

Steam Active

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2021-1-ES01-KA220-HED-000032107



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Partneriai (5 AM + 2 NMI)

Steam Active



1. Baskų krašto universitetas (UPV/EHU) (Ispanija)
2. Badeno-Viurtembergo kooperatinis valstybinis universitetas (DHBW) (Vokietija)
3. Peloponeso universitetas (Graikija)
4. Perudžos universitetas (Italija)
5. Kauno technologijos universitetas (Lietuva)
6. Pixel (Italija)
7. Mašinų ir staklių techninio mokymo fondas (Ispanija)



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Asocijuoti partneriai



- LieDM asociacija
- VšĮ „eMundus“
- Raseinių Šaltinio progimnazija
- Kauno Juozo Grušo meno gimnazija
- Kauno Simono Daukanto progimnazija
- Projekte dalyvauja kaip partneriai prisidedantys prie projekto ir rezultatų viešinimo tikslinėms grupėms
- Partneriai, kurie prisideda prie rezultatų panaudojimo/perkėlimo į kitą švietimo sektorių (bendrojo lavinimo mokyklose)

<https://steam-active.pixel-online.org/associated-partners.php>



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Asocijuoti partneriai



NAUJIENOS RENGINIAI **PROJEKTAI** PASLAUGOS APIE LIEDM KAIP TAPTI NARIU

Projektai

LieDM asociacija vykdo aktyvią veiklą dalyvaudama įvairiuose Erasmus+ bei kituose projektuose. LieDM asociacija yra partneris šiuose projektuose:

- + ERASMUSE - New Era's Museums: Steam Teaching Environments for Secondary School Education
- + OEPASS - Open Education Passport
- + VOCAL - Bendradarbiavimas rengiant turinį aktyviam mokymuisi nuotoliniu būdu
- + ODL - Atrask atviras nuotolines STEM laboratorijas
- + OPENPROF - Atviras profesinis bendradarbiavimas
- + REVIVE VET - Profesinio mokymo ir rengimo praktiškų vertinimas ir tobulinimas
- + BENDRAVIMAS - VERTYBĖ

LieDM asociacija – asocijuotas partneris šiuose projektuose:

- + Digital Education HUB (Aukštojo mokslo sektorius)
- Steam-Active (Aukštojo mokslo sektorius)
- Projekto partneris Lietuvoje: KTU
- Projekto tinklapis: <https://steam-active.pixel-online.org/>
- Kontaktinis asmuo LieDM asociacijoje: Vida Drasutė (vida.drasute@gmail.com)



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Home / Associated Partners

Associated Partners

Several associated partners joined the project to contribute to the improvement of its impact on the target groups and to ensure its sustainability in the long term.

Institutions and organizations interested in becoming associated partners of the Psych.In project can contact the [national coordinators](#) of the project.

<p>Kauno Simono Daukanto progimnazija</p>	<p>STEAM Center of Klaipeda University</p>	<p>ASiMoV (Zentrum für Didaktik in der Mathematik)</p>	<p>EdCON (ECC3)</p>
<p>DHBW Center of Advanced Studies</p>	<p>TKNIKA</p>	<p>Dynacomp</p>	<p>Ergologic</p>
<p>CWIHE European Network of Cooperative and Work Integrated Higher Education</p>	<p>COMPETECS</p>	<p>CTI DIOPHANTUS Computer Technology Institute and Press "Diophantus"</p>	<p>UNIVERSITETOMO PATROU University of Patras</p>
<p>Kaunas Juozas Grusas Art Gymnasium</p>	<p>Raseiniai "Šaltinis" progymnasium</p>	<p>LieDM association Lithuanian Association of Distance and e-Learning (LieDM association)</p>	<p>VšĮ "eMundus"</p>

Last News

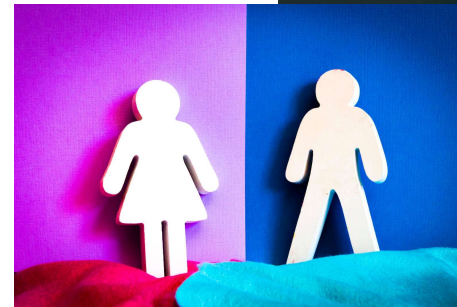
- Steam-Active on IEEE
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- Draft Version of the E-Learning Course content
30-12-2022
- E-Learning Course: Work in Progress!
28-11-2022
- Protocol for Teachers Available!
24-10-2022
- Third Partners' Meeting
06-09-2022

Kontekstas

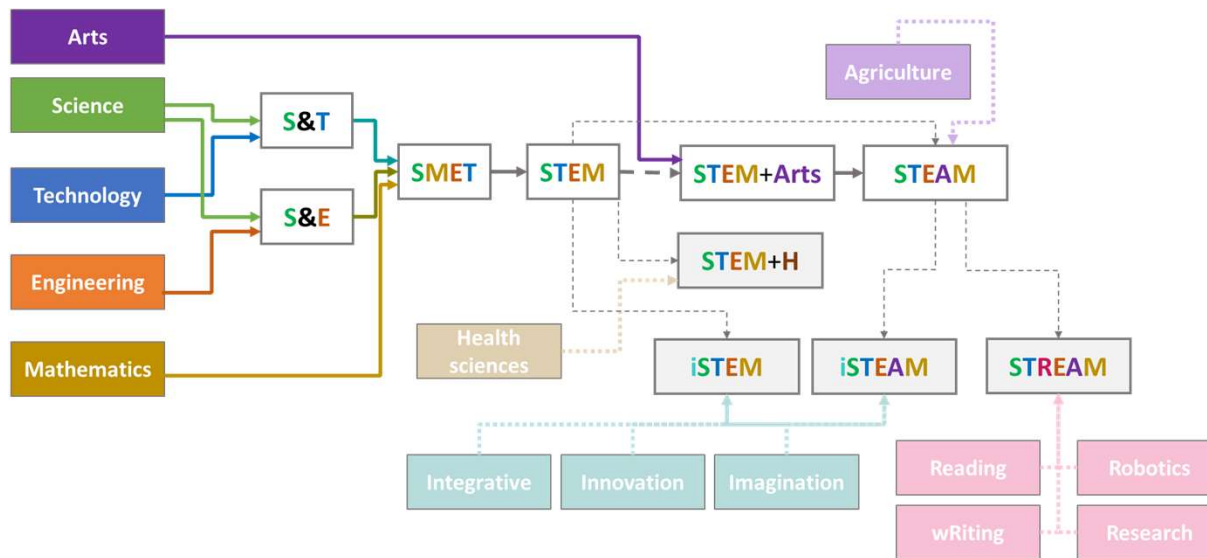
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- Technologinė evoliucija kuria inovacijų kūrimo ir diegimo poreikį įmonėse. Švietimo institucijų, o ypač aukštojo mokslo institucijų, uždavinys – **sukurti prasmingą mokymąsi ir ugdyti kompetencijas, kurios paruoštų besimokančiuosius atliepti rinkos poreikius.**

- Kitas iššūkis, sprendžiamas inžinerinėje srityje, – **kova su lyčių nelygybe tiek aukštosiose mokyklose, tiek įmonėse.**



Pasirinkta STEAM metodika



STEAM yra mokslo, technologijų, inžinerijos, meno ir matematikos akronimas. /.../

*„STEAM-Active“ projekte **STEAM ugdymą** apibrėžiame kaip mokymo metodą, kuris integruoja bent dviejų akronimo disciplinų turinį, įgūdžius ir įsitikinimus ir orientuojasi į realaus pasaulio kontekstą.*

Uždaviniai



- Gerinti aukštojo mokslo inžinerinės srities kursų kokybę ir pasiūlą, taikant naujus/atnaujintus mokymo/si metodus ir medžiagą.
- Siekti geresnių inžinerijos sričių studentų studijų rezultatų ir mažinti lyčių nelygybę.
- Suteikti universitetų dėstytojams daugiau žinių apie STEAM metodika grindžiamus metodus ir mokymo priemones.
- Suteikti universitetų dėstytojams nuoseklius, pakartotinai naudojamus ir adaptuojamus mokymo/si scenarijus, pagrįstus STEAM metodika.

Rezultatai



1. Bibliografinė apžvalga (publikacijų, susijusių su projekto tematika) rinkinys bei Protokolas dėstytojams, iliustruojantis „STEAM-Active“ projekto projektavimo metodikos pagrindą su aktyviomis mokymo metodikomis.
2. E. mokymu grindžiamas mokymo kursas inžinerijos sričių dėstytojams, kuris apima teorinį STEAM metodų ir aktyvių metodikų diegimo aprašymą.
3. STEAM grindžiamų mokymo/si scenarijų rinkinys, grindžiamas projektinio mokymo/si metodika, kurį dėstytojams siūloma taikyti paskaitų metu, taip studentai atlikdami užduotis spręstų socialines-mokslines-technologines situacijas.

PR1. <https://steam-active.pixel-online.org/methodologies.php> Bibliografinė apžvalga Protokolas skirtas dėstytojams ir mokytojams



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Steam Active x STEAM-ACTIVE METHODOLOGIES E-LEARNING COURSE LEARNING SEQUENCES INFORMATION AND CONTACTS

Home / Bibliographic Review

Bibliographic Review Protocol

This Bibliographic Review section provides access to selected and commented examples of different STEAM perspectives and approaches. The contents promote a more aware understanding and shared definition of the characteristics that STEAM education should have in Engineering Schools.

Thematic Area Search by Keyword

STEAM intervention (teaching strategies, ex...
 Gender inequality
 Sustainability and circular economy
 Students' Difficulties
 Definition and characteristics of STEAM

Search

Title	Thematic Area	Educational stage
"If you aren't White, Asian or Indian, you aren't an engineer": racial microaggressions in STEM education	Gender Inequality, Students' Difficulties	University Level
A framework for Epistemological Discussion of Integrated STEM Education	Definition and characteristics of STEAM	Secondary Level, University Level
A framework for Implementing an Engineering-Focused STEM Curriculum	Definition and characteristics of STEAM	Secondary Level
A Theoretical Framework for Developing an Intercultural STEAM Program for...	STEAM intervention (teaching strategies, ...)	Secondary Level

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 E-Learning Course: Work in Progress! 28-11-2022
 Protocol for Teachers Available! 24-10-2022

Šioje bibliografinės apžvalgos dalyje galima susipažinti su atrinktais ir komentuojamais (populiariais) įvairių STEAM perspektyvas ir metodiką mokymo procese pristatančių publikacijų pavyzdžiais.

Publikacijų turinys skatina geriau suprasti ir bendrai apibrėžti STEAM ugdymo ypatybes, kuriomis turėtų pasižymėti inžinerijos, tikslųjų mokslų profilį turinčių ugdymo įstaigų mokymo turinys.

Paieškoje pasirinktinės tematikos:

- STEAM intervencija (mokymo strategijos, vertinimas)
- Lyčių lygybė
- Tvarumas ir žiedinė ekonomika
- Mokymosi sunkumai
- STEAM apibrėžimas ir charakteristikos



