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IO2 –FlyVETUp! Drone Controller of Postal Services Course Guidelines

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FlyVETUp!
Innovative Training Curricula for Drone Controllers

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Authors:	AKMI
Contact Persons	Polytimi Mountanea, mountanea@akmi-international.com

Table of Contents

1 INTRODUCTION 4
1.1 How to read this document 4
1.2 Description of Intellectual Output 2 4
2 UNIT ALLOCATION 4
3 METHODOLOGY FOR DESIGNING TRAINING MATERIAL 5
3.1 Module Title and Description 5
3.1.1 Aims and Objectives 5
3.1.2 Learning Outcomes 6
3.2 Activities & Examples 8
3.2.1 Case-study exercises 8
4 Course Unit Description Template 9
5 STRUCTURAL GUIDELINES FOR ONLINE PRESENTATIONS 10
5.1 Format, Font, Size, Paragraph 10
5.2 Presentation Structure 10
6 EXAMPLES FOR ASSESSMENT ACTIVITIES 11
6.1 Templates 11

1 INTRODUCTION

FlyVETUp Project is a two-year programme funded by the European Commission. The project's objective is the realization of an updated training material for using Unmanned Aerial Vehicles (UAV) on parcel delivery available on different e-learning platforms. By taking part in this project, the employees of the postal operators (postmen and not only) will learn how to operate drones and be ready for authorization when the EU regulations will be in place and the National Aviation Authority will adapt and implement them at national level.

The project targets in many different ways the following human resources/professional categories:

- Workers in post offices – in terms of their daily work
- long-term unemployed young people, people with disabilities and organizations providing public services – in terms of beneficiaries of UAVs making parcel deliveries based on the following characteristics: speed, quality of service, efficiency, innovative services, emergency response when needed.

1.1 How to read this document

This document includes all the necessary guidelines for the design and the development of training material.

1.2 Description of Intellectual Output 2

The purpose of this output is to design the training material that will efficiently respond to particular learning needs regarding post-office operations with the use of drones. Based on the previous research done regarding the occupational profile of the sector, good practices and training needs analysis the consortium can know proceed towards the creation of a tailor-made training material and training.

2 UNIT ALLOCATION

MODULE 1 – CORE UAV MODULE

No	UNIT NAME	PARTNER
1	Good practices from the Postal Sector	ELTA
2	General Types of UAVs	Aeronautical School
3	Regulations of Drone Flights	Dronint
4	Basic Maneuvering/ Navigation	Aeronautical School
5	Meteorology	Cyprus Post/Croatian Post
6	Human Limitations	AKMI
7	Specifics of package delivery	Dronint

MODULE 2- ADVANCED: INTRO TO UTM MODULE

No	UNIT NAME	PARTNER
1	VLOS & BVLOS concept	Aeronautical School

2	General UAS Knowledge	Dronint
3	Fleet management issues: Basic ATC	Dronint
4	Air Safety	BK Consult
5	GDPR in drone postal operations	AKMI

3 METHODOLOGY FOR DESIGNING TRAINING MATERIAL

There are some key elements and specific steps for developing training material, especially when it going to be used as digital material for distance education purposes. The main principals are the following:

- Decide the **course structure** including the number of modules and units
- Give the **title** and a **short description** of each module
- Formulate, at the beginning of each module, the **aims & objectives** and the expected **learning outcomes** (according to Blooms Taxonomy)
- Select carefully your **3-5 key words**
- Provide the **main text** with the format of a **presentation (pptx)**
- Provide **extra urls and online resources** in the very slide of ppt (not only at the end of it)
- Add **reflection questions** between the slides to make the course more interactive
- **Audiovisual material** (Images, graphs, infographics, case studies and videos) clearly linked to the specific topic
- **Activities & Exercises (8-10)**
- **List of References/ Bibliography**

It is also important to take under consideration the linguistic and aesthetic care of the training material, the friendly communication style, copyrights assurance and easily accessible material.

At the end of each unit, thank the student for watching the presentation. If you want, show the names of the contributors to the presentation (i.e. author(s), narrator(s), visual effects creator(s), musical score author(s) etc.) and provide contact details if further communication from the student is necessary.

3.1 Unit Title and Description

The title of the module should be short and clear and the description should include the learning area, the key terms and the general scope of the modules. Also, it should answer the questions “To what topic this unit will introduce the learners?”, “What is the target audience?”, “What are they going to learn at the end of this module?”.

3.1.1 Aims and Objectives

The aims and objectives should be **specific and clear** to the learner in order to know what he/she will learn, why and how he/she will use what he/she has learned. They should be put in the begging of each module. Objectives (learning goals) are important to establish in a pedagogical interchange so that teachers and learners alike understand the purpose of that interchange. **They will be 4-5 lines for each unit.**

3.1.2 Learning Outcomes

Learning outcomes are measurable and express what is expected from the student to able to do upon the successful completion of a module. There are also important for the final evaluation of the learner. We use an *active verb* in the beginning of each outcome. According to the **Bloom Taxonomy** (1984), learning outcomes can be classified into **six categories** (knowledge, understanding, application, analysis, comprehension and evaluation)[1]. We are going to create up to **3-4 LOut** for each unit.

