Use the knowledge of the impact of various milling products and flours on bakery products
- Use own understanding of the impact of dry and liquid raw materials to make different doughs
- Apply knowledge of the characteristics of raw materials in bakery products
- Use appropriate ingredients and flavourings effectively
- Devise products demonstrating innovation and flair
- Formulate recipes to make quality products
- Create recipes to produce a range of breads, rolls, and loaves
- Design products in bulk to a consistent size, shape, appearance, flavour, and standard
- Use appropriate flavourings effectively
- Design display pieces based on clients' briefs
- Create designs that take account of the purpose of the pieces and the environment where they will be displayed

5 Laminated Doughs/Pastries	20
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The individual needs to know and understand:

- The principle of lamination as a form of raising a paste or dough
- The range of laminated pastes and doughs used in bakery products
- Methods of making and using laminated pastes and doughs
- Colour applications, taste combinations, and texture coordination
- The range and uses of doughs and pastes used to produce bakery products
- The range of raw materials and how can they be worked into a filling
- Why fillings which are baked need to be stable at high temperature
- The effect of using seasonal fruits and vegetables for fillings
- The importance of appearance, texture, and taste

The individual shall be able to:

- Produce high quality laminated pastes and doughs
- Produce bakery products using laminated pastes and doughs including Danish pastries, croissants, pains au chocolate, brioche, and puff pastry products
- Produce products in bulk, ensuring that the quality, size and finish remains consistent
- Finish or decorate products
- Display products for sale

Store products safely and hygienically at the point of sale

Section	Relative importance (%)
<b>6 Speciality breads</b>	<b>12</b>

The individual needs to know and understand:

- The importance of shaping and decorating dough before baking
- The commonly used shapes for certain products which are known around the world
- The range of tools and equipment used in bakery for shaping and decorating
- The importance of recipes for quality control
- The range and characteristics of bakery products which are known around the world, leavened and unleavened
- Colour applications, taste combinations, and texture coordination
- Basic principles involved in accurately combining ingredients in order to produce products
- How to create appearance, texture, and taste from the bakery product by using different ingredients and working techniques
- How to process different grains, cereals, and pseudo cereals
- The impact of various flours and ingredients on finished products
- The manipulation of raw materials through production techniques
- The influence of different working techniques to produce bakery products
- Colour applications, taste combinations, and texture coordination
- Finesse and artistic appreciation
- The importance of the finale proof in its different methods like on couches, on loading devices, in bannetons, or on trays
- The different methods of finishing before baking. This can be reshaping, cutting, scoring, piercing, sprinkling, brushing, spreading, dusting, and so on

The individual shall be able to:

- Shape common bakery products out of dough
- Recognize when the dough has fermented enough and is ready to scale and shape
- Handle and scale doughs appropriated after fermenting
- Shape bread products consistently and to pre-determined shapes
- Produce small and large bakery products
- Be creative to shape dough following customer orders
- Shape large quantities of the same product identically
- Produce products in bulk ensuring that the quality, size, and finish remain consistent
- Make filled products which are filled and decorated before baking
- Apply different techniques for shaping
- Decide how long the product needs to have a final proof before baking
- Finish the decoration before the dough is baked, using different techniques
- Use various techniques to produce display pieces or decorative breads

Section	Relative importance (%)
<b>7 Decorative Breads</b>	<b>15</b>
<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> <li>• The purpose and function of display pieces</li> <li>• The importance of creativity of design</li> <li>• Various techniques used to produce display pieces</li> <li>• The hygiene implications of displaying edible pieces</li> </ul>	
<hr/> <p>The individual shall be able to:</p> <ul style="list-style-type: none"> <li>• Design display pieces based on clients' briefs</li> <li>• Create designs that take account of the purpose of the pieces and the environment where they will be displayed</li> <li>• Create display pieces to meet specifications</li> <li>• Use appropriate ingredients to assemble products if required</li> <li>• Work with leavened and unleavened doughs together in harmony</li> </ul>	
<b>Total</b>	<b>100</b>

## 3 The Assessment Strategy and Specification

### 3.1 General guidance

Assessment is governed by the WorldSkills Assessment Strategy. The Strategy establishes the principles and techniques to which WorldSkills assessment and marking must conform.