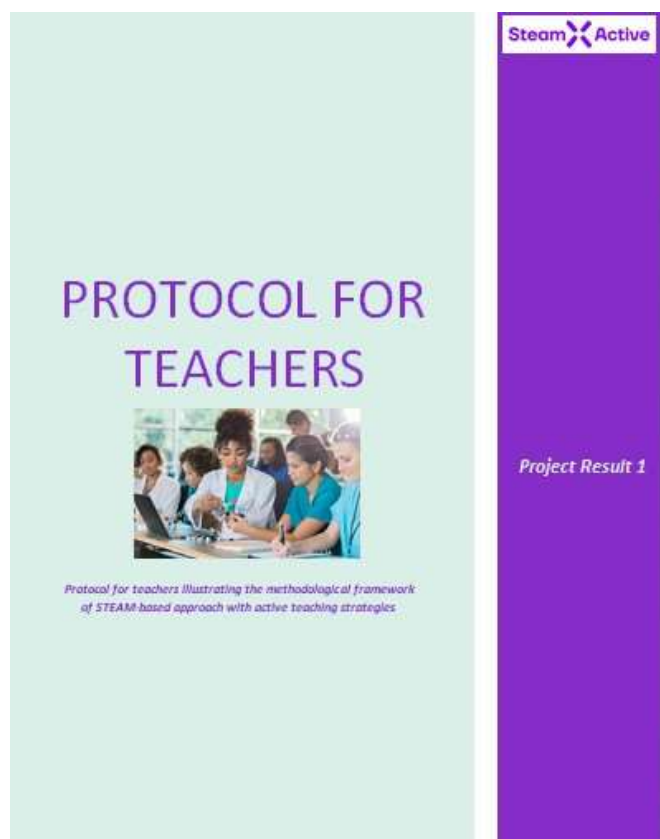
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PR1. <https://steam-active.pixel-online.org/protocol.php>

Bibliografinė apžvalga

Protokolas skirtas dėstytojams ir mokytojams

Steam  Active



- Šiame (25 psl.) dokumente rasite pateiktus „STEAM-Active“ projekto projektavimo metodikos pagrindus su aktyviomis mokymo metodikomis.
- Įvade aptariama STEAM apibrėžtis ir ypatybės, STEAM raida per pastaruosius dešimtmečius švietime, STEAM taikymo lygiai, įvairių autorių pateikti skirtingi apibrėžimai ir apibrėžimas, kurį pasirinkome STEAM-Active projekte.

„STEAM-Active“ projekte STEAM ugdymas - tai mokymo metodas, kuris integruoja bent dviejų disciplinų, sudarančių šį akronimą, turinį, įgūdžius ir įsitikinimus, orientuotus į realaus pasaulio kontekstą.

- Dokumente aprašomi integracijos tipai (tarpdalykinis, interdalykinis, metadalykinis), kuriuos siūlome naudoti klasėje įgyvendinant tam tikras mokymo sekas, ir jų ryšį skirtinguose ugdymo kontekstuose.
- Žiedinė ekonomika ir lyčių lygybės klausimai siūloma, kad būtų įtraukti į studentų projektus kaip skersinė ašis. Galimų įtraukti aspektų, susijusių su jais abiem, sąrašas taip pat pateikiamas dokumente.



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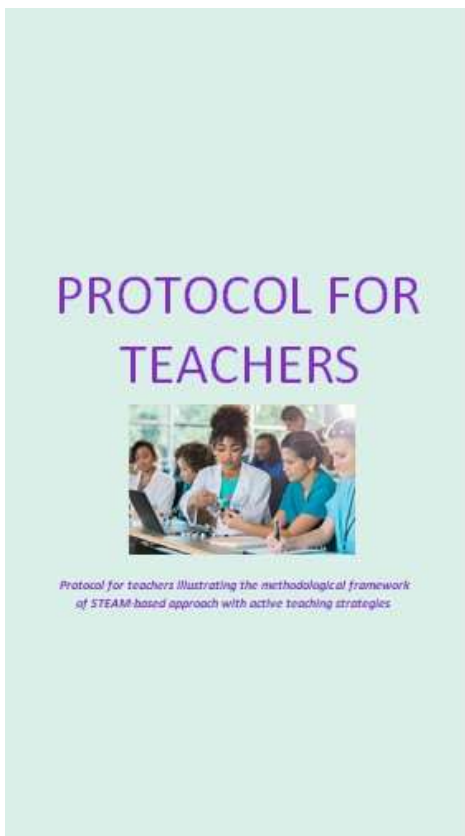
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Protokolas skirtas dėstytojams ir mokytojams

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1 dalis. Įvadas. STEAM apibrėžimas ir ypatybės

1.1. STEAM ugdymo istorija ir raida

1.2 Kas yra STEAM ugdymas? Apibrėžčių aptarimas

1.3. Integracijos tipai

1.3.1 Konteksto svarba

1.3.2 Kokius integracijos lygius naudojame STEAM-ACTIVE projekte?

2 dalis. STEAM inžinerijai. Mokymo mokymosi sekų kūrimas, įgyvendinimas ir vertinimas.

2.1. Projektai ir (arba) problemomis grindžiamas mokymasis

2.2. STEAM disciplinų sąsajos ir skirtumai.

2.3 STEAM į inžineriją orientuotiems kontekstams

2.4. TLS projektavimo etapai

3 dalis. STEAM, skirtas inžinierių lyčių lygybei ir aplinkosauginiam sąmoningumui

3.1. Skersinės ašies integravimas į TLS

4. Nuorodos 5. Priedai



SCAN ME

PR2. El. mokymo/si kursas



E-Learning Course



Basis of STEAM

Nowadays STEAM is a widely used acronym in the teaching context. STEAM projects are associated with active learning, fun, value for society, and diversity. However, the meaning of STEAM can vary with respect to the goals and the environment the acronym is used. To make this acronym more approachable, Module 1 covers the basis of STEAM, its evolution, features, and integration levels in practical application.



STEAM Active approach

This module deals with the "Ingredients of STEAM-Active methodological approach", "Ingredients of STEAM-Active teaching techniques approach" and "Teachers' characteristics/ingredients to be good applying STEAM-Active approach in our teaching".



Basis for designing a STEAM Active project

This third module starts by explaining the design protocol, expanding on the new terminology and how the contents of the previous modules are applied in the protocol. To better understand the design process, there will be an example of a STEAM Teaching-Learning Sequence. The importance of this guide will be highlighted by presenting the learning objectives of each activity, the recommended didactic technique for their development or the evaluation.

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Implementing in Your Lessons The "Ingredients" of STEAM-Active Methodology

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Implementing in Your Lessons Active Learning Techniques

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Questionnaire about how to use an already designed STEAM-Active TLS

SECTION 3 - Description on how is adaptable the TLS

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Questionnaire on how is adaptable the TLS

Comments



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Labai kviečiame registruotis ir išbandyti!

<https://steam-active.pixel-online.org/register.php>

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Home / Register

Thanks for deciding to join the STEAM-Active project.
All fields are compulsory.

Name *	Surname *
<input type="text"/>	<input type="text"/>
<input type="text"/>	Confirm E-mail Address *
<input type="text"/>	Confirm Password *
Organization *	Country *

I declare that I have read and accepted the [informative note](#) on privacy and the handling of all data submitted

Antispam

6 + 9 =

[Already registered? Login](#)



SCAN ME

PR3. Mokymo-mokymosi sekos (11 mokymo planų)

Steam  Active

Learning Sequences

A Collection of STEAM based Teaching-Learning Sequences that allow teachers to guide students in applying a project based learning methodology to solve socio-scientific-technological situations.



Electrical Efficiency of buildings

Improvement of Sustainable Development Goals for a building (1 building per student) considering the fixed electrical grid and local renewable generation possibilities, including collective self-consumption with neighbouring buildings.



Cycling tour and Tourism

Introduce the concept of micromobility in modern municipalities. Micromobility is one of the areas where modern municipalities should invest. Cycling is in the middle of circular economy and it needs to be integrated not as a physical exercise (only) but as a way of liv ...



Planning the Placement of Recycling Containers

Contributing to circular economy by planning the placement of the recycling containers in the urban area with considering the network of the recycling points and the local features such as buildings and population density.

