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# «Description and development of competences» (ALLVET/ IITU)

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# ALLVET

ERASMUS+ PROGRAMME

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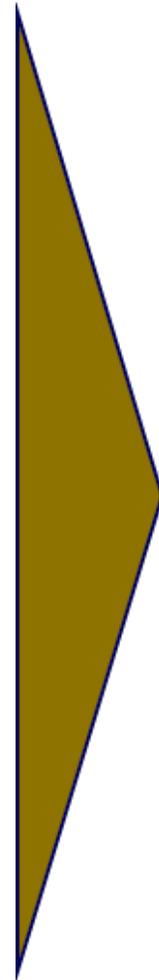
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# Themes/content

1. Definition of Competencies and Learning Outcomes. Features of Generic Competencies and Subject Specific Competencies
2. Development of Learning Outcomes at level of competencies (indicators)
3. Assessment of Learning Outcomes

# 1. Definition of Competencies and Learning Outcomes.

**Competency:** A general statement that describes the desired knowledge, skills, and behaviors of a student graduating from a program (or completing a course). Competencies commonly define the applied skills and knowledge that enable people to successfully perform in professional, educational, and other life contexts.



**Outcome:** A very specific statement that describes exactly what a student will be able to do in some measurable way. There may be more than one measurable outcome defined for a given competency.

# 1. Features of Generic Competencies and Subject Specific Competencies

## Subject Specific

## Generic Competencies

- ❖ Ability to teaching and transfer of professional knowledge
- ❖ The ability to perform engineering and technical and economic calculations
- ❖ Ability to solve practical engineering problems
- ❖ Ability to professional relationships in an international context
- ❖ Ability to comply with a code of engineering ethics

- ❖ The ability to use innovative technologies and new materials in the industry
- ❖ The ability to compile and use the scientific achievements in addressing industry challenges
- ❖ The ability to perform engineering and technical and economic calculations
- ❖ Ability to spatial reasoning
- ❖ Ability to classify and to assess the quality and types of materials, structures and constructions
- ❖ The ability to create new technical and technological processes with the use of local resources and materials
- ❖ The ability to take the trend of sustainable development, taking into account the profiling activities (product development, components and engineering processes)

# Competences

<b>Generic Competence 2</b> (GC 2):	Learning strategies and techniques and updating learning.
<b>Specific Competence 3</b> (SC 3):	Differentiating between Competences and Learning Outcomes.
<b>Specific Competence 4</b> (SC 4):	Assessing and maintaining the quality of work produced.

# Learning outcomes

**LO 1:** Define the difference between competences and learning outcomes;

**LO 2:** Describe the range of levels of Bloom's Taxonomy when formulating learning outcomes at level of competences;

**LO 3:** Use the Bloom's Taxonomy for the formulation of Learning outcomes;

**LO 4:** Describe the essential knowledge, skills and attitudes;

**LO 5:** Define the strategies of LO assessment.

**LO 6:** Define the methods of Formative and Summative assessment and their application.

## 2. Development of Learning Outcomes at level of competences (indicators)

**Table of the relationship of competencies, learning outcomes, methods and assessment criteria**

Dublin descriptors	Competences of the graduate of the educational program	Competences expressed in expected learning outcomes	Evaluation criteria	Name of the evaluation method
<b>General education / Basic / Professional competences</b>				
1. Knowledge and understanding	Competence 1	Learning Outcome 1	Evaluation criterion 1.1	
			...	
		Learning Outcome 2	Evaluation criterion 1.m	
			Evaluation criterion 2.1	
		...		
		Evaluation criterion 2.m		

# 3. Assessment of Learning Outcomes

## Formative assessment

- provides feedback to students and teachers on how to change the educational process.

Evaluation is embedded in the process of teaching and learning (forms - oral survey, written test, practical test, combined control).

Usually performed at the beginning or during the educational program.

Can be used as part of ongoing monitoring, but not as part of an evaluation process. (Donnelly and Fitzmaurice, 2005)

## Summative assessment

which sums up

Student performance at the end of a module or program - Assessment of Education (Assessment of Learning).

Summing up achievements - nothing more than that.

Summarized in the assessment (in points or numbers).

Usually includes assessment using a traditional exam.

Can assess only a specific learning outcome - cannot assess ALL learning outcomes.



# Indicators for assessment of LO

Competences	Learning Outcomes (by the end of the course the participants will be able to:	Indicators for their assessment
<p><b>Generic Competence 2 (GC2)</b> Learning strategies and techniques and updating learning.</p>	<p>LO 1: Define the difference between competencies and learning outcomes; LO 2: Describe the range of levels of Bloom's Taxonomy when formulating learning outcomes at level of competences.</p>	<p>Presentation and discussion of topics about Learning strategies and techniques and updating learning when develop educational program.</p>
<p><b>Specific Competence 3 (SC3)</b> Differentiating between Competences and Learning Outcomes.</p>	<p>LO 3: Use the Bloom's Taxonomy for the formulation the Learning outcomes; LO 4: Describe the essential knowledge, skills and attitudes.</p>	<p>Prepared: 1) a comparative table showing the difference between competencies and learning outcomes; 2) formulation of learning outcomes at level of competences by using Bloom's Taxonomy.</p>
<p><b>Specific Competence 4 (SC4)</b> Assessing and maintaining the quality of work produced.</p>	<p>LO 5: Define the strategies of LO assessment; LO 6: Define the methods of Formative and Summative assessment and their application.</p>	<p>Skills on using methods of Formative and Summative assessment of LO</p>

# Example of Matching the Assessment to the Learning Outcome

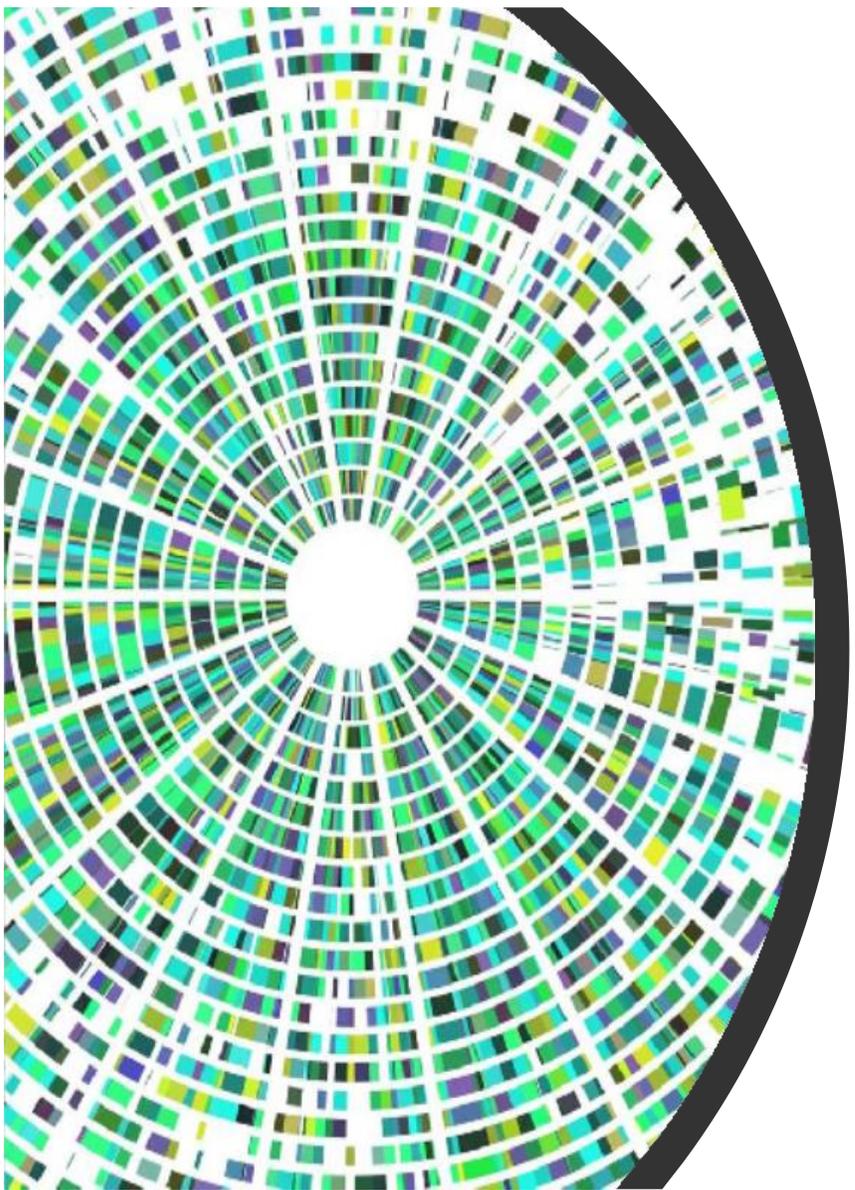
## Learning outcomes

- Demonstrate good presentation skills.
- Formulate food product
- Identify an area for research
- Identify signs and symptoms of MS (Multiple Sclerosis) in a patient

## ➤ Assessment?

- Multiple choice questions
- Prepare a 1000-word research proposal
- Lab-based project
- Make a presentation to peers

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# Thank you





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