



“SUSTAINABLE CONSTRUCTION AND ENVIRONMENTAL PROTECTION”

1.	The title of the lesson	Sustainable construction and environmental protection
2.	Annotation (what will be the topic discussed)	Sustainable construction is consistently focused on protecting the environment, improving human health, and embracing low energy consumption. It is one of the sectors of the European Union that the European Commission has included as priorities, which have great potential and are extremely important for the European economy as a whole. Harmony, ethics, greenness... The words associated with the concept of sustainability often summarize various trends and processes. But what does sustainability and ethical creative processes mean in the construction sector? Sustainability creates economic value that benefits the world today and tomorrow. Sustainable construction draws moral, ethical and performance boundaries in the architecture and construction sectors and envisages that work is carried out in economically sound processes that reduce negative impacts on the environment, conserve energy and natural resources. Ethical construction also aims to increase worker, community and product safety.
3.	The lesson structure (plan of the lesson)	<ol style="list-style-type: none"> 1. Sustainability of construction (<i>the issue of sustainability: global environmental situation in the world; the concept of sustainable construction, concepts, terms; energy consumption of buildings, energy efficiency; energy efficiency during construction works; construction waste management, sorting; use of other resources during construction; use of environmentally friendly construction products and auxiliary materials; durability of barrels; social activism and "green" culture</i>). 2. Conservation of the environment (<i>sustainable development, sustainable environment; circular economy; raw material; projecting; production; distribution; secondary use; selection; recycling; circular economy perspectives</i>).
4.	The goals of the lesson	The purpose of the lesson is to develop and consolidate an environmentally friendly (green) work culture in the construction sector, while increasing the supply of the lacking qualified workforce to the construction sector and creating an opportunity to improve the qualifications of specialists already working in the construction sector with "green" skills.
5.	The theoretical part of the lesson	<p>During the lesson, the trainer has the following tasks:</p> <ul style="list-style-type: none"> - to explain the impact of changes in the global situation on the environment; - introduce basic concepts and terms; - explain the main causes of energy loss; - teach how to choose the optimal ways of performing work; - teach how to avoid basic technological mistakes; - explain how to avoid waste and manage it; - explain how to use natural resources more economically; - introduce the possibilities of using organic materials;

		<ul style="list-style-type: none"> - explain the importance of work quality, technical maintenance; - explain the goals of sustainable development; - introduce the circular economy, its stages and perspectives; - teach how to optimize production processes; - to explain the advantages of energy and renewable sources in production; - to familiarize with the complex activities of waste management.
6.	The practical part of the lesson (tasks, exercises, tests, workshops)	<p>Short discussion and speeches on any of the following topics:</p> <ul style="list-style-type: none"> • <i>Why are 1 million species of life in danger?</i> • <i>What is sustainable construction?</i> • <i>How can new technologies help extend the longevity of buildings?</i> • <i>Is social activism a relevant topic in environmental protection?</i> • <i>What environmental topics are the most relevant for the constructions taking place in the country?</i> • <i>What is your opinion about public environmental movements?</i> • <i>How to personally contribute to environmental protection, at work and at home?</i>
7.	Sources of information (links of videos, researches, the project website ...)	<ol style="list-style-type: none"> 1. https://www.youtube.com/watch?v=cxc21jgJT0I 2. Directive 2010/31/EU of the European Parliament on the energy efficiency of buildings. https://eur-lex.europa.eu/eli/dir/2010/31/oj 3. https://www.isover.lt/sites/isover.lt/files/assets/documents/pu26411_isover_teigiamos_en_brosiura_0.pdf 4. https://europa.eu/youreurope/business/product-requirements/labels-markings/ecolabel/index_it.htm 5. https://www.kskompanija.lt/sandarumotestas/?gelid=Cj0KCKQiA34OBBhCcARIsAG32uvNF5YzTY91A8ANjtS5VO 6. https://www.eea.europa.eu/lt/themes/waste/intro
8.	Methods, tools, approaches	Lecture, demonstration, questions-answers.
9.	Conclusions of the lesson (the main learning results from the lesson)	<p>During training, the person will understand the impact of changes in the global situation on the environment; will master basic concepts and terms; will understand the main causes of energy loss; will learn to choose optimal ways of performing work; will avoid basic technological errors; will understand how to avoid and manage waste; know how to use natural resources more economically; will understand the possibilities of using organic materials; will understand the importance of work quality and technical maintenance; will be able to explain the goals of sustainable development; will understand what the circular economy is, its stages and perspectives; will be able to explain the optimization of production processes; will understand the advantages of energy and renewable sources in production; will be able to explain the ways of travel of objects and food; will be able to list methods of secondary use; will be able to explain the complex activities of waste management.</p>



