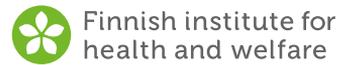


# STUDENT MEALS BENEFITING HEALTH AND COMMUNITIES

– Food recommendations for vocational institutions and  
general upper secondary schools





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# FOREWORD

***Student Meals Benefiting Health and Communities*** is the first joint publication by the National Nutrition Council, Finnish National Agency for Education (EDUFI), and the Finnish Institute for Health and Welfare (THL) of its kind, providing catering recommendations specifically for vocational institutions and general upper secondary schools. The recommendations are aimed at education providers and their support organisations, educational institutions, teachers, student welfare services, school catering services, students and their families. Based on the National Nutrition Council's 2014 Finnish nutrition recommendations for adults (Terveyttä ruoasta – suomalaiset ravitsemussuositukset), this publication is a continuation to previously published recommendations for school meals (2017) and meals for students in higher education (2016). All three recommendations are aimed at promoting healthy eating habits and reducing problems linked with poor diet and early onset of risks of non-communicable diseases.

The general principles adhered to in the food recommendations are the promotion of sustainable lifestyles, social inclusion, non-discrimination and equality in health. The recommendations promote regular meals as an integral part of study and work, with social eating in a welcoming environment as a key factor maintaining productivity in studies and at work and the overall wellbeing of the entire school community. School catering services should be based on providing tasty, nutritious and healthy meals while upholding the goals of sustainable development and climate change prevention.

Every full-time student in general and vocational upper secondary education or preparatory vocational education have a statutory right to free school meals under certain criteria. With the vocational training and education reform, studies take place increasingly as personal training at the workplace. There is a greater variety of educational paths, which means new challenges for organising school catering. These recommendations describe a range of alternative ways of organise the statutory provision of free, nutritionally balanced meals to students of different fields and study environments.

The National Nutrition Council stresses the importance that the recommendation of food quality be adopted in all decision-making on the provision of meals at school or place of work, cooperation with the catering services, service provider and supplier contracting and the practical meal arrangements, monitoring and evaluation. This recommendation can be freely appended to service contracts and tendering documents.

As prescribed in the national core curriculum for general upper secondary schools, school meals are part of the operating culture that aims to enhance student wellbeing. In vocational education, school meals are part of the 'Maintenance of occupational capacity and wellbeing' module, as nutrition forms an element in the committed promotion of health, wellbeing and occupational capacity. The recommendations can even be used as a guide by individual students to help them make informed food choices. They can also be used, where applicable, as teaching material in the health education and home economics

in upper secondary schools, including the general upper secondary school diploma in home economics, and in the welfare planning in vocational institutions and in vocational training in hospitality and catering and social and healthcare.

The school catering services are a large undertaking in municipalities: besides students, the services are also used by a large number of staff catering customers and, to an increasing degree, local residents. A public catering service is a major operator that could help boost local food production and create jobs. Mass catering remains a cornerstone of Finnish food security. Investing in high-quality student catering that takes into consideration both health-related and environmental factors brings wellbeing and vitality to the local residents and region.

In policy decisions on student meals, it is essential to carry out appropriate impact assessment on the lives of different student groups. Engaging students in the design of services they themselves will be using should be a normal part of the process. In the evaluation of general upper secondary and vocational education, it is useful to include students over the age of 18 in the scope of evaluation. It is recommended that student meals services are subjected to health impact assessment and that the services are covered by local and regional health and wellbeing strategies and included in wellbeing reporting.

These recommendations were authored by expert panel appointed by the National Nutrition Council (23 October 2018–10 October 2019). The panel was chaired Marjaana Manninen, Counsellor of Education, Finnish National Agency for Education. The other members of the taskforce are listed below. During the preparation of the recommendations, the panel interviewed a number of experts on vocational education and training, competitive tendering, student and oral healthcare and representatives of the Finnish Food Authority. The National Nutrition Council would like to extend their sincere gratitude to the expert panel and cooperation partners for their contributions to these recommendations. The National Nutrition Council would also give warm thanks to Seinäjoki Joint Authority for Education Sedu, the Jyväskylä Educational Consortium Gradia, Keuda Group and the Joint Municipal Authority for Social and Healthcare in Central Uusimaa for their shared input, photographic materials and operative descriptions. Special thanks are due to the representatives of the Union of Upper Secondary School Students and the National Union of Vocational Students in Finland (SAKKI), who gathered and shared students' experiences and views about high-quality student meals and practices encouraging student engagement.

The National Nutrition Council held a targeted public consultation on the draft recommendations in June 2019. Comments and suggestions were received from 55 organisations and individuals. The National Nutrition Council is deeply indebted to everyone who gave their valuable time to make clarifying comments and suggestions. The general message in the feedback we received was that these new recommendations for organising catering services, provision of meals and operative development were particularly welcome. The National Nutrition Council has accepted this publication as the official national recommendations for student meals at vocational institutions and general upper secondary schools.

In Helsinki, 10 October 2019.  
National Nutrition Council of Finland

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## FOR THE READER

Free school meals are a cornerstone of the Finnish welfare state and Finns are rightly proud of it. Free school meals for everyone is a guarantee that every child and adolescent has at least one warm, balanced meal a day throughout their entire schooling. Therefore, free school meals support social equality and are the foundation for healthy eating habits for life. This is why we believe school meals and the quality of food served are worth every penny!

This publication, the recommendations for student meals in vocational institutions and general upper secondary schools, marks a significant step towards improved student health, diet and sustainable lifestyle. The recommendations are aimed at improving equal access to school meals and their positive impact on public health. Mealtimes are an important part of our daily lives, and by offering high-quality student meals, we support students' study and work capacity, health, wellbeing and recovery. Meals that comply with high nutritional standards help instil a healthy lifestyle that will hopefully continue outside and beyond the school environment.

What we eat makes a great difference to the climate and the environment. Food makes up for one-fifth of the average carbon footprint of Finns. Food and catering industries are, therefore, competing to adopt effective climate measures. It is important that climate and environmental considerations are made a priority in the recommendations.

Sustainable choices and minimising food waste are among the key practices that must be adopted to improve the sustainability of school catering. As an industry, catering services are a major player whose policies have a substantial impact on the environment and they have a decisive role in introducing new food culture. These recommendations will also serve as useful learning material in hospitality and catering training, extending their impact into the world of work at large.

School meals are about equality and wellbeing for everyone. I am delighted that, with the help of these recommendations, the future of high-quality Finnish school meals will be secured.

**Li Andersson**  
Minister of Education

# HOW TO USE THESE RECOMMENDATIONS

## **For students**

These recommendations on student meals will give you information about services that are designed and delivered at your schools to ensure that you have access to nutritious, healthy and environmentally sustainable meals. Start by browsing text boxes and images that catch your attention. Links will lead you to more detailed information. The recommendations explain how student meals is organised, what the meals are expected to provide and how you as the customer can influence their quality and content. The recommendations also serve as a good information package about the importance of nutrition. Use these facts in your studies, such as health education at general upper secondary schools, or when building your own wellbeing plan. The recommendations encourage all students to be proactive, to give feedback and cooperate with the service providers. The recommendations are a solid basis for improving and maintaining your personal diet.

## **For education providers, schools, student welfare services and teachers**

These recommendations include all relevant regulations, documents and nutrition recommendations for the provision of school meals. The publication is aimed to be used as quality recommendation in schools. It describes best practices and ideas for student and staff catering in the social context of the school. The fact boxes highlight key facts and the links lead to more detailed information and sources. The recommendations can be used as a tool by student welfare teams and cooperation bodies with an interest in school catering. The recommendations make for useful learning material in health education and when creating students' wellbeing plans. It can also be used in vocational training in the fields of social services and health care and hospitality and catering.

## **For catering professionals and service and supplier contracting officials**

These recommendations include all relevant regulations, documents and nutrition recommendations for the provision of school meals. The fact boxes and tables highlight key facts and the links lead to more detailed information and sources. The publication includes recommendations on menus and the selection of ingredients as well as the nutritional content of the meals. The recommendations and the tables on ingredients and minimum nutritional requirements for each meal component may be used as separate annexes to tendering and contracting documents. The publication also gives tips and ideas for product and service design, cooperation practices, communications, and the monitoring and evaluation of operations.

# 1 THE TARGET GROUP AND GOALS

These recommendations are a guide for organising catering services at general upper secondary schools and vocational institutions. They are also helpful when planning meals for staff and other lunch customers.

There are approximately 430,000 students in Finland's general upper secondary school and vocational institutions (2017 statistics: 104,000 general upper secondary school and 327,000 vocational institution students, of which 36% under the age of 19). In addition, the restaurants of educational institutions provide daily meals for teaching and support staff, stakeholders, participants in continuing and further education, and other visitors. The meals offered support the health and wellbeing of both students and staff. The secondary impact extends to anyone involved in the education sector, employers of vocational training graduates and families.

The majority of general upper secondary school students are between the ages of 15 and 16 and will soon be moving from secondary education to tertiary education. A significant proportion of students in vocational education or those attending secondary school evening classes are adults. They make up a heterogeneous group: young adults, middle-aged people or people near or in retirement, people with and without families. The financial and social circumstances between groups of students can be very different. Some adults work during the day and study in the evenings. Some study during weekdays, others on weekends or complete courses online and through distance learning at various times. Students who work are a socially significant group, accounting for more than 10% of the total workforce in Finland. When designing student catering services, the needs of an increasingly diverse groups of students need to be taken into consideration and, for example, breakfast and evening meals must be provided alongside lunch.

## 1.1 The goals of the recommendations

The purpose of these recommendations is to promote students' ability to study and to enhance the lifelong health and wellbeing of every member of the school community while preventing diet-related illnesses. The recommendations give information on how to organise a welcoming space that facilitates healthy eating, to maintain appropriate meal intervals, reserve enough time for each meal, to make the meal a social event and to provide nutritionally balanced, tasty meals and snacks. Student meals is also a vehicle of cultural knowledge and promotes a sustainable lifestyle. The values reflected in daily meals must be consistent with the values of the school and society and the choices that have been made in the catering must be made known to the students and staff.

### **The goals of the recommendations for students catering are to:**

- ensure consistent quality of meals and equal access to meals of an appropriate nutritional standard that support a healthy and sustainable lifestyle during secondary education regardless of the place of study;
- promote sustainable development through dietary choices and reduction of food waste;
- describe best practices in student catering and provide ideas for the delivery of catering services, the development of these services and collaboration with stakeholders;
- to serve as a source and learning material for students taking courses on nutrition that promotes health and well-being, including health education and the diploma in home economics in general upper secondary education, the maintenance of occupational capacity and well-being study module in vocational education and the planning of the personal wellbeing plan;
- describe the appropriate composition and the minimum nutritional standards for meals and snacks, including for the purpose of contracting service providers and suppliers;
- to serve as training material, for example, when introducing new students and staff to the offering;
- to serve as a tool for developing collaboration between student welfare teams, student catering services and student healthcare and for promoting the health and wellbeing of the entire school community and each individual;
- act as a quality recommendation for municipalities, joint municipal authorities and other education providers responsible for organising student catering, in the planning, delivery and evaluation of services; and to
- describe the organisational requirements and the regulatory framework governing student catering.

## **1.2 Daily time management, life skills and eating habits**

Youth is a very exciting time of our lives and the period when we forge our identities. Youth is also about constant change, which puts budding life management skills to test. Studying is an integral part of youth and a stage unlike any other in a young person's life. The mandatory education has been completed and the young person has entered the senior secondary level, usually still a minor. The new situation also changes the social circumstances of the student. Students move to a new school, whether general upper secondary or vocational, and meets new friends, teachers and staff. Starting senior secondary studies in a

new environment and community and the new life situation are both exciting and stressful, and a person may experience uncertainty and fear of not belonging.

For some, this stage also means moving away from home. Independence brings with it the responsibility for one's own daily life and finances. Moving away from home means setting up one's own household either alone or with a flatmate or a partner. This may be the first time that the young person has ever had to plan, buy and prepare their own meals. The young person can eat when they want and choose their diet independently, usually influenced by the price and availability of different foodstuffs as well as their tastes, attitudes, values, perceived healthiness and peer pressures. Young people are increasingly selective with their diets based on their individual needs, often influenced by ethical and ecological considerations, and as a result, there is a much greater demand for vegetarian choices than before.

Newly responsible for their own household, young people have the opportunity to experiment with recipes and start building a diet that best suits them. However, providing meals can be a challenge if the young person has not gained the necessary knowledge and skills in their childhood home or the home economics class at school to prepare nutritious and healthy food with balanced energy content. Arranging for meals, the healthiness of the diet and spending can become a concern. Therefore, student meals form a very important part of a young person's daily life and the foundation of a healthy diet.

To secure favourable study conditions, it is vital for a young person to get enough sleep and rest, eat regular and healthy meals, be physically active on a daily basis and maintain social contacts. Wellbeing is reflected in what, how and where we eat. Stress or mental problems may be manifested as a range of eating problems, such as over-eating or skipping meals, or, in the worst case as a severe eating disorder.

Young peoples' lives involve a social dimension through their studies, leisure activities and friends. In addition to organised hobbies, young people spend time at home or outdoors with their friends. The social environment has an impact on eating habits and frequency. Some associate socialising with consuming soft drinks and energy drinks, eating fast food or snacking on savoury or sweet treats. These dietary habits increase the risk of obesity and dental decay and erosion and they have a negative effect on blood sugar levels. Large quantities of caffeinated energy drinks or coffee can cause hyperactivity, difficulty to concentrate or to fall asleep, especially with those sensitive to caffeine.

Serving evening meals at, for example, student halls of residence is an effective way of supporting young people's social wellbeing and daily life management. Preparing and sharing meals together, supervised if possible, will support a young person's dietary knowledge and financial management. It is important that purchasing ingredients, preparing the food and sharing meals are seen as positive activities and that eating is a source of healthy pleasure. Schools can

organise clubs and courses on healthy and economical food for students living in halls of residence or on their own. These activities could involve students, public health, food-sector and sustainable development organisations.



### 1.3 Professional development and food

Part of the remit of vocational education and training (VET) in Finland is to give students life-management skills alongside professional skills. A healthy lifestyle promotes health, work capacity and occupational health and safety throughout a person's career. That is why it is essential that these skills are adopted when a person is still completing their studies.

Different careers and job descriptions pose their own demands on eating habits. For example, in shift work<sup>1</sup>, the timing of meals and snacks and the quality and content of food and drinks have a direct and significant impact on mental agility, wellbeing and health expectancy. Regular and healthy meals support weight management, stabilises blood sugar levels and prevents fatigue. Night shifts are particularly high-risk and can cause health problems such as stomach problems and an increased risk of obesity and cardiovascular disease in addition to lowered mental agility. All these risks can be reduced to some degree through eating habits. In physically demanding work, sufficient, balanced and regular meals and intake of liquids improve work capacity, occupational health and safety, coping and recovery. Maintaining good hydration balance is particularly important in hot conditions.

1 <https://www.ttl.fi/tyontekija/tyoaika/vuorotyö/sopeutuminen-epatyypillisiin-tyoaikoihin/> (In Finnish)

Night work also makes it challenging to maintain healthy habits. Being on the move, working outdoors, in the field or at customer premises can also make it difficult to organise meals during working hours. It is important to prepare the right kind of packed meals, and information on the right content of packed meals and snacks should be provided at the workplace during training. Shortage of time, a backlog of duties and other similar factors increase the stress level at work. One method of stress management is the recourse to unhealthy habits, such as snacking on chocolate or consuming energy drinks or alcohol. These habits can lead to obesity while lowering capacity especially in roles that require a high level of fitness and functional capacity.

In the hospitality and catering industry, food and drink, including alcohol, are ever-present. Moderation in consuming food and drinks, including alcoholic drinks, is connected with health and wellbeing; it would be important to learn to observe moderation during student years.

Basic capacity-maintaining skills learnt at an early stage will be useful for the rest of our entire lives: work and studies are split into manageable periods of work, rest and recreation, socialising with peers, communicating information, and satisfying your nutritional needs.

Students can use the **Work Capacity Certificate** to demonstrate to their employers that they have the necessary skills to manage their capacity and wellbeing at work and that they take interest in looking after themselves. The purpose of earning the Work Capacity Certificate is to increase students' knowledge, skills and motivation to maintain good health and wellbeing during and after their studies. Maintaining good work capacity is part of professional competence. A competent person maintains an appropriate and balanced diet to support their performance.

To earn the Work Capacity Certificate, students acquire knowledge and skills in four domains of work capacity and wellbeing:

1. occupational work capacity capabilities
2. work capacity promoting exercise
3. health competence
4. hobbies and cooperation skills

The Work Capacity Certificate assignments are completed as part of the vocational upper secondary qualification. The certificate is based on demonstrated competence and personal choices.

<http://www.tyokykypassi.fi/> (In Finnish)  
(<https://www.tyokykypassi.fi/en/front/>)

## 1.4 Mealtimes as part of the school culture

Mealtimes are a major factor in a school's culture. They are an integral part of the curriculum and the implementation plan and they also affect the school's public image.

The menu is one of the most frequently visited postings on any educational institution's website. Student meals can be incorporated in many different subjects, phenomena or themes: cultural awareness and relations, sustainable development, nutrition, food science, communications, marketing and service and product design.

Food and mealtimes are a positive vehicle for engaging with, listening to and collaborating with the customers. Each customer has an opinion about the food and the catering arrangements. The environment should be open and accessible. Friends, parents and other customers should also be welcome to the student restaurant. Student catering provides an environment where young people can experience and learn about a staff-catering style service, which they will encounter in the world of work. Student restaurants are safe learning environments that are also well suited to students with special needs. Guiding students towards eating habits that promote health and wellbeing is in the best interest of a growing and developing young person.

