

# AgriNext

## Curriculum for Module 2

### Training of

### Up-to-date Competences for Teachers in Multifunctional Agriculture

#### MODULE 2: Innovative Teacher

**Duration:** 8 hours (6 hours face to face training, 2 hours preparation)

#### OVERVIEW

This module aims to equip teachers with knowledge, skills, and attitudes on innovative teaching tailored to agricultural education. It covers various novel teaching strategies that can enhance student engagement, learning outcomes, and overall effectiveness and competencies. Participants will explore practical applications of these innovative methods to improve learning experiences in the context of agriculture education.

#### LEARNING OBJECTIVES

##### Knowledge

The learner will be able to:

Recognise and describe innovative teaching methods such as blended learning, flipped classrooms, gamification, project-based learning, collaborative learning, personalised learning, and inquiry-based learning. Analyse the benefits and challenges of innovative teaching methods, especially in agricultural education contexts. Gain knowledge of the learning management tools that support innovative teaching methods.

##### Skills

The learner will be able to:

Design lesson plans that incorporate innovative teaching methods, tailored to specific educational contexts and student needs. Develop the skills to facilitate active learning environments where students engage in hands-on, collaborative, and inquiry-based activities. Design assessment strategies that align with innovative teaching methods, allowing for formative and summative evaluation of student progress. Adapt and modify innovative teaching methods based on student feedback and learning outcomes.

##### Attitude acquired

The learner will be able to:

Cultivate an open-minded attitude towards adopting and experimenting with innovative teaching methods. Develop a willingness to embrace change and experiment with new teaching methods, recognising the potential for these methods to improve student engagement and learning. Demonstrate a commitment to student-centred learning, prioritising methods that foster student autonomy, collaboration, creativity, and critical thinking. Adopt a reflective approach to their teaching practice, regularly evaluating the effectiveness of innovative teaching and seeking ways to improve.

## Pedagogical contents/learning units

- |                                |                                     |
|--------------------------------|-------------------------------------|
| Unit 1: Blended Learning       | Unit 5: Personalised Learning       |
| Unit 2: Flipped Classroom      | Unit 6: Collaborative Learning      |
| Unit 3: Gamification           | Unit 7: Inquiry-based               |
| Unit 4: Project-based Learning | Unit 8: Learning Management Systems |

## Unit 1: Blended Learning

### Outcomes:

KNOWLEDGE	SKILLS	ATTITUDES
<p>Participants will be able to:</p> <p>Recognise the integration of traditional face-to-face instruction with online learning components.</p> <p>Select platforms, digital tools, and resources used in blended learning environments.</p>	<p>Participants will be able to:</p> <p>Develop the ability to effectively navigate and utilise learning management systems and other digital platforms.</p> <p>Organise time management skills to balance online and in-person learning activities.</p> <p>Establish self-directed learning skills, including the ability to organise, evaluate, and synthesise information from various sources.</p>	<p>Participants will be able to:</p> <p>Foster adaptability and openness to learning in both digital and physical environments.</p> <p>Cultivate a proactive approach to using technology in education, appreciating its role in enhancing learning experiences.</p> <p>Encourage a mindset of continuous improvement and self-regulation in learning</p>
<p><b>Transversal skills</b></p>		
<p><b>Digital skills</b>            Develop proficiency in using learning management systems (LMS) for accessing, organising, and submitting assignments. Enhance digital communication skills through online forums, emails, and virtual collaboration tools. Build competency in using multimedia tools for creating and engaging with digital content (videos, presentations, etc.).</p>		
<p><b>Green skills</b>            Promote sustainable practices in both online and offline learning environments (e.g., using digital notes instead of paper). Learn to minimise the environmental impact of digital activities by optimising energy use (e.g., using energy-efficient devices). Understand the environmental implications of digital technologies and adopt eco-friendly practices in technology use (e.g., responsible fertiliser use).</p>		