1. Kelionės dviračiais ir turizmas
2. Perdirbimo kontenerių išdėstymo planavimas
3. Baterijų sistemos elektriniame transporte
4. Vaistų paros dozėms ruošti parinkimas ir išdėstymas vaistų organizatoriuje
5. Mechaninio apdirbimo procesų efektyvumo tyrimas staklėmis
6. Pastatų elektros energijos vartojimo efektyvumas
7. Pažangus eismo valdymas
8. Buriavimas Graikijos salose
9. Energijos lizdo parinkimas gamybai
10. Energijos kaupimo vaidmuo pereinant prie švarios energijos
11. Dizelinių variklių efektyvumas

PR3. (pasiekiamo prisijungus) Mokymo-mokymosi sekos (mokymo planai)



Home / Learning Sequences / View

Cycling tour and Tourism

Country
Greece (GR)

Study Programme
Bachelor

Name of the programme
Electrical and Computer Engineering

Study Year
3

Subjects involved
Informatics Engineering and User Design



Teaching Learning Sequence Document

Type: pdf

Project Topic

Introduce the concept of micromobility in modern municipalities. Micromobility is one of the areas where modern municipalities should invest. Cycling is in the middle of circular economy and it needs to be integrated not as a physical exercise (only) but as a way of living. Students should prepare a report and design a mobile app that will promote cycling routes across the country combined with points of interest (POIs) of cultural, touristic and shopping interest.

Main guiding question

"What problem or project needs to be solved in order to promote cycling as a way of living and integrate it into modern municipalities?" This question prompts students to recognize the need for solutions that encourage and support cycling as a sustainable mode of transportation. It highlights the importance of addressing barriers, improving infrastructure, and designing innovative solutions to promote cycling and make it an integral part of daily life. By focusing on this question, students can identify the central problem or challenge that their project aims to solve and develop effective strategies to address it.

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PR3.B - TLS

Cycling tour and Tourism

1. General data	
Country	Greece
University Name	University of Patras
Study Programme	<input checked="" type="checkbox"/> Bachelor <input type="checkbox"/> Master <input type="checkbox"/> PhD
Name of the programme	Electrical and Computer Engineering
Study Year	3
Subjects involved	Informatics Engineering and User Design
Integration Type	<input checked="" type="checkbox"/> Interdisciplinary <input type="checkbox"/> Transdisciplinary <input type="checkbox"/> Metadisciplinary

2. Context	
Number of students	15 students
Project Topic	Introduce the concept of micromobility in modern municipalities. Micromobility is one of the areas where modern municipalities should invest. Cycling is in the middle of circular economy and it needs to be integrated not as a physical exercise (only) but as a way of living. Students should prepare a report and design a mobile app that will promote cycling routes across the country combined with points of interest (POIs) of cultural, touristic and shopping interest.
ECTS	3
Resources	Infrastructure: Computer Lab, Office, Internet access, with Google Maps, Azure, OpenStreetMap Input data: map of students' choices, Points of Interest in locations and any open data available.
Prior knowledge is there anything mandatory for students to know to solve this project?	NO
Expertise on PBL of teachers and students	Students had been working with PBL last year. Teachers are used to PBL with an experience with various expertise.

3. Axes to consider	
This part will be completed with the proposals of each partner. The objective of this part is to review a list of possible strategies to incorporate those three axes into TLS that we can choose from later. Select at least one from each axis.	
Gender equality	<input type="checkbox"/> Same number of female/male students during the project <input type="checkbox"/> Changing leadership roles (Changing between different roles during the project) <input type="checkbox"/> Selection of topic with a gender perspective <input type="checkbox"/> Having the participation of female STEAM professionals (Role Models) <input type="checkbox"/> Female protagonist <input type="checkbox"/> Intervention protocol to order when each person participates and ask them if they consider that this protocol is necessary and why (assess power relations within the group) <input type="checkbox"/> Ask students to analyse the gender of the authors cited in the bibliography of an academic paper and present the resulting numbers. <input type="checkbox"/> Critical analysis of the representation of women, through questions such as: who don't you know of any female authors? <input type="checkbox"/> How are women represented in the media? <input type="checkbox"/> Making women visible.

