

Development of a Model Course



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Abbreviations and definitions

Lacto – vegetable diet	a vegetarian diet which includes in addition to food based on vegetables also milk and dairy products and therefore covers also the requirement for calcium and vitamin B and D. ¹
Bourgeoisie	French for ‘middle class’ ²
Kcal	Kilo calorie
ILO	International Labour Organisation
MLC	Maritime Labour Convention
IMO	International Maritime Organisation
Responsible authority	administration which has the authority to deal with-, decide on-, or introduce the subject at stake in a legally binding way ³
Dhows and junks	Chinese traditional sailing crafts
Ships safety plan	Plan in which the emergency responsibility for crew on board is described and listed.
Ratify	to give formal agreement

¹ The Brockhaus Ernährung (2008)

² Pons – lexicon (2008)

³ Maritime Labour Agreement (2006)

Preface

The physical and psychical fitness as well the general health status of a person is depending strongly on the diet of the person and on the one preparing it, the cook.

On board a seagoing vessel the work is physically and mentally quite demanding and therefore a healthy nutrition is very important. In case the human body is not sufficiently supplied with the required nutrients, the performance suffers and thus the safety of the vessel and its crew. Also the overall satisfaction and motivation of the crew suffers under poor food supply and preparation.

Because of insufficient food preparation, for example too much fat in the meals, the crew often becomes not only overweight but may suffer from many resulting sicknesses. This can lead to problems during the daily work routines like fitting through manholes or working aloft at the crane.

In the worst cases it might even be possible that in emergency situations such as fires, 'man over board', 'abandon ship', etc. full personal output cannot be provided which again leads to an increased risk for the ship and the safety of its crew.

The 'International Convention of Standards of Training, Certification and Watchkeeping' for Seafarers (STCW) is an UN convention, which has been introduced in 1978 by the IMO (International Maritime Organisation). The presently applicable version is the STCW 95.⁴

When examining this agreement for training standards it is noted that it does not contain any standards for ship's cooks.

⁴ <http://www.see-bg.de/schiffssicherheit/stcwd/>

1 Aim of the dissertation

This dissertation describes a suggestion for a standardised training for ships cooks on merchant vessels. In the run up, the importance of nutrition and the different diets is described.

Also existing conventions, which try to establish a standardized training for cooks, are pointed out.

Further, additional tasks will be introduced which could be taken over by the cook in order to upgrade the wages for this position.

Finally, a curriculum will be introduced which reflects in its selection of subjects the specific requirements for the catering on board as well as the suggested additional tasks for cooks..

It should be noted at this point that the dissertation relates to the training objectives and the training syllabus. Detailed lists of the training content will not be discussed.

2 Importance of nutrition

Why a human being needs food? Because all our life processes, such as breathing, walking, working, talking, thinking, the cure of sicknesses and even sleeping requires energy and nutrient. Food supplies us with energy and all the important nutrients our body needs to live.

In order to preserve the food it has to be processed through cooking, peeling, baking or frying. The processing influences the presence of important nutrients positively as well as negatively.⁵

Next to the satisfaction of the bodily needs and pleasures, the nutrition has another important task – to maintain health.⁶ Unbalanced food consumed over a longer period can lead to health problems. For this reason it is important to control ones dietary behaviour.⁷ A diet which observes all important health aspects is called a whole food diet.

The definition of the whole food diet contains in brief the most important points of this diet. (Leitzmann a.o. 1993)

‘Whole food diet is a mostly lacto-vegetable nutrition in which a reduced processing of the food is preferred. Ingredients with a high nutrition value are used to prepare tasteful meals. Mainly used are foods which contain whole grains, vegetable and fruits, potatoes, pulses as well as milk and dairy products, also little quantities of meat, fish and eggs. Nearly the half of the required food ration made up by heated fresh food. Gently prepared from fresh provision with little fat only. Food with additives is avoided.⁸

⁵ See Ulrike Gonder ‘Ernaehrung Wissen was stimmt’ p.11 ff

⁶ See Koula-Jenik & Co. ‘Leittaden Ernaehrungsmedizin’

⁷ See ‘Gesund und fit auf natuerlichem Weg – Richtig essen, gesund leben’ p.18

⁸ See Koeber/Maennle/Seitzmann ‘Vollwert-Ernaehrung, p.25 ff

The nutrition pyramid shows the optimal weekly consumption of food belonging to the different nutrition groups.

Nutrition pyramid

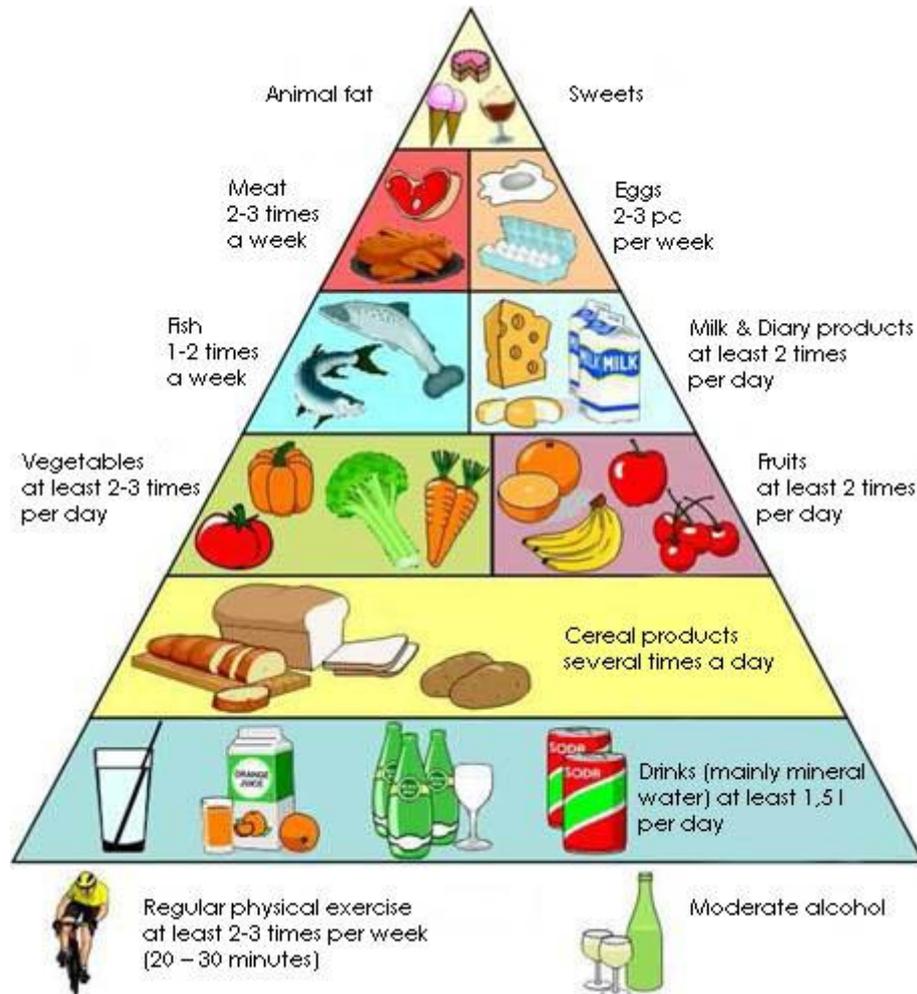


Figure 1: Nutrition pyramid

<http://www.mein-hausarzt-in-staufen.de/images/ernaehrungspyramide.jpg> of 15.10.09

3 Differences within the diets

The decision of what we eat does not only depend on taste and nutrition value of the food but most important from our cultural background.⁹ Ingredients which are accepted in some countries, like for example dog meat in Korea, are not acceptable in European countries.¹⁰ Also political views can influence the eating habits (for example the protest against dumping wages). Also the religion can lead to an alteration of the nutrition. Jews and Moslems refuse pig meat as pigs in their religious beliefs are considered to be unclean.¹¹ As well the climate zone plays an important role for the diet.

As the crews on most European flagged vessels consist of Asian ratings and European officers, the diets for these two ethnic groups will be briefly described hereunder.

The traditional Asian diet consists mainly of vegetables consumed on a daily base. Due to their higher expense, meat or fish is used to a lesser extent.¹² Asians who are able to cover the increased cost, have preference for a variety of meat from pig and poultry as well as fish. The most commonly consumed food is rice and other cereals, muddles, pita bread, potatoes, fruits and vegetables (including sea food), nuts, seeds, beans, various soy products and other legumes, different oils, herbs and spices, herbal beverages like tea, wine and beer. Dairy products like yogurt and cheese are consumed less in Asia.¹³

The European nutrition is following the nutrition pyramid as shown previously. Cereals and products thereof as well as potatoes and vegetable belong to the main ingredients of the daily diet. Fruit should be consumed daily in several portions. For meat, sausages, fish and eggs a limited weekly consumption is recommended. Oils and fats should be consumed in small portions on a daily base. Different than in Asia, milk and dairy products are part of the daily diet in Europe.¹⁴

⁹ See GEO Wissen Nr. 28 Ernährung & Gesundheit

¹⁰ www.spiegel.de/panorama/0,1518,197846,00html

¹¹ See „Gesund und fit auf natürlichem Weg - Richtig essen, gesund leben“

¹² See GEO Wissen Nr. 28 Ernährung & Gesundheit

¹³ See Koula-Jenik und Co „Leitfaden Ernährungsmedizin“ p. 77

¹⁴ See 'Der Brock Haus „Ernährung“ p. 182

4 Specific Nutrition for different occupational groups

Members of occupational groups whose work process is physically demanding, require more energetic food and nutrition than persons who are occupied in less physically demanding processes, e.g. are employed in a mostly sedentary work processes.

Next to the occupation also the body height and weight as well as sex of a person have an influence on the energy demand.¹⁵

A man who is occupied in a physically little demanding job like for example office work, requires daily around 2500 kcal to cover his energy demand – for a women working under similar conditions the average requirement is 2000 kcal.

Persons who carry out more physically demanding work (like sales persons, car mechanics, etc) who are mostly standing or walking during their work, the energy requirement is increased to 3100 kcal for a man and 2400 kcal for a women. For people engaged in physically heavy work (like builders, masseur, farmers), the energy requirement is increased to levels in-between 3100- and 3600 kcal for men and 2400- and 2800 kcal for women. The highest energy requirement have the consequently people who do the physically most heavy works like miners and steel workers – between 3600 and 4200 kcal for men and between 2800 and 3300 kcal for women.¹⁶

An overview of the energy requirements for specific occupational groups can be found in the table ‘occupational nutrition’ on the following page. "For activities that are carried out under heat, there is an increased demand not only of energy but also for liquids and minerals, particularly potassium, calcium and magnesium, which are lost through the sweating process."¹⁷

The energy requirement does not only depend on the character of the work process but depends also from the temperature under which the person has to work. Per 1°C above the line of 30°C, the energy requirement increases by 0,5% of the normal value.

The feeling of thirst leads to an increased consumption of liquids which automatically fulfils the increased bodily demand. It should however be observed that the liquids consumed are not too cold or sweet.

Luke warm tea and mineral water at room temperature are most suitable. Also consuming of fruits is recommended in order to keep the balance of calcium and magnesium which are lost through the sweating process.¹⁸

¹⁵ Günther und Co „Grundkurs Ernährung“ p.6 ff

¹⁶ Der Brock Haus „Ernährung“ p.65

¹⁷ Der Brock Haus „Ernährung“ p.65

¹⁸ Der Brock Haus „Ernährung“ of FAB Verlag p.65

Specific Nutrition of different occupational groups

BERUFSGRUPPENSPEZIFISCHE ERNÄHRUNG: TÄGLICHER ENERGIE- UND NÄHRSTOFFBEDARF VERSCHIEDENER BERUFSGRUPPEN				
Berufsschweregruppe	Energiebedarf (kcal/kJ)	Bedarf an Eiweiß (g)	Bedarf an Kohlen- hydraten (g)	Bedarf an Fett (g)
Mittelschwerarbeiter				
Männer	2 700-3 100/ 11 297-12 970	80-90	360-400	90-115
Frauen	2 100-2 400/ 8 787-10 042	70-75	280-320	65-85
Schwerarbeiter				
Männer	3 100-3 600/ 12 970-15 062	90-105	400-470	115-135
Frauen	2 400- 2 800/ 10 042-11 715	75-80	320-380	85-100
Schwerstarbeiter				
Männer	3 600- 4 200/ 15 062-17 573	105-125	470-540	135-160
Frauen	2 800-3 300/ 11 715-13 807	80-95	380-430	100-125

Figure 2: Specific Nutrition of different occupational groups
Source: Der Brock Haus „Ernährung“ of FAB Verlag p. 66

5 Nutrition during shift work

Work scheduled at different times of the day is described as shift work. Shift work is differentiated into night- and rotating shifts. Up to 20% of the employees in the western industrial nations are employed in shift work. All functions of the human body are subject to a congenital day and night rhythm. During the day the body is switched on to activity, during the night to passivity and regeneration (drop of body temperature and blood pressure). Therefore shift work means working against the biological rhythm of the body. Due to above, shift work can lead to health problems like sleep disturbances, increased nervousness and gastrointestinal problems and loss of appetite. Therefore it is especially important for the shift worker to observe a healthy nutrition.¹⁹

¹⁹ <http://www.med.tu-muenchen.de/>

5.1 Basic rules for a nutrition during shift work

It is important for the shift worker to receive an adjusted energy supply. The food should be well balanced, wholesome and easily digestible. In addition, meals should be versatile and diversified and to be taken as regular as possible.²⁰

5.2 Recommendations for food during the night shift

Regular work between 2200 hrs 0600 hrs is considered night shift. In principle there is no difference in the energy demand in respect to day- and night work. The only difference is the time at which the food is consumed.²¹

During the night shift not only cold food should be consumed. A warm meal provides the body with the feeling of internal warmth and vitality.²² The main meals of the day (lunch and supper) should, if possible, be taken always at the same time. By maintaining of regular meal times a loss of appetite is avoided.²³

The following table is a suggestion for food intake:

Meals	Time	Energy intake in %
Lunch	1200 - 1300	25
Afternoon	1600 - 1700	10
Evening	1900 - 2000	20
1. Night meal	0000 - 0100	25
2. Night meal	0400 - 0500	8
Breakfast	0700	12

Table 1: Recommendations for food intake

Source: <http://www.dge.de/modules.php?name=News&file=article&sid=263>

²⁰ see: Busch-Stockfisch M, Krappe D: Ernährungsempfehlungen für Nachtschichtarbeiter unter Berücksichtigung des Zirkadianrhythmus und der Stoffwechselsituation

²¹ <http://www.dge.de/modules.php?name=News&file=article&sid=263>

²² Report on the nutrition for shift workers by the 'Technische Universität München'

²³ <http://www.dge.de/modules.php?name=News&file=article&sid=263>

5.3 Recommendations for the nutrition during rotating shifts

Rotating shifts are divided into early shifts from 0600 to 1400 hrs and late shifts from 1400 to 2200 hrs.

During the early shift two meals should be taken, a snack in the late morning and a hot meal at lunch time.²⁴ Also during the late shift it is recommended to have 2 meals, a snack in the afternoon and supper during the working time in the evening.²⁵

The evening meal should usually be cold and consist of low fat cold cuts and cheeses, salads and vegetables.²⁶

Summary:

- Only one warm meal during day or night should be consumed
- The meals should be divided into smaller portions
- Light and easy to digest food should be chosen
- To keep regular hours for meals and snacks during night- as well as rotating shifts
- It is recommended not to go to bed directly after work but take some time to relax first
- The regular meal schedule should be maintained also on work-free days.²⁷

6. The Cook

6.1 Historical background of the cook occupation

The art, to create tasty meals easy to digest, nutritious and also healthy from various ingredients by boiling, frying, steaming or other procedures, was already in the antiquity highly regarded.²⁸

Already at those times it was common opinion that the nutrition is directly connected with health and in order to ensure a healthy diet, cooks often worked with medical practitioners.

The art to cook originates from Asian countries²⁹ and found its way via Greece to Italy. The roman emperors Augustus and Tiberius maintained already at their times schools where the art of cooking was taught. In the ancient Rome the cooks were recruited often from enslaved prisoners of war, mainly Greeks. Also at that time already they were high in demand and exorbitant prices were paid for them.

In the middle ages the art of cooking was preserved and cultivated mainly in the monasteries.

²⁴ See Hohmann-Beck B: Verpflegung von Nacht- und Schichtarbeitern

²⁵ <http://www.dge.de/modules.php?name=News&file=article&sid=263>

²⁶ http://www.landwirtschaft-mlr.badenwuerttemberg.de/servlet/PB/menu/1043653_l1/index.html

²⁷ <http://www.med.tu-muenchen.de>

²⁸ <http://dictionary.sensagent.com/koch/de-de/>

²⁹ http://esskultur.suite101.de/article.cfm/die_kochkunst_im_wandel_der_zeit

The modern cuisine originates from Italy. Katharina von Medici brought this art to cook to France.

At her wedding with Heinrich she insisted that her own cooks were preparing the wedding banquet.

The French cuisine reached her first blossom at the court of Ludwig XIV. Francois Vatel was the best known chef of his time. He committed suicide when he was not able any longer to adequately cook for his employers.³⁰

With the French revolution the possibilities of endless spending were over for the nobility and royal court, which up to then were exempted from tax payments. Now cooks had to find new sources of income and started to open restaurants which were frequented by wealthy citizens. By this means, the French art of cooking could recover during the 19th century from crises and the revolution.

For many decades the best known cooks came mostly from France. Bocuse, the Troisgros brothers, Marc Haerberlin were all students of F.Point. They stand for a cuisine which transforms fresh food of high quality and local origin into tasteful meals.

The 'nouvelle cuisine' is based on similar ingredients as found in a health diet: vegetables, steamed meat, little fat. Students of Bocuse, like for example Eckart Witzmann are spreading this school as well in Germany.³¹

At the beginning of the 21st century the most famous cooks originate no longer from France. At present the Spaniard Ferran Adria is the most famous of his profession. Although his creations are rather based on scientific experiments than on professional experience and selected ingredients, his magic brings innovative eating pleasures not paralleled by any of his colleagues.³²

6.2 The cook today

The profession of the cook has changed significantly over the last years.

The elementary ability of every cook is that he can cook but above that he is as well an expert for nutrition and food. He has to have knowledge in business administration and management and has to keep the cost factor always in mind when planning the preparation of meals. Also cost- and quality comparison, check of delivery conditions and long term calculation are within his work scope.³³ A ships cook has additionally to ensure that the correct amount of provisions has to be ordered under observation of limited storage space as replenishment of provisions on the high seas is not possible.

The cook is responsible for the proper storage of the provision and therefore has to be well acquainted with the storage- and cooling capacities on board his vessel.³⁴

³⁰ <http://www.practicallyedible.com/edible.nsf/Pages/francoisvatel>

³¹ <http://dictionary.sensagent.com/koch/de-de/>

³² <http://www.zeit.de/2009/12/Adria-12>

³³ http://www.vkd.com/de+Kochberuf+Berufsbild/Koch__316.html

³⁴ Training of ships cooks at the 'Seemannsschule Luebeck/Travemuende'

6.3 Importance to have a good cook on board

To become a good cook a special training is required. There are many differences in the work of a cook on board a sea going vessel or in a shore position. On the vessel often deep frozen foods are processed due to the longer storage times required. As ships cook has to prepare food for crew of different cultural background he has to be versatile with the different food requirements.³⁵ Ships cooks on usual cargo vessels are serving often on long employment contracts without any leave days during their employment on board. This is one of the reasons they can lose their motivation and job-satisfaction sooner or later during their contract.

As already described previously in part 1, ‘importance of nutrition’, a proper nutrition is very important for performance and health. The health condition on board is not only important for each crewmember but also for the vessel manager who has the responsibility to care for their crew.³⁶ The moral on board can be positively affected by good food. The atmosphere on the vessel is influenced by many aspects like recreation possibilities, trading area, rest periods, wages, etc. However, even if all this factors are contributing positively, they could not be enjoyed without good food on board. An unsatisfactory food supply on board leads quickly to bad mood amongst the crew, low motivation and concentration. The crew is ‘trapped’ on the vessel and has no possibility to escape in respect to the food served.

They only have the choice to eat differently during shore leave. However, nowadays the possibilities for shore leave are very limited and if possible at all it should be used to relax and not to escape the bad catering on board.

The physical well being should be catered for on board so that the moral is high not only after one had a good meal during shore leave but also when underway.

7 Objectives and tasks of the International Labour Organization

The foundation of the ILO in 1919 was directly related with the recent end of World War I.

It was constituted by the ‘Committee for International Law’ in the framework of the Paris peace conference. It is part of the peace treaty of Versailles. The creation and the objectives of the ILO are based on following realization:³⁷

“The world peace can only be durable when based on social justice”³⁸

The basic objectives of the ILO are defined in its constitution.

It is tried to safeguard the world peace by improvement of the work- and living conditions of all mankind.

³⁵ See IFS 2003 “ILO Training Manual for Merchant Navy Cooks”

³⁶ Seemannsgesetz (2006) § 42 Verpflichtung des Reeders zur Krankenfürsorge

³⁷ <http://www.ilo.org/public/german/region/eurpro/bonn/verfassung/index.htm>

³⁸ <http://www.ilo.org/public/german/region/eurpro/bonn/ziele/index.htm>

Not only should the living standards in the member states be improved but through internationally recognized social standards it shall be avoided that single countries obtain an economic advantage through the reduction of the social rights of the employees in the respective country. The base for above view is the understanding that only through an international network of social-political regulation similar economical conditions of competition exist.³⁹

In the preamble is stated further:

“And whereas conditions of labour exist involving such injustice hardship and privation to large numbers of people as to produce unrest so great that the peace and harmony of the world are imperilled; and an improvement of those conditions is urgently required; as, for example, by the regulation of the hours of work including the establishment of a maximum working day and week, the regulation of the labour supply, the prevention of unemployment, the provision of an adequate living wage, the protection of the worker against sickness, disease and injury arising out of his employment, the protection of children, young persons and women, provision for old age and injury, protection of the interests of workers when employed in countries other than their own, recognition of the principle of equal remuneration for work of equal value, recognition of the principle of freedom of association, the organization of vocational and technical education and other measures”⁴⁰

Through the foundation of the ILO, the responsibility of the international community and of an international organization was recognized for the first time. Through this recognition the ILO has in certain areas a legal authority which previously belonged only to the respective national states.⁴¹

8 Maritime Labour Convention (MCL)

In 2006 it was decided that in the future an international recognized minimum standard shall regulate the working conditions on board of vessel.

The 68 regulations which are contained in the ILO and partially still originate from the founding period of the organization have been combined and adjusted to today's requirements. This new maritime convention was ratified on 23/02/2006 by the represented states, employer organisations and unions involved. As from the ratification it is valid for all seamen on board, regardless of their nationality or the flag under which they are serving.

The ‘Maritime Labour Convention’ contains minimum requirements in respect to the seamen and regulates contract conditions, accommodation, victual ling, recreation and health precautions as well social security. The MLC is valid for all persons employed on board a vessel, i.e. scientists on scientific ships, artists and entertainers on cruise liners and not only for the master and their crews.

³⁹ <http://www.ilo.org/public/german/region/eurpro/bonn/ziele/index.htm>

⁴⁰ <http://www.ilo.org/public/german/region/eurpro/bonn/verfassung/index.htm>

⁴¹ <http://www.ilo.org/public/german/region/eurpro/bonn/verfassung/index.htm>

The implementation of the ILO regulations is carried out mainly by the flag- and port states. These define and formulate the specific requirements and control / enforce them through flag state – and port state inspections.

Ship managers and owners are obliged to implement the specific requirements on their vessel and document the compliance. It is however not necessary to maintain for this purpose a specific record book.

Instead a ‘Declaration of Labour Compliance’ has to be issued.

Immediately after the convention also their requirements for vessel constructions comes into force, e.g. a minimum cabin space has to be observed.

Compliance is checked by the respective flag state or ‘Recognized Organisations’ (RO) who will issue the ‘Maritime Labour Certificate’ (MLC).⁴²

“This Convention shall come into force 12 months after the date on which there have been registered ratifications by at least 30 Members with a total share in the world gross tonnage of ships of 33 per cent.”⁴³

After the convention comes into force it is also valid for countries that have not ratified the convention.

“Unless expressly stated, this convention is valid for all ships, regardless whether they are state- or privately owned, which are usually commercially used, except vessels which are used for fishing or similar activities, and traditionally build vessels like dhows and junks. This convention does not cover warships or fleet support vessels”⁴⁴

8.1 Functions of the MLC in respect to regulation 3.2

Regulation 3.2 ‘Food and Catering’ is divided into part A and B.

Part A is further subdivided into 8 paragraphs, content of which has binding character. The regulations under part B do not have binding character. The purpose of these regulations is defined as follows: “To ensure that seafarers have access to good quality food and drinking water provided under regulated hygienic conditions”⁴⁵

3 basic regulations are preceding part A and B:

“1. Each Member shall ensure that ships that fly its flag carry on board and serve food and drinking water of appropriate quality, nutritional value and quantity that adequately covers the requirements of the ship and takes into account the differing cultural and religious backgrounds.

2. Seafarers on board a ship shall be provided with food free of charge during the period of engagement.

⁴² <http://logistics.de/logistik/presse.nsf/PrintView/9CFC0CE59A839C0CC12571650032C767!OpenDocument>

⁴³ MLC 2006, p.7 1st paragraph

⁴⁴ MLC 2006, p.3

⁴⁵ MLC 2006, p.59

3. Seafarers employed as ships' cooks with responsibility for food preparation must be trained and qualified for their position on board ship.⁴⁶

‘Standard A 3.2’ follows the above. It is also divided into 8 paragraphs. In the first paragraph it is put down that member states are creating legal- or other regulations in order to ensure that the defined minimum standards regarding quantity and quality of the provisions, the drinking water as well as the preparation of food and meals served to the seafarers serving on vessel under its flag, are maintained. Every member has to take appropriate measures to increase the understanding of the requirements laid down in this standard.⁴⁷

In the 2nd paragraph minimum requirements are laid down which have to be adhered to on vessels flying the flag of the member state.

“(a) food and drinking water supplies, having regard to the number of seafarers on board, their religious requirements and cultural practices as they pertain to food, and the duration and nature of the voyage, shall be suitable in respect of quantity, nutritional value, quality and variety;

(b) the organization and equipment of the catering department shall be such as to permit the provision to the seafarers of adequate, varied and nutritious meals prepared and served in hygienic conditions; and

(c) catering staff shall be properly trained or instructed for their positions.”⁴⁸

The 3rd paragraph specifies that the seaman employed as cook on board have to be trained and qualified and fulfil the national legal requirements of the respective member state.

The 4th paragraph defines the requirement laid down in the previous paragraph. It should be regulated that the training is given through a recognized course ending with an examination. The course syllabus should include the preparation of food / meals, personal hygiene, storage and control of stock, environmental protection, health and safety aspects.

Paragraph 5 regulates the requirements in case a vessel is due to its size or type of operation not required to carry a fully qualified cook. In such case every person who is preparing the meals / food for the crew should be trained or have received instruction as to food- and personal hygiene, handling and storage of provision on board.

The 6th paragraph deals with emergencies during which the respective authority can issue an exemption certificate allowing the vessel to sail without a fully qualified cook until it reaches the next port or for a maximum period of 1 month.

⁴⁶ MLC 2006

⁴⁷ MLC 2006

⁴⁸ MLC 2006

However, it is required that the person taking over the cook duties has received the training or instruction in food- and personal hygiene, handling and storage of provisions as laid down in paragraph 5.⁴⁹

Paragraph 7 determines that the vessel's command has to carry out a documented control of the following:

- “(a) supplies of food and drinking water;
- (b) all spaces and equipment used for the storage and handling of food and drinking water; and
- (c) galley- and other equipment for the preparation and service of meals.”⁵⁰

In paragraph 8 it is laid down that the minimum age for ships cooks is 18 years.

The guideline B3.2 – “Food and Catering” is divided into 2 areas: “Guideline B3.2.1 - Inspection, education, research and publication” subdivided into 4 paragraphs and the “Guideline B3.2.2 – Ships’ cooks” subdivided into 3 paragraphs.

The guideline B3.2.1 contains a recommendation that the respective authorities together with other stakeholders should collect up-to-date information on nutrition and on methods of purchasing, storing, preserving, cooking and serving food on board.

The collected information should be made available to manufacturers of and traders in ships' food supplies and equipment, masters, stewards and cooks.

It could be published as brochures, handbooks, posters, advertisements in trade magazines. The responsible authority should further issue recommendations to avoid wastage of food, facilitate the maintenance of a proper standard of hygiene, and ensure the maximum practicable convenience in working arrangements. Further information material regarding proper nutrition should be available on board the vessels. In order to ensure correct and up-dates contend all respective stakeholders like authorities / owners / managers / seamen should work closely together.

Guideline B3.2.2 deals with the qualification requirements of ships’ cooks. Seamen who would like to take up the profession of ships’ cook should have done the sea service time required by the respective authority. The candidate further should have passed an examination prescribed by the competent authority or passed an equivalent examination at an approved training course for cooks. The responsible authority should recognize as well certificates of qualification as ships' cooks issued by other Members states, which have ratified the convention.⁵¹

⁴⁹ MLC 2006

⁵⁰ MLC 2006

⁵¹ MLC 2006

9 Upgrading of the cook position

At present most cook have a contract length of arnd. 9 months and are mainly responsible for the cooking on board. Due to the long contract period during which they cannot take any leave as meals for the crew have to be prepared every day, the cook might lose his motivation and job-satisfaction rather soon. The ships' cooks employed on the commercial vessel are mostly of Filipino nationality and have often received no special training or if any, a training with is inadequate to their important function on board.

To improve this situation a standardised cook training could be introduced. Further, an upgrading of the position of the cook with the respective adjustment of wages and contract length (e.g. similar to an electrician) would increase the motivation of the cook who would keep his job-satisfaction for a longer period.

9.1 Increased responsibilities for the cook

The promotion to the officer rank is connected with the taking over of more demanding jobs. In order to push through a wages increase and better contract conditions with the employer, the qualification of the cook has to improve. As previously stated presently the preparation of food on board is the most important task of the cook. With an increased qualification also other task and responsibilities can be taken over by him.

One should think that the provision ordering is already part of the work scope of the cook but it is common on many vessels that the master is taking over this task. The reason for this is often the limited economic understanding and knowledge of the cook about provision planning / calculation of the requirements. Without the active supervision of the master in many cases the stock of provisions on board would be insufficient for a voyage ahead, considerable stock would expire or the ordered provisions would exceed the budget.

In addition to the administration of provision, the cook could also take over the quality-control of the drinking water. So far this is done by the engine department but the cook could check the water quality directly at the tap. Also the 'slop chest' could be taken over by the cook. So far the 'slop chest' is managed by the master.

Similar to the additional training requirement in order to carry out the provision ordering, the calculation of the requirement for sweets, smoking articles, spirits, body care products should be included into the training for the cook.

When receiving more training in respect to administrative tasks, increasing his knowledge about the related national and international requirements, the cook could take over further tasks which are at present still handled by officer, like e.g. the maintaining of the garbage record book.

Further the cook could become an advisor to the crew on board in respect to diet and physical fitness. As on many commercial vessels the job of the officers is physically not very demanding and also during the rest periods not much emphasis is put on physical exercise, it is important to have a knowledgeable person on board who could advise on the right physical exercise.

In order to carry out newly assigned task to the satisfaction of vessels' command, the crew and the vessels' manager, the cook has to receive appropriate training.

10 Qualification aims of the Curriculum

The curriculum is aiming to provide the cook trainee with structured program during his education. He should be prepared to take over also new tasks in the future next to the already existing ones.

The training should enable the trainee to take over a position on the vessel were he acts as nutrition expert, health advisor as well as catering manager.

The specific training offered at institutes like the 'Norwegian Training Centre' at Manila, and the 'Gemeinnuetzige Gesellschaft Trainingszentrum MS Emsstrom mbH'⁵² shows that that the training need has been realized.

The training is divided into several subjects. In a first step the training will deal with one subject. In a 2nd step the various subjects will be interlinked and combined. The relations between the subjects will be examined.

Through the relatively short onshore training period which falls in-between two on-board training periods, the student undergoes a practice orientated education, and does not lose contact to the actual living and working conditions on board.

Aim of this education is not only the mediation of the various subjects but also to create an understanding of their transformation into a healthy live on board.⁵³

⁵² http://www.ntcm.com.ph/NTC-M_flash/index.html

⁵³ Curriculum ISSC Bremen 2007 und Nautik Bremen 2004

11 Curriculum

11.1 Prefix

The training for ships' cooks is divided into theoretical and practical education at the training institutes and includes as well an internship on board. The 12 months onboard training should be split into two 6 months terms of which the first should be done prior to the onshore training and the 2nd thereafter.

11.2 Training structure

The onshore training is divided into a theoretical- and a practical part. During the theoretical part the following subjects will be dealt with: safety, environmental protection, administrative management, provision management, culture, nutrition and the theoretical aspects of food preparation. The content of the different subjects is transmitted parallel as well as consecutive. At the beginning of the training the basic structures are dealt with in order to deepen the knowledge obtained during the previous onboard training phase. Thereafter the focus is on the preparation of meals as well as the attainment of administrative- and vessel specific knowledge. During the practical part the theoretical knowledge acquired should be applied.

During the first onboard training period, the student will get an impression of sailing on a vessel. At the same time he will get acquainted with the employment conditions in the catering department.

During this internship the student should take over light duties and assist the cook.

During the 2nd onboard practicum the trainee should take over more responsibility and put the knowledge obtained during his studies to use and develop it further.

11.3 Teaching methods

The training content is arranged as follows:

- theoretical lessons
- practical lesson

11.3.1 Theoretical lessons

The theoretical lessons are structured into various modules. Through the usage of different teaching styles better results are obtained. At the end of each subject studied, the student has to pass an examination. By passing of the said examination he qualifies for the next teaching block. In case the student fails an examination he does not have to quit the whole training program, he is given the possibility to repeat the examination at a later stage.

11.3.2 Practical lessons

During this training block the knowledge acquired during the theoretical lessons should be put to use and deepened. During practical exercises under the supervision of experienced trainers, the students gain first practical experience. In order to pass this training block the student has to prove his ability to his trainer in the form of a practical exercise.

11.3.3 Final examination

In order to be admitted to the final examination the student has to prove that he has passed the theoretical examinations as well as the practical exercises.

The examination is based on all subjects taught which are combined and deepened.

11.4 Types of examination

Examinations can be carried out in different forms

- oral examination
- written examination
- practical examination

11.4.1 Oral examination

The oral examination is based on the subjects taught in the form of a colloquium. It is carried out as an individual examination. During the colloquium also a written task can be included but only to an extent not change that character of an oral examination. The examination duration should be between 20 and 30 minutes.⁵⁴

11.4.2 Written examination

In written examination should cover theme areas which were dealt with in the different thematic subjects. An announced restriction on single topics is not allowed. The test duration should be at least 60 minutes.

11.4.3 Practical examination

During the practical examination the student has to prove the skills he has acquired during the practical exercises. The examination has no fixed time frame. The student has to demonstrate that he is able to manage the respective work process in an adequate time.

⁵⁴ Curriculum ISSC Bremen 2007 und Nautik Bremen 2004

Training syllabus month 1 – 4

Training modules	1st Month	2nd Month	3rd Month	4th Month
1	Module 1.1 Safety and health protection at the work place	Module 2.1 Safety risks in the galley and catering specific English	Module 3.1 Safety risks in the galley and on board	Module 4.1 Catering area
2	Module 1.2 Basic training for the protection of crew and ship	Module 2.2 Preparing of mess rooms and hygiene	Module 3.2 Cutting tools	Module 4.2 Nutrition, herbs and spices
3	Module 1.3 General safety regulations in respect to food	Module 2.3 Provision management 1	Module 3.3 Usage of galley tools	Module 4.3 International meals
4	Training exercises	Training exercises	Training exercises	Training exercises
5	Training exercises	Training exercises	Training exercises	Training exercises

	5th Month	6th Month	7th Month	8th Month
Training modules				
1	Module 5.1 Preparation of breakfast and supper	Module 6.1 Managing of a galley	Module 7.1 Storage of provisions / control of drinking water	Module 8.1 Nutrition and calorie awareness / fitness
2	Module 5.2 Preparation of main courses	Module 6.2 Environmental protection basics	Module 7.2 Catering for festivities	Module 8.2 Preparation of meals (contend as to month 5)
3	Module 5.3 Preparation of desserts	Module 6.3 Provision management 2	Module 7.3 Provision budget / management administration	
4	Training exercises	Training exercises	Training exercises	Training exercises
5	Training exercises	Training exercises	Training exercises	Training exercises

12 Selection of teaching subjects

12.1 Health and safety at work

The teaching of basic knowledge in fire prevention aims at the reduction of possibilities of a fire in the catering department.

The knowledge of fire fighting procedures enables the cook to detect and fight a fire in his working area in an early stage. Further, basic knowledge of safe working practice should reduce the risk of accidents in the catering department. The knowledge of 'first aid' ensures that the cook knows how to act in emergencies.⁵⁵

12.2 Basic training for protection of crew and ship

During this training module fire prevention not only for the catering department but for the whole ship is on the agenda. Also training for other emergencies on board like MOB, oil spill, abandon ship is carried out. By undergoing this extended training the cook can be assigned to various- and more important tasks in the muster role.

12.3 General Safety precautions in respect to food preparation

This module will convey the principles of food preparation. By the clean and hygienic processing of food e.g. salmonella infections should be avoided.

Through analysing of typical accidents happening in the catering department, the student will obtain knowledge about best possible reactions to such emergencies. The student's ability to react correctly in an emergency will be improved.

12.4 Safety hazards in the galley and catering specific English

Through the analyzing of potential dangers in the galley like e.g. electricity, open flames, the risks of accidents should be reduced.

The communication in English during the module will improve the ability of the cook to communicate in English to vessels command / managers / ship chandlers, etc. Sufficient knowledge of the English language is a precondition for the taking over of more responsible jobs.

12.5 Preparation of the mess rooms and hygiene

The principles of serving and the laying of the table taught during this module will help the trainee to carry out his daily routines in the catering department. Also the proper handling and dosing of chemicals for cleaning and disinfection is dealt with.⁵⁶

⁵⁵ Verordnung über die Berufsausbildung im Gastgewerbe vom 13. Februar 1998

⁵⁶ Verordnung über die Berufsausbildung im Gastgewerbe vom 13. Februar 1998

12.6 Provision and stock management 1

The mathematic principles which are taught in this module should enable the student to check delivery of ordered stock. The trainee will learn how / what to check during a provision delivery. By taking over this task the cook will reduce the workload of master or officer.⁵⁷

12.7 Safety hazards in galley and on the vessel

By comparing a 'normal kitchen' with a galley the student will realize the significant differences which have to be observed in order reduce the risk of accidents. Also taught are the basic safety regulations for galley and ship.

12.8 Cutting Tools

Cutting techniques and the proper handling of knives and other cutting tools are main objectives of the module. Cleaning and sharpening will extend the lifespan of the equipment.⁵⁸

12.9 Usage of equipment

Objective of the module is the correct handling of typical catering equipment, e.g. mixer, vacuum device. By its proper usage the lifespan of the equipment can be prolonged which will save expenses for the owner.⁵⁹

12.10 Catering area

With the subject catering area the student is prepared for the 5th month. During that month he will learn the preparation of breakfast and supper, main courses and desserts. The different ingredients used will be analyzed and explained. Also safety at the workplace is a subject in this module in order to enable the cook to recognize potential safety risks and avoid accidents in his working area.⁶⁰

12.11 Nutrition / herbs and spices

Through recognition of food properties and knowledge of the variable energy requirements during the day, the student will learn about the proper combination of ingredients including the usage and dosing of various herbs and spices.⁶¹

⁵⁷ Rahmenplan für den Ausbildungsberuf Koch/Köchin vom 05.12.1997

⁵⁸ "ILO Training Manual for Merchant Navy Cooks" IFS 2003

⁵⁹ Verordnung über die Berufsausbildung im Gastgewerbe vom 13. Februar 1998

⁶⁰ Rahmenrichtlinien für die Unterrichtsfächer Fachtheorie und Fachpraxis in der Gastronomie von 2001

⁶¹ Seemannsschule Travemünde, Unterlagen für die Ausbildung von Schiffsköchen

12.12 International meals

The objective of the subject is the knowledge of different cultures and their eating habits. The cook to be should understand the meal requests from a multinational crew and be able to prepare respective food. The student will develop his knowledge through the preparation of international meals.⁶²

12.13 Preparation of breakfast and supper

By understanding the nutritional significance of breakfast and supper for the human body, the student will learn which foods are suitable for these meals. In a practical part different styles of breakfast and supper will be prepared. Also the re-usage of 'leftovers' is addressed. Their usage in preparation of other meals can help to save on provision cost.

12.14 Preparation of main courses

Similar to the module 'Preparation of breakfast and supper' the objective of this module is the understanding of the nutritional significance of the main course and which food is suitable to be prepared as main dish.

The student will obtain knowledge regarding the different cooking methods.

Knowledge about the different nutrition values will help to combine ingredients properly in order to prepare balanced meals and menu.⁶³

12.15 Preparation of desserts

Also when preparing desserts the student has to be aware about the nutritional values of the food used. Preparation of various types of desserts is trained, as well as the preparation of healthy desserts like fruit salad and curds.⁶⁴

12.16 Managing a catering department

Managing the administrative tasks in connection with the catering department is the objective of this module. By taking over the administrative tasks, the cook reduces the workload of master or officer. A further objective is the economical management of the galley – menu planning and meal preparation should be carried out under economical use of the available resources / stock on board and under observation of the daily provision rate.

12.17 Principles of environmental protection

The module deals with the environmental protection at sea. Through knowledge of the respective regulations, the cook could take over related tasks like keep of the 'garbage record book' etc, which so far is done by

⁶² Rahmenplan für den Ausbildungsberuf Koch/Köchin vom 05.12.1997

⁶³ Verordnung über die Berufsausbildung zum Koch/zur Köchin vom 13. Februar 1998

⁶⁴ Rahmenplan für den Ausbildungsberuf Koch/Köchin vom 05.12.1997

master or officer. Further, the student will learn how to preserve the environment in his daily routine.⁶⁵

12.18 Provision and stock management 2

To enable the cook to take over the provision ordering is the main objective of the module. The student will learn how to compare prices / quantities / qualities and to calculate the requirements to avoid a shortage at sea. Again this can lead to a reduction of the workload of the master or officer.⁶⁶

12.19 Storage of provisions

The student will learn how to store the different provisions correctly in order to avoid spoiling and make use of the maximum shelf life of the provisions. Systematic storage will also ease the provision taking at port.⁶⁷

12.20 Control of drinking water

The principles of the control of drinking water as well as the problems and risks of low quality water are dealt with in this module. The student should learn how to administer different techniques to check the water quality on board.

12.21 Organizing of festivities

The knowledge obtained in this module should enable the cook to plan and carry out festivities on board. Especially the calculation of correct quantities of food required is observed as many cooks show a tendency to prepare more than required on such occasions.⁶⁸

12.22 Food budget management and administration

The student will obtain knowledge regarding the ordering of provisions, catering equipment, cleaning materials and other smaller items required in the catering section. This will enable the cook not only to take over of the provision ordering but also its administration. As well the slop chest sales could be taken over by the cook.

12.23 Nutrition and calorie awareness / fitness

The knowledge in the area of healthy diets and the different nutrients as well as various energy requirements will make the student to a 'nutrition expert' on board. Through additional training in physical fitness the cook could become the advisor in physical fitness to the crew.

⁶⁵ Rahmenrichtlinien für die Unterrichtsfächer Fachtheorie und Fachpraxis in der Gastronomie vom 2001

⁶⁶ Verordnung über die Berufsausbildung zum Koch/zur Köchin vom 13. Februar 1998

⁶⁷ Seemannsschule Travemünde, Unterlagen für die Ausbildung von Schiffsköchen

⁶⁸ Rahmenplan für den Ausbildungsberuf Koch/Köchin vom 05.12.1997

13 Objectives and skills to be imparted

Module title: Safety and health precaution at the work place

Module	1.1
Objectives	Training objective: The trainee should obtain knowledge about the principles for a safe and healthy work process
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none"> - Recognize safety and health risks at the work place and take appropriate precautions - Knowledge of occupational safety and accident prevention rules - To observe rules for fire precaution, behaviour during a fire and carry out fire fighting actions
Training methods	Theoretical lessons and practical exercises
Examination method	Written- and oral examination
Examination duration	60 min. and arnd. 20 min.

Module title: Basic training for the protection of crew and ship

Module	1.2
Objectives	Training objective: To obtain principal knowledge about safety at sea and appropriate behaviour during emergencies
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none"> - Fire precaution and fire fighting - Basic knowledge about first aid - Survival at sea - Different safety risks which can exist on board a vessel
Training methods	Theoretical lessons and practical exercises
Examination method	Written- and practical examination
Examination duration	60 min. and arnd. 20 min.

Module title: General safety regulations in respect to food preparation

Module	1.3
Objectives	Training objective: To obtain knowledge about the principles of safe food preparation.
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- Hygienic measures to avoid salmonella infections- Working cloths and its care- Principles of food preparation- Work station hygiene, fire- and health precautions- Principles of behaviour during light accidents in the galley
Training methods	Theoretical lessons and practical exercises
Examination method	Written examination
Examination duration	60 min.

Module title: Safety hazards and catering-specific English

Module	2.1
Objectives	Training objective: Awareness regarding safety risks which may develop in the galley, basic knowledge of the English language
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- Information about safety risks in the galley, e.g. electricity, open flames, oven, hot liquids, deep frozen products, sharp objects and fryers.- Basic catering English
Training methods	Theoretical lessons and practical exercises
Examination method	Written- and oral examination
Examination duration	60 min.

Module title: Preparation of the mess rooms and hygiene

Module	2.2
Objectives	Training objective: To train principles of serving and laying table / preparing mess rooms. Correct usage of cleaning materials and disinfectants.
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- Preparing of food and drinks, working at the table- Maintaining and cleaning of mess rooms, laying tables- Principles of personal- and galley hygiene- Training of correct- and economic use of disinfectants and cleaning materials
Training methods	Theoretical lessons and practical exercises
Examination method	Written examination
Examination duration	60 min.

Module title: Provision- and stock management 1

Module	2.3
Objectives	Training objective: To understand principles of provision taking as well as obtaining elementary mathematical skills required in the catering department.
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- Taking over of provision and checking of weight , quantity and quality- Calculations with measurements and weights- Quantity calculation
Training methods	Theoretical lessons and practical exercises
Examination method	Written examination
Examination duration	60 min.

Module title: Safety hazards in the galley and on the vessel

Module	3.1
Objectives	Training objective: Accident prevention for typical accidents in the galley
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- Safety rules for the galley- Analysing of common accidents on board and how they can be prevented- Principals and differences in-between a normal kitchen and a galley (incl. specific risks)
Training methods	Theoretical lessons and practical exercises
Examination method	Written- and oral examination
Examination duration	60 min.

Module title: Cutting Tools

Module	3.2
Objectives	Training objective: Learn and practice the use with knives and other kitchen tools
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- Develop practical skills in handling cutting tools and appliances- Training of cutting techniques- Methods
Training methods	Theoretical lessons and practical exercises
Examination method	Practical examination
Examination duration	Ca. 20 min.

Module title: Use of galley equipment

Module	3.3
Objectives	Training objective: Learn the correct handling and maintenance of food processors
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- Hygienic working with kitchen appliances / food processors- preparations for use of certain appliances and food processors- Cleaning and maintaining of appliances / food processors and other equipment- Usage of appliances and food processors
Training methods	Theoretical lessons and practical exercises
Examination method	Written and practical examination
Examination duration	60 min and ca. 20 min.

Module title: Catering area

Module	4.1
Objectives	Training objective: First introduction to work with food in the galley
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- Check provision on their quality and know how to use them- Techniques for the preparation of meals- Hazards which can arise during the preparation of meals- Use of prefabricated food to prepare a simple meal according to a recipe- Serving of meals
Training methods	Theoretical lessons and practical exercises
Examination method	Written and practical examination
Examination duration	60 min and ca. 20 min.

Module title: Nutrition / herbs and spices

Module	4.2
Objectives	Training objective: Learn the principles about nutrition, herbs and spices
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- Basic knowledge about – and properties of food- Energy demand of people at different meal times- Nutrients, active ingredients and vitamins contained in different food- Type and usage of herbs and spices
Training methods	Theoretical lessons and practical exercises
Examination method	Written and practical examination
Examination duration	60 min and ca. 20 min.

Module title: International food

Module	4.3
Objectives	Training objective: The student will learn to prepare meals originating from different countries.
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- Getting to know different diets- Preparing of meals which are typical for certain countries
Training methods	Theoretical lessons and practical exercises
Examination method	Written and practical examination
Examination duration	60 min and ca. 20 min.

Module title: Preparation of breakfast and supper

Module	5.1
Objectives	Training objective: The student will learn about the importance of breakfast and supper and how to prepare these meals
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- Preparing a menu plan for breakfast and supper- Nutritional value of breakfast and supper- Usage of cereals and preparation of egg- and cereal dishes- Cutting cheeses and preparing plate with cheese and cold cuts- Usage of leftovers
Training methods	Theoretical lessons and practical exercises
Examination method	Written and practical examination
Examination duration	60 min and ca. 20 min.

Module title: Preparation of main courses

Module	5.2
Objectives	Training objective: The student will obtain knowledge of a selection of main courses and will be able to prepare them.
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- Calculating required quantities- Nutritional importance of the main course- Focus points: cooking, poaching, frying- Nutrition calculation- Preparation of meals under usage of different cooking methods
Training methods	Theoretical lessons and practical exercises
Examination method	Written and practical examination
Examination duration	60 min and ca. 40 min.

Module title: Preparation of desserts

Module	5.3
Objectives	Training objective: The student will obtain knowledge about desserts and learn how to prepare them.
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- To maintain the nutritional values of the dessert by selection of the correct preparation- and processing methods- Selection of fruits (freshness, seasonal availability)- Nutritional values of desserts- Preparation of different desserts e.g. from fruits (fruit plate), cereals (pancake, crepes), or dairy products (yogurt, quark)
Training methods	Theoretical lessons and practical exercises
Examination method	Written and practical examination
Examination duration	60 min and ca. 20 min.

Module title: Managing of a catering department

Module	6.1
Objectives	Training objective: The student will be able to prepare a menu plan and calculate the provision requirement accordingly.
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- To plan galley operations, implementing- and documenting them- Preparation of a suitable menu plan- Food preparation under observation of the provisions available- Proper storage of provision- Controlling of stock- Administrational tasks
Training methods	Theoretical lessons
Examination method	Written and oral examination
Examination duration	60 min.

Module title: Principles of environmental protection

Module	6.2
Objectives	Training objective: To work in the galley under observation of environmental protection principles. Understanding and applying rules and regulations regarding environmental protection.
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- To recognise possible negative environmental impact through galley operations- To observe the applicable environmental protection regulations for the vessel in respect to galley operations- Economic and environmentally conscious usage of energy and resources- Environmentally safe disposal of materials and substances
Training methods	Theoretical lessons and practical exercises
Examination method	Written examination
Examination duration	60 min.

Module title: Provision and stock management

Module	6.3
Objectives	Training objective: This course is based on 'provision and stock management 1' and will deepen the understanding of provision management and economic issues connected.
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- Checking of requirement and order preparation- Payment methods- Economic usage of provisions- Methods to calculate the provision rate- To obtain and compare different quotations in respect to price, quantities, qualities as well as ordering of provisions.
Training methods	Theoretical lessons and practical exercises
Examination method	Written examination
Examination duration	60 min.

Module title: Storage of provisions

Module	7.1
Objectives	Training objective: The trainee will learn about the storing requirements of different provisions as well as different storage characteristics of products.
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- Where to store different products and at what temperatures- Storage of frozen products- Cold store- Storage at temperatures between 12 and 18 degrees C.- Required action prior to a port call and taking over of new provisions
Training methods	Theoretical lessons and practical exercises
Examination method	Written- and oral examination
Examination duration	60 min.

Module title: Control of drinking water

Module	7.1
Objectives	Training objective: The trainee will learn to carry out a check of the drinking water and to test the water quality
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- Principles of the control of drinking water- Introduction of different methods for the test of the water quality
Training methods	Theoretical lessons and practical exercises
Examination method	Written- and practical examination
Examination duration	60 min. and ca. 20 min

Module title: Organizing of festivities

Module	7.2
Objectives	Training objective: The trainee will learn to organize and to carry out festivities on board
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- Planning a festivity- Preparing a menu for the festivity- Carry out organisational preparations for the event- Preparation of food for the festivity
Training methods	Theoretical lessons and practical exercises
Examination method	Written- and practical examination
Examination duration	60 min. and ca. 20 min

Module title: Food budget management and administration

Module	7.3
Objectives	Training objective: The trainee will learn how to economically handle the catering budget. Handle documents and files
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- Cost-effective buying of provisions- Handling of quotations, orders, invoices- Usage of company forms, order lists and other administrative means- Confirmation of receipt of documents and filing
Training methods	Theoretical lessons and practical exercises
Examination method	Written- and practical examination
Examination duration	60 min.

Module title: Nutrition- and calorie awareness / fitness

Module	8.1
Objectives	Training objective: Knowledge about nutrition- and calorie values of different food and observing same in the daily food preparation
Techniques and knowledge to be imparted	Training content: <ul style="list-style-type: none">- Understanding the importance of a healthy diet- Importance of proteins, fat and oils, carbohydrates, minerals, vitamins and water- Calculation of the energy requirement for a specific person- Training of fitness exercises which can be administered on board
Training methods	Theoretical lessons and practical exercises
Examination method	Written- and practical examination
Examination duration	60 min. and ca. 60 min.

14 Conclusions

As described in the chapters 1 to 6 of this dissertation, a standardised training for ships' cooks employed on commercial vessels is urgently necessary. A first step into this direction is the ratification of the Maritime Labour Convention. By this also the regulation 3.2 of the MLC , which was introduced in chapter 8, would come into force.

The introduction of an occupation-specific diet could become a problem as usually the whole crew is served the same food. As to chapter 4 the ratings, who have a physically heavy work load, require a higher daily ration of calories than the officers whose daily routine is physically less demanding. However, due to the traditionally quite hierarchical authority structure on board, problems could be created by making differences in the food supply to the crew. As the officers do not burn a similar amount of calories as ratings during their daily routine, they could develop sicknesses in connection with increased body weight like diabetes.

Such problems could be avoided by informing the whole crew on the job-related nutrition.

A promotion of the cook and the resulting extension of his work scope and increase of wages as shown in chapter 10 can only be realised if the owner / manager is prepared to shoulder the increased cost. In the present times of economic crises it will be difficult to convince owners / manager to take over these additional costs.

In order to put to work the curriculum introduced in this dissertation, ILO and IMO have to work together to create a new convention which is regulating the education for ships' cooks.

Another possibility would be the introduction of the requirements of a standardized training into an already existing convention like e.g. the MLC.

'All revolutions start from the stomach'

By Napoleon I. Bonaparte

Glossary

Ulrike Gonder

“Ernährung Wissen was stimmt“ vom Verlag Herder

Koerber/Männle/Leitzmann

„Vollwert- Ernährung“ Konzeption einer zeitgemäßen Ernährungsweise

Anita Beam und Co.

Gesund und fit auf natürlichem Weg. Richtig essen, gesund leben vom Verlag

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