## Implementation plan of pedagogical activities (Scheme of work/Session plan)

Date: 26.08.2024	Location: VUKA, Karlovac, Croatia	Duration: 20 minutes		
Description of participants: Teachers				
Expected number of learners: 25				
No. of Activity	Timing	Training Methods /Activity	What I do	What they (participants) do
A 1.1	10 mins	Introduction and Unit 1: Blended Learning	Powerpoint Presentation	Participants listen
A 1.2	25 mins	Example of a blended learning lesson plan/activity	Facilitate the activity	Participants partake in blended learning on precision agriculture
<b>Material (What I need to have prepared):</b> Pens, Paper, PowerPoint Presentation, Flipchart and Markers, Laptop and Projector.				
<b>References/Sources:</b> Available in the Module 2				
<b>Other notes:</b>				

## Unit 2: Flipped Classroom

### Outcomes:

KNOWLEDGE	SKILLS	ATTITUDES
Participants will be able to:  Describe the flipped classroom model, where foundational knowledge is acquired outside of class, and in-class time is used for active learning.  Plan how to effectively engage with pre-recorded lectures, readings, and other preparatory materials independently.	Participants will be able to:  Demonstrate critical thinking and problem-solving skills through in-class activities that apply pre-learned content.  Practice digital literacy skills for accessing and analysing online educational materials.  Demonstrate collaboration skills through group activities and discussions during class sessions.	Participants will be able to:  Accept responsibility and self-discipline in preparing for class by completing assigned pre-class work.  Foster a collaborative mindset, valuing peer interactions and collective problem-solving during in-class activities.  Formulate a positive attitude toward active learning and engagement in the classroom.

## Transversal skills

### Digital skills

Develop the ability to access, organise, and critically evaluate digital content such as video lectures, e-books, and online articles. Enhance skills in using digital tools for collaborative work during in-class activities (e.g., shared documents, virtual whiteboards). Build competency in managing digital resources effectively for pre-class preparation and in-class application.

### Green skills

Foster an understanding of how to reduce the carbon footprint associated with digital learning by optimising device usage and energy consumption. Encourage the use of digital resources over physical materials to reduce paper waste. Promote awareness of sustainable technology practices, including the responsible use of online platforms and reducing unnecessary digital consumption

## Implementation plan of pedagogical activities (Scheme of work / Session plan)

Date:	Location:	Duration: 20 minutes		
Description of participants: Teachers				
Expected number of learners:				
No. of Activity	Timing	Training Methods /Activity	What I do	What they (participants) do
A 2.1	10 mins	Unit 2: Flipped Classroom model	Powerpoint Presentation and	Participants listen
A 2.2	20 mins	Example of a flipped classroom lesson plan	Facilitate the activity	Participants partake in flipped classroom on multifunctional agriculture
<b>Material (What I need to have prepared):</b> Pens, Paper, PowerPoint Presentation, Flipchart and Markers, Laptop and Projector.				
<b>References/Sources:</b> Available in the Module 2				
<b>Other note:</b>				

## Unit 3: Gamification

### Outcomes:

KNOWLEDGE	SKILLS	ATTITUDES
<p>Participants will be able to:</p> <p>Describe the principles of gamification, including the use of game elements (points, badges, leaderboards) in educational settings.</p> <p>Outline the motivational factors that make gamified learning effective.</p>	<p>Participants will be able to:</p> <p>Demonstrate problem-solving and decision-making skills through game-based learning activities.</p> <p>Interact with gamified learning platforms and tools.</p> <p>Build persistence and resilience by engaging in game-based challenges that require sustained effort.</p>	<p>Participants will be able to:</p> <p>Adopt enthusiasm and motivation for learning by engaging in educational games.</p> <p>Accept a growth mindset, recognising that challenges and failures are part of the learning process.</p>
<p><b>Transversal skills</b></p>		
<p><b>Digital skills</b>            Develop proficiency in navigating and engaging with gamified learning platforms and apps. Enhance problem-solving skills through digital games and simulations that require strategic thinking and decision-making. Build digital literacy by understanding the mechanics of game-based learning and how to leverage these for educational purposes.</p>		
<p><b>Green skills</b>            Use gamification to simulate and solve environmental challenges, promoting an understanding of sustainability through digital games. Encourage the use of digital games that focus on eco-friendly practices and sustainability, fostering environmental consciousness. Understand the environmental impact of digital gaming and adopt practices to reduce energy consumption during gameplay.</p>		