Bloom's Level	Key Verbs (keywords)	Example Learning Objective
Create	design, formulate, build, invent, create, compose, generate, derive, modify, develop, adapt, elaborate, formulate, originate, propose, imagine.	*By the end of this lesson, the student will be able to design an original homework problem dealing with the principle of conservation of energy.*
Evaluate	choose, support, relate, determine, defend, judge, grade, compare, contrast, argue, justify, support, convince, select, evaluate, assess, estimate, appraise.	By the end of this lesson, the student will be able to determine whether using conservation of energy or conservation of momentum would be more appropriate for solving a dynamics problem.
Analyze	classify, break down, categorize, analyze, diagram, illustrate, criticize, simplify, associate, compare, assume, contrast, examine, inspect.	*By the end of this lesson, the student will be able to* differentiate between potential and kinetic energy.
Apply	calculate, predict, apply, solve, illustrate, use, demonstrate, determine, model, perform, present, utilize.	*By the end of this lesson, the student will be able to* calculate the kinetic energy of a projectile.

[1] https://tips.uark.edu/using-blooms-taxonomy/

Understand	describe, explain, paraphrase, restate, give original examples of, summarize, contrast, interpret, discuss, classify, compare, outline, relate.	*By the end of this lesson, the student will be able to* describe Newton's three laws of motion to in her/his own words
Remember	list, recite, outline, define, name, match, quote, recall, identify, label, recognize, choose, relate, select, show	*By the end of this lesson, the student will be able to* recite Newton's three laws of motion.

It is estimated that many instructors prefer to match the above 6 levels to ***3 Categories***:

Knowledge	***Knowledge*** means the body of facts, principles, theories and practices that is related to a field of work or study. It is described as theoretical and/or factual knowledge.	Examples of active verbs at this level (> Bloom): Arrange, define, describe, duplicate, identify, label, list, match, memorize, name, order, outline, recognize, relate, recall, repeat, reproduce, select, state.
Skills	***Skills*** means the ability to apply knowledge and use know-how to complete tasks and solve problems. They are described as cognitive (logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments).	Examples of active verbs at this level: Classify, convert, defend, describe, discuss, distinguish, estimate, explain, express, extend, generalize, give example(s), identify, indicate, infer, locate, paraphrase, predict, recognize, review, rewrite, select, summarize, translate.
Competences	***Competence*** means the proven ability to use knowledge, skills and personal, social and methodological abilities in work or study situations and in professional and personal development. It is described in terms of responsibility and autonomy.	Examples of active verbs at this level: Argue, arrange, expand, relate, generalize, generate, combine, join, appraise, compare, conclude, determine, discriminate, experiment, illustrate.

3.2 Activities & Examples

There is a variety of types of learning actives according to the age of the learner, the type of education (formal or non-formal) and the objective of the course or training. We can add **one or two activities after the end of each unit (8-14 per module)**. A **template** will be provided for the collection of them. Indicatively, some of them are the following:

- reading short texts for discussion;
- critical answering questions;
- filling in blanks in a text;
- watching videos;
- the collection-recording of opinions-preferences, or the narratives;
- matching, sorting, comparing activities;
- write a short critical text about a specific topic;
- multiple choice exercises;
- work on case studies, discussions, surveys;
- create presentations;
- right-wrong exercises.

3.2.1 Case-study exercises

Many students are more inductive than deductive reasoners, which means that they learn better from examples than from logical development starting with basic principles. The use of case studies can therefore be a very effective learning technique.

Case studies can be used in any discipline when instructors want students to explore how what they have learned applies to **real world situations**. Cases come in many formats, from a simple ***"What would you do in this situation?"*** question to a detailed description of a situation with accompanying data to analyze.

After case description, (case problem) may do the following:

- **Give a situation and ask learners what they would do next.**
- **Set a task, such as asking learners to prepare a report recommending an action for review by a key official.**
- **Illustrate a scenario and ask learners to analyze the faults and recommend how it should have been handled.**

Using case studies can create advantages and can develop learners' skills and competences, such as:

i. Problem solving
ii. Analytical tools, quantitative and/or qualitative, depending on the case
iii. Decision making in complex situations
iv. Coping with ambiguities

4 Course Unit Description Template

This table is provided for only for personal use in order to help each partner to structure his/her unit.