The impact of catering services on the image of a school is created through the facilities, experiences and communications. The dining halls should be common meeting places where everyone is taken into account, where students behave well and appreciate the food served and the skilled staff who provide it. The space can also be used as a venue for events and celebrations organised by the school or external partners.

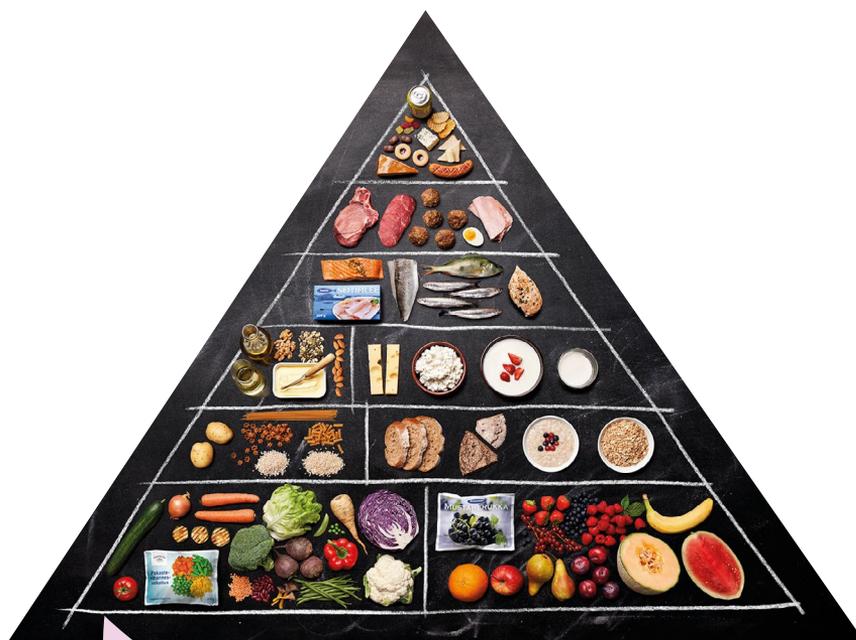
Student catering providers are pioneers in the development of surplus food sales. Many schools run shops where customers can buy ready meals and products to take home. Some student restaurants have introduced food waste mobile apps, while others allow students and staff to buy food over the counter at the end of the meal at a low price. Student meals and meal components can also be sold to local residents.

As shown by the above description, student catering services are an impressive undertaking. They have a large number of customers, making them high-volume service providers and clients for suppliers and contractors. The networks of service providers are extensive and can be utilised not only for the service provision but also in teaching and other educational activities, if specifically agreed in the service contract. This partner network can include the food industry operators, associations, authorities, entrepreneurs, local restaurants and other educational institutions. The student restaurant is the window into the entire organisation showcasing modern, customer-centred and healthy and environmentally friendly catering.

## 2 FINNISH NUTRITION RECOMMENDATIONS FORM THE BASIS FOR STUDENT MEALS

In Finland, each education provider is free to decide on and deliver student meal services independently. However, the services are guided by the Finnish Nutrition Recommendations issued by the National Nutrition Council for the entire population and specific target groups (see Chapter 4). Food based on national nutrition recommendations is healthy and supports a sustainable lifestyle (see Finnish Nutrition Recommendations 2014, Appendix 9).

The food pyramid and plate model referred to in the Finnish Nutrition Recommendations illustrate the overall composition of a health-promoting diet.



**Foods at the base of the triangle form the vegetable-rich foundation topped up with cereal and dairy products and sources of healthy fats as well as pulses, fish, white meat, eggs and red meat. The “discretionary food choices” at the top of the pyramid are not part of a healthy diet and should not be consumed regularly.**

The plate model illustrates a balanced meal. It helps to plan meals and to inform consumers how meals should be composed. The plate model can be built in many different ways. The basic idea is that one half of the plate is filled with fresh or cooked vegetables, one quarter with potatoes, wholemeal pasta or grains and the remaining one quarter with a protein source such as pulses and other sources of plant protein, fish, eggs, poultry, red meat or nuts/seeds. The plate model is shown as a full meal including drink, wholegrain bread, vegetable spread and oil or oil-based salad dressing.

**The plate model is a template for creating balanced, healthy portions at every meal. Portion sizes vary greatly, depending on the energy needs of the consumer.**



The choice of foods and ingredients in student meals is based on recommendations aimed at the improvement of diet on population level (Table 1).

**TABLE 1: PROMOTING HEALTH THROUGH DIETARY CHOICES, NATIONAL NUTRITION COUNCIL 2018.**

Add	Replace	Cut back on
Plant-based food: vegetables, root vegetables, berries, fruit, mushrooms	Low-fibre grain products for wholegrain products	Drinks and food that contain added sugar
Oil, nuts, almond, seeds	Butter and butter-based spreads for vegetable spreads or oil  Full-fat dairy products for low-fat or fat-free alternatives	Coconut and palm oil
Fish  Peas, beans, lentils	Some of the red meat for poultry  Some animal proteins for plant proteins	Meat products  Red meat
	Products high in salt for low-salt ones: bread, cheese, cold cuts. Switch from non-iodised salt to iodised salt.	Salt

## 2.1 Multiple pathways to a healthy diet

Health-promoting diets come in many variations: they can include fish and meat; they can be fully plant-based or they can be a combination of these. A balanced diet can be achieved as semi-vegetarian (vegetarian diet added with dairy, eggs, fish and/or white meat), pesco-vegetarian (vegetarian diet added with dairy, eggs and fish), lacto-ovo-vegetarian (vegetarian diet added with dairy and eggs), lacto-vegetarian (vegetarian diet added with dairy) or vegan (only plant-based products). A vegan diet requires supplementary products such as plant-based drinks fortified with nutrients and specific recipes for vegan meals (see p. 19, Vegan meals).

It is recommended that the menu includes a daily choice of a vegetarian dish that everyone is welcome to choose. It can be lacto-ovo-vegetarian or vegan, depending on customer preferences and needs. Vegetarian food has grown in

popularity among customers of all ages, including non-vegetarians who wish to add variety to their diet. If a daily vegetarian choice cannot be provided, an alternative is to organise a vegetarian week every autumn and spring, for example, so that students are offered more variety and the chance to learn about plant-based foods and find their favourites. Advertising a plant-based meal as 'vegetarian' is not necessary and can be counterproductive, as this type of labelling can create resistance among some customers.

In this publication, the energy and nutrient content recommendations for the purpose of menu planning are given **as a weekly average per meal** (Chapter 4.2.1, p.51). Compliance with the recommendations can be ensured by observing the minimum nutritional requirements for each meal component (Chapter 4.2.3, p. 61, Table 5A–C). The above-mentioned recommendations are the criteria for the nutritional standards of the foods to be used when agreeing on the content of catering and the contracting process. They are also included in the service contract and they are subject to mutually agreed evaluation and monitoring criteria and reporting.

If a student lives in a hall of residence or a boarding school, where they are provided with all daily meals, including breakfast, dinner and snacks in addition to lunch, the Finnish Nutrition Recommendations must be observed as a whole (2014, version 5)<sup>2</sup>. If a student requires a special diet for health reasons, the applicable Current Care Guidelines, or nutrition therapy recommendations (National Nutrition Council, 2010)<sup>3</sup> or individual dietary guidelines compiled by a healthcare practitioner are observed.

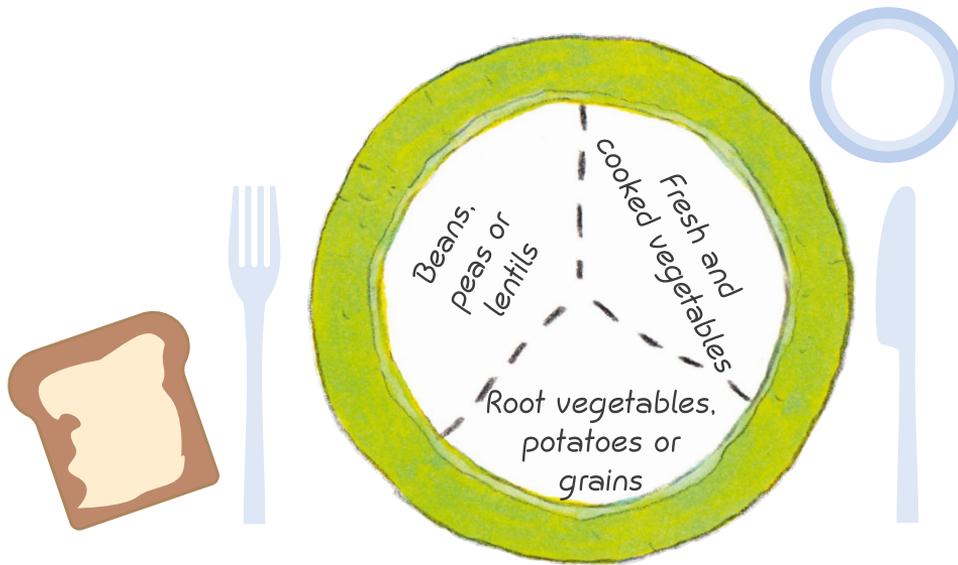
## Varied and balanced vegan diet

Ensuring a varied and balanced vegan diet takes planning and innovation. Recipes for tasty vegan meals that are nutritionally balanced (in terms of energy content and density) are necessary for the delivery of satisfying vegan options. If vegan options are offered, they must meet the nutritional criteria of a full meal. Issues to consider are the availability of products, the pricing and recipes that are of high nutritional content and to the customers' liking. The provision of a vegan alternative always requires the planning of a completely separate menu alongside the main menu. Vegan meals also require financial resourcing as the ingredients used in vegan cooking are typically more expensive or their availability and demand may be limited.

A balanced vegan diet requires the use of sufficient and varied sources of plant proteins (see protein sources, Appendix table 2). Besides sufficient protein content, the energy content must also be adequate. The diet must also include

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- 2 [https://www.ruokavirasto.fi/globalassets/teemat/terveytta-edistava-ruokavaliokuluttaja-ja-ammattilaismateriaali/julkaisut/ravitsemussuosituks\\_2014\\_fi\\_web\\_versio\\_5.pdf](https://www.ruokavirasto.fi/globalassets/teemat/terveytta-edistava-ruokavaliokuluttaja-ja-ammattilaismateriaali/julkaisut/ravitsemussuosituks_2014_fi_web_versio_5.pdf) (In Finnish)
  - 3 [https://www.ruokavirasto.fi/globalassets/teemat/terveytta-edistava-ruokavaliokuluttaja-ja-ruokasuositukset/ravitsemushoito\\_net\\_2.painos.pdf](https://www.ruokavirasto.fi/globalassets/teemat/terveytta-edistava-ruokavaliokuluttaja-ja-ruokasuositukset/ravitsemushoito_net_2.painos.pdf) (In Finnish)

foods that are fortified with calcium, vitamin D, B<sub>12</sub> and iodine, such as fortified oat or soy drinks, or their intake must be ensured through supplements. Obtaining the necessary supplements is the responsibility of the customer. A vegan plate model is a helpful tool in planning vegan meals (see below).



**VEGAN PLATE MODEL**

## 2.2 Sustainability in student catering

Sustainable development is an ongoing, conscious social change process that takes place locally and globally. Its goal is to secure equally or more favourable living conditions for future generations than what the present generations are experiencing. This means that the environment, human beings and the economy are given equal weight in our decision making and actions.<sup>4</sup> The decisions we make today have an indelible impact on the lives and the future of today's youth. Dietary choices are a central part of a sustainable lifestyle. The objective of social structures and production systems is to make the sustainable choice the obvious choice. Making sustainability practices as transparent as possible will reduce the perceived conflict between knowledge and action.

Catering services can harness their operations and communications to promote and support sustainable development while observing their strategic targets. Environmental and climate responsibility is at the core of all catering processes and operations: the business idea, values, communications, operative planning, facilities and equipment, water and energy consumption, menu and product design, purchasing, ordering of meals, cooking, serving, packaging, meal deliveries, waste minimisation, recycling, waste management and cleaning. It also informs the promotion of the occupational health of catering workers and shows in the way we respect cultures, whether our own or someone else's.

The core business of catering services is to provide tasty, nutritionally balanced food through regular meals. This is in line with the goals of the 2030 Agenda for Sustainable Development<sup>5</sup>. Society's Commitment to Sustainable Development is the national sustainability strategy and tool initiated by the Finnish National Commission on Sustainable Development. It is a shared long-term vision of the future of Finland. The Nutrition Commitment<sup>6</sup> is a Finnish model that helps and encourages food industry operators and stakeholders to improve the nutritional content and quality of the Finnish diet and to promote nutritionally responsible practices. The commitment is an ambitious and extensive document that will help schools and their catering providers develop their nutritional standards and approach and to take the measures they take known to the public.

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4 <https://kestavakehitys.fi/en/sustainable-development/approaches>

5 <https://kestavakehitys.fi/en/agenda2030>

6 [www.ravitsemussitoumus.fi](http://www.ravitsemussitoumus.fi) [In Finnish] <https://www.ruokavirasto.fi/en/themes/healthy-diet/nutrition-commitment/>

## 2.2.1 Sustainable choices and minimising food waste

According to the Finnish Nutrition Recommendations (2014), sustainable development should be taken into consideration in dietary choices. A diet that is rich in plant-based choices and observes the nutrition recommendations helps reduce the environmental load of food consumption. In an environmentally friendly diet preference given to homegrown seasonal vegetables, root vegetables, pulses, mushrooms and berries whereas red meat is served as a main course only once or twice a week. Options that support sustainable development also include potatoes; cereals or cereal side dishes replacing rice; fish, especially freshwater fish;<sup>7,8</sup> rapeseed oil, vegetable spread and tap water.



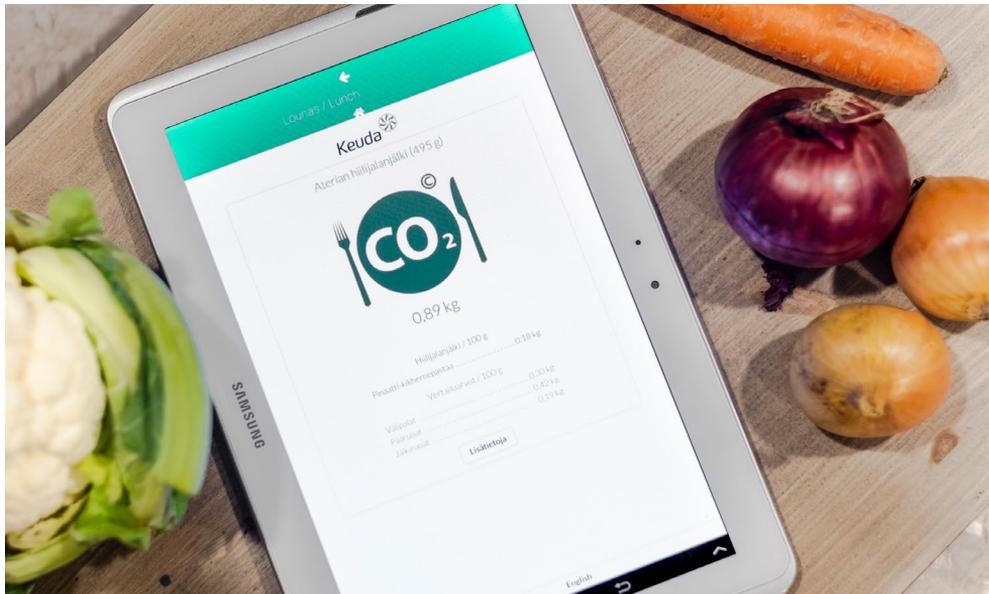
In addition to dietary choices, reducing food waste is an important measure to minimise the environmental burden of food. Diners are encouraged to combine a meal according to the plate model and take only the amount of food they can finish and thus reduce plate waste. Food waste in food preparation can be reduced by a concentrated plan adopted across the community and a robust ordering, logistics and information system that can accommodate fluctuations in demand and foreseeable drops in the number of customers. The leftover lunch sales is an initiative that promotes the utilisation of leftover food. The sale of leftover lunch also helps students eat proper evening meals.

High level of food hygiene helps reduce food waste: storing products at correct temperature, hygienic handling of food and keeping equipment and surfaces clean and in good repair.

7 Note the Finnish Food Agency guidelines on the choice and consumption of fish for young persons, people of reproductive age and pregnant and breastfeeding women. <https://www.ruokavirasto.fi/eng/instructionsforsafeuse>

8 Avoid fish varieties marked with red in the WWF Fish Guide. Fish guide: <https://wwf.fi/kalaopas/> (In Finnish)

Once served, self-service meals must not be served again the following day. If the food that has been kept hot in the kitchen is cooled down to refrigerator temperature within four hours, it can be served the next day. Freezing food is permitted. At the end of each mealtime, food that has been on display can be sold to the staff and customers. The Finnish Food Agency has issued separate guidelines for safe donation of food<sup>9</sup>.



**Tips and ideas:** Real-time monitoring of food waste by location. To keep track of the amount of waste, a scale is acquired and rotated between different locations throughout the school year. The amount of food waste is weighed daily at each location. The scale shows how much food each user of the waste bin has wasted and at what cost. The location that has managed to reduce food waste the most is rewarded at the end of the challenge. (Seinäjoki Joint Municipal Authority for Education Sedu)

**Tips and ideas:** The Food Waste Barometer, a tool for monitoring the amount of plate waste, that is, plated food that goes to waste. The information on the Food Waste Barometer can be published daily near the dish sorting stations, on the dining room wall or at the door. This sends a concrete message to customers on how they could take personal responsibility and reduce food waste.

9 [https://www.ruokavirasto.fi/globalassets/tietoa-meista/asiointi/oppaat-ja-lomakkeet/yritykset/elintarvikeala/elintarvikehuoneistot/eviran\\_ohje\\_16035\\_2\\_fi\\_ruokaapu.pdf](https://www.ruokavirasto.fi/globalassets/tietoa-meista/asiointi/oppaat-ja-lomakkeet/yritykset/elintarvikeala/elintarvikehuoneistot/eviran_ohje_16035_2_fi_ruokaapu.pdf) (In Finnish)

## 3 ORGANISING STUDENT CATERING

### 3.1 Eating environment

The eating environment is an experience that involves all senses and is affected by many factors, such as visual appearance, product offering, service, reputation and communications. The customer service skills of the catering staff, uniform, clean clothing, and an inviting space are among the important factors that form the reputation and positive atmosphere of a student restaurant. Mealtimes are part of the educational mission of a school.

The ambience of the student restaurant is directly linked to the popularity of school meals, positively or negatively. In a hectic, noisy and uncomfortable environment, eating becomes just “refuelling” and the only goal is to quickly fill one’s stomach.

#### **Modifiable spaces and flexible mealtimes add to everyone’s comfort**

- multipurpose spatial solutions (such as “green walls”, room dividers and furniture) create the opportunity to eat in groups or alone
- the space can also be used as a lounge and a group work space and for events and parties
- design several dining areas on large campuses
- introduce flexible mealtimes: for example, anytime between 10:30 and 13:00. During exam weeks, it should also be possible to eat after the exam finishes.
- best practices: a central hall that operates as a restaurant as well as a stage, library and hobby space and exercise/ party venue. If necessary, the food service area can be locked and separated from other activities.

**The quality of facilities increases student engagement and improves appetite.**

Acoustics play an important role in noise control at a dining space, where the noise level can easily reach up to 70 to 80 dB. Noise is caused by moving furniture, conversations, the clinking cutlery and dishes, the sound of the dishwasher and the footsteps of the customers. Different structures and surface materials can be effectively used to dampen the noise and create calm.



A well-run student restaurant is scaled according to the number of guests and the customer flow. There are enough seats and tables to give everyone a chance to enjoy a leisurely meal. When designing the dining area and furniture, the multiple uses of the space and furnishing, ease of care, environmental factors and sustainability are all important considerations.

The customer experience and the popularity of a student restaurant are also influenced by the timing and flexibility of mealtimes to suit the needs of the students. This prevents excessively busy peak hours and long queues and helps reduce noise. In a comfortable, customer-friendly environment, students learn to appreciate the importance of food, sharing meals, and allowing sufficient time for students to eat also promotes their well-being.



**Modern campus restaurants invite students to stay longer and enjoy food.**

## **The importance of service counter design**

The design of service counters plays a significant role in guiding customers towards recommended eating habits and the observance of the plate model. A sample portion or its image is placed above each service counter. The counters are arranged so that the vegetables and salads are served at the beginning, followed by warm main courses starting with vegetarian food, and then by warm side dishes and finally drinks and bread, unless a separate bread buffet has been provided. With appropriate spatial solutions, timing, display and logistics carrying food to the table with trays is possible without compromising on the plate model (vegetable side dish, main course, bread and drink). Serving food without trays is environmentally friendly as this will save energy and reduce the use of detergents and the production of waste.

The correct serving temperature is important for the taste as well as the microbiological safety of hot meals and cold salads and drinks. A separate bread buffet provides a good and varied selection of bread. Gluten-free and vegan bread options should be clearly labelled in different languages as necessary. Providing furniture of different elevation and design also adds to the appearance and comfort of the space.

A varied offering and a salad bar from which customers can compile their own salad portions from different ingredients are shown to increase the consumption of vegetables. The snack offering should include vegetables and fruits served in handy takeaway portions or as whole. Serving food as separate components allow customers to follow their individual diets and take into account personal restrictions such as allergies.

The placement and number of coat racks and handwashing stations are important for the comfort and hygiene of the entire space. Suitable hangers and lockers or cupboards should be provided so that the customers need not bring their outdoor clothes into the space. Handwashing facilities should be located nearby. For the overall cleanliness and hygiene of the space, it is best to arrive with hands washed and wearing no jackets or hats.

It is the job of the entire staff of the school to guide students towards proper behaviour, table manners and showing consideration for others. Every customer must take responsibility for the common property and the cleanliness of the environment. The role of the catering service staff is to ensure that the counters and tables are kept clean throughout the meal.



### **3.2 Supporting health and sustainability through diet – the student guidance perspective**

Students' dietary choices are influenced by a variety of factors, such as their upbringing, taste preferences, cultural background, the range of foods available, previous dining experiences, the dining environment, and service experience. Dietary habits are also guided by health, quality and environmental awareness

and the pricing of meals. Some choose their food purely from the pleasure perspective while others simply want to fill their stomachs.

In principle, students have the knowledge they need about healthy nutrition, but not all of them apply it to their personal diets. Students may also have inaccurate or misleading information about nutrition. In addition, financial factors or the amount of meal subsidy may influence what a student chooses to eat, if they choose to eat at all.

## **Students catering goals**

The beginning of upper secondary education is when many students distance themselves from their parents' influence and take responsibility for their own lifestyle. For this reason, the student years are an opportune time to influence students' eating habits through social eating. Student meals can also serve as a model for students' dietary choices at home and after school.

The main goal of dietary guidance is for students to gain positive experiences of social eating, to be motivated and accustomed to choose meals that are substantial enough and comply with the recommendations and to understand the relation between meal selection, the eating situation and well-being (health, mental agility, coping and social interaction). Dietary guidance and information can support regular eating habits, nutritional awareness, skills and attitudes, as well as healthy and environmentally sound choices among students in different study environments. Peer mentors have the important task of leading by example.

A sufficient, balanced and tasty meal enjoyed at leisure is more than just food. The best proof of successful delivery of school meals and guidance are students who eat regularly and choose a varied selection of foods. Only the meals that are consumed promote learning and health.

## **Student-centred communication and influencing**

Students are highly conscious consumers and many of them want to be informed about the ingredients of their meals as well as the energy and nutritional content. An increasing number of students are interested in the origin, ethicality, environmental impact and manufacturing processes of the food they eat. These wishes and needs can be responded to through student-centred, clear, practical and systematic communication. Communications should take into consideration the diversity of the learning community and, for example, the language and channels of communication used by the target group.

Those who follow a special diet, need specific information and guidance about the foods served to help them avoid foods that are unsuitable for them and choose correct replacements. When the menu is based on standardised guidelines, providing a list of ingredients on each meal is easy. The list of ingredients and

nutritional content can be displayed on the school website, on a screen or poster near the service counter or on information sheets available on request. The list must include all ingredients in the meal and it may also describe other quality factors. Even if a student's special diet does not require serving a completely individual meal, it must still be ensured that the student is always able to choose a safe meal for themselves.

**A good menu is both informative and inspiring.**

## **Communication and dietary guidance**

All communication related to student catering and meals plays a role in dietary guidance. Among the most important means of communication are images and descriptions on menus indicating the suitability of foods to different diets, a service counter that encourages students to make healthy choices, and a welcoming dining environment. Students should be informed, among other things, of types of foods that are available, the components the meal consists of and the ingredients that have been used. Customers are also interested in the origin of the food. Under the Ministry of Agriculture and Forestry Decree (154/2019), the country of origin of any meat served must be provided at the point of service. Plate waste can be reduced by instructing diners to take keep portion sizes reasonable.

**Mobile apps, information screens, social media and websites are modern, quick and popular channels among students for sharing information about services, menus and snacks and health-promoting eating.**

**Positive dialogue and uplifting encounters are the foundation of a good ambience to which everyone can contribute.**

**An updated weekly menu can be made available through electronic and digital communication channels and shown on screens in the school lobbies and corridors.**



## School meals as a form of social eating

School meals provide a natural setting for casual interaction and community building among students and staff. It is important to create an atmosphere in the entire learning community that encourages inclusive, considerate and polite table manners. A learning environment where good food, balanced and regular meals and the social aspect of eating are valued paves the way for the attainment of the health and wellbeing goals set for student meals.

**The student restaurant brings the students and staff together.**

- Student meals are also served to parents at parents' evenings and family events.
- Peer mentors' task is to introduce new students to the school meals and catering services. Peer mentors are also encouraged to eat with their mentees.
- Everyone in the school community are encouraged to take responsibility for the dining facilities and culture.



## The Better Choice Heart Symbol guides towards healthier choices

The Better Choice Heart Symbol<sup>10</sup> is a label given to high-quality food products and meals to indicate that the product or meal is a nutritionally sound option. It is the only food label in Finland to prove that a product complies with high nutritional standards. The Heart Symbol is a registered nutrition claim. The Heart Symbol is registered by the Finnish Heart Association and the Finnish Diabetes Association, and the labelling system is developed by an independent research group based on scientific evidence.

A Heart Symbol can be used as a tool for quality assurance and customer communications in professional kitchens. The Heart Symbol helps the customers make healthier and more informed choices. By demanding Heart Symbol meals from their service providers, local authorities and education providers can easily contribute to customers' health and wellbeing. Heart Symbol meals are served in more than 1,000 restaurants and their popularity is on a steady increase.

Each meal component must meet a set of criteria based on research. The criteria help draw attention to the amount and quality of fat and the amount of salt in each component. Fibre content is crucial in grain-based meal components.

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<sup>10</sup> <http://ammattilaiset.sydanmerkki.fi/ammattikeittiot/mika-sydanmerkki-ateria> (In Finnish) <https://www.sydanmerkki.fi/en/>

The criteria for a Better Choice Heart Symbol meal are consistent with the minimum nutritional requirements per meal presented in these recommendations (see pp. 61–63).



### 3.3 Meals and snacks

Student restaurants should offer a wide variety of meals and snack options as part of a balanced daily diet. Because students' typical days can be very different, the catering services should also consider the evening meal arrangements and the needs of other target groups.

#### Lunch

At school lunch, there should be a sufficient number of options from which students can find a meal they prefer. Depending on the situation and the school, 2–3 main-course options are enough to meet the range of needs. It is recommended that a vegetarian option is available daily. One of the main course options can be a salad. In addition, vegetables are served incorporated in fish and meat dishes or as a side dish.

**The meals served at school help students choose a more varied diet.**

**Seasonal vegetables are displayed prominently and attractively and utilised in the vegetarian options.**

#### Breakfast

There are some good experiences of serving breakfast at educational institutions and adopting this practice more widely is strongly recommended. Serving breakfast at school, such as porridge or a sandwich, ensures that students eat proper breakfast before the start of the day.

## TIPS AND IDEAS

### Communal porridge breakfast

Free porridge is served from 7:45 to 9:00 to students and staff. The type of porridge varies daily and can be made of oatmeal, barley, rye and mixed grains. Porridge is no longer served at lunchtime. The purpose of the Porridge Breakfast is to encourage students to start the day with a healthy and nutritious breakfast. It also helps students financially and, in this way, promotes nutritional equality. Free porridge is also an incentive for the staff to share breakfast with their students. Breakfast rolls are also available at some schools for an extra charge. (Examples of schools serving breakfast: Hyria, Keuda, Gradia, Savonia)



### Fruit in the morning

Each morning, fruits are handed out to students to take away. This is also a chance to give information about various fruits and other health-promoting snacks.



### Themed weeks – case Porridge Week

Education providers are collaborating with the student cultural and sports organisation SAKU in organising themed health and wellbeing events throughout the country for one week each autumn. The events are planned together with the student body, and examples include weeks themed around healthy snacks and breakfast. The theme for the week can be freely decided by the schools. The themed week engages the students and encourages communication and the sharing of experiences and ideas.

With the Porridge Week, Saku wants to spread awareness of the benefits of a good breakfast. Educational institutions are invited to provide free porridge breakfast to students and staff on at least one morning and preferably for a whole week. The breakfast event is also a social event. At breakfast, the school's leadership team, teachers and student welfare teams share breakfast and socialise with each other – a unique opportunity to listen to students and hear their thoughts and ideas. <http://www.sakury.net/taitoja-elamaan/hyvinvointivirtaa> (In Finnish)

## Snacks

The student restaurants or cafes should offer a variety of healthy snacks that are appealing to students.

**Examples of healthy snacks:** Dairy, whole grain and vegetable/fruit combinations of seasonal products such as

- sandwiches made of rye or whole grain bread, fruits, smoothies, fruit salad, nuts, high-protein yogurt, raw porridge, liquid snacks, snack bars and pasties,
- pancakes and wraps.



**Fruits are handy and healthy snacks.**

**Snack vending machines should serve snacks that comply with nutrition recommendations.**





## TIPS AND IDEAS

### **Organising snacks at general upper secondary schools**

Serving healthy and inexpensive snacks at general upper secondary schools is easily organised. The service can be organised at the student restaurant utilising breakfast foods and snacks prepared for local kindergartens in the area's institutional kitchens. The snack could include porridge, bread and other whole grain products, drinks and fruits. A snack can be subject to a charge so that students pay with vouchers purchased in advance from the provider. (Karkkila comprehensive and general upper secondary school)

### **Snack points**

Snack Points is a competition where students choose between healthy and unhealthy options. The initiative was organised by the students. (Keuda)

## **Packed exam lunch**

The students sitting the matriculation exam can be offered a packed lunch by the education provider. A good packed lunch allows the student to maintain their energy balance and full working ability throughout the exam, which lasts several hours. Serving packed exam lunch also increases equality in the exam situation.

The exam arrangements require that students eat in the exam room, which limits which foods can be served. The exam day is long and students need regular snacks to stay energised and hydrated and to maintain full mental agility. Portion size is key: heavy, large meals can cause an energy slump. The storage conditions and removing any information from packaging place special requirements on the snacks served in the exam room and their packaging.

**Examples of snacks and packed lunches. Depending on the purpose, a packed lunch can be compiled from a number of elements.**

1	Meat/fish/vegetarian sandwich from rye bread	Wholegrain roll with meat/fish/vegetarian filling.	Meat/fish/vegetable wrap
2	Fresh porridge	Whipped berry porridge	Rice or semolina pudding and fresh berry sauce
3	Natural yoghurt + muesli + berries	Cottage cheese/high-protein yogurt mixed with muesli, berries or fruit	Milkshake/cocoa/latte
4	Berry or fruit salad	Cut fruit	Berry/fruit/vegetable smoothie
5	Nuts	Snack bar	Dried fruit
6	Salad portion	Cut vegetables	Vegetable dip
7	Water/unflavoured mineral water	Iced/hot tea or coffee	Juice (not from concentrate) and water

**Example 1 – Packed exam lunch:**

Sandwich from rye bread, two portions of fruit, nuts and a bottle of water

**Example 2 – Light snack:**

A portion of fruit/smoothie, coffee drink

**Example 3 – Substantial snack:**

Filled roll, raw porridge, water



## Packed meals for physically demanding fieldwork

Physically demanding fieldwork in vocational training requires a good meal and snack.

### Packed lunch for fieldwork

Vocational education students in the green sector often work alone in a forest environment. For this reason, it is appropriate that they carry their own thermos containers for hot food and pack the necessary food for themselves. Packed meals are also needed by students in other fields, such as mining and tourism.



The students are served a generous breakfast at school (incl. porridge, bread, vegetable spread, cold cuts, vegetables and coffee/tea). At breakfast, students pack a hot main course, bread, vegetable spread, fresh vegetable snack and milk/sour milk/water to take away. Dinner is served at school, and at the dinner, students pack the necessary evening snacks to take away. The principle is that one of the main courses is taken on-site and the other is served at school. Students are also allowed to pack other meal components and, for example, evening snacks with them.

### Other on-site meals

When students work in groups on-site and are not able to eat at school, the day's meals are delivered to the site either hot or chilled. The meal should be varied and sufficient, taking into account the physical demands of work and the time of the year. Appropriate storage temperature and hygiene requirements must be observed when delivering food on site.

### Sufficient sleep and nutrition – preparing for exams

In the days leading up to an exam or competence demonstration, it is important to focus on basic needs such as adequate rest, a good night's sleep, regular meals and suitable exercise. This helps reduce stress and makes it easier to focus on exam performance. The quality of sleep and recovery are known to be vital for successful performance in a challenging situation.

**One task for the Home Economics Diploma exam could be planning a packed exam lunch.**

**It is recommended that evening students** have the opportunity to eat a balanced dinner (between 16:00 and 18:00) or snack. The offering should cater to various diets.

**The selection of snacks and cafe and kiosk products are based on health-promoting options.**

### 3.4 Mealtimes

Student restaurant opening hours are based on the agreed policy and the specific needs at each school. Outside these opening hours, snacks are available from vending machines and as chilled portions.

Well-planned regular meals maintain mental agility throughout the day. Regular mealtimes follow the students' daily rhythm so that they provide regular respite during the day and accommodate typical daily tasks. A suitable time for breakfast is between 7:00 and 9:00 and for lunch between 10:30 and 13:00. Mealtimes should be planned and timed so that the different student groups can all enjoy a leisurely meal. The minimum time for meals is 30 minutes. In addition, it is recommended that students have the opportunity to step outside for 10–15 minutes to engage in some physical activity before or after a meal, depending on what works best considering the school schedule and catering arrangements.

When designing learning environments, it should be taken into account that meals need to be arranged within the recommended mealtimes and enjoyed in a calm environment. The mealtime is important for health and well-being but also for maintaining learning performance. Allowing sufficient time for the meal helps students to focus on the moment and to eat sufficiently but in moderation, according to their personal needs. The lunch serves as a break in the middle of the day and gives students the opportunity to recover and socialise.

Too short a meal break can lead to bingeing or eating only small portions or even skipping meals altogether. Giving students plenty of time to enjoy their lunch

speaks volumes about the values of the school, respect for food and food culture and the prioritisation of student health and well-being.

**Allowing at least 30 minutes for lunch shows that the education provider values food and mealtimes and wants to promote students' health and well-being.**

### 3.5 Special dietary requirements and alternative diets

Catering to special diets in student catering ensures that every student has access to a nourishing daily meal, which helps maintain their performance. The procedures for requesting a special diet and providing the required doctor's certificates are agreed on locally at each institution together with the catering service provider. The doctor's certificate is usually obtained by the student from their GP, a private medical practitioner or from a student health care provider.

Establishing clear and consistent rules for requesting a special diet has been found to reduce unnecessary demand for special diets but also to ensure that every student has access to sufficient daily nutrition. It is in the student's interest that the need for a specific diet on medical grounds is verified by a medical practitioner. Adopting unnecessary dietary restrictions can have an adverse effect on a student's nutritional status and health, if the diet leads to inadequate intake of nutrients.

It is the student's responsibility to request a special diet according to due process adopted by the school. Students and their families must be informed of the special diet policy before the students begin their studies. It is good practice to specify how long the student will be requiring the special diet, e.g. until the end of their studies. If a student has a lifelong condition that requires a special diet, such as coeliac disease, only one request needs to be filed at the beginning of the studies. If a student has a serious, life-threatening food allergy, the catering services must be made aware of this at all times. The process of reporting allergies and any practical arrangements that the condition requires may be agreed jointly and, when necessary, with the support of student health care.

In the case of diets based on ethical choice, it is a good idea to introduce one request form for all purposes to be signed by a student's parent or guardian.

If a student has severe or life-threatening food allergies, it is advisable to agree with the catering service providers in very clear terms on how they should

prepare, store and serve the food to minimise the risk of contamination, human error and other exceptional situations. With severe or life-threatening food allergies, it is best to prepare a meal individually labelled with the customer's name. The student restaurant and teachers must have clear instructions on how to take allergies into account to ensure safe eating and teaching arrangements and how severe reactions are treated especially if an adrenaline injection is available for emergencies. If the student has a food allergy that can cause anaphylactic shock, they must carry their own adrenaline injections for personal use<sup>11</sup> at all times in their rucksack/bag or on their person.

Students should also inform their fellow students of their severe, potentially life-threatening allergy. Personal adrenaline injections are available on prescription.

According to the EU Food Regulation (EU 1169/2011) customers must be provided sufficient information about ingredients used in a food product. The kitchen and customer service personnel must have knowledge about all ingredients used in the meals served and of their suitability for different diets. If meals are served outside the usual setting, it is particularly important for customers to have access to accurate information. The information must be available in writing or in digital format at the place of service and easily accessible by staff and control authorities.

Customers should be given information about products and ingredients with an allergenic or intolerance effect (EU 1169/2011, Annex II), if these have been used as ingredients in meals. The information should be provided primarily in writing, although it may also be provided orally on the condition that customers are clearly informed about the availability of additional information. If the customer's special diet has been requested for in writing and individually prepared meals are provided, the catering service providers need not inform separately where further information on the ingredients is available.

### **Further information about food allergies:**

A form template for requesting a special diet: The Finnish Allergy, Skin and Asthma Federation <https://www.filha.fi/hankkeet/kansallinen-allergiaohjelma/allergiaohjelma/allergiaohjelma-ohjeet-ja-kaavakkeet-terveydenhuollolle/> (In Finnish)

<https://www.ruokavirasto.fi/henkiloasiakkaat/tietoa-elintarvikkeista/ruoka-allergeenit/> (In Finnish)

<http://www.erimenu.fi/> (In Finnish)

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11 The Finnish Allergy, Skin and Asthma Federation How to administer an adrenaline injection, video <https://www.filha.fi/hankkeet/kansallinen-allergiaohjelma/videot/> (In Finnish)

## 3.6 Other special needs and circumstances

Respecting and acknowledging students' multicultural backgrounds and benefitting from it when creating an inclusive community is central to the planning and delivery of student meal services. Needs that are based on ethical and religious reasons and require a significant departure from the basic diet will be taken into consideration in accordance with the policy of the school.

It is practical and cost-effective to offer the same menu to as many customers as possible. In practice, serving a vegetarian (lacto-vegetarian or vegan) option also serves the needs of many other special diets. Balanced and versatile vegetarian options are usually compatible with religious or ethical dietary restrictions when the other options may be unsuitable.

In special circumstances, such as during fieldwork, excursions, celebrations and themed days, students must be offered sufficient nutrition even if the meal is replaced by a packed lunch.

Meals served on-site in physically demanding conditions must be planned so that they provide sufficient energy and hydration. Clear guidelines for ordering packed meals for fieldwork must be provided (see tips and ideas, p. 36). The teaching personnel responsible for fieldwork orders suitable meals from the catering services in advance. In exceptional circumstances such as field trips it should be ensured that those requiring a special diet are also provided with sufficient meals and drink and that their packed meals are clearly marked.



### Special dietary needs of athletes

Students who practice intensively and compete in sports and students in the sports sector need more energy and certain nutrients from their diet than young people of the same age on average. Sufficient energy content is a prerequisite for the maintenance of general wellbeing and high-level performance regardless of the sport. The increased energy need is met with larger portion sizes and/or extra snacks, depending on the individual needs of the athlete. This adds another challenge for student meal services, especially in sports education institutions. The athletes' plate model (one-third of each element) generally covers athletes' increased energy needs including in the most physically demanding sports. In certain sports (e.g. endurance and ball sports) the portion sizes as well as the carbohydrate sector on the plate model (bread, potato/grains) can be even larger. Athletes do not routinely need food supplements in addition to appropriately prepared student meals and snacks.

An athlete's diet is based on balanced meals in compliance with national nutrition recommendations, as they adequately fulfil the energy and protein requirements. Athletes often consume high-protein and high-carbohydrate snack products as well as energy and recovery drinks. From the athlete's perspective, they have their place in the overall diet. However, they can never replace normal food. Athletes typically practice early in the morning before school and/or immediately after. The increasingly popular breakfast service at schools is useful for athletes who practice in the morning.

Breakfast service would be particularly justified in general upper secondary schools and vocational institutions specialising in sports and sports academies. Lunch as the main meal of the day is also important in these schools and it should offer sufficient energy and nutrient content with the afternoon practice in mind. If necessary, meals can be supplemented with smaller snacks closer to the time. It is recommended that student caterers stock takeaway products such as sandwiches, dairy products and fruits.

Athletes use sports drinks to maintain their fluid balance and replenish their carbohydrate reserves during and after prolonged practice. Energy and soft drinks are not part of an athlete's diet. The best drink for thirst is water, even for athletes. Meals and drinks rich in carbohydrates and protein, such as fat-free milk and a banana consumed soon after performance speeds up recovery and are nutritionally sufficient for most athletes.

#### **More information of athletes' nutrition**

[www.terveurheilija.fi](http://www.terveurheilija.fi) -> sports nutrition (In Finnish) <https://terveurheilija.fi/in-english/>

## **3.7 Student participation**

Education providers must, by law<sup>12</sup>, ensure that all students have the opportunity to have their say about the operations of the education provider and the development of these operations. Every educational institution has a student body formed by students with the task of looking after students' interests and opportunities to develop collaboration between students and the education provider. This collaboration forms the basis for student engagement and participation.

Student participation supports the community and engages students to observe agreed practices. The methods of participation are agreed in collaboration with

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<sup>12</sup> Act on General Upper Secondary Education 10.8.2018/714, Section 33, and the Vocational Education and Training Act 531/2017, Section 106.

students and students are informed about the methods of participation. It is important that the participation methods are suited to the specific school and that students find them meaningful. Genuine participation and engagement require that students can influence the various aspects of school meals, including the facilities and spaces and the menus. The participation methods and channels must be varied and in active use throughout the academic year. Students must be made aware that their opinions are acknowledged in the development of student meal services. This will inspire students to contribute to the development work in the future and help organisers monitor that their statutory obligations are met.

**Welcoming and acknowledging feedback inspires students and encourages their participation.**

### Best practices in student participation

Methods of participation	How and why?
Collaboration with the student body or association committee	<p>It is important to engage with the official student representative body as the basis for successful collaboration.</p> <p>Student body representatives can help identify the best ways to engage all students. Student body or association representatives can be invited to regular meetings or they can name their own representative for official bodies dealing with questions to do with student catering.</p>
Joint coffee breaks/ breakfast among school staff and students	<p>Serving breakfast at educational institutions has been shown to increase the likelihood that students also eat lunch at school.</p> <p>Joint coffee breaks/breakfast is an important opportunity for the staff to meet students in a casual setting and hear students' thoughts about life and learning.</p>
Regular feedback questionnaires on student catering and monitoring trends in the school health survey and TEAviisari (health promotion capacity-building tool for municipalities).	<p>Regularly student feedback on school meals and the catering services.</p> <p>Follow-up on the development. Following up on national surveys and discussing them together with students.</p>

Continued on next page

<b>Methods of participation</b>	<b>How and why?</b>
Popular/favourite food days	Students can vote for their favourite foods.  A Favourite Food Day is an easy way of inviting and acknowledging student opinion.
Open student panel, jury or other similar team	A working group involving teacher, catering, student welfare and student representatives.
Feedback systems open to all, electronic or within the student restaurant (e.g. box for suggestions).	Gathering feedback is a great opportunity for the catering service providers to engage with student body representatives. The committee of the student body/association can take responsibility for gathering feedback.
Reduction and monitoring of food waste	Develop in cooperation best practices for reducing food waste by various schemes, e.g. both parties agree to an estimated number of customers and commit to it. Schools can agree with the catering service providers how leftover food could be sold to students within the parameters of food legislation. Food waste can be monitored as part of the curriculum using electronic communications and applications. The results could be published regularly. The food waste project can be structured as a challenge, with an extra dessert day as a reward.
Themed weeks, events and campaigns planned together with students	Students can think of different themes and explore cultures through geographically themed days. School meals can be linked to other topical phenomena.
Food as part of cultural knowledge/Food as a pedagogic tool	International food weeks organised together with students.
Supporting and developing student-run kiosks	Students' kiosk operations can support student meals. The selection of products sold at the kiosk can be agreed on with the student body.
Peer mentors introducing student meal services arrangements to new students	Peer mentors introduce new students to the school meals by joining them for meals for the first few weeks, showing them around the premises, explaining practicalities, inviting feedback and discussing other aspects of student catering.
Sharing information about recipes and the nutritional content of meals with students	Students become aware of the nutritional content of meals and can prepare similar meals outside the school.
Varied use of the dining facilities	The student restaurant space can be used for a variety of purposes. Students can organise their own events and meetings in the space.



### 3.8 Cooperation

Cooperation between the educational institution, the student body and the catering service providers as well as student healthcare is of paramount importance in the successful planning and delivery of student meals. This cooperation should be constantly developed so that is interactive and inclusive of all students.

#### Student welfare team

Educational institutions have their own student welfare teams, which meet regularly to discuss factors affecting the wellbeing, health and safety of the school and student community and to plan social activities to improve student experience. Representatives of both catering services and the school staff are invited to discuss student meals, for example, a few times a year. This is an opportunity to evaluate and develop student meals based on expert opinions, customer feedback and experience. The parties can plan various food-related projects, themed days or weeks, such as a vegetarian week.

#### Student catering committee

The school can also appoint a student catering committee with the task of coordinating, supporting and developing student meals. The committee can report to the headmaster or a named staff member or catering service representative. The student catering committee should involve the headmaster/

deputy headmaster/service manager, representatives of teachers, the catering services, student healthcare, students and the student welfare team. If the school has a cafe or a kiosk or other types of food sales or restaurant activities as a support function or an outsourced service, their representatives, too, should be invited to join the committee. The remit of the committee is based on mutual agreement. The committee can express opinions on menus, snacks, vending machines, cooperation projects, themes and events and to influence student catering arrangements, the appearance and quality of the dining spaces and the monitoring and evaluation of catering operations.

The role of the student catering committee should also be explained on catering service contracts. This helps ensure that the committee has sufficiently diverse set of representatives to fulfil its potential and purpose. This is particularly important at schools where catering services are outsourced to an external partner.

## Cooperation between school and home

Education providers have the duty to engage and cooperate with students' families.<sup>13,14</sup> Parents and guardians are invited to the school for various parents' events. The school also communicates with parents and guardians through the online portal as part of the student administration system. Parents receive information about student catering and menus.

Schools can also have various parents' open forums or parent-teacher associations or groups, where elected members comment on and influence matters concerning the students, such as the school's snacks policy. A survey conducted at the beginning of the school year is a good way of finding out whether there is any expertise among parents who would like to share it with the school for the benefit of the students.

**Cooperation between school and home takes place through parents' open forums, open days at school and online.**

## 3.9 Catering and supplier contracts

Student catering services can be provided by the education provider, such as the local authority/joint municipal authority or the school itself, or by an external

13 Vocational Education and Training Act 531/2017, Section 124 <https://www.finlex.fi/fi/laki/ajantasa/2017/20170531> (In Finnish)

14 Act on General Upper Secondary Education 714/2018, Section 21 <https://www.finlex.fi/fi/laki/alkup/2018/20180714#Pdp446969392> and the National Core Curriculum for General Upper Secondary Schools (LOPS2021), draft 2019. (In Finnish)

catering service company, which can be owned by the local authority or a private business. Student catering can be placed under competitive tendering as one entity or split into several entities by customer group or location. The service provider, in turn, selects its suppliers based on competitive tendering. When local authorities engage in public tendering, they are bound by the law on public procurement, whereas private businesses are not bound by the same provisions.

## Competitive tendering for catering services

The invitation to tender must request the bidders to specify how they intend to implement the statutory right of specific groups to free daily main meals and how the meals, snacks and other related service production will be provided for the various target groups (students, staff, possible other customers). The contracting authority must also define the goals, service requirements, service content, quality and responsibilities arising from the contract. Of particular importance in competitive tendering are the nutritional standards and environmental criteria as well as aspects related to the organisation of catering and cooperation with the contracting authority. The contracts and service descriptions are drawn up based on the invitation to tender documentation, which is why it is recommended that the invitation to tender includes a draft contract and the key points included in the service contract. A carefully prepared invitation to tender is essential for a successful outcome of the competitive process.

- The more detailed the description of the service and the service content on the contract and its appendices, the better.
- It is recommended that the contracting authority specify the desired content of the meals and each meal component (for example, the number of salad ingredients, side dishes for soup lunches, bread options) and, if applicable, the frequency of different types of meals on the core menu, as prescribed by the nutrition recommendations; for example: fish twice a week, daily warm vegetable side dish, daily vegetarian option, soup lunch once a week.
- The core menu or a menu example can be appended to the contract, indicating nutritional content against the recommended daily intake. Inform the bidders how often the core menu and the rotating menus should change. Describe the client validation process of the core menu and the rotating menus and their nutritional contents.

When outsourcing student meal services for educational institutions, the recommended energy and nutritional content prescribed in these recommendations (see Chapter 4.2.1, pp. 51-52), the minimum nutritional standards for meal components (see Chapter 4.2.3, pp. 61-63) and recommended ingredients (see Table

4, p. 56) are observed. The above criteria are also applied for snacks alongside the lunch service. The meals must comply with the recommendation on a weekly level. The invitation to tender should request for a description of how the bidder intends to implement the recommendations in practice.

It is also recommended that the bidders are asked to describe not only the nutritional standards of their meals but also the sustainability impact and the social dimension of their services. These could include the prioritisation of seasonal ingredients and self-made meals and meal components, small environmental footprint and robust food waste control. In addition, the catering contracting is guided by the strategies and policies adopted by the local authority or student catering provider, such as giving priority to local and organic food production. It is important that the required minimum standards for the quality of service, meals and ingredients are clearly specified in the contract.

The quality factors of the service can be ranked based on the following factors: a sample menu (5-6-week cycle), which must be accompanied by a list of ingredients and their compliance with the nutritional criteria, nutritional content calculations, and ideas for special themes and holidays. The quality factors should be subject to certain minimum criteria regarding the ingredients and service arrangements. The quality of the operations can be ranked according to skills and competences of the staff (training, experience) and the bidder's development plans.

The contracting authority should also be able to monitor that the agreed minimum quality of the food is upheld. The invitation to tender should also include a request for a description of how the service provider intends to monitor and ensure that the selection criteria are met and how the contracting authority can carry out practical quality assurance. Quality assurance can be based on systematically gathered feedback and reviewing menus and their nutritional content against the contract and by monitoring customer volumes. In addition, quality assurance can be based on evaluating the fitness for purpose of the operations, the feedback on the quality and adequacy of the food, the regularity of own checks, the number of non-conformities identified in checks and remedial measures taken and the quality of customer engagement.

The contracting authority should have the professional competence and qualifications of steer catering services and to conduct the necessary quality assurance. The steering activities are laid down in law: the contracting authority has the statutory duty to conduct and develop appropriate, professionally executed steering activities.

## **Contracting of food suppliers**

In the contracting of food suppliers, minimum nutritional standards must always be included in the criteria. The criteria apply to the ingredients detailed later in these recommendations (see Chapter 4.2.3 Tables 5A–C, pp. 62–63).

According to the Government decision in principle<sup>15</sup>, the selection criteria applied to food contractors are high quality, sustainability and value for money. This can be achieved by requiring foods that have been sustainably produced observing high standards of food safety, using environmentally friendly cultivation methods and ethical production methods and ensuring a high level of animal health and welfare. The Government decision in principle also applies to government agencies and all local authorities should adhere to it. The sustainability criteria can be set as minimum requirements in food contracting. Local authorities/joint authorities are encouraged to incorporate corporate responsibility and sustainable development in their administrative strategies and to outline how the strategy is translated into action in catering services and food contracting. The catering services and the educational sectors can, in fact, serve as the drivers of change and bring sustainability to the heart of municipal operations.

The Ministry of Agriculture and Health has issued a guide on sustainable food procurement. It introduces a two-tier system for competitive sustainability criteria under different food product categories: the basic criteria and the pioneering-level criteria. Local authorities can choose from these criteria the ones that support their specific purchasing strategy and guidelines and other applicable quality and sustainability criteria.

Public-sector catering services have been given the target of increasing the use of locally produced and organic ingredients in their purchasing. Organic production can, as such, be applied as a quality criterion. Locally produced food is food grown and produced within the region. The purpose of prioritising locally produced food is to support the local economy, employment and food culture. Organic production refers to a certified production method as provided in the EU law.

See Appendix 1 for the structure of the invitation to tender and competitive tendering materials.

#### **Further information:**

Sustainable food chain [www.mmm.fi/ruoka](http://www.mmm.fi/ruoka) (In Finnish)

Motiva. Vastuulliset elintarvikehankinnat -opas, 2017. [https://www.motiva.fi/files/14781/Opas\\_vastuullisiin\\_elintarvikehankintoihin\\_Suosituksia\\_vaatimuksiksi\\_ja\\_vertailukriteereiksi.pdf](https://www.motiva.fi/files/14781/Opas_vastuullisiin_elintarvikehankintoihin_Suosituksia_vaatimuksiksi_ja_vertailukriteereiksi.pdf) (In Finnish)

EkoCentria. Lisää lähiruokaa julkisten keittiöiden asiakkaille -opas, 2017. [http://www.ekocentria.fi/resources/public/lahiruokaopas\\_ebook.pdf](http://www.ekocentria.fi/resources/public/lahiruokaopas_ebook.pdf) (In Finnish)

Finnish National Nutrition Council. Health from food – Finnish Nutrition Recommendations 2014. Kestävät ruokavalinnat lautasella, s. 40. [https://www.ruokavirasto.fi/globalassets/teemat/terveytta-edistava-ruokavalio/kuluttaja-ja-ammattilaismateriaali/julkaisut/ravitsemussuositukset\\_2014\\_fi\\_web\\_versio\\_5.pdf](https://www.ruokavirasto.fi/globalassets/teemat/terveytta-edistava-ruokavalio/kuluttaja-ja-ammattilaismateriaali/julkaisut/ravitsemussuositukset_2014_fi_web_versio_5.pdf) (In Finnish)

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15 <https://valtioneuvosto.fi/paatokset/paatos?decisionId=0900908f804cfc99> (In Finnish)

## 4 HEALTH AND WELLBEING FROM FOOD

### 4.1 Menu planning and meal composition

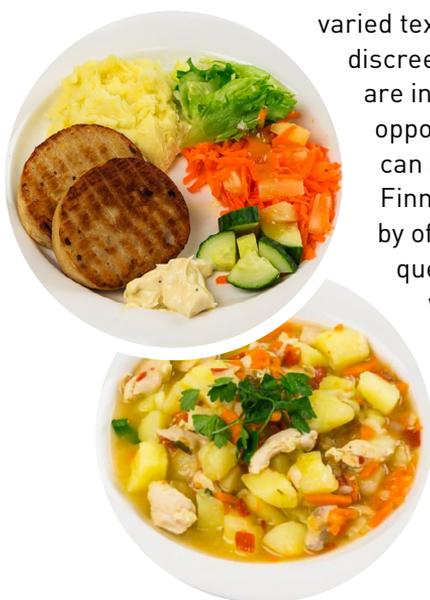
The successful delivery of student meals requires good menu design, product packaging, and ingredients that are of high quality and nutritional standard. In the context of these recommendations, product packaging refers to the rotation of menus, the set of ingredients used and recipes and the frequency in which different meals are served.

The responsibility for ensuring that the menu complies with nutritional recommendations and is varied and balanced, lies with the catering service provider. However, the decision-making and contracting authorities bear the responsibility of allocating sufficient resources to student catering and referring to nutritional standards as a key minimum criterion in catering service and supplier contracts. The service contract between the contracting authority and the service provider must define what is meant by the quality, content and fitness for purpose of a menu.

**Catering planning and recipe development is based on nutritional guidelines and environmental factors.**

The menus are to be designed so that students are served meals of varied texture and type: soups, sauces, stews, casseroles and discreet food items. Menus and meals and meal components are interchanged and updated, so that customers have the opportunity to enjoy different flavours and foods. Variation can be achieved by making use of national and regional Finnish foods, using seasonal products and themes and by offering international cuisine. Customer feedback and questionnaires and monitoring the consumption and waste percentage of different meals give essential information for the improvement of product and service design.

Developing vegetarian recipes is a priority when the aim is to make vegetarian meals an attractive alternative to meat-based meals. Rethinking and discovering new recipes requires the setting of new targets and systematic, long-term development.



Recipe development can be supported by using new applications that calculate the environmental impact of meals.

**New recipes can be tested with “taster menus”.**



Offering a varied and versatile menu requires a long menu cycle. A cycle of 5–6 weeks is long enough to allow the rotation of sufficiently many different types of food and meals. The seasons of the year form one basis for menu planning. Seasons, themes and holidays can be used as inspiration and bring some variation to the menu, while also educating the diners about food culture and traditions.

Table 4 (Chapter 4.2.2, p.56) presents recommendations for the selection and serving frequency of different ingredients, which can be used as the basis for menu planning.

## 4.2 Health-promoting food choices

The meals on offer must be health-promoting, varied, tasty and appealing. A balanced meal contains plant proteins (e.g. pulses, lentils, nuts/seeds), a main course of fish, poultry, eggs or red meat (hot meal or a main course salad), an energy component (e.g. potatoes, barley, mixed grains, wholemeal pasta or wholemeal rice), vegetable side dish, vegetable oil or oil-based salad dressing, a drink (milk, sour milk), high-fibre bread and vegetable oil spread. Liquid dairy products can be replaced by plant-based drinks which are fortified with calcium and vitamin D, preferably also with iodine, for example, soya or oat drinks.

### 4.2.1 Energy and nutrient content of meals

#### ENERGY

The recommended energy intake varies from one individual to the next. The reference energy intake for women aged 18–30 is 9.4–10.5 MJ/day (2245–2510 kcal/day) and for men 11.7–13.2 MJ/day (2800–3155 kcal/day)<sup>16</sup>. The energy requirement is the lowest for women of a small build who take little exercise and

<sup>16</sup> [https://www.ruokavirasto.fi/globalassets/teemat/terveytta-edistava-ruokavalio/kuluttaja-jam-mattilaismaterialii/julkaisut/ravitsemussuosituksset\\_2014\\_fi\\_web\\_versio\\_5.pdf](https://www.ruokavirasto.fi/globalassets/teemat/terveytta-edistava-ruokavalio/kuluttaja-jam-mattilaismaterialii/julkaisut/ravitsemussuosituksset_2014_fi_web_versio_5.pdf) (In Finnish)

do light sedentary work and the highest for men of a large build with physically demanding jobs.

Meals are designed so that students can cover **approximately one-third** of the daily energy intake with the school meal (Table 2). It is important to acknowledge that the individual energy requirement varies substantially between individuals and the portion sizes can therefore vary accordingly. Note that the recommendations are met only if the student consumes the entire meal, including the suggested side dishes and drink.

**TABLE 2. REFERENCE ENERGY CONTENT FOR STUDENT MEAL PLANNING**

Average	Min.	Max.
700–800 kcal 2.9–3.3 MJ)/meal	500 kcal (2.1 MJ)/meal	1000 kcal (4.2 MJ)/meal

It is also important to make sure that the amount and quality of fat in student meals as well as the amounts of protein, carbohydrates and fibre are in balance and in compliance with the Finnish Nutrition Recommendations issued by the National Nutrition Council (Terveystä ruoasta – suomalaiset ravintosuosituksset, 2014, version 5, www.vrn.fi In Finnish).

## Energy nutrients

The recommended proportion of energy nutrients of the daily energy intake is given in Table 3. The figures refer to recommended variation at each meal within one week. The proportion of fat at the main meal can be higher than the recommended daily proportion as long as the quality of the fat is acceptable (less than 10 E% of saturated fat).

**TABLE 3. AVERAGE PROPORTIONS OF ENERGY NUTRIENTS IN A MEAL BASED ON THE PLATE PLATE MODEL AT WEEKLY LEVEL**

	% of energy (E%)
Fat	30–40
Saturated fat	under 10
Proteins	13–17
Carbohydrates	45–50

The above recommendations are met if the minimum criteria for nutritional standards are observed (see Chapter 4.2.3, pp. 61–63. These requirements provide nutritional targets for each meal component, including the different types of main courses. If these targets are met, the meal automatically meets the recommendations.

While individual meals may differ from the above, on a weekly basis, the average proportions of energy nutrients are in line with the plate diagram.

## Fats

At least two-thirds (2/3) of dietary fat should be unsaturated. Unsaturated fats contain fat-soluble vitamins and essential fatty acids, which are necessary for the health of the brain, nervous system, cardiovascular system and hormonal functions as well as the eyes, skin and hair. Unsaturated fats improve the blood lipid profile and prevent cardiovascular diseases.

The proportion of saturated fats (saturated fatty acids) should remain below 10 E%. Saturated fats should be avoided because they can have a detrimental impact on the cardiovascular system and the health of the brain (see Table 4. Selection of ingredients, pp. 56–57). An essential improvement in the quality of dietary fat can be achieved by swapping foods that contain saturated fat for foods that contain unsaturated fat.

## Carbohydrates

Carbohydrates are the main source of energy in our diets. The preferred sources of carbohydrates are those that are high in fibre (Tables 5A–C, pp. 62–63).

The proportion of added sugar should remain below 10 E%. Adolescents and young adults consume large quantities of sugar in soft drinks, juice, energy drinks, sweets, dairy products with added sugar and biscuits and other snacks. A high-sugar diet is high in energy but low in protective nutrients. A poor diet is linked with obesity, cardiovascular diseases, elevated blood pressure, certain cancers and tooth decay.

### High-fibre carbohydrates are key

A diet rich in high-fibre carbohydrates has a beneficial effect on the body's sugar and fat metabolism, and supports weight management and good bowel health. Wholegrain cereals are high in fibre and have a higher nutrient density than white cereals. Fibre-rich cereal products are also rich in vitamins and minerals and are a good source of protein. Besides fibre, vegetables, berries and fruits also contain numerous other beneficial nutrients.

The recommended intake of fibre can be achieved by increasing the quantity of wholegrain products such as wholegrain bread, brown rice or pasta and other grain-based sides, as well as root vegetables, vegetables, fruits and berries. Increasing the quantity of vegetables in the diet is easiest when they feature at every meal, either raw or cooked.

## Proteins

The main sources of protein are pulses, fish, poultry, eggs, red meat, milk/ sour milk and other dairy products. Cereals are also a source of protein. In vegetarian diets, protein intake can be secured with pulses, cereals and dairy products (see protein sources, Appendix Table 2).

## Meal example

According to the recommendations, a meal example based on the plate model should be on display at student restaurants. It serves as a guideline for food selection and portion size and illustrates how to compile a balanced meal.

The meal example may be, for example, a meal compiled of one of the main courses and sides served that day according to the plate model, indicating the ideal proportion of each component. The meal example should always include a drink, bread and vegetable spread and dessert, if it is provided as part of the balanced meal. The plate model should be on display every day. The meal example can also be an image, or a written instruction and an image presented on the digital menu on the menu app.

If written instructions are provided, below is one example for its wording:

How to build a balanced meal according to the plate model?

- Fill half of your plate with vegetables (salad, fresh vegetables, cooked vegetables and/or berries/fruit).
- Fill ¼ of the plate with potatoes, barley, mixed grains, brown rice or pasta.
- Fill the remaining ¼ of the plate with pulses or other plant-based protein sources, fish, poultry, egg or red meat.
- Sprinkle some oil or oil-based salad dressing on the vegetables.
- Choose wholegrain bread and add some vegetable spread (min. 60% fat).
- Drink fat-free milk or sour milk or a vegetable-based drink such as soya or oat milk.

**Only take the amount of food that you can finish.**



**CHICKEN CURRY**  
**800 KCAL (3.3 MJ),**  
**PORTION SIZE M**



**BEAN AND NUT CURRY**  
**800 KCAL (3.3 MJ),**  
**PORTION SIZE M**



**CHICKEN CURRY**  
**500 KCAL (2.1 MJ),**  
**PORTION SIZE S**



**CHICKEN CURRY**  
**1000 KCAL (4.2 MJ),**  
**PORTION SIZE L**

## 4.2.2 Selecting ingredients

Meals of high nutritional quality are based on a careful and systematic choice of ingredients. The recommended selection of ingredients is presented in Table 4 below.

**TABLE 4. SELECTION OF INGREDIENTS**

Food group/food	Recommended choices and serving suggestions
Vegetables, fruit and berries	<p>Every meal should include a wide variety of seasonal products, either raw or cooked.</p> <p>A salad bar offers different components served separately, including products marinated in oil. Salted or preserved vegetables and sides are served only rarely.</p> <p>Fruits and berries are served unprepared. Berry products may be lightly sweetened (5g of added sugar/100g of product)</p>
Pulses (peas, beans and lentils), other plant-based sources of protein (fava beans, peas, oat-based products, tofu, soya granules and strips, seitan etc.)	<p>Serve as the main ingredient in the vegetarian main course and/or a side dish.</p> <p>Spreads made of pulses, other vegetables and oil.</p>
Potato	<p>Varied types of potato products as a side dish or in the main course and in soups, stews and casseroles. Potato side dishes are served free of salt.</p>
Grain-based main courses and side dishes	<p>In addition to potatoes, wholegrain side dishes (barley, oats, rye, brown rice, cereal mixtures, wholemeal pasta) and wholegrain porridge (at breakfast). Wholegrain side dishes are served unsalted or lightly salted (max. 0.3 g/100 g).</p>
Bread	<p>With every meal, a choice of low-sodium (fresh bread max 0.7 g/100 g, crispbread up to 1.2 g/100 g) wholegrain bread (fibre content min. 6 g/100 g, crispbread min. 10 g/100 g). The selection of bread varies: in addition to the basic selection, local produce and self-made bread rolls etc.</p>
Milk, lactose-free or low-lactose milk/sour milk Other liquid dairy products/sour milk products*	<p>With every meal, a fat-free product fortified with vitamin D.</p> <p>Natural yogurt, viili (a fermented milk product) or quark. A choice between fat-free and low-fat (max. 1%), sugar-free or low-added-sugar options. Max. 10 g/100 g of sugars in yogurt and quark and max. 12 g/100 g in viili.</p>

Food group/food	Recommended choices and serving suggestions
Snacks and cooking products that are plant-based and used instead of milk products.	A choice of fortified (calcium, vitamin D, vitamin B12, iodine), unsweetened coffee drinks (oat, soya etc.). The selection and availability of plant-based drinks are agreed on locally. Note that plant-based drinks do not fully match the nutritional content of milk/ sour milk (e.g. in protein content).  A choice of plant-based, unsweetened or low-added-sugar products (oat and soya snacks); max. 10 g/100 g of sugars.
Cheese*	Low-fat (max. 17% fat) and low-sodium options (salt max. 1.2 g/100g).
Fish**	A wide range of different types of fish. Served at last 1–2 times/week. Prioritise sustainable fishing, accredited environmental systems and certified fish (e.g. WWF/MSC**)
Chicken and turkey	Served 1–2 times/week.
Red meat (beef, pork, lamb, game) and mince Meat products and sausages	Red meat max. 1–2 times /week.  Meals containing sausage or other meat products are not served every week. Cold cuts are served as part of the main meal once a week. Choose low-fat and low-sodium products. Sausages and cold meats: Fat max. 12 g/100g. Max. 40% saturated or trans-fat. Salt max. 1.50 g/100 g. 100% meat products Fat max. 4 g/100 g. Salt max. 2.0 g/100 g.
Egg	Used in cooking, as a garnish and a side dish.
Fats (vegetable spread, cooking and baking)	Bread is served with vegetable spread with min. 60% fat and max. 30% saturated fat. In cooking, vegetable oil, liquid vegetable fat products, or margarine with min 60 % fat is used.
Salad dressing	Serve rapeseed oil or olive oil on its own or as an ingredient in the salad dressing.
Nuts, almonds and seeds ****	A range of different nuts are served uncoated, unsalted and sugar-free. Recommended max. intake 30g/day.
Drinks	Tap water is available all day and during meals. Soft drinks, energy drinks and other sugary or acidic drinks are not served (see image p. 81). Juice (100 % fruit juice) can be served for breakfast or snack (max. one glass a day).

\* Milk, sour milk, certain sour milk products and cheese may be eligible for a subsidy from the EU School Milk Scheme (<https://www.ruokavirasto.fi/yhteisot/tuet-ja-kehittaminen/koulujakelutuet/>) (In Finnish).

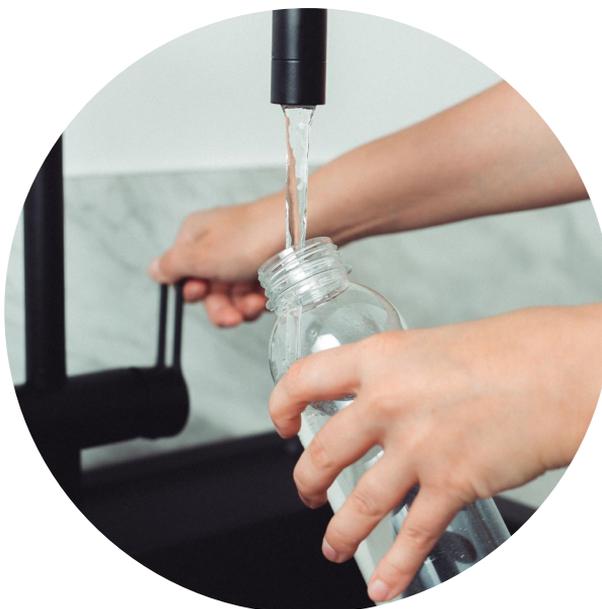
\*\* Fish guidelines: Note the Finnish Food Authority guidelines on the choice and consumption of fish for young persons, people of reproductive age and pregnant and breastfeeding women. <https://www.ruokavirasto.fi/en/instructionsforsafeuse>

\*\*\* WWF Fish Guide <https://wwf.fi/kalaopas/> (In Finnish)

\*\*\*\* The limit on the quantity is necessary because nuts, almonds and seeds are high in energy due to their high fat content. Some oil plants (such as flax, sunflower, pumpkin, sesame, hemp and chia) absorb heavy metals from the soil. The recommended maximum intake for an adult is 2 tbsp (15 g) of oil plant seeds per day.

## Drinks

Everyone should drink 1–1.5 of liquids every day in addition to the water in food. When choosing drinks, pay attention to the amount of energy, sugars, acids, caffeine and alcohol they contain. The best drink for thirst is tap water. Water should be freely and easily available throughout the day.



**All students must have easy access to drinking water and the possibility to refill their water bottles.**

**The World Water day on 22 March is a great opportunity to campaign for clean water. <https://www.worldwaterday.org/>**

## TIPS AND IDEAS

Sweets and soda vending machines were removed from the schools of the city of Pori. After this, a series of joint water bottle projects were organised by healthcare services, students and the water authority. Students designed the illustrations or photographs on water bottles donated by the water authority. The winning illustration/photograph was selected as the label that the students and the staff of water authority and oral healthcare services attached on the bottles as a joint effort. The bottles are filled with tap water and handed out at schools and at various events. (City of Pori)

The portion size of high-energy drinks should be kept moderate. Most beverages do not contain much energy per 100 ml, but they can still be a source of an unnecessarily high amount of energy, if consumed in large quantities or frequently, or if sugar and cream are added. Moreover, drinks do not produce the same feeling of fullness as solid foods.

Coffee and tea can be consumed daily without sugar, with or without milk or plant-based milk. The stimulant used in coffee, tea, cola and energy drinks is caffeine. Those who are sensitive to caffeine may feel symptoms from very small amounts, including heart palpitations, tremors, difficulty sleeping or concentrating and addiction. Caffeine is added to energy drinks and it is also present in certain chocolates, such as dark chocolate (see image below).

The European Food Safety Agency (EFSA) has stated the following on the safety of caffeine:

- In healthy adults, single doses of caffeine up to 200 mg and total daily caffeine consumption of up to 400 mg are safe.
- Caffeine has also been shown to affect sleep and sleep patterns at doses of 1.4 mg/kg body weight or more particularly when consumed close to bedtime (e.g. single dose of 84 mg/kg body weight for a person weighing 60 kg.)
- During pregnancy and breastfeeding, the limit of safe consumption is 200 mg/day.



\*Light-roast Finnish coffee: caffeine 80 mg / 100 ml

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**Soft drinks** (soda drinks with added sugar or artificial sweeteners, energy and sports drinks) should not be served with meals. From a nutritional perspective, they are not part of a recommended diet. Acidic soft drinks and flavoured bottled water also increase the risk of tooth decay. Drinks can be divided into safe drinks, recommended drinks and drinks that should be consumed only occasionally (see acidity levels in soft drinks, p. 81).

**Energy drinks should not be sold at school restaurants, kiosks or vending machines.**

Excessive consumption of **alcoholic beverages** is damaging to health and social wellbeing and compromises learning. The risks associated with alcohol are particularly high among the young, because alcohol interferes with the development of the brain, a process that continues long into adolescence. The effects of alcohol can be seen, for example, in impaired memory and learning capacity and in emotional difficulties. Alcohol also has high energy content.

The rules of conduct<sup>17</sup> for the school can prohibit any use of alcohol at the school premises and anyone accessing school premises under the influence of alcohol.

The student restaurant can never serve alcohol at lunchtime.

## Sweeteners and sugar

Products that contain added sugar are served as snacks only very rarely. Students' snacks are prepared and selected in compliance with the nutritional standards (see Table 4, pp. 56–57). Sugar may be added in small amounts to berry products and sour milk products to balance the acidity and bitterness. The sugar contained naturally in milk, fruit, berries and vegetables is not a risk.

## Xylitol products

Xylitol products, such as tablets, lozenges or gum, are recommended after every meal and snack. They should be used daily after at least three meals. The recommended total daily dose of xylitol is  $\geq 5$  g/day. This can be obtained from 6–10 pieces of xylitol gum or lozenges.

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17 Finnish National Agency for Education. Drawing up rules of conduct. Guidelines 1/012/2016 <https://www.oph.fi/fi/tilastot-ja-julkaisut/julkaisut/jarjestyssaantojen-laatiminen> (In Finnish)

## Salt should be iodised and consumed in moderation

The products selected for meals should be low in salt (including bread, other cereal products, cheese, cold cuts) (see Chapter 4.2.3 pp. 61–63). The total salt content of the meal is largely dependent on the salt content of the main course (Tables 5A–C, p. 62). The amount of salt should always be calculated so that the quantities indicated in the table are not exceeded. The salt content can be verified by using scales and accurate measurements. The salt used in cooking should be iodised. Flavour can be enhanced without excessive use of salt with spices, herbs and aromatic ingredients. It is a great idea to provide a good selection of spices, for example, of basic spices and some salt-free mixtures and sauces, for the customers to add according to their personal taste.



### 4.2.3 Minimum nutritional standards

The minimum nutritional standards for student meals are based on the per-meal criteria of food served, as set out in the population-level dietary guidelines, the Finnish Nutrition Recommendation (Health from Food - Finnish Nutrition Recommendations, 2014, version 5). If only one meal option is served per day, it is acceptable that the majority (at least 80%) of the meals comply with the recommendations. If the school serves students more than one meal per day (breakfast, lunch, snack, dinner, evening snack), menu planning should be based on the total nutritional content of all meals. In addition to the per-meal criteria, all Heart Symbol products are recommended as meal components as such, even if their nutritional content does not strictly speaking match the figures indicated in the tables below. The criteria for the Heart Symbol are based on a “better choice” comparison within a food category.

**TABLE 5A. MAIN COURSES**

Main course type	Energy/100 g, max.		
	Fat g	Saturated fat, g	Salt g
Main course porridges* In porridge flakes etc., min. fibre content 6 g/100 g.	3	1	0.5
Soups*	3 (5)**	1 (1.5)	0.5***-0.7
Casseroles, risotto, pasta, main course salads****, pizza	5 (7)	2 (2)	0.6***-0.75
Main course sauces (e.g. Bolognese, chicken curry)	9 (11)**	3.5 (3.5)	0.9
Discreet food items served with or without sauce	8 (12)**	3 (3.5)	0.9

\* If bread toppings (such as cold cuts or cheese) are provided with soup or porridge, the Heart Symbol criteria are applied.

\*\* The numbers in brackets refer to fish dishes.

\*\*\* The acceptable range for salt content, the lower limit indicating the long-term target.

\*\*\*\* The quantity of vegetables in a main course salad is min. 150 g/portion.



**TABLE 5B. POTATO AND CEREAL SIDE DISHES SERVED WITH A MAIN DISH\***

Side dish	Energy/100 g			
	Fat g	Saturated fat, g	Salt g	Fibre (dry weight) g
Pasta	-*	Max. 0.7	Max. 0.3	Min. 6
Barley groats, rice-grain mixtures etc.	-	Max. 0.7	Max. 0.3	Min. 6
Wholegrain rice	-	Max. 0.7	Max. 0.3	Min. 3
Boiled potato	No added fat	-	No added salt	-
Other potato side (mash, wedges)	-	Max. 0.7	Max. 0.3**–0.5	-

\*[-] No applicable criteria

\*\*\* The acceptable range for salt content, the lower limit indicating the long-term target.

**TABLE 5C. OTHER MEAL COMPONENTS**

Meal component	Energy/100 g			
	Fat %	Saturated and trans fats, %	Salt g	Fibre g
Bread	-	-	Fresh bread max. 0.7 Crispbread max. 1.2	Min. 6  Min. 10
Margarine	Preferably 60 or more	Max. 30	Max. 1.0	-
Milk or sour milk	Max. 0.5	-	-	-
Vegetable side dish • fresh vegetables	-	In marinade, max 20	No added salt	-
Vegetable side dish • cooked vegetables	-	In marinade, max 20 *	Max. 0.3	-
Salad dressing or Salad oil	Preferably 25 or more	Max. 20	Max. 1.0	-

\* In the cooked vegetables, any fat meeting the Heart Symbol criteria can also be used (for example, oil, margarine, liquid vegetable fat product).

## 5 MONITORING AND EVALUATION IN STUDENT CATERING

It is important to monitor and evaluate the implementation of student catering both on the school and national level. School-specific monitoring is to be agreed on with the catering service provider. Both the school and the catering service provider are involved in the monitoring and evaluation. In school-specific monitoring, attention is paid to whether the services are consistent with the institution's nutritional goals, vision and the contract. In addition to the nutritional standard of meals, it is particularly important to monitor whether the timing of mealtimes is suitable for the students' tasks and daily programme and personal daily cycle, and whether sufficient time is allowed for a leisurely meal. The nutritional and wellbeing goals set for student meals can only be achieved if a well-designed, varied meal can be eaten together without hurry.

The monitoring should also cover both student and staff meal attendance and satisfaction as well as meal-specific demand and waste. Giving the parents and guardians of new students the opportunity to see what student meals are like also provides important feedback from the home perspective. At the same time, parents and guardians can be given follow-up information about achievement of nutritional and other goals. The implementation and feasibility of the planned menu and the nutritional standard of the food served are monitored and evaluated in a manner described in the service contract and also internally through own checks, self-assessments and quality assurance. According to regulations, the health factors in the school's educational environment are inspected every three years (see Chapter 5.5, p. 70). It is important to include in this inspection the assessment of the implementation of catering services in cooperation with the service providers. The annual report and website of the school contain summaries on the key performance indicators and development measures describing the delivery of student catering services, as well as conclusions of customer feedback and corrective measures.

**The delivery of student catering can be reported on using the following indicators**

- quality assurance system for catering services
- delivery of the nutritional quality in student meals (compliance with minimum nutritional criteria)
- meal attendance (% of students)
- customer feedback
- demand for different meals, meal components and ingredients (including a separate indicator of vegetable consumption)
- locally produced and organic food indicators (as per set targets)
- waste monitoring and its results
- how students have been involved in the development of student meals
- description and delivery of collaborative practices
- themes, events, campaigns
- the provision of information to students on student meals and nutrition



### **Key measure and tools for school-specific monitoring and evaluation**

- The goals for the delivery of student meals are outlined and documented at each school. The attainment of these goals is monitored and evaluated annually.
- Students cooperate with teachers to evaluate and investigate how health and wellbeing have been promoted through studies and in the learning environment. Students also discuss this theme in their own wellbeing plan.
- Feedback on the delivery of catering services and the quality of food is gathered on a continuous basis, for example, using mobile apps. Feedback is acknowledged and responded to in an agreed manner.
- Systems measuring the quality of catering services and the nutritional attainment of different customer groups are being developed, such as the wellbeing matrix developed in Tampere ([https://www.tampere.fi/tiedostot/r/v9xF9r4kt/Ravitsemuksen\\_hyvinvointimatriisi\\_2018.pdf](https://www.tampere.fi/tiedostot/r/v9xF9r4kt/Ravitsemuksen_hyvinvointimatriisi_2018.pdf)) (In Finnish)
- Students are active in carrying out annual campaigns and themes to promote healthy eating and diet. Campaigns and themes are incorporated into the curriculum by linking them to annual seasons and events. The popularity and impact of participatory activities are monitored and evaluated.
- The school has a food panel or jury or a student catering committee.
- Students can test new foods and meals (e.g. tasting panels) and be involved in the planning of menus and developing new practices.
- Meal attendance is measured through plate count (at agreed intervals).
- The delivery of student meals is evaluated based on the demand for different meals → and the information is utilised in the improvement of recipes and product design.
- The operative processes of the catering services are documented and the monitoring tools and methods have been jointly specified. The monitoring and evaluation data is reported annually and published on the website of the school and the catering service provider.

**The Finnish Association of Food Service Professionals awards School Catering Diplomas to schools as a recognition for the promotion of nutritionally, educationally and ecologically outstanding school catering. The diploma criteria can be used as a tool for development and self-assessment. <http://www.kouluruokadiplomi.fi/> (In Finnish)**

## 5.1 Meal attendance and student participation

The monitoring of meal attendance (daily/weekly/annually) is a key indicator of successful student meals. Meal attendance monitoring should be linked with the collection of user information on snack services and the demand for different types of snacks. In addition to meal attendance of students, it is also important to monitor that of school staff.

The development of student meals depends largely on the feedback received from students, teachers and other school staff and customers. Students and school staff are encouraged to give continuous feedback and suggestions on areas for development. In the development of student meals, an immediate and interactive feedback system offers the best support for practical improvements (e.g. electronic feedback system, feedback boxes/whiteboards and blackboard, feedback applications/QR code, the Taputa software).

Simple online surveys are a quick and efficient way of gathering feedback, students' own opinions about their meal attendance and development suggestions. The surveys can also be the responsibility of the student body. Sharing the evaluation form on the school website could be an incentive for students and their families to evaluate the delivery of student meal services.

For the purpose of successful implementation of special diets, it is important that the students who require a special diet actively give direct feedback and also receive relevant information about the implementation of special diets and their possible limitations.

## 5.2 Nutritional standards of meals served

The monitoring of the nutritional standard of school meals is an ongoing process, by which the service provider can ascertain that the food that they serve meets the recommendations. The monitoring involves all aspects of the service: the planning of menus and purchasing, product packaging and recipes and the preparing and serving of the meals.

The catering service contracting documents indicate clearly and in practical terms, what student catering that complies with nutrition recommendations means. The implementation of nutrition recommendations can only be monitored and the nutritional quality of the food provided ascertained if accurate documentation is provided on the menus, the types of meals offered, the minimum nutritional quality requirements per meal, and nutritional calculations. In addition, the monitoring and reporting periods and methods and monitoring cooperation with the contracting authority are specified. It is also important to agree how feedback and detected non-conformities are dealt with.

A detailed monitoring of nutritional content requires meal and menu specific nutrient calculations. The nutritional content followed on a weekly basis includes energy and energy nutrients (carbohydrates, fats, proteins), saturated fat, fibre, sugar and salt. The nutrient calculations are a practical tool that the service provider can use in the development recipes and meals, not just for the overall analysis of the final menu.

### **Ensuring nutritional standards**

- nutrient calculations produced by the resource planning systems used by the service provider
- basic recipes that have been developed and tailored to the service provider's own production and to the needs of their customers the suppliers have plenty of good recipes.
- the nutrient contents of the service provider's own recipes are calculated using the Fineli database.
- the nutrient content of the meals is calculated using the standard food guidelines of the Heart Symbol scheme (<http://ammattilaiset.sydanmerkki.fi/ammattikeittiot/nain-sydanmerkki-saadaan-kayttoon> and <http://ammattilaiset.sydanmerkki.fi/ammattilaisreseptit>) (In Finnish) <https://www.sydanmerkki.fi/en/>.

## **5.3 Monitoring food waste production**

Monitoring the food demand and waste (kitchen, distribution and plate waste) is an essential part of product development and the evaluation of the demand-supply system, and it is also a key tool in the management of the environmental burden and the reduction of bio-waste. Wasted food is a waste of money and places an unnecessary burden on the environment. Everyone is responsible for reducing food waste (see Sustainable choices, Chapter 2.2.1, p. 22)

**The monitoring of food waste can be made a joint project for the whole student community and part of environmental education. Different student teams take turns managing the project.**

The objective of the UN Agenda 2030 and the EU Commission's Circular Economy Package is to halve the amount of food waste on the retailer and consumer level by 2030. The provisions of the EU Waste Framework Directive (2018/851) on the reduction and measuring of food waste must be implemented through national legislation by July 2020. According to the directive, EU Member States are obliged to report on their food waste production to the Commission annually from 2022 onwards.

## **5.4 Self-assessment, own checks and government supervision**

Internal audits and site visits made by the catering service provider in their operating area, for example, once a year, is part of a recommended, good self-assessment practice. Auditing is an interactive steering method that promotes the consistent delivery of high-quality and compliant student meal services at every location. The site visits to schools can coincide with cooperation meetings, which gives an opportunity to discuss quality and delivery (quality of service, content of meals, actual portion sizes, nutritional balance) together with students, educational staff and representatives of, for example, the student catering committee.

Catering service providers are obliged under the law to carry out own checks as they carry the responsibility for the food safety of their services. Own checks are a system adopted by the service provider to ensure the food served is safe and in compliance with food legislation. The service provider must identify and manage food safety hazards relevant to their specific activities and the food that they handle.

### **Food hygiene – the Oiva system**

High level of food hygiene is an important part of student catering and it supports compliance with nutrition recommendations. Good food hygiene includes the cleanliness of the student restaurant, the service counter and utensils, as well as high-quality, safe foods, all of which add to the appeal of school meals.