## Implementation plan of pedagogical activities (Scheme of work/Session plan)

Date:	Location:	Duration: 20 minutes		
Description of participants: Teachers				
Expected number of learners: 25				
No. of Activity	Timing	Training Methods / Activity	What I do	What they (participants) do
A 3.1		Unit 3: Gamification	Powerpoint Presentation	Participants listen
A 3.2		Gamification lesson plan/activity	Facilitate the activity	Participants partake in gamification on multifunctional agriculture
<b>Material (What I need to have prepared):</b> Pens, Paper, PowerPoint Presentation, Flipchart and Markers, Laptop and Projector.				
<b>References/Sources:</b> Available in the Module 2				
<b>Other note:</b>				

## Unit 4: Project-based Learning

### Outcomes:

KNOWLEDGE	SKILLS	ATTITUDES
<p>Participants will be able to: Recognise the fundamentals of project-based learning, where students gain knowledge through active exploration of real-world challenges and problems.</p>	<p>Participants will be able to:</p> <p>Demonstrate research, planning, and project management skills by working on long-term projects.</p> <p>Practice collaboration and communication skills through teamwork and group projects.</p> <p>Build critical thinking and creative problem-solving abilities by designing and executing projects.</p>	<p>Participants will be able to:</p> <p>Adopt a sense of ownership and accountability for learning outcomes through self-directed projects.</p> <p>Value appreciation for collaborative efforts, diverse perspectives and contributions within a team.</p> <p>Cultivate perseverance and resilience by tackling complex problems and navigating project challenges.</p>
<p><b>Transversal skills</b></p>		
<p><b>Digital skills</b> Develop research skills using digital tools for gathering, analysing, and presenting information. Enhance digital collaboration skills using online project management tools, shared documents, and virtual meetings. Build competency in creating digital presentations and reports that effectively communicate project outcomes.</p>		
<p><b>Green skills</b> Integrate sustainability into project planning and execution, choosing environmentally friendly materials and methods. Promote the use of digital tools to reduce the need for physical materials in project work, minimising waste. Encourage projects that address environmental challenges, fostering a deeper understanding of green practices and sustainability.</p>		

## Implementation plan of pedagogical activities (Scheme of work / Session plan)

Date:	Location:	Duration: 20 minutes		
Description of participants: Teachers				
Expected number of learners: 25 minutes				
No. of Activity	Timing	Training Methods / Activity	What I do	What they (participants) do
A 4.1		Unit 4: Project-based learning	Powerpoint Presentation	Participants listen
A 4.2		Example of a project-based learning lesson plan/activity	Facilitate the activity	Participants partake project-based learning on multifunctional agriculture
<b>Material (What I need to have prepared):</b> Pens, Paper, PowerPoint Presentation, Flipchart and Markers, Laptop and Projector.				
<b>References/Sources:</b> Available in the module 2				
<b>Other note:</b>				



## Unit 5: Collaborative learning

### Outcomes:

KNOWLEDGE	SKILLS	ATTITUDES
<p>Participants will be able to:</p> <p>Recognise the importance of collaborative learning, where knowledge is constructed through interaction with peers.</p> <p>Differentiate communication and cooperation strategies, in achieving shared learning goals.</p>	<p>Participants will be able to:</p> <p><b>Skills Objectives:</b></p> <p>Practice teamwork and communication skills, including active listening, negotiation, and conflict resolution.</p> <p>Appreciate different viewpoints and skills.</p> <p>Build digital collaboration skills by using online tools for group work, such as shared documents and virtual meetings.</p>	<p>Participants will be able to:</p> <p>Adopt a cooperative and inclusive attitude, recognising the value of teamwork and collective success.</p> <p>Value diverse perspectives and the ability to work well with others, regardless of differences.</p> <p>Promote a positive attitude toward peer learning and mutual support within educational settings.</p>
<h3>Transversal skills</h3>		
<p><b>Digital skills</b></p> <p>Develop digital collaboration skills by using online platforms (e.g., shared documents, virtual whiteboards, video conferencing) to work with peers. Enhance communication skills through digital channels, including discussion boards, group chats, and collaborative tools. Build digital literacy by effectively using technology to coordinate, share, and present group work.</p>		
<p><b>Green skills</b></p> <p>Promote sustainable practices in group projects, such as minimising the use of physical materials and leveraging digital alternatives. Encourage the use of eco-friendly digital tools and platforms that have lower environmental impacts. Foster an understanding of how collaborative projects can be designed to address environmental issues, promoting green thinking in teamwork.</p>		

## Implementation plan of pedagogical activities (Scheme of work / Session plan)

Date:	Location:	Duration: 25 minutes		
Description of participants: Teachers				
Expected number of learners: 25				
No. of Activity	Timing	Training Methods / Activity	What I do	What they (participants) do
A 5.1		Unit 5: Collaborative learning	Powerpoint Presentation	Participants listens
A 5.2		Collaborative lesson plan/activity	Facilitate the activity	Participants partake in collaborative learning on multifunctional agriculture
<b>Material (What I need to have prepared):</b> Pens, Paper, PowerPoint Presentation, Flipchart and Markers, Laptop and Projector.				
<b>References/Sources:</b> Available in the Module 2				
<b>Other note:</b>				

## Unit 6: Personalised learning

### Outcomes:

KNOWLEDGE	SKILLS	ATTITUDES
<p>Participants will be able to: Identify the principles of personalised learning, where instruction is tailored to individual learning styles, needs, and interests. Evaluate tools and methods used to customise learning experiences for different students.</p>	<p>Participants will be able to: Develop self-assessment to identify personal learning objectives and track progress. Practice self-regulation and time management skills to navigate a personalised learning path. Employ digital literacy skills by using adaptive learning technologies and resources tailored to individual needs.</p>	<p>Participants will be able to: Adopt a growth mindset, embracing the idea that learning is a personal and ongoing journey. Accept autonomy in shaping one’s learning experience.</p>
<p><b>Transversal skills</b></p>		
<p><b>Digital skills</b> Develop the ability to use adaptive learning technologies that provide personalised content and feedback. Enhance self-directed learning skills through the effective use of digital resources tailored to individual learning needs. Build competency in managing and customising digital learning environments to suit personal preferences and goals.</p>		
<p><b>Green skills</b> Encourage the selection of personalised learning paths that include sustainability and green topics, fostering environmental awareness. Promote the use of digital tools that minimise environmental impact, such as energy-efficient devices and eco-friendly apps. Foster a mindset of sustainability in personal learning choices, such as reducing paper usage and opting for digital over physical resources.</p>		

## Implementation plan of pedagogical activities (Scheme of work / Session plan)

Date:	Location:	Duration: 25 minutes		
Description of participants: Teachers				
Expected number of learners: 25				
No. of Activity	Timing	Training Methods / Activity	What I do	What they (participants) do
A 6.1		Unit 6: Personalised Learning	Powerpoint Presentation	Participants listen
A 6.2		Example of a personalised learning lesson plan/activity	Facilitate the activity	Participants partake in personalised learning on sustainable agriculture
<b>Material (What I need to have prepared):</b> Pens, Paper, PowerPoint Presentation, Flipchart and Markers, Laptop and Projector.				
<b>References/Sources:</b> Available in the Module 2				
<b>Other note:</b>				

## Unit 7: Inquiry-based learning

### Outcomes:

KNOWLEDGE	SKILLS	ATTITUDES
<p>Participants will be able to:</p> <p>Recognise the principles of inquiry-based learning, where students learn by asking questions, investigating, and exploring topics in-depth.</p> <p>Learn about research methodologies, critical questioning, and the process of discovery in learning.</p>	<p>Participants will be able to:</p> <p><b>Skills Objectives:</b></p> <p>Develop critical thinking, research, and analytical skills by exploring open-ended questions and conducting investigations.</p> <p>Operate problem-solving abilities by engaging in inquiry-driven projects that require creativity and logical reasoning.</p> <p>Build digital skills by using online resources and tools for research, data collection, and analysis.</p>	<p>Participants will be able to:</p> <p>Foster curiosity and a questioning mindset, valuing the process of exploration and discovery in learning.</p> <p>Develop resilience and adaptability in the face of complex, open-ended problems.</p> <p>Cultivate a sense of independence and self-motivation, taking initiative in pursuing answers and solutions.</p>
<h3>Transversal skills</h3>		
<p><b>Digital skills</b></p> <p>Develop research skills using digital databases, search engines, and online libraries to gather information for inquiry projects. Enhance digital analysis skills by using tools for data collection, interpretation, and presentation in inquiry-based learning. Build competency in using digital tools for collaboration and communication during the inquiry process, such as discussion boards and shared research platforms.</p>		
<p><b>Green skills</b></p> <p>Encourage inquiry projects that explore environmental issues and promote sustainable practices. Promote the use of digital tools to conduct research and present findings in an eco-friendly manner, minimising the use of physical materials. Foster an understanding of the environmental impact of digital research activities and promote responsible use of online resources.</p>		

## Implementation plan of pedagogical activities (Scheme of work / Session plan)

Date:	Location:	Duration: 25 minutes		
Description of participants: Teachers				
Expected number of learners:				
No. of Activity	Timing	Training Methods / Activity	What I do	What they (participants) do
A 2.1		Unit 7: Inquiry-based Learning	Powerpoint Presentation	Participants listen
A 2. 2		Example of an inquiry-based learning lesson plan/activity	Facilitate the activity	Participants partake in inquiry-based learning on multifunctional agriculture
<b>Material (What I need to have prepared):</b> Pens, Paper, PowerPoint Presentation, Flipchart and Markers, Laptop and Projector.				
<b>References/Sources:</b> Available in the Module 2				
<b>Other note:</b>				

## Unit 8: Learning Management Systems

### Outcomes:

KNOWLEDGE	SKILLS	ATTITUDES
<p>Participants will be able to: Describe what a learning management system (LMS) is and explain its core functions, benefits, and challenges. Identify and compare different types of LMS platforms. Select and implement an LMS in an educational or corporate environment.</p>	<p>Participants will be able to: Operate the LMS platforms and their applications in enhancing learning experiences. Integrate LMS with innovative teaching methods to enhance the learning environments.</p>	<p>Participants will be able to: Justify the use of LMS in developing lesson plans and activities.  Adopt strategies for effectively managing and utilising an LMS for various educational needs.</p>
<h3>Transversal skills</h3>		
<h3>Digital skills</h3> <p>Develop the ability to navigate and use LMS platforms effectively, including uploading and organising content, managing user roles, and tracking student progress. Gain proficiency in using digital tools within an LMS to create engaging and interactive learning materials, such as quizzes, forums, and multimedia content. Learn how to integrate external digital resources and tools (e.g., Google Drive, video conferencing software) into the LMS for enhanced learning experiences. Acquire the skills to analyse and interpret data from the LMS to inform teaching practices and improve student outcomes.</p>		
<h3>Green skills</h3> <p>Implement digital strategies within an LMS that promote sustainability, such as minimising paper use through digital submissions and resources. Develop the ability to design and deliver online courses and materials that emphasise environmental awareness and sustainable practices. Learn how to incorporate green topics and modules into the LMS curriculum to educate learners about sustainability, climate change, and environmental stewardship. Acquire the skills to manage LMS resources and infrastructure in a way that optimises energy use and reduces the carbon footprint of digital learning activities.</p>		

## Implementation plan of pedagogical activities (Scheme of work / Session plan)

Date:	Location:	Duration: 25 minutes		
Description of participants: Teachers				
Expected number of learners: 25				
No. of Activity	Timing	Training Methods / Activity	What I do	What they (participants) do
A 8.1		Unit 8: Learning Management Systems	Powerpoint Presentation	Participants listen
<b>Material (What I need to have prepared):</b> Pens, Paper, PowerPoint Presentation, Flipchart and Markers, Laptop and Projector.				
<b>References/Sources:</b> Available in the Module 2				
<b>Other note:</b>				