Erasmus+

Project: „**Ecofriendly worker 1.0**” Erasmus +, Key Action 2 VET, Small-scale Partnerships

(2021-1-PL01-KA210-VET-000032894)

“Less waste in Gastronomy”

1.	The title of the lesson	Less waste in Gastronomy
2.	Annotation (what will be the topic discussed)	The lesson of less waste in Gastronomy is focused on cooking diverse recipes applying scientific methods. Participants will train several technologies with which innovative recipes of Less waste in Gastronomy will be elaborated. The aim of the course is to learn how to cook in a new and creative way. With the plant diet gastronomy we take advantage of the properties of food and technological processes, for example the batter, the gelation, the increase of the viscosity etc. We will submerge in culinary contemporary and innovative technologies, exploring the waste in gastronomy and his new technologies.
3.	The lesson structure (plan of the lesson)	<p>This lesson will bring new concepts related to sustainable food, the green certification process and circular economy as a new vision and process where the market is entering.</p> <p>The theoretical part of the lesson:</p> <ul style="list-style-type: none">• Analysis of new concepts: biodiversity, sustainability, development objectives sustainable in food,• Inspiration and reflection on practical cases and social experiments in relation to food sustainability issues,• Introduction to a practical method of social innovation: Design Thinking,• Reflection on our environment and the challenges of the food

		<p>industry,</p> <ul style="list-style-type: none"> • Progress in phases of the method for the co-creation of initiatives that address issues of sustainability in the educational environment: Empathize, • Development of a prototype model of the idea generated in work groups, • Preparation and development of the team presentation of project ideas, • Identification of useful educational resources for classrooms, <p>The practical part of the lesson (tasks, exercises, tests,workshops):</p> <ul style="list-style-type: none"> • Basics of cuisine based on a sustainable approach to cooking: <ul style="list-style-type: none"> - Food waste - Batch cooking - Plastic waste - Desserts without sugar and gluten • Balance process and evaluation of the course.
4.	The goals of the lesson	<p>Main objectives:</p> <p>To acquire the basic knowledge about technologies used in the waste in Gastronomy and the inclusion of new products used in this new cuisine.</p> <p>Specific objectives:</p> <p>After this course the participant will:</p> <p>Get the knowledge, skills and necessary technologies to cook recipes considered as new creation based on traditional plates.</p> <p>Get familiarized with the use of tools and basic utensils of the creative cuisine, so that the pupil could innovate for both dishes and culinary specialties.</p> <p>Use new skills in cuisine with the most idealistic and imaginative intentions, to obtain the most creative results.</p> <p>The aim of the course is get knowledge:</p> <ul style="list-style-type: none"> - the main principles of healthy eating based on plant-based diets; - the latest discoveries and trends in health nutrition; - diet menu: for medical purposes due to fashion;