Expert assessment practice lies at the heart of the WorldSkills Competition. For this reason, it is the subject of continuing professional development and scrutiny. The growth of expertise in assessment will inform the future use and direction of the main assessment instruments used by the WorldSkills Competition: the Marking Scheme, Test Project, and Competition Information System (CIS).

Assessment at the WorldSkills Competition falls into two broad types: measurement and judgement. For both types of assessment, the use of explicit benchmarks against which to assess each Aspect is essential to guarantee quality.

The Marking Scheme must follow the weightings within the Standards. The Test Project is the assessment vehicle for the skill competition, and therefore also follows the Standards. The CIS enables the timely and accurate recording of marks; its capacity for scrutiny, support, and feedback is continuously expanding.

The Marking Scheme, in outline, will lead the process of Test Project design. After this, the Marking Scheme and Test Project will be designed, developed, and verified through an iterative process, to ensure that both together optimize their relationship with the Standards and the Assessment Strategy. They will be agreed by the Experts and submitted to WSI for approval together, in order to demonstrate their quality and conformity with the Standards.

Prior to submission for approval to WSI, the Marking Scheme and Test Project will liaise with the WSI Skill Advisors for quality assurance and to benefit from the capabilities of the CIS.

## 4 The Marking Scheme

### 4.1 General guidance

This section describes the role and place of the Marking Scheme, how the Experts will assess Competitors' work as demonstrated through the Test Project, and the procedures and requirements for marking.

The Marking Scheme is the pivotal instrument of the WorldSkills Competition, in that it ties assessment to the standard that represents each skill competition, which itself represents a global occupation. It is designed to allocate marks for each assessed aspect of performance in accordance with the weightings in the Standards.

By reflecting the weightings in the Standards, the Marking Scheme establishes the parameters for the design of the Test Project. Depending on the nature of the skill competition and its assessment needs, it may initially be appropriate to develop the Marking Scheme in more detail as a guide for Test Project design. Alternatively, initial Test Project design can be based on the outline Marking Scheme. From this point onwards the Marking Scheme and Test Project should be developed together.

Section 2.1 above indicates the extent to which the Marking Scheme and Test Project may diverge from the weightings given in the Standards, if there is no practicable alternative.

For integrity and fairness, the Marking Scheme and Test Project are increasingly designed and developed by one or more independent people with relevant expertise. In these instances, the Marking Scheme and Test Project are unseen by Experts until immediately before the start of the skill competition, or competition module. Where the detailed and final Marking Scheme and Test Project are designed by Experts, they must be approved by the whole Expert group prior to submission for independent validation and quality assurance. Please see the Rules for further details.

Experts and Independent Assessors are required to submit their Marking Schemes and Test Projects for review, verification, and validation well in advance of completion. They are also expected to work with their Skill Advisor, reviewers, and verifiers, throughout the design and development process, for quality assurance and in order to take full advantage of the CIS's features.

In all cases a draft Marking Scheme must be entered into the CIS at least eight weeks prior to the Competition. Skill Advisors actively facilitate this process.

### 4.2 Assessment Criteria

The main headings of the Marking Scheme are the Assessment Criteria. These headings are derived before, or in conjunction with, the Test Project. In some skill competitions the Assessment Criteria may be similar to the section headings in the Standards; in others they may be different. There will normally be between five and nine Assessment Criteria. Whether or not the headings match, the Marking Scheme as a whole must reflect the weightings in the Standards.

Assessment Criteria are created by the person or people developing the Marking Scheme, who are free to define the Criteria that they consider most suited to the assessment and marking of the Test Project. Each Assessment Criterion is defined by a letter (A-I). *The Assessment Criteria, the allocation of marks, and the assessment methods, should not be set out within this Technical Description. This is because the Criteria, allocation of marks, and assessment methods all depend on the nature of the Marking Scheme and Test Project, which is decided after this Technical Description is published.*

The Mark Summary Form generated by the CIS will comprise a list of the Assessment Criteria and Sub Criteria.

The marks allocated to each Criterion will be calculated by the CIS. These will be the cumulative sum of marks given to each Aspect within that Assessment Criterion.

### 4.3 Sub Criteria

Each Assessment Criterion is divided into one or more Sub Criteria. Each Sub Criterion becomes the heading for a WorldSkills marking form. Each marking form (Sub Criterion) contains Aspects to be assessed and marked by measurement or judgement, or both measurement and judgement.

Each marking form (Sub Criterion) specifies both the day on which it will be marked, and the identity of the marking team.

### 4.4 Aspects

Each Aspect defines, in detail, a single item to be assessed and marked, together with the marks, and detailed descriptors or instructions as a guide to marking. Each Aspect is assessed either by measurement or by judgement.

The marking form lists, in detail, every Aspect to be marked together with the mark allocated to it. The sum of the marks allocated to each Aspect must fall within the range of marks specified for that section of the Standards. This will be displayed in the Mark Allocation Table of the CIS, in the following format, when the Marking Scheme is reviewed from C-8 weeks. (Section 4.1 refers.)

	CRITERIA								TOTAL MARKS PER SECTION	WSSS MARKS PER SECTION	VARIANCE	
	A	B	C	D	E	F	G	H				
STANDARDS SPECIFICATION SECTION	1	5.00								5.00	5.00	0.00
	2		2.00					7.50		9.50	10.00	0.50
	3								11.00	11.00	10.00	1.00
	4			5.00						5.00	5.00	0.00
	5				10.00	10.00	10.00			30.00	30.00	0.00
	6		8.00	5.00				2.50	9.00	24.50	25.00	0.50
	7			10.00				5.00		15.00	15.00	0.00
TOTAL MARKS	5.00	10.00	20.00	10.00	10.00	10.00	15.00	20.00	100.00	100.00	2.00	

### 4.5 Assessment and marking

There is to be one marking team for each Sub Criterion, whether it is assessed and marked by judgement, measurement, or both. The same marking team must assess and mark all Competitors. Where this is impracticable (for example where an action must be done by every Competitor simultaneously, and must be observed doing so), a second tier of assessment and marking will be put in place, with the approval of the Competitions Committee Management Team. The marking teams must be organized to ensure that there is no compatriot marking in any circumstances. (Section 4.6 refers.)

## 4.6 Assessment and marking using judgement

Judgement uses a scale of 0-3. To apply the scale with rigour and consistency, judgement must be conducted using:

- benchmarks (criteria) for detailed guidance for each Aspect (in words, images, artefacts or separate guidance notes)
- the 0-3 scale to indicate:
  - 0: performance below industry standard
  - 1: performance meets industry standard
  - 2: performance meets and, in specific respects, exceeds industry standard
  - 3: performance wholly exceeds industry standard and is judged as excellent

Three Experts will judge each Aspect, normally simultaneously, and record their scores. A fourth Expert coordinates and supervises the scoring, and checks their validity. They also act as a judge when required to prevent compatriot marking.

## 4.7 Assessment and marking using measurement

Normally three Experts will be used to assess each aspect, with a fourth Expert supervising. In some circumstances the team may organize itself as two pairs, for dual marking. Unless otherwise stated, only the maximum mark or zero will be awarded. Where they are used, the benchmarks for awarding partial marks will be clearly defined within the Aspect. To avoid errors in calculation or transmission, the CIS provides a large number of automated calculation options, the use of which is mandated.

## 4.8 The use of measurement and judgement

Decisions regarding the choice of criteria and assessment methods will be made during the design of the competition through the Marking Scheme and Test Project.

## 4.9 Skill assessment strategy

WorldSkills is committed to continuous improvement. This particularly applies to assessment. The SMT is expected to learn from past and alternative practice and build on the validity and quality of assessment and marking.

The skill assessment criteria are clear and concise aspect specifications which explain exactly how and why a particular mark is awarded.

Marks are awarded for:

- Preparation of tools and equipment;
- Basic treatment of raw materials/ingredients;
- Preparation of semi-finished products;
- Creating a recipe;
- Hygiene, food safety, and sanitation;
- Recipes;
- Different techniques;
- Creativity and finesse;
- Hygiene, work processes, waste;
- Design and general impression;
- Time;
- Size;
- Harmony of the product range;
- General impression;
- Taste and texture;
- Visual appeal
- Weight;
- Quantity;
- Variety;
- Use of mystery ingredients;
- applying of work techniques;
- Lamination technique/ingredients;
- Finishing, decoration, general impression

## 4.10 Skill assessment procedures

Assessment and marking are an intense process that depends upon skilful leadership, management, and scrutiny.

The Experts that attend the Competition are divided into rotating mixed groups. Experts will maintain supervision of the Competitors during the Competition period.

Experts should not trespass or enter the Competitor's work areas if not necessary. Depending on the layout of the workshop, the Chief Expert can make stronger restrictions.

## 5 The Test Project

### 5.1 General notes

Sections 3 and 4 govern the development of the Test Project. These notes are supplementary.

Whether it is a single entity, or a series of stand-alone or connected modules, the Test Project will enable the assessment of the applied knowledge, skills, and behaviours set out in each section of the WSOS.

The purpose of the Test Project is to provide full, balanced, and authentic opportunities for assessment and marking across the Standards, in conjunction with the Marking Scheme. The relationship between the Test Project, Marking Scheme, and Standards will be a key indicator of quality, as will be its relationship with actual work performance.

The Test Project will not cover areas outside the Standards, or affect the balance of marks within the Standards other than in the circumstances indicated by Section 2. This Technical Description will note any issues that affect the Test Project's capacity to support the full range of assessment relative to the Standards. Section 2.1 refers.

The Test Project will enable knowledge and understanding to be assessed solely through their applications within practical work. The Test Project will not assess knowledge of WorldSkills rules and regulations.

Most Test Projects (and Marking Schemes) are now designed and developed independently of the Experts. They are designed and developed either by the Skill Competition Manager, or an Independent Test Project Developer, normally from C-12 months. They are subject to independent review, verification, and validation. (Section 4.1 refers.)

The information provided below will be subject to what is known at the time of completing this Technical Description, and the requirement for confidentiality.

Please refer to the current version of the Competition Rules for further details.

### 5.2 Format/structure of the Test Project

The Test Project is a series of at least five (5) separately assessed modules.

## 5.3 Test Project design requirements

The Test Project should include and assess the skills described in section 2.2 in this document, as well as being composed and formatted in accordance with section 5.2 and be in accordance with current standards. It should be noted that the Test Project must have a recreational purpose, namely, to simulate a real application, even though it may not be used in practice due to its dimensions, power, strength, etc.

- One of the models must be a decorative work;
- One module should include bread making made with enriched or sweet dough, some of them being filled;
- One module must be dedicated to the production of laminated for bakery products;
- One module must be used for making "wheat" bread, where at least two varieties of bread must be prepared, differing in size and composition;
- One module must include specialty style flours or ingredients;
- A module must be allocated for the preparation of a type of bread made with ingredients from a mystery basket;
- There can be other modules for different bakery types added.

## 5.4 Test Project development

The Test Project MUST be submitted using the templates provided by WorldSkills International ([www.worldskills.org/expertcentre](http://www.worldskills.org/expertcentre)). Use the Word template for text documents and DWG template for drawings.

### 5.4.1 Who develops the Test Project or modules

The Test Project/modules are developed by an Independent Test Project Designer in collaboration with the Skill Competition Manager.

### 5.4.2 When is the Test Project developed

The Test Project/modules are developed according to the following timeline:

Time	Activity
Prior to the Competition	The Test Project/modules are developed.
Three (3) months prior to the Competition	The Test Project documents are sent to the WorldSkills International Skills Competitions Administration Manager to be circulated on the WorldSkills website.
At the Competition on C-2	The mystery elements are presented to Competitors and Experts for translation.

## 5.5 Test Project initial review and verification

The purpose of a Test Project is to create a challenge for Competitors which authentically represents working life for an outstanding practitioner in an identified occupation. By doing this, the Test Project will apply the Marking Scheme and fully represent the WSOS. In this way it is unique in its context, purpose, activities, and expectations,

To support Test Project design and development, a rigorous quality assurance and design process is in place (Competition Rules sections 10.6-10.7 refer.) Once approved by WorldSkills, the Independent Test Project Designer is expected to identify one or more independent, expert, and trusted individuals initially to review the Designer's ideas and plans, and subsequently to verify the Test Project, prior to validation.

A Skill Advisor will ensure and coordinate this arrangement, to guarantee the timeliness and thoroughness of both initial review, and verification, based on the risk analysis that underpins Section 10.7 of the Competition Rules.

## 5.6 Test Project validation

The Skill Competition Manager coordinates the validation and will ensure that the Test Project/modules can be completed within the material, equipment, knowledge, and time constraints of Competitors.

## 5.7 Test Project selection

The Test Project/modules are selected by the Independent Test Project Designer in collaboration with the Skill Competition Manager.

## 5.8 Test Project circulation

If applicable, the Test Project is circulated via the website as follows:

The Test Project/modules are circulated three (3) months prior to the competition.

## 5.9 Test Project coordination (preparation for Competition)

Coordination of the Test Project/modules is undertaken by the Skill Competition Manager.

## 5.10 Test Project change

The mystery elements constitute the 30% change as required by WorldSkills. They are presented to Competitors and Experts on C-2.

## 5.11 Material or manufacturer specifications

Specific material and/or manufacturer specifications required to allow the Competitor to complete the Test Project will be supplied by the Competition Organizer and are available from [www.worldskills.org/infrastructure](http://www.worldskills.org/infrastructure) located in the Expert Centre. However, note that in some cases details of specific materials and/or manufacturer specifications may remain secret and will not be released prior to the Competition. These such items may include those for fault finding modules or modules not circulated.

All Experts must submit their Competitor's specific and total ingredients order in English by one (1) month prior to the Competition to the Workshop Manager. This can be any selection of ingredients which appear on the Infrastructure List. This is essential. Leftover ingredients are taken into consideration for sustainability reasons when final inspection of work area is undertaken.

All equipment and raw materials specifications are prepared by the Workshop Manager and are posted on the Infrastructure List as early as possible but by a minimum of three (3) months prior to the Competition.

Machinery and a certain amount of equipment is supplied as can be seen on the Infrastructure List. If it is supplied by the Competition Organizer, it cannot be brought by the Competitor. For example, a Kitchen Aid-style mixer is supplied, so the Competitor cannot bring one to the competition.

## 6 Skill management and communication

### 6.1 Discussion Forum

Prior to the Competition, all discussion, communication, collaboration, and decision making regarding the skill competition must take place on the skill specific Discussion Forum (<http://forums.worldskills.org>). Skill related decisions and communication are only valid if they take place on the forum. The Chief Expert (or an Expert nominated by the Chief Expert) will be the moderator for this Forum. Refer to Competition Rules for the timeline of communication and competition development requirements.

### 6.2 Competitor information

All information for registered Competitors is available from the Competitor Centre ([www.worldskills.org/competitorcentre](http://www.worldskills.org/competitorcentre)).

This information includes:

- Competition Rules
- Technical Descriptions
- Mark Summary Form (where applicable)
- Test Projects (where applicable)
- Infrastructure List
- WorldSkills Health, Safety, and Environment Policy and Regulations
- Other Competition-related information

### 6.3 Test Projects [and Marking Schemes]

Circulated Test Projects will be available from [www.worldskills.org/testprojects](http://www.worldskills.org/testprojects) and the Competitor Centre ([www.worldskills.org/competitorcentre](http://www.worldskills.org/competitorcentre)).

### 6.4 Day-to-day management

The day-to-day management of the skill during the Competition is defined in the Skill Management Plan that is created by the Skill Management Team led by the Skill Competition Manager. The Skill Management Team comprises the Skill Competition Manager, Chief Expert, and Deputy Chief Expert. The Skill Management Plan is progressively developed in the six months prior to the Competition and finalized at the Competition by agreement of the Experts. The Skill Management Plan can be viewed in the Expert Centre ([www.worldskills.org/expertcentre](http://www.worldskills.org/expertcentre)).

## 6.5 General best practice procedures

General best practice procedures clearly delineate the difference between what is a best practice procedure and skill-specific rules ([section 9](#)). General best practice procedures are those where Experts and Competitors CANNOT be held accountable as a breach to the Competition Rules or skill-specific rules which would have a penalty applied as part of the Issue and Dispute Resolution procedure including the Code of Ethics and Conduct Penalty System. In some cases, general best practice procedures for Competitors may be reflected in the Marking Scheme.

Topic/task	Best practice procedure
Translation, communication, and assessment	<ul style="list-style-type: none"> <li>• Only paper based (dictionary, etc) can be used by Interpreters, no electronic device with Internet connection.</li> <li>• Competitor can only speak with their Interpreter or compatriot Expert when there is at least one other Expert present.</li> <li>• Interpreters will have time by themselves (not with Experts), to translate any changes (30%) to the Test Project.</li> <li>• There is to be no talking during assessment except from the marking group coordinating Expert, i.e. no discussions from marking Experts.</li> </ul>
Equipment failure	<ul style="list-style-type: none"> <li>• If equipment or tools which are brought by the Competitor fail, no extra time is allowed.</li> </ul>

## 7 Skill-specific safety requirements

Refer to WorldSkills Health, Safety, and Environment Policy and Regulations for Host country or region regulations.

Task	oven gloves	cut protection gloves	safety shoes with protective cap	sturdy shoes with closed toe and heel	tight fitting work clothes (long trousers)	hairnet/hat/ beard protector	wearing an apron
General PPE for safe areas				√	√	√	
When using the oven	√		√		√	√	
When using the ultra-freezer	√	√	√		√	√	
At the workstation			√		√	√	√

## 8 Materials and equipment

### 8.1 Infrastructure List

The Infrastructure List details all equipment, materials, and facilities provided by the Competition Organizer.

The Infrastructure List is available at [www.worldskills.org/infrastructure](http://www.worldskills.org/infrastructure).

The Infrastructure List specifies the items and quantities requested by the Skill Management Team for the next Competition. The Competition Organizer will progressively update the Infrastructure List specifying the actual quantity, type, brand, and model of the items. Note that in some cases details of specific materials and/or manufacturer specifications may remain secret and will not be released prior to the Competition. These such items may include those for fault finding modules or modules not circulated.

At each Competition, the Skill Management Team must review and update the Infrastructure List in preparation for the next Competition. The Skill Competition Manager must advise the Director of Skills Competitions of any increases in space and/or equipment.

At each Competition, the Technical Observer must audit the Infrastructure List that was used at that Competition.

The Infrastructure List does not include items that Competitors and/or Experts are required to bring and items that Competitors are not allowed to bring – they are specified below.

### 8.2 Competitors toolbox

Competitors are not allowed to send a toolbox to the Competition. All tools are provided by the Competition Organizer.

### 8.3 Materials, equipment, and tools supplied by Competitors

It is not applicable for the Bakery skill competition for Competitors to bring materials, equipment, and tools to the Competition.

However, Competitors are required to supply one suitcase with the total external volume not exceeding 0.12 m<sup>3</sup>.

(Volume = Length x Height x Width)

Volume measurement does not include a packing crate, other protective packing material, palette for transportation, wheels, etc.

Suitcase	Specifications
	<p>Example: 50 cm L x 30 cm W x 80 cm H</p> <p>No weights specified</p> <p>Wheels are not included into the dimensions</p> <p>Plain suitcase inside, no altering inside suitcase</p>

The Competitors are allowed to bring the following items to the Competition:

- Food colouring materials in powder, paste, liquid, or natural form;
- Food spices, herbs (NOT on the Infrastructure List);
- Sour dough starters
- Preferments
- Stencils, cutters, and mould.

## 8.4 Materials, equipment, and tools supplied by Experts

Experts are not required to bring materials, equipment, or tools. All is supplied by the Competition Organizer.

Experts are required to supply their own Personal Protective Equipment as specified in section 7 skill-specific safety requirements.

## 8.5 Materials and equipment prohibited in the skill area

Competitors and Experts are prohibited to bring any materials or equipment not listed in section 8.3 and section 8.4.