COURSE UNIT DESCRIPTION		
1	**Course Unit Title**	
2	**Course Unit Code**	
3	**Course Unit description (aims & objectives)**	This unit aims to …
4	**Key words**	
5	**Knowledge domain**	
6	**Learning outcomes (LOut)**	Upon completion of this unit, the learners will be able to: LOut1: LOut2: LOut3: ***Use Bloom's taxonomy verbs, DigiComp competencies or the European competence e-framework** • http://cehdclass.gmu.edu/ndabbagh/Resources/IDKB/bloomstax.htm • https://publications.jrc.ec.europa.eu/repository/bitstream/JRC106281/web-digcomp2.1pdf_(online).pdf • http://ecompetences.eu/wp-content/uploads/2014/02/European-e-Competence-Framework-3.0_CEN_CWA_16234-1_2014.pdf
7	**Contents**	Section 1: Section 2: …
8	**Assessment method**	The assessment methods that will be used include multiple choice questions, selections from drop down menu, case studies, etc.
9	**Related Urls and Online Recourses**	

10	**Related PPT**	
11	**Provided by**	
12	**Bibliography**	

5 STRUCTURAL GUIDELINES FOR ONLINE PRESENTATIONS

5.1 Format, Font, Size, Paragraph

- **Format:** power point for the units & word for activities
- **Font:** Ink Free & Calibri
- **Font Size:** Ink Free 44 for the title of pptx and Calibri 24 for main text of pptx
- **Paragraph:** 1,5
- **Indicative Structure of power point (slides):**

5.2 Presentation Structure

A. Start of the presentation (5-6 slides)

1. *Front Cover with Module Title (1 slide)*
2. *Aims & Objectives (1 slide)*
3. *Learning Outcomes (1 slide)*
4. *Key Words (short description) (1 slide)*
5. *Table of Contents (1-2 slides)*

B. In the core presentation (20-25 slides)

6. *Introduction (indicative)*
7. *Texts, Graphs, Images*
8. *Self-Reflection Activities*

C. At the end of the presentation (4-5 slides)

9. *Synopsis/Key Points (1 slide)*
10. *Online Additional Materials and Resources (1 slide)*
11. *References (1-2 slide)*

12. Back Cover/Thank you for your attention! (1 slide)

6 EXAMPLES FOR ASSESSMENT ACTIVITIES

The examples for activities are going to be collected in a word format document. Use the following tables to formulize your questions. Do not forget to mention to which unit belongs each activity. For example:

Module 1

Unit 1.1.: 1, 2,

Unit 1.2.: 3, 4,

Unit 1.3.: 5,6,7…..

6.1 Templates

Choose the correct option	
No.	**1**
Question (stem)	i.e What is the most important soft skill for today's labor market?
Possible answers	a) Ability to Work in team b) Empathy c) Leadership
Correct answer	(a)
Response to correct answer	This answer is correct.
Response to wrong answer(s)	Sorry but this is not the correct answer!!!
Times the question can be taken	2
Is the question part of a test?	Yes

Multiple choise	
No.	**2**
Question (stem)	**The lack of intercultural skills from a tutor can bring:**
Possible answers	• Difficulty in Communication • Mutual trust

	• Better connection between tutor and migrant learners • Difficulty in tutors' capacity to transmit their knowledge
Correct answer	• Difficulty in Communication • Difficulty in tutors' capacity to transmit their knowledge
Response to correct answer	This answer is correct.
Response to wrong answer(s)	Sorry, but this is not the correct answer!!!
Times the question can be taken	2
Is the question part of a test?	Yes

True-False	
No.	**3**
Question (stem)	**If a tutor is aware about diversity issues, he/she will be able to develop appropriate teaching methods and upskilling pathways for their learners.**
Possible answers	True/False
Correct answer	True
Response to correct answer	This answer is correct.
Response to wrong answer(s)	Sorry, but this is not the correct answer!!!
Times the question can be taken	2
Is the question part of a test?	Yes

Fill in the blank	
No.	**5**
Question (stem)	**According to UNESCO, the definition of intercultural competence is: *"Intercultural competence refers to sufficient specific knowledge***

	about specific cultures, as well as a ……. about issues that arise when people from different cultures come into contact with their"
Possible answers	Specific knowledge Specific knowledge and skills Intercultural knowledge general knowledge and skills
Correct answer	general knowledge and skills
Response to correct answer	This answer is correct.
Response to wrong answer(s)	Sorry, but this is not the correct answer!!!
Times the question can be taken	2
Is the question part of a test?	Yes

Case study	
No.	**5**
Theme	Anna and Myriam are working together as waitresses in a local restaurant. Anna prefers to works alone and she avoid collaborating with her colleagues. Thus, most time, she is unapproachable. What possible problems could be created from Anna's attitude?
Possible answers	*Here you can provide indicative answers due to critical thinking processes.*
Correct answer (more than 1)	Bad cooperation Delays in delivering requests No team spirit that caused negative atmosphere to the clients General crisis in the workplace
Is the question part of a test?	Yes
Workload	i.e 10 min

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