Guide to writing learning outcomes

From competencies to learning outcomes
RD 822/2021

Universitat Oberta
de Catalunya

Contents

01

From competencies to learning outcomes

Competencies
What were they?

A competency is the sum of all the **knowledge, skills and attitudes** acquired or developