

MODUL 4
KONDITIONEN-TECHNIK

MODULE 4
PASTRY/ CONFECTIONERY
TECHNOLOGY



Bildung und Kultur

Leonardo da Vinci



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European Union module 4: Pastry/ confectionery technology

§ 1 Duration

The duration of the module is 120 instruction units.

§ 2 Target group

The module is addressed at participants who are almost ready to be accepted for a post as enterprise manager or workshop manager. The participants should, at a minimum, have successfully graduated from vocational or professional training, as well as having initial professional experience. These participants are qualified technicians aged between 20 and 45 years. From their training they already have a basic economic and technical understanding, which they were able to develop in connection with their work activity.

§ 3 Goal / intention

The goal of the course modules is, to give the prospective operating/workshop manager or master craftsperson, the confidence that he is in a position to take up the challenge of business independence/autonomy by acquiring the appropriate skills. It is a matter of having an intuition for feasibility. Those participants who are still unsure of their own independence are the first to be addressed. The potential independent craftsperson is to gain the confidence that he has acquired the skills to tackle the tasks of an entrepreneur. That does not mean that all autonomous approaches to solving problems are explored during training, but rather that the candidate is to acquire a broad overview of the daily life of an entrepreneur. In addition to technical expertise, this crucially also involves business management expertise. The potential entrepreneur must be made more familiar with management tasks. He must have control over the economic aspects just as much as the technical ones. Only then does he develop the necessary self-assurance. The issue concerns the development of the vocational skills. Here, methods are to be selected which contribute to developing confidence in the candidate about his ability to resolve problems whose details are not known at present, by his own endeavours or with appropriate consulting assistance.

After completing the module, the participant shall:

- face practical problems and challenges from customers with higher self-confidence.
- be familiar with the practical requirements of order processing in a confectionery enterprise
- have a basic financial knowledge of cost analysis and price structuring.

Emphasis: Technology

In the module “confectionery technology”, the emphasis lies in an orientation towards the order process as well as in extending the product range by selecting from international recipes.

§ 4 Contents

The teaching contents are divided into the three fields:

1. Pre-order phase
2. Processing of order phase
3. Post-order phase

Contents	Skills								
<p>1. Garnishing and cake production</p> <ul style="list-style-type: none"> • Structure and composition of the dough for cakes • Different basic kinds of butter cream • Filled cakes • Garnishing exercises for edges of cake and inner surfaces • Cake garnishing • Writing exercises • Cake decoration • Manufacture from infusion mix • Ornamentations <p>2. Chocolates (pralines)</p> <ul style="list-style-type: none"> • Keep chocolate coating at a moderate temperature • Treatment of fruits which are to be used during the production of chocolates • Manufacture of fondant chocolates • Cream chocolates, marzipan chocolates, chocolates with liquid filling with and without crust, chocolates made from nougat manufactured in-house, brittle chocolates, chocolates made of truffle mass • Burned almonds, Viennese almonds, chocolate almonds • Cream sweets - glazed fruits <p>3. Marzipan (model)</p> <ul style="list-style-type: none"> • Production and pre-treatment of marzipan work • Modelling marzipan figures - animals, fruit, vegetables, ham, sausage, etc. • Caramelised confectionary • Production of marzipan shapes in-house <p>4. Ice and sweet foods</p> <ul style="list-style-type: none"> • Ice-cream production • Ice test for Koliikeime (?) • Ice bombs - ice pastry • Other sweet foods - wine jelly – fruit dips and Bavarian creams as well as soufflés <p>5. Cold kitchen</p> <ul style="list-style-type: none"> • Breadroll with savoury topping • Various salads • Spreads • Cheese pastry • Pies • Spices 	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">1. Pre-order phase</td> <td style="width: 30%; text-align: right;">40 h</td> </tr> <tr> <td colspan="2"> <p>Procure the order: Convince the customer by offering a wide and cosmopolitan product range with high product quality and creativity. Design an attractive goods display (shop window). Prepare, carry out and follow up on an advance sales discussion.</p> <p>Process the offer: Make a price list which matches requirements of the customer and the capabilities of the enterprise. Arrange and present an offer suitable for the specific needs of a particular customer. Determine the price of an offer by the use of different calculation options. Prepare, carry out and complete a sales talk.</p> <p>Prepare the work: Determine the respective need already in the forefront of the order being processed, and take up contact with suppliers. Estimate the quality of the supplier commodity and prepare, carry out and complete negotiations with suppliers and/or possible co-operation partners. Plan the creation/manufacture process.</p> </td> </tr> <tr> <td>2. Processing of order phase</td> <td style="text-align: right;">40 h</td> </tr> <tr> <td colspan="2"> <p>Carry out the order: Plan, carry out and follow up the concrete handling of the order with the employees. Consider more closely the creative, qualitative and economic criteria while processing an order. Collect and present the organisation of the operational production course, and reflect critically from a financial perspective. Analyse the service creation process in an enterprise using innovation and creativity as criteria, and compile suggestions on how these can be increased. Control the quality the produced goods, and make improvements in the production course.</p> </td> </tr> </table>	1. Pre-order phase	40 h	<p>Procure the order: Convince the customer by offering a wide and cosmopolitan product range with high product quality and creativity. Design an attractive goods display (shop window). Prepare, carry out and follow up on an advance sales discussion.</p> <p>Process the offer: Make a price list which matches requirements of the customer and the capabilities of the enterprise. Arrange and present an offer suitable for the specific needs of a particular customer. Determine the price of an offer by the use of different calculation options. Prepare, carry out and complete a sales talk.</p> <p>Prepare the work: Determine the respective need already in the forefront of the order being processed, and take up contact with suppliers. Estimate the quality of the supplier commodity and prepare, carry out and complete negotiations with suppliers and/or possible co-operation partners. Plan the creation/manufacture process.</p>		2. Processing of order phase	40 h	<p>Carry out the order: Plan, carry out and follow up the concrete handling of the order with the employees. Consider more closely the creative, qualitative and economic criteria while processing an order. Collect and present the organisation of the operational production course, and reflect critically from a financial perspective. Analyse the service creation process in an enterprise using innovation and creativity as criteria, and compile suggestions on how these can be increased. Control the quality the produced goods, and make improvements in the production course.</p>	
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<p>6. Art and Display pieces</p> <ul style="list-style-type: none"> • Pastillage • Nougat • poured sugar • pulled sugar • Chocolate • Individual packing of the goods which are to be sold <p>7. International specialities</p> <ul style="list-style-type: none"> • Manufacturing of various foreign specialities which are not part of the domestic assortment, e.g. pyramid cakes, dragées aux chocolat /aux amandes etc. <p>8. Calculation of tenders</p> <ul style="list-style-type: none"> • Recipe, raw material, production and supply costs 	<p>3. Post-order phase 40 h</p> <hr/> <p>Settlement of order: Determine the order costs on the basis of the operational criteria. Formulate a customer-oriented and customer-binding account. Carry out separate cost analyses for individual product types.</p> <p>Follow up the order: Examine by carrying out a post-calculation whether the order was completed economically. Accept the claim/complaint of a customer, weigh up the possible consequences and measures, and respond appropriately.</p>
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§ 5 Methods

Wide-ranging teaching and learning methods and so-called “complex training/learning arrangements”, take centre stage. These would include, for example, case studies, investigations or role-games.

In the production of case studies, please consider the following points which are given below as a check list:

Steps in developing a case study:

1. The basis of the task is an important and complex problem situation such as would occur in practice, but also one which is covered in the curriculum.
2. A first draft should contain a requirement catalogue with the relevant topics.
3. The tasks connected with the individual topics are now listed.
4. Is (additional) information required, for resolution and/or treatment of the problem?
5. How much total working time should be allotted for the case-based tasks?
6. Provide a rough solution or answer plan, which the examinee is to cover in principle in answering the questions.
7. Formulate tasks with a medium degree of difficulty, which reflects the vocational skills of a trades/crafts enterprise.
8. Specify, if necessary, which aids the class participants may use during processing the task.
9. Let a colleague counter-check the entire case.

§ 6 Examples of methods

Case study: Dessert buffet for Mr. Laszlo

Mr. Laszlo, a Hungarian businessman, enters the confectionery shop of Mr. Maibaum. He would like an offer to be prepared for his birthday celebration; as he would like to have a large celebration for his fortieth birthday. The correct dessert buffet has not yet been arranged for his extensive culinary celebration. In the discussion it becomes clear that Mr. Laszlo has a special preference for ice cream. Besides this he is also looking for various little things in addition, which one can enjoy in between and with the coffee. Before Mr. Maibaum makes any suggestions, he asks him a few questions. It becomes clear that the celebration will involve some 40 persons, where some business associates from Hungary are also expected. The price range should not exceed € 600 to € 800.

In answer to Mr. Maibaum's asking what his hobbies are, he answers: "I have always played tennis." Mr. Maibaum suggests: "Then a cake in the form of a tennis court would be a great idea." "That would be excellent. Are you able to do such a thing?" "Not only that." At the end of the discussion it has been established that the following products are to be provided and presented:

• 1 cake for 40 persons (40 * 25 cm)	Price	100 €
• 4 ice bombs, flavour "Fürst-Pückler-Parfait" decorated finely in each case	Unit price	25 €
• 1 Kilo tea cakes	Cost per kg	36 €
• 1 Kilo of chocolates	Cost per kg	42 €
• Mousse Four plate (50 pieces)	Unit price for	1,50 €
• 2 chocolate characters	Unit price	150 €

The two chocolate characters are to represent the tennis players as a special feature. Mr. Laszlo considers: "Mr. Maibaum, you know what, perhaps you will have some more special ideas. As I already said, some very good business friends will be at the celebration and I would like everyone to remember the event with particular fondness. I just do not know how?" "I'm certain that something extra will still occur to me, Mr. Laszlo. I will call you then."

Question 1:

How much lead time does one need for the completion of the order. Note that tea cakes and chocolates are already available in the assortment and the actual presentation is not considered temporally. They have a normal freezing possibility / storage of 18°C.

Answer 1:

• Tea cakes and chocolates are in stock	Total 0 h
• Cake production → Think pragmatically: The sponge for the cake is to be created from the normal usual recipe (day to day business). Therefore the production time to be evaluated for the order alone is shortened.	Total 1.5 h

- Ice bomb production: 1 h plus freezing time (approx. 12 h through-freeze)
Thus 4 hours plus 12 hours, until all bombs are finished Total 16 h
- Production of the “tennis players” choco-figures, approx. 2x3 hours Total 6 h

Two working days are needed altogether as lead time for the order.

Question 2:

How do you proceed with the development of the order. Describe here what must be considered in regard to production of the Furst Puckler Parfait and the Mousse Fours (filling: fruit). Discuss the sequence and particular characteristics of individual production processes. How do you proceed with the delivery of the goods? How for example do you protect the choco-characters from damage?

Answer 2:

A: Ice bomb: Prince Pückler Parfait

1. Manufacture the Parfait mass:

- For this one needs whipped cream which must be ready in advance, since there will be no spare time for this later.
- Care must be taken to ensure that the whipped egg yolk mass - egg yolk and sugar to be whipped warm and cold – forms no skin and/or loses volume, one would still need to whip the cream afterwards.
- Separate into three quantity units

2. Manufacture the Parfait bomb:

- Usually with a multilevel ice bomb, one begins with the heaviest mass; increasingly lighter cream masses follow in order.
- As regards the mix for the parfait there is however a default concerning the sequence: the colour combination of red – white – brown is to be followed.
- That means that the individual masses are to be newly frozen again each time after the filling in (30 min).
- Thus, while all Parfaits can be mixed (strawberry, vanilla, chocolate), the filling up happens step by step: red (30 min), white (30 min), brown (12 h through-freeze).
- Finally, the cake will be decorated according to wish, e.g. with chocolate, candied fruits or wafer sticks.
- Production 1 h plus freezing time

B: Mousse Fours (filling: fruit)

- Create sponge roulade
- Lay out forms
- Preparation of the Mousse:

1. Preparation of the meringue (ital.):

- Here one must ensure first that a grease-free saucepan is used.
- Egg-white is beaten with a hot sugar solution. Thus volume is increased and the hot sugar neutralizes the bacteria.
- Meringue must be whipped cold for subsequent treatment.
- Keep the whipped cream ready.
- Keep the macerated gelatine ready.
- Make the fruit pulp ready.

2. Sequence for preparation of the mousse

- Mix the gelatine with the fruit pulp.
- Mix with the meringue.
- Fold the cream under loosely. (When the cream is added, the basis should have cooled.)
- The Mousse is now set to freeze
- Glazing of the surface/ push from the form
- Garnish with fresh fruits and chocolate decoration

C: Delivery of the chocolate figures

Consideration of the following safeguards like, for example
Chocolate figures:

- Foam rubber mats
- Secure with burl foil
- Store in shock-proof manner
- Air-conditioned vehicles
- avoid exposure to sun

Ice bomb:

- Polystyrene box
- Dry ice (note: Danger of injury – Frost-burn as -70°C)

Question 3:

Come up with an idea to meet Mr. Laszlo's request, and which perhaps also covers an innovative range in the confectionery craft. Explain first of all, why you think this is a good idea and secondly what issues must be considered with the production based on your suggestion.

Answer 3:

Example solution

Since in the case description a reference was made to Hungarian business associates and the name Laszlo sounds somewhat Eastern European, the suggestion for a goulash soup should be made. Besides, the range of "non-sweet meals" represents an innovative business field for the confectionery supplier. Particularly with the preparation of a goulash soup, the focus here is on the preparation of a bouillon as well as the use of an original recipe.

- Bouillon ingredients
The Bouillon, containing beef bone, soup meat, soup vegetables, celery, leak, carrot, onion, pepper, bay leaf, clove, is cooked for approx four hours
- Goulash soup
The following is required for the goulash soup:
Additives, diced beef, onions, paprika, potatoes
Spice mixture: marjoram, thyme, caraway, grated lemon peel, paprika, pepper garlic

Question 4:

Since the birthday is celebrated by Mr. Laszlo in the Christmas season, Mr. Maibaum considers that a Christmas stollen would be well suited as a small present. On the basis of the given information, create a cost estimate for the entire order for Mr. Laszlo. Consider here also the manufacture of the Christmas stollen, for which you must firstly make a recipe calculation. For cost factors which go beyond the product manufacture costs, please use estimated sizes of your choice. For further processing, please consider the further information.

Answer 4:

Recipe calculation

Baking loss:	23%
Total operating costs:	225%
Profit:	28%
VAT.:	7%
Decorative packing:	1 euro

You will need 500g of Christmas stollen for 40 persons, therefore 20 kg of stollen.

Weight in g	Item	Price in €/kg and/or unit price	
8000	Flour	0.38	3.04
800	Eggs (50g/unit)	0.10	1.60
2000	Milk	0.44	0.88
500	Yeast	0.78	0.38
500	Sugar	0.77	0.39
120	Salt	0.17	0.02
30	Spices	15.00	0.45
1250	Lard	0.79	0.99
3000	Butter	4.12	12.36
750	Candied orange peel	1.35	1.01
1750	Candied lemon peel	1.85	3.24
1500	Almonds	4.25	6.38
375	Rum	7.10	3.80
2633	Marzipan	3.24	8.53
23208			

The total weight is 23208 g.

23208g	100%	Total weight		
5337.8g	- 23%	Baking loss		
			1. Material costs	€ 43.07
			2. Operating cost 225%	€ 96.91
17870.2g		Remaining weight	Net costs (sum of 1. + 2.)	€ 139.98
			3. Profit 28%	€ 39.19
			Selling price before tax (1.+2.+3.)	€ 179.17
			7% VAT 179.17 * 1.07	€ 191.71
(191.71/17870.2) *500= 5.36 €	Stollen cost per 500g	Packing per 500g Stollen: 1 €	Unit price: 5.36 + 1	€ 6.36

The Christmas stollen costs € 6.36 per item.

Cost estimate			
Products	Price per item	No. of kg/items	
A cake for 40 persons (40 * 25 cm)	€ 100	1	100.00
Ice bombs "prince Pückler Parfait"	€ 25	4	100.00
Tea cakes	€ 36	1	36.00
Chocolates	€ 42	1	42.00
Mousse Four plate	€ 1.50	50	75.00
Choco-figures	€ 150	2	300.00
Christmas stollen	€ 6.36	40	254.40
Intermediate total			907.40
Additional work done			
Starting costs 10 km drive	0.80	10*2	16.00
Presentation of the goods in situ Presentation Assembly time	€ 40 per h	1.5	60.00
Dismantling time collecting of structures	Lump sum		20.00
Total costs			1003.40
Deposit (Mirror disks, stands, decoration material, cloth)			100.00
			1103.40

§ 7 Examination/certificate

The candidate works on a case study in which two of the three topic fields are covered. The working time is 180 minutes. Besides this, the vocational skills of the candidate are examined by means of a verbal examination lasting 30 minutes.