The professional catering service personnel takes responsibility for appropriate food hygiene practices. The staff must maintain good hand hygiene, wear protective clothing, control food temperature, prevent of cross-contamination, and maintain a high level of cleanliness and order in the facilities and its equipment. Good food hygiene helps keep food safe to eat and prevent food poisoning.

The Oiva grading system (indicated by a "happy face" sticker) is a proof that meticulous food hygiene practices are in use in the restaurant and all the information given about the meals is correct. The Oiva system is a national

grading system coordinated by the Finnish Food Authority<sup>18</sup>. In Oiva, local food inspectors conduct on-site inspections and give assessments of the food safety of restaurants, shops and food businesses, include own checks, food hygiene and product safety. Earning the highest grade requires strict compliance with the food legislation.

The Oiva system is based on happy face symbols. The catering services are obliged to display the grade they have been awarded. Inspection results are also published online in the Oiva summary report. If customers see a happy face sticker on the student restaurant door, they can feel confident about the level of hygiene in the restaurant. If they see a sad face; this means that there is room for improvement.



## 5.5 Inspections of health, safety and wellbeing in the study environment

Health inspections required by the healthcare act (1326/2010, Sections 16–17)<sup>19</sup> are carried out in general upper secondary schools and vocational institutions. The aim for the inspections is to be as comprehensive as possible and draw attention to student meals and catering practices, among other things. Any shortcomings identified during an inspection are fed back into the student catering development process. Therefore, it is important that a representative of the catering service provider, such as the manager or service supervisor attend the inspection. The inspection of health factors in the school environment should also address students' access to handwashing stations before eating and facilities related to oral health including drinking water fountains, soft drink and sweets vending machines, and drinks and snacks between meals.

A school is a space that is shared by students and the staff and where a healthy and safe learning and working environment depends on appropriate physical, mental and social conditions. All these factors together form the basis for the health and wellbeing of the entire community, for a good working and study capacity and for goal-oriented learning. The school must be healthy, safe and accessible for students and the staff. The accessibility requirement is based on the Constitution and the Non-Discrimination Act (21/2004).

An inspection on the health and safety of the study environment must be carried out at school at least every three years in collaboration with representatives of the school, its students, student healthcare, the health inspector, occupational health representative, occupational safety officer, a representative of the technical

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18 The Oiva system <https://www.oivahymy.fi/portal/fi/> (In Finnish)

19 Healthcare Act 1326/2010. <http://www.finlex.fi/fi/laki/ajantasa/2010/20101326> (In Finnish)

department at the local authority and other relevant experts. The opinions of students and their parents should also be collected by questionnaires before the inspection. The auditing of the learning and working environment at the school should be carried out simultaneously from the student and staff perspective. The health and safety of the student restaurant should also be inspected at the same juncture.

The results of the survey will be analysed and a report will be prepared with records of the occurrence of health hazards within the school and their impact on health. Any hazards and problems identified are prioritised and a plan for redressing them and possible further investigations are agreed upon. The inspection report and the conclusions are submitted for the attention of the education provider and student healthcare. It is the responsibility of the school and student healthcare to follow up on any defects and problems identified during the inspection on an annual basis. In addition, the student welfare team monitors changes in the health and safety of the school environment, which should be redressed as part of the school's wellbeing strategy and its goals.

## 5.6 National monitoring

The monitoring of nutrient intake and nutritional status on the population and age group level is the responsibility of the state. There is very little information about the nutrition of the target group of these recommendations, as no systematic research on the eating habits and nutrition of upper secondary students have been carried out. The TEAviisari and school health surveys developed by the National Institute for Health and Welfare (THL) are used for collecting national data on, for example, the nutritional quality of the school meals, student participation and meal attendance and the choice of different meal components at lunch.



TEAVIISARI, THL

**A positive trend in students' meal attendance in proportion to the total number of students should be set as national goal and indicator for all educational institutions in the country.**

Participation in the TEAviisari and school health survey provides education providers with peer-to-peer data that can be used for planning, developing and evaluating their own activities. The annual Amis barometer surveys carried out by the Union of Upper Secondary School Students and the National Union of Vocational Students in Finland channels valuable feedback from the targeted student cohorts.

Follow-up data on the delivery of student catering services and student's meal attendance is obtained as part of student health monitoring (school health survey, THL) and the impact monitoring of the health promotion measures (TEAviisari, THL and EDUFI).

<https://thl.fi/fi/tutkimus-ja-kehittaminen/tutkimukset-ja-hankkeet/kouluterveyskysely> (In Finnish) and [www.teaviisari.fi](http://www.teaviisari.fi) (In Finnish) <https://teaviisari.fi/teaviisari/en/index?>

Amis student feedback (Finnish National Agency for Education):  
Questionnaire for vocational students at the beginning and the end of their studies

<https://www.oph.fi/fi/koulutus-ja-tutkinnot/ammattillisen-koulutuksen-opiskelijapalaute> (In Finnish)

## 6 STUDENT AND ORAL HEALTHCARE AND THE PROMOTION OF HEALTHY DIET

### 6.1 The role of student healthcare in student guidance

Student healthcare is governed by a Government decree (6.4.2011/338)<sup>20</sup> on pupil and student healthcare and preventive oral healthcare for children and adolescents. The decree (section 3) specifies the educational institutions in which pupils or students are entitled to healthcare services. Access to student healthcare is also guaranteed to those who study in education that entitles the student to student financial aid, as provided in the Student Financial Aid Act (65/1994).

Student healthcare refers to individual and community-based services aimed at promoting health and wellbeing and preventing illnesses. The aim of the activities is to promote the physical, mental and social health and safety in the school environment and thereby increase the wellbeing, health, functional and learning capacity of students and to maintain their existing capabilities. In addition to healthcare services, students are also taught various life management skills. Mental health services and oral healthcare are also part of student healthcare<sup>21</sup>.

Health checks required under the Ministry of Social Affairs and Health decree are carried out for all upper secondary level students so that the students undergo a health check by a public health nurse during the first year of study and a medical examination conducted by a doctor either on the first or the second year of study, unless the medical examination has been carried out in conjunction of enrolment. Students with special educational needs and students whose medical status or ability to study must be evaluated due to their chosen field of study or future occupation, such as students in preparatory vocational education (VALMA), must undergo a medical examination on the first year of study.

The student undergoes a comprehensive health check, taking into consideration all aspects of health, the student's ability to study, any sector-specific health requirements and the student's suitability for the field. Attention is paid to students' resources, life skills, nutrition, sleep and rest, exercise, oral hygiene, learning disabilities, mental health, and substance abuse. Possible tools used during the health check include various follow-up questionnaires, such as the

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20 Asetus [6.4.2011/338] koulu- ja opiskeluterveydenhuollosta sekä lasten ja nuorten ehkäisevästä suun terveydenhuollosta (In Finnish)

21 Opiskeluterveydenhuollon opas. Publications of the Ministry of Social Affairs and Health 2006:12. (In Finnish)

alcohol screening tool (Audit C-10), adolescent substance use measurement tool (Adsume), mood inventory (BDI), anxiety inventory (BAI), mood disorder questionnaire (MDQ), and eating disorder screening tool (SCOFF)<sup>22</sup>.

Student health counselling should support and promote students' growing independence, learning capacity, healthy lifestyles as well as their functional capacities and mental health and help prevent of bullying at school. Students need information about the requirements for entering employment and health risks associated with work and different occupations.

At the student health check, the student receives guidance and advice in the areas described above if necessary and a treatment plan is drawn up in cooperation with a student healthcare physician. Health advice must be consistent on a national level and based on research and scientific evidence, such as the Finnish Nutrition Recommendations and the Current Care Guidelines. Health advice can be provided on an individual, group or community basis, for example, at health and wellbeing events at schools.

Students receive the care they need through student healthcare services or, if necessary, they are referred to appropriate support and healthcare services and specialised healthcare. Student health promotion and disease prevention and student healthcare are approached as one entity in which all elements support each other.

When a student is referred to other support services from student healthcare, this must take place in cooperation with the student and with their consent. Student healthcare personnel is bound by professional secrecy (healthcare Professional Act 559/1994, Act on the Openness of Government Activities 621/1999, Data Protection Act 1050/2018, GDPR 679/2016). The school, catering services, social and healthcare services or other support services have access only to the information concerning a student that is relevant for organising their treatment and organising their learning subject to the student's consent. If the matter is related to a special diet, the practicalities of that diet and informing the catering services, the student's consent is still required.

Methods available for student healthcare providers to reach out to students must be further developed and modernised to allow the utilisation of electronic services and mobile applications, without compromising data security. For example, the student healthcare website can provide information on various school events and campaigns, as well as current issues in student health and wellbeing, nutrition, snacks and drinks, and information about themed weeks.

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22 <https://www.mielenterveystalo.fi/aikuiset/itsearviointi/Pages/SCOFF.aspx> (In Finnish)

**Tips and ideas:** Student healthcare providers are free to use suitable mobile apps in their service provision. Student healthcare can launch their own Facebook page or a Twitter or Instagram account, or use other interactive social media channels, whichever is the best way to reach out to students. There is a wide range of apps and tools that can be useful in student healthcare, such as food diaries, which the school nurse can comment using a chat function. When using electronic communications, data protection and confidentiality regulations must be observed.

**Tips and ideas:** Whenever possible, nurses are welcome to provide nutrition education to groups of students to support community-based and health-promoting eating habits. Interactive games can be used as ice breakers and talking points (<https://kahoot.it>)

**Tips and ideas:** Public health nurses could facilitate peer support groups that would focus on a wide range of factors, such as nutrition, exercise, sleep and mental health.

Materials for food education: [www.syohyvaa.fi](http://www.syohyvaa.fi) (In Finnish)

## 6.2 Nutrition counselling in student healthcare

In student healthcare, nutrition counselling is provided as part of health checks and other consultations, taking into account the specific needs of each student, such as possible overweight or underweight, food allergies, special diets and eating disorders. Knowledge about a student's special diet is important and the student should report this to the catering service themselves according to the agreed procedure of the school. A doctor's certificate prescribing the special diet is provided by the student's own GP or the student health physician. If necessary, the nurse or physician may consult a nutritionist.

Nutrition counselling forms a part of the wider public healthcare effort carried out by the public health nurse and school physician with the aim of promoting general health and preventing illnesses among the population. Its aim is to provide students with nutritional information that promotes health, wellbeing, functional capacity, mental agility, and learning as part of sustainable weight management and prevention of diseases, as well as support life management and guide towards necessary lifestyle changes. Regular and sufficient meals support a healthy relationship with food and prevent obesity and the onset of eating disorders.

Students can also discuss their personal welfare plan, which forms a part of their vocational studies, during a student healthcare visit. The plan can be utilised by

the public health nurse as part of the assessment of a student's eating habits and nutrition and when discussing the student's wellbeing and health goals. Achieving good outcomes requires commitment from the student to goals that are set realistically.

Students' eating habits are discussed during health checks and special consultations that focus on nutrition counselling, including the frequency and regularity of meals, a balanced diet and possible dietary restrictions, portions sizes and the quality of meals, and the recommended proportions of each food group in a diet. It is important to listen to the young person's own needs for information and how they feel about their eating habits and weight. Early intervention is essential if a student has any food-related concerns, or is dieting or has urges to restrict their eating in an unhealthy way. Food-related problems may have an underlying fear of social eating, which can be a result of bullying or other negative experiences.

From the nutritional perspective, it is important to moderate the intake of saturated fat, salt and sugar and ensure the sufficient intake of fibre, non-saturated fat, calcium and vitamin D. Especially in the case of multiple food allergies, the nutritional sufficiency of the elimination diet and the need for supplements must be assessed. Students who follow a vegan diet should always be checked for the necessary supplements and/or fortified foods (vitamin B<sub>12</sub>, iodine, vitamin D, calcium).

Nutrition counselling must be based on Finnish Nutrition Recommendations, scientific evidence and known health effects of foods. Nutrition counselling focuses on nutrition as a whole and focuses on the role of vegetables, fruits and berries, as well as the diversity and health of meals, also from an oral health perspective.

The health self-assessment data of the Finnish Heart Association (TOTA) has been compiled to support student healthcare practitioners in motivational guidance [sydanliitto.fi/tota](https://sydanliitto.fi/tota) (In Finnish)

Images from the TOTA materials  
<https://sydanliitto.fi/ammattilaisnetti/elintapaohjaus/tota-nuorten-elintapaohjaukseen#ruoka> (In Finnish)

Weight management support: <https://www.terveyskyla.fi/painonhallinta> (In Finnish)

## 6.3 Eating disorders – early intervention and referral

Eating disorders (diagnostic group F50) classified as behavioural syndromes associated with physiological disturbances and physical factors:

- anorexia nervosa and atypical anorexia nervosa
- bulimia nervosa and atypical bulimia nervosa
- binge-eating disorder (BED) and other overeating symptoms

Eating disorders occur regardless of age, gender and socioeconomic background. Eating disorders are most common among girls during puberty and young adult women, although eating disorders are increasingly diagnosed in men as well.

An eating disorder presents itself mainly through thoughts and behaviour. Only a fraction of eating disorders show in the physical appearance of the patient. Signs that a person may be suffering from an eating disorder include binge eating, anxiety about losing control of eating, not eating or eating very little and following rigid routines such as eating foods in a certain order, food restrictions, needing to eat alone, sudden anxiety at the table, leaving the table to go to the toilet or outside and vomiting soon after the meal. More important than the quantities consumed or body weight are the patient's thoughts and feelings, which have taken over their lives and eating.

Eating disorder symptoms must be intervened with as soon as there is the slightest reason for concern. An early intervention can be a simple expression of concern and interest in the student's life and wellbeing. The intervention must be respectful but firm. Use open-ended questions. Don't be afraid to broach the subject with the student and don't jump to conclusions. The symptoms you think you see may not be about an eating disorder.

Together with families and friends and, for example, youth activity leaders, teachers and health professionals, including oral healthcare staff, play a key role in the early detection of eating disorders and a speedy referral to treatment. The earlier the intervention and the sooner the student is referred to further treatment, the better the prognosis and outcome.

It is the task of student health practitioners to recognise the early signs and symptoms of eating disorders and refer the student to treatment and provide assistance themselves in milder cases. The treatment of eating disorders is usually the responsibility of a regional chain of care, which aims to ensure consistent and seamless treatment in collaboration between primary care, oral healthcare and specialised care providers.

### **Further information on eating disorders, their treatment, early intervention and encountering a person with eating disorder.**

<https://thl.fi/fi/web/mielenterveys/mielenterveyshairiot/nuorten-mielenterveyshairiot/nuorten-syomishairiot> (In Finnish)

Current Care Guidelines: <http://www.kaypahoito.fi/web/kh/suosituksset/suositus?id=hoi50101> (In Finnish) <https://www.kaypahoito.fi/en/>

<https://syomishairioliitto.fi/artikkelit/kohtaamisopas-avuksi-syomishairiota-sairastavien-tukemiseen> (In Finnish)

<https://syomishairioliitto.fi/blogi/syomishairiota-sairastava-kouluruokailussa-miten-ruokailut-saadaan-sujumaan> (In Finnish)

Mielenterveys- ja päihdetyön menetelmät opiskeluterveydenhuollossa. Opas arviointiin, hoitoon ja käytäntöihin. THL 20/2016. <http://urn.fi/URN:ISBN:978-952-302-722-0> (In Finnish)

## **6.4 Oral health as part of student healthcare**

The promotion of oral health is one of the tasks of student healthcare with the aim of steering students towards healthier foods and drink choices, regular meals, and reducing the consumption of sweets and other snacks. Students are entitled to at least one oral health check during their studies, during which the need for further oral health guidance and services is established. During the health check the student's oral hygiene is also discussed, including regular brushing with fluoride toothpaste and daily flossing, the use of xylitol products and the adverse effects of tobacco products such as cigarettes and snuff. Mental health problems are quickly reflected in the person's oral health, which is worth considering when giving guidance. The student is referred to a dental hygienist and a further dental appointment, if necessary, and invited to attend regular check-ups in the future. However, students' oral health care should be given more attention in the future. For example, if a doctor or nurse has concerns about a student's oral health, a referral from student healthcare could encourage the student to contact a dental clinic.

## TIPS AND IDEAS

### **Campaigns and themes**

Various oral health campaigns and theme days, for example, on the impact of drinks and snacking on oral health, can be organised together with student healthcare, the student body and the local oral healthcare provider and stakeholders.

### **Anti-snuff campaign**

A campaign was conducted as a collaboration between oral and student healthcare, in which groups of first-year vocational education students underwent quick oral health checks as part of an anti-snuff campaign. Students' dental and gum health as well as tooth decay and erosion were examined. The examinations were carried out by a dental hygienist, who also gave advice and tips on maintaining good oral health. Students could also book an appointment with the dentist, if necessary. (Joint municipal authority Karviainen/Vihti and Luksia)

### **Terveys ToWi fair**

A wide-reaching collaborative initiative involving oral healthcare, student healthcare and sports services. A dental hygienist gives a lecture to first-year students of general upper secondary schools and vocational institutions on oral health and the importance of good dental hygiene. Smoking, snuff and energy drinks are also discussed. The public health nurse builds an exhibition illustrating the impact of fat and sugar on our health and talks about healthier choices. Sports specialises give advice and encouragement on physical activity. In addition, the Terveys ToWi fair has been organised with the students of WinNova. At Terveys ToWi students are involved in the organisation and planning of the event together with oral healthcare representatives. The event is attended by experts and exhibitors of many different fields. (City of Pori)

### **Public health nurse's kickoff events and themed afternoons**

The public health nurse hosts kickoff events for new students at the beginning of the autumn and spring term, focusing on nutrition. For example, a public health nurse has conducted afternoon programmes once a month where young people were given information on life management, healthy nutrition, exercise, sleep and rest, infections, vaccinations, contraception, gaming and relationships. (Student health care and Ohjaamo, Hyvinkää)

## 6.5 Food and oral health

Food may contain elements that are detrimental to oral health by causing decay, erosion (the chemical dilution of the enamel) and inflammation of the mucous membrane. Every time we eat something that contains energy or is acidic, it is followed by an acidic attack in our mouth. Tooth erosion is a growing problem, particularly among the young population.