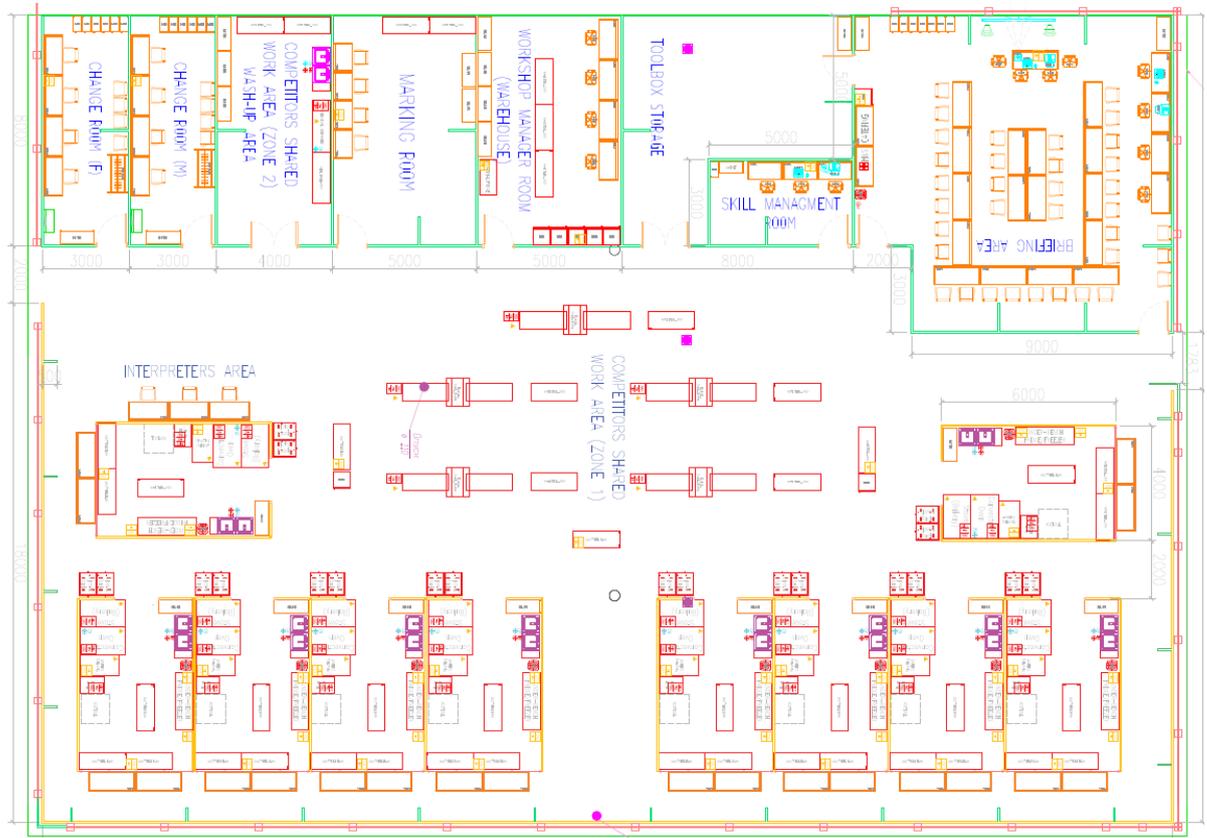
Competitors are NOT allowed to bring:

- Their own flour
- COMPETITORS MUST NOT BRING TOOLS OR EQUIPMENT THAT ARE ON THE INFRASTRUCTURE LIST
- Pre-made products are NOT allowed to be brought into the Competition, but stencils and moulds CAN be

## 8.6 Proposed workshop and workstation layouts

Workshop layouts from previous competitions are available at [www.worldskills.org/sitelayout](http://www.worldskills.org/sitelayout).

### Example workshop layout



## 9 Skill-specific rules

Skill-specific rules cannot contradict or take priority over the Competition Rules. They do provide specific details and clarity in areas that may vary from skill competition to skill competition. This includes but is not limited to personal IT equipment, data storage devices, Internet access, procedures and workflow, and documentation management and distribution. Breaches of these rules will be solved according to the Issue and Dispute Resolution procedure including the Code of Ethics and Conduct Penalty System.