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5. Relationship between different stages of the TLS					
Learning Pathway	Objective	Learning Demand	Methodological needs	Activities	
Guiding question	Identify learning objective related to the question	Which student difficulty can appear?	Which type of activity or methodology is needed to solve the guiding question?	Project sessions, collective identification of required inputs, collective scheduling of collective new knowledge and understanding sessions.	* This column can be filled in at the end of the design, once the sequence of activities has been completed
1. What is micromobility and why is it important for modern municipalities?	LO1	LD1: <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High	LD1: <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High	Collective report writing	A1
2. What are the benefits of cycling for individuals, the environment, and the entrepreneurship?	LO2	LD2: <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High	LD2: <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High	Collaboration discussion	A2
3. How does cycling contribute to the circular economy?	LO3	LD3: <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High	LD3: <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High	Collaborative discussion	A3

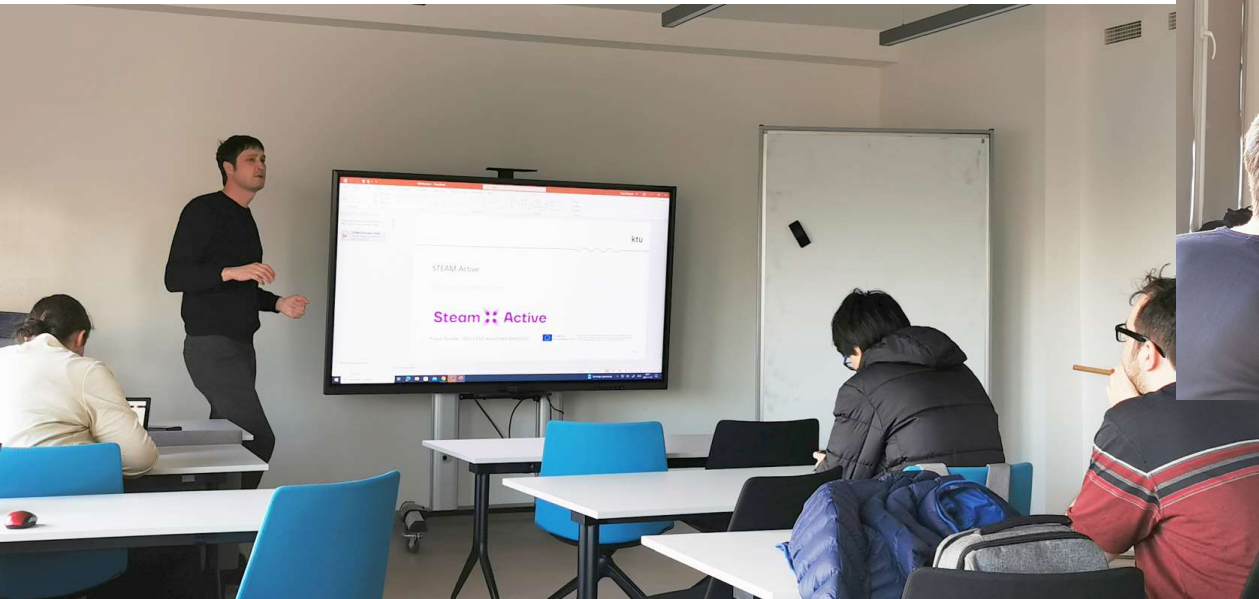
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Mokymosi planai išbandyti praktiškai ir studentai pristatė savo projektus



Kviečiu sukurtus resursus naudoti
mokymo procese ir dalintis su kitais!

vida.drasute@ktu.lt

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