		<ul style="list-style-type: none"> - cooking methods that preserve nutrients; - organic food production methods, including plants and herbs; - modern food and its disadvantages and impact on humans; - food and civilization diseases.
5.	The theoretical part of the lesson	<p>The theoretical part will be treated as an on-line form by means of an educational platform destined exclusively for this course. Many different materials will be loaded and will allow the participant to familiarize with the most modern culinary terminology, as well as the different ingredients and uses in the Gastronomy.</p> <p>The mass media used in the virtual classroom will be the following: communication tools (chat, forum, e-mail, voting, webinars), educational materials (dictionary, ppt presentation, articles, videos), practical asks (Exam and / or test)</p> <p>The content of every module will be the quite integral one and will have to be followed in the correct order. The practical tasks will allow the participant to acquire skills to use the tools TIK.</p> <p>Compulsory tasks will be qualified in the scale of points according to the correction of the realized activity. The practical part will be developed in a workshop destined for the use of new technologies.</p>
6.	The practical part of the lesson (tasks, exercises, tests, workshops)	<p>Basics of cuisine based on a sustainable approach to cooking</p> <ul style="list-style-type: none"> • Food waste - Compost - Leftover menu - Recipes: homemade pickles, vegetables broth made from rice and leftovers and vegan croquetas • Batch cooking - Learn not to overpay - Organize shopping list and optimize time - Recipes: marinated salmon, poke bowl, baked chicken, tacos, lasagna, vegetable quinoa salad and dressings • Plastic waste - Recycle, reuse and buy in bulk - Recipes: healthy and balanced salads • Desserts without sugar and gluten - How to reduce sugar - How to do sweets healthier

		<ul style="list-style-type: none"> - Recipes: Date brownie, orange cake, vegan granola, apple crumble and energy bars
7.	Sources of information (links of videos, researches, the project website ...)	<p>Participants should be able to use the computer and the Internet with ease:</p> <ul style="list-style-type: none"> - Know how to use the computer in terms of operating system, e-mail, communicators, e-learning platform, etc. - Reading comprehension - Carry out the exercises and test on line. <p>In the website of the course will be do the technical requests and the freeware essential to use the materials of the course, such as:</p> <ul style="list-style-type: none"> - Adobe Acrobat -https://get.adobe.com/pl/reader/ - Webbrowser recommended – Chrome - Have passed previous training online course. - Correct dress code (uniform)
8.	Methods, tools, approaches	<p>Working in the groups, individual work, situational method, guided conversation, role playing, talk, preparation of dishes according to recipes, presentation, exchange of ideas, practical activities in the field - trip, observation, brainstorming, interview, evaluation of practical classes through answers to surveys and prepared dishes.</p> <p>A blackboard or a large sheet of paper, felt-tip pens or chalk, camera phone or photo camera, computers, television monitor, projector, screen, kitchen, oven, access to the sinks, products and semi-finished products and kitchen tools for preparing dishes.</p>
9.	Conclusions of the lesson (the main learning results from the lesson)	<p>Less waste (or zero waste) is a movement that is committed to reducing waste in day to day and in its maximum exponent, simplifying the life of the person who carries it out and helping to improve the environment.</p> <p>There are also many local activities and cultural practices in that aim to address this challenge. For example, there are a growing number of organizations and initiatives focused on reducing food waste in the gastronomy sector, such as the "Zero Waste" movement, which promotes sustainable practices in the restaurant industry.</p>

		<p>The result of our lesson will be learning the main principles of using waste in gastronomy, including restaurants and local activities.</p> <p>One of the main results of the lesson will be learning the recipes of dishes and practical preparation of meals based on the above principles of less waste in gastronomy.</p>

EU PROGRAMME ACTIVITY 2 (KA2)
PROJECT “Ecofriendly worker 1.0”
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“USE OF RENEWABLE RESOURCES MODULE”

1.	LESSON TITLE	USE OF RENEWABLE RESOURCES MODULE SHUTDOWN OF THERMAL POWER PRODUCTION WORK WITH THEORY WORKS AND FOR SELF-CONTROL TESTS
2.	AUTHOR	Riga State Technical school
3.	ANNOTATION	The learning material is intended for students studying Renewable Energies technician specialty. They acquire the knowledge about the Use of renewable resources in the heat energy production module. students have access to the theoretical digital study materials (theory) of the module topics with self-checks tests, respectively, as a result of self-directed learning, students can acquire the theoretical knowledge of the module much better for the final paper (final tests, exams). The final work of the module has also been prepared in the digital format. Since the questions of the self-control tests generally form the final paper, then the students have a lot of motivation to perform the self-control tests well, understand the mistakes made as well as the answered questions learn more in the theory notes.
4.	LESSON STRUCTURE	<ol style="list-style-type: none"> 1) Theory summaries (digital study materials (theory)) and self-directed tests 2) Final thesis of the module <p>The methodological material can be found on the website of the RSTS digital learning environment in the Professional section study subjects → Study subjects of the Department of Energy → PB8 Renewable resources use in thermal energy production by opening the link https://e.rvt.lv/course/view.php?id=480 (under the condition that the interested party is added as member or by entering the guest password SILTUMS).</p>
5.	THE GOALS OF THE LESSON	The created methodical teaching material has been created on the learning platform Moodle. It gives the opportunity for teachers and students to get easy and comfortable access to the created learning materials. The digital environment gives the ability to assess instantly tests and get feedback on problematic topics, but learners have the opportunity to get acquainted with the mistakes made immediately after the work has been completed and to receive immediate feedback in the form of comments about the mistakes made. Digital material also provides an opportunity to be used if a substitute teacher is needed. The material can be used modularly for full-fledged learning, in the self-directed learning process, also external or unsuccessful students, for whom given the opportunity to take the post-test of the module, but before that an opportunity is needed independently learn the subject material.
6.	THE FORM OF THE LESSON	The theoretical part summaries are easy to open with the help of hyperlinks and save as PDF format files. The abstracts contain the most important and latest information about plumbing for pipes and circuits, solar collectors, solar panels for thermal energy, biomass thermal energy and geothermal energy. In the abstracts, you can find information about the relevant ones technologies both in Latvia and worldwide.

		The practical part consists of self-control tests, 28 questions have been created, which make up the question bank. Questions are of different types such as true/false, single correct, multiple correct answers, with an answer number to be found or calculated, with pictures to choose the appropriate one name, with images to which descriptive text should be added in the appropriate places.
7.	LESSON CONCLUSIONS	<p>First of all, it should be concluded that the module Use of renewable resources for thermal energy production is taught for the first time in the technical school this school year, so this year is the first opportunity to check this methodical material in a real learning process. Pupils find what is found in the theory notes learning material was learned through various types of tasks during studies at the technical school. From the module according to the results of the final work, it can be concluded that the students have learned the learning material of the module have learned at a sufficiently high level. All students who took the end-of-module exam, have successfully passed it with at least 60% of the maximum number of points.</p> <p>Secondly, after completing the final paper, some comments were obtained from the students about the imprecise wording of questions and answers. You could also check the correctness of the questions to conclude from the obtained report after the work has been completed. All this was taken into account when specifying some questions in the question bank.</p> <p>And thirdly, can conclude that this created learning material will definitely give students easy access to theory materials what will help to repeat the learning material at any convenient time and better prepare for the final work of the module, it will allow you to quickly complete the digital final work of the module, will give an immediate evaluation of the work and the opportunity to get acquainted with errors and comments on to the submitted answers.</p>
8.	METHODS, TOOLS	RSTS digital learning platform Moodle, pictures.
9.	SOURCES	<p><i>Āboliņa K., Andrušaitis A., Blumberga D., Briede A., Bruņiniece I., Grišule G., Kļaviņš M. (2008). Klimata mainība un globālā sasilšana. Rīga, LU Akadēmiskais apgāds, 176 lpp.</i></p> <p><i>Kļaviņa M., Zaļoksnis J. (2011). Vide un ilgtspējīga attīstība. Rīga, LU Akadēmiskais apgāds, 334 lpp.</i></p> <p><i>Brēmere I., Indriksone D., Aļeksejeva I. (2011). Siltumsūkņu izmantošana ēku siltumapgādē. Rīga, Baltijas Vides forums, RTU, 32 lpp.</i></p> <p><i>The German section of the International Solar Energy Society. (2010). Planning and Installing Solar Thermal Systems. Vācija, Earthscan, 368 lpp.</i></p> <p><i>Keyhani A. (2019). Design of smart power grid renewable energy systems. ASV, Wiley, 624 lpp.</i></p> <p><i>Čiuprinskiene J., Kupianskas K., Motuziene V. (2020). Apkure, ventilācija, gaisa kondicionēšana. Lietuva, Supernamai, 416 lpp.</i></p> <p><i>Dunlap R. A. (2018). Sustainable energy. ASV, Cengage Learning, 736 lpp.</i></p> <p><i>Glassley W. E. (2015). Geothermal energy. ASV, CRC Press, 409 lpp.</i></p>