Topic/task	Skill-specific rule
Use of technology – USB, memory sticks	<ul style="list-style-type: none"> <li>• Skill Competition Manager, Chief Expert, Deputy Chief Expert, Experts, and Interpreters are allowed to bring memory sticks into the workshop. These must be locked in the personal locker during competition time.</li> </ul>
Use of technology – personal laptops, tablets and mobile phones	<ul style="list-style-type: none"> <li>• Experts, Competitors, and Interpreters are allowed to bring personal laptops, tablets, or mobile phones into the workshop however they must be locked in the personal locker until lunch time and the end of each competition day.</li> <li>• The Chief Expert and Deputy Chief Expert are allowed to use personal laptops and WorldSkills issues phones for preparation purposes only.</li> <li>• The Skill Competition Manager is allowed to use a personal laptop as well as both personal and WorldSkills issued phones at any time.</li> </ul>
Use of technology – personal photo and video taking devices	<ul style="list-style-type: none"> <li>• During Competition time all Competitors, Experts, and Interpreters are not allowed to use their mobile phone, personal photo, and video taking devices in the workshop. Only the SCM can use a camera or mobile device during this time. The CE and DCE may have WorldSkills issued devices that they can use during the competition. These devices can be used by Experts and Competitors during break times.</li> </ul>
Templates, aids, etc.	<ul style="list-style-type: none"> <li>• Competitors are permitted to bring templates and aids into the workshop except where the Test Project indicates otherwise. When templates or aids are brought into the workshop they must be declared to the Chief Expert or Deputy Chief Expert.</li> <li>• Chief Expert, Deputy Chief Expert, Experts, and Interpreters are not to bring templates or aids into the workshop and give them to the Competitor.</li> </ul>

## 10 Visitor and media engagement

Following is a list of possible ways to maximize visitor and media engagement:

- Try-a-Skill: visitors are able to try a skill with a trade;
- Display screen of the work produced on a daily basis throughout the competition – this is an interesting way for more people to observe the details of Competition without having to access the kitchens;
- Test Project descriptors – this involves fully explaining the skills involved in the Competition in order to enhance the understanding of Competitor activities and presentation times;
- Competitor profiles: A full presentation of each Competitor should be compiled by one source (possibly the Competition Organizer) in order to ensure uniformity throughout the stand;
- Career opportunities: World travel is a distinct possibility as there is a shortage of good bakers throughout the world. Opportunities which exist in hotels and restaurants, schools, developmental areas, own businesses, etc. should be well presented.

## 11 Sustainability

This skill competition will focus on the sustainable practices below:

- Recycling of waste products;
- Encouraging the use of “green” materials;
- Re-use of completed products from the Test Project modules after Competition;
- Order lists based on the Infrastructure List: Competitors/Experts should place a specific order list for raw materials based on the infrastructure List agreed upon by the Experts at the previous competition;
- The ingredients must be ordered one (1) month prior to the Competition and this order should constitute all of their entire order requirement, extra flour is ordered by Competition Organizer;
- Control of the equipment required from the Infrastructure List by each Competitor/Expert – equipment not required from the Host Country should be declared by the Expert/Competitor one (1) month prior to the Competition;
- Energy saving by switching off unused equipment;
- The use of tablets for marking;
- Repurpose: The Test Project can be used in the training for each Member for reference in their national Skills Competitions.

## 12 References for industry consultation

WorldSkills is committed to ensuring that the WorldSkills Standards Specifications 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 Standards Specification 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/>)
- ESCO: (<https://ec.europa.eu/esco/portal/home> )
- O\*NET OnLine ([www.onetonline.org/](http://www.onetonline.org/))

This WSOS (Section 2) appears most closely to relate to *Bakers*:

<https://www.onetonline.org/link/summary/51-3011.00>

and *Baker*:

<http://data.europa.eu/esco/occupation/1aadb308-432a-4d01-b54b-b4f7f76dd419>

Adjacent occupations may 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
Accor - Pullman Bangkok King Power	Ulhas Shetty, Director of Operations
Richemont Center of Excellence (Switzerland)	Markus Zimmerli Managing director of the education system for baker, confectioner, chocolatier and sales
SBC – Schweizer Bäcker – Confiseurmeister Verband (Switzerland)	Urs Wellauer, CEO