Snacking between meals and the frequent consumption of sugary products exacerbate tooth decay. Tooth decay is a local infectious disease caused by bacterial build-up, or dental plaque, on the surface of the tooth together with sugars and other easily fermentable carbohydrates which caries-associated bacteria feed on. The build-up of plaque also causes gum infections and periodontal disease.

The tooth enamel can also be damaged without the presence of bacteria, a condition referred to as erosion. The acids present in food or drink or originating from the stomach dilute the minerals encasing the tooth, removing the enamel. The erosion begins when the pH in the mouth falls under 4. At pH 3, the speed of erosion is already ten-fold. At pH2, the speed of erosion is hundred-fold. The average pH of soft drinks, juices, including not-from-concentrate juices, energy drinks, ciders and wines varies between 3 and 4, but the pH of an individual product may be even less than that (see Acidity of soft drinks, p. 81). Advanced erosion causes sharp pain and toothache. Treating erosion is difficult and can be expensive if the amount of mineral loss is substantial.<sup>23</sup>

Sugary soft drinks, energy drinks and sports drinks cause both tooth decay and erosion. Most drinks with artificial sweeteners and flavoured mineral waters, sometimes called health drinks, are acidic, as well, and cause dental erosion as much as any soft drink. Although fermented milk products, such as sour milk and yogurt, are acidic, they do not cause erosion because of their high calcium content. Coffee and unflavoured black, green and white tea and unflavoured sparkling mineral water are also safe for teeth.

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23 Reddy et al 2016. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4808596/>

pH  
7

# Acidity of drinks

These you can drink daily



Milk  
Buttermilk/kefir  
Oat, soya and other vegetable-based drinks  
Milk-based drinks



Coffee \*



Water  
- tap water  
- unflavoured bottled water



Tea \*  
- green  
- black  
- white

4

Drink these only with meals and just one glass per day, not constantly sipping.



Flavoured bottled waters \*



Juice  
- juice (not-from-concentrate)  
- fruit drinks  
- homemade juice  
- nectar  
- smoothies



Artificially sweetened soft drinks



Soft drinks with added sugar



Energy drinks  
Sports drinks

2

\* The acidity of flavoured and aromatised drinks (including alcoholic beverages) varies. In addition, adding sugar or honey to drinks exposes your teeth to an acid attack caused by bacteria.



Some conditions, such as eating disorders and reflux disease, can also cause the erosion of tooth enamel as the mouth is repeatedly exposed to acids, either because of vomiting or gastric reflux. Some medicines may reduce the secretion of saliva and cause dryness in the mouth. Saliva helps neutralise acids, so without saliva, the acidic challenge continues longer than usual. It is of vital importance that saliva, which protects the teeth, is not replaced by sweet or sour drinks, and that the mouth is moistened only with water or with sprays and gels available from the pharmacy.

Alcohol causes some bacteria in our mouths to produce acetaldehyde, which increases the risk of mouth cancer, especially when paired with tobacco products.

Oral health can be maintained by healthy eating habits and regularly cleaning of the teeth. Healthy oral health routines include:

- regular meals
- use of xylitol products after every meal or snack.
- drinking water to thirst
- avoiding constant snacking and drinking between meals
- drinking alcohol in moderation and avoiding all tobacco products
- thorough brushing of teeth with fluoride toothpaste twice a day – morning and night
- daily flossing. <https://ilovesuu.fi/omahoito> (In Finnish)

Current Care Guidelines [www.kaypahoito.fi](http://www.kaypahoito.fi) Caries (management), oral cancer, eating disorder (In Finnish).

# 7 THE REGULATORY BASIS OF STUDENT CATERING IN GENERAL UPPER SECONDARY SCHOOLS AND VOCATIONAL TRAINING

## 7.1 The right to free school meals

**Upper secondary education** refers to studies in general upper secondary schools or vocational institutions after the completion of comprehensive school. Students governed by the Act on General Upper Secondary Education (714/2018), Section 35, and Vocational Education and Training Act (531/2017) Section 100, are entitled to free school meals until the completion of the upper secondary education (see the box for details on legislation, p. 85).

### **Free school meals belong to upper secondary students in**

- general upper secondary schools
- fulltime vocational upper secondary education
- preparatory vocational education (VALMA and TELMA).

### **Catering for other students**

#### **Further vocational qualification and specialist vocational qualification:**

Students pursuing further or specialist vocational qualification are not entitled to free school meals. Students can purchase meals at student price at the place of study. The price is determined by the catering service provider. The students are not eligible for meal subsidy paid by the Social Insurance Institution KELA.

**Labour market training:** Students in labour market training are reimbursed for expenses during training days. They are not eligible for free meals.

**Apprenticeship training:** Apprenticeship training is based on an employment agreement and the trainees pay for their own meals.

Students in vocational upper secondary education complete studies based on their personal competence development plan. Full-time vocational upper secondary students and preparatory vocational students are entitled to a free meal on days when the student's personal development plan requires that the student is present at the place of study designated by the education provider.

Learning environments can vary greatly: there are different types of schools (e.g. for dual degree students) and different forms of learning (e.g. multiform and distance learning, online and project-based learning) and learning on the job. A student also has a right to other free daily meals as part of education that is provided in a licenced boarding school or vocational upper secondary qualification based on a government decree (pending) which requires attendance at a training facility indicated by the education provider for periods longer than a normal working day.

### **Learning on the job – meals during traineeship**

Students in vocational upper secondary education and preparatory vocational education are eligible for free meals if they are learning on the job on the basis of a training contract. Since the education providers can vary greatly there are many different ways of organising the implementation of this obligation.

The service can be provided:

- by allowing the student to eat at any of the facilities run by the education provider;
- by offering the student the opportunity to eat at the place of work, if there are meals provided, paid for either by the employer or the education provider
  - it is specified on the training contract how the free school meals are provided and organised for the student and whether the meals are paid for directly to the employer/company;
- by paying the student a daily meal allowance from which the student can pay for the meals;
- by giving the student packed/takeaway lunches to go.

## **Act on General Upper Secondary Education**

Act on General Upper Secondary Education (714/2018) <https://www.finlex.fi/fi/laki/alkup/2018/20180714> (In Finnish)

### **Student welfare benefits (Section 35)**

General upper secondary education entitled young people to free school meals on those days when the curriculum requires that student attend school in person at a place of study designated by the education provider. In education that has been organised at a boarding school under section 4(2), students are also entitled to other meals during the day.

### **Vocational Education and Training Act**

Vocational Education and Training Act (531/2017). <https://www.finlex.fi/fi/laki/alkup/2017/20170531> (In Finnish)

### **Right to free school meals (Section 100)**

Full-time vocational upper secondary students and preparatory vocational students are entitled to a free meal on days when the student's personal development plan requires that the student is present at the place of study designated by the education provider.

In addition to the above provisions, a student has a right to other free daily meals as part of education that is provided in a licenced boarding school or vocational upper secondary qualification based on a government decree (pending) which requires attendance at a training facility indicated by the education provider for periods longer than a normal working day.

The provisions of subsection 1 are not applicable to apprenticeship training, labour market training or a student in employment orientation.

The definition of **fulltime** studies is provided in section 5a of the Student Financial Aid Act (65/1994).

### **General eligibility criteria for student financial aid**

According to definition adopted in the Vocational Education and Training Act, full-time vocational studies are studies that aim at the completion of a vocational upper secondary qualification or qualification unit or the completion of preparatory vocational education or training preparing for employment and independent life. Studies aiming at the completion of a further vocational qualification or specialist vocational qualification, or parts thereof, is also considered full-time study if the scope of the studies agreed in the student's personal development plan is at least 4.5 credit points per month.

## 7.2 Health-promoting school meals in general upper secondary schools and vocational training

### General upper secondary education

General upper secondary education for young people is provided for in the national core curriculum for general upper secondary schools<sup>24</sup>. The aim of the education is not only to promote the attainment of different academic subjects and core content but also to develop broader life skills. Such life skills include health and wellbeing competence. When defining the culture of general upper secondary education, the national core curriculum refers to *school meals* as an integral part of a *culture that promotes students' wellbeing*. The goal of the studies is that *students recognise factors, communities and practices that are beneficial for their wellbeing and bring them joy. They take a proactive approach to their own and other people's wellbeing and safety. General upper secondary education introduces students to social, cultural and global means of promoting the wellbeing of communities and ecosystems. Students are given the opportunity to operate and learn together*. Daily meals are a natural environment to pursue each of these goals and to develop one's wellbeing competence.

Students learn about food and nutrition during the orientation period and as part of the curriculum of the extensive health education module. In some general upper secondary schools, students can complete a Home Economics Diploma.

### General study units in vocational upper secondary education

In the general Maintenance of occupational capacity and wellbeing module in upper secondary vocational education<sup>25</sup>, students create a realistic plan for themselves with the aim of promoting their health and wellbeing taking into consideration the role of physical activity, nutrition, recovery, sleep, mental health, smoking (including all nicotine products), alcohol and drugs, sexual health and relationships in daily life.

In further and specialist vocational education, the school can decide on the content of studies and choose from the following:

- incorporate food and sustainable development in different subjects as applicable
- strengthen existing knowledge, skills and adopted practices as continuation from basic-level education
- promote and support the self-direction of students through engagement and practice

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24 Extracts from: National Core Curriculum for General Upper Secondary Schools (LOPS2021), draft 2019 (In Finnish)

25 <https://eperusteet.opintopolku.fi/#/fi/esitys/4221362/reformi/tutkinnonosat/4226042#osaalue3711504> (In Finnish)

- promotion and commitment to personal health, wellbeing and working capacity (personal welfare plan).

## Preparatory vocational education (VALMA)

The aim of the preparatory vocational education (VALMA)<sup>26</sup> is to build students' readiness to apply for vocational education and training and to strengthen the student's ability to complete a vocational upper secondary qualification. The scope of the studies is 60 credits. Every VALMA student draws up a personal competence development plan. The education consists of individually tailored, elective studies.

The national core curriculum includes a study unit entitled **Strengthening participation and practical skills**. The scope of this study unit is 0–20 credits. During the education, students gain coping skills and skills to participate in society as full members. *The student strengthens their practical skills and knowledge required in daily life. The student gains consumer and financial skills and promotes their personal health and wellbeing through healthy eating habits and lifestyle. They are able to look after their functional capacity and know how they can spend their free time in a way that promotes their general wellbeing.* The student is aware of the role of art, culture, manual skills, physical activity and social relationships as a resource that support their health and wellbeing.

## Training preparing students for work and independent living (TELMA)

Training preparing students for work and independent living (TELMA training)<sup>27</sup> gives instruction and guidance to students who owing to an illness or disability need special support, as appropriate for their personal goals and skills. The goal of TELMA training is mainly to prepare the student to engage in activities other than vocational training. The aim is for the student to build functional capacity and a good, independent life that will support their employment, livelihood, housing arrangements, leisure activities and rehabilitation. The scope of the training is 60 credits and consists exclusively of elective study modules.

According to the learning targets of the Daily life skills training, which is part of the **Development of occupational capabilities** study module (0–25 credits) in TELMA training, *students are expected to plan and prepare healthy meals to the best of their abilities and to promote their personal wellbeing through healthy dietary habits.*

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26 Title of the core curriculum: Preparatory vocational education (VALMA) OPH-2658-2017, Effective date 1 January 2018 (In Finnish)

27 Title of the core curriculum: Training preparing students for work and independent living (TELMA) OPH-2659-2017 Effective date 1 January 2018 (In Finnish)

## 7.3 Student meals in boarding schools and student halls of residence

Students who live in a hall of residence or a boarding school (agriculture and forestry, child protection facility and boarding schools) are entitled to a sufficient number of daily meals. Meals served in halls of residence and similar establishments are based on nutrition recommendations. The meals provided are breakfast, lunch, afternoon snack, dinner and evening snack.

“Boarding school students are entitled to other daily meals”  
(dinner, evening snack)

Vocational Education and Training Act 531/2017, Sections 100, 103, and 104 (rules of conduct).

Some upper secondary education providers have halls of residence. These are usually located in regions or educational sectors where students travel long distances. Some halls of residence offer lunch and other meals or students can purchase these at a low price. In some of the halls, students prepare meals together with a supervisor or prepare dinner together, for example, once a week.



# ANNEX 1. THE STRUCTURE OF INVITATION TO TENDER/TENDERING MATERIALS

**Main document:** invitation to tender (includes technical specifications, bidder background requirements and selection criteria)

- Invitation to tender Appendix 1: Service description
- Invitation to tender Appendix 2: Draft contract
- Other appendices to the invitation to tender

**The service description is the most important document, and it covers the following:**

- The title of the service
- Service target and customer groups
- Service objective
- Service contents
  - nutrition recommendations and standards
  - policies of the contracting authority
  - meal content
    - meal components
    - nutritional content
    - variation and service frequency of main ingredients
    - other quality criteria for ingredients
    - selection of meals
    - principles in menu planning
    - portion size
    - special diets
    - other manufacturers' products
    - packed lunch instead of a hot meal
    - holidays and themes
    - own checks and food safety
    - update of product information
    - customer menu
    - EU School Milk Scheme
- Food distribution, mealtimes and service
- Other meals and services
- Ordering
- Editor
- Facilities, equipment and dishes
- Pricing and invoicing
- Environmental issues/sustainability criteria
  - food waste control, targets and measures to reduce food waste
- Sustainability goals, monitoring and projected schedule

- Cooperation between parties
- Cost distribution table
- Quality assurance, nutrient content calculations (software) and reporting
- Staff and stand-by staff of the service provider
- Extra arrangements
- Reporting

## ANNEX 2. SOURCES OF PROTEIN IN DIFFERENT DIETS

Diet	Protein, g/100 g
<b>Vegan diet</b>	
Soya flour, low fat	45
Soya flour, full fat	35
Soybeans, dried	36
Soybeans, boiled	16
Soy granules, dried	38–41
Soy granules, boiled	15
Green beans, boiled	2
Other beans, dried	20–30
Beans, boiled	10–16
Fava beans, boiled	8
Lentils, dried	24
Lentils, boiled	7–8
Peas, dried	18
Peas, fresh and boiled	5
Chickpeas, dried	21
Chickpeas, boiled	8
Almonds	24
Nuts	14–20
Casher nut	18
Walnuts, hazelnuts and Brazil nuts	14–15
Peanut	26
Sunflower etc. seeds	23–29
Quinoa, boiled	5.8
Quinoa, pulses	14
Plant-based drinks and fermented products (fortified with vitamins)	
Soya-based snack (as an alternative for yogurt)	3.6

<b>Diet</b>	<b>Protein, g/100 g</b>
Oat-based snack (as an alternative for yogurt)	approx. 1
<b>Soya and oat-based cooking products</b>	
Oat-based creme fraiche	1
Oat cream	approx. 1
Soy-based cream	0.8–2
Soy whipped cream	1
Soy drink	3
Oat drink	0.6–1.1
Almond drink	0.4
Rice drink	0.1
Bread	5–10
Oatmeal, wholemeal pasta	13–15
Bread, wholemeal etc. flour	10–12
Tofu (soy)	8–17
Tempeh (soy)	12–14
Seitan (wheat gluten product)	20–30
Precooked fava bean product	17
Pulled oats	30
Oat mince	20
<b>Lacto-vegetarian diet</b> In addition to the above:	
Milk, sour milk, yoghurt etc.	3
Hard cheese, sandwich cheese	20–30
Cottage cheese	16
Quark	10
MiFU® (meat-free protein)	24
<b>Lacto-ovo-vegetarian diet</b> In addition to the above:	
Egg	12.6
Quorn (mycoprotein product, contains egg)	14

Diet	Protein, g/100 g
<b>Mixed diet</b> In addition to the above:	
Meat	20–30
Meat and sausage cold cuts	10–30
Fish	10–25

Sources: <https://fineli.fi/fineli/en/index?> and food labels

Online  
ISBN 978-952-13-6649-9  
ISSN 1798-8969

*Student Meals Benefiting Health and Communities* is the first joint publication by the National Nutrition Council, Finnish National Agency for Education, and the Finnish Institute for Health and Welfare of its kind, providing food recommendations specifically for vocational institutions and general upper secondary schools. The publication includes the regulatory framework for organising student catering and nutrition recommendations. The publication also gives tips and ideas for product and service design, cooperation practices, communications, and the monitoring and evaluation of operations.

The general principles adhered to in the food recommendations are the promotion of sustainable lifestyles, social inclusion, non-discrimination and health equality. The recommendations promote regular meals as an integral part of study and work, with social eating in a welcoming environment as a key factor maintaining productivity in studies and at work and the overall wellbeing of the entire school community. School catering services should be based on providing tasty, nutritious and healthy meals while upholding the goals of sustainable development and climate change prevention. Social eating in educational institutions is a central element of a good, sustainable daily life.

The recommendations are aimed at education providers and their support organisations, educational institutions, teachers, student health services, school catering services, students and their families. They can also be used for the applicable parts as learning material in health education and home economics in upper secondary schools, welfare planning in vocational institutions, and in the vocational and further training in hospitality and catering and social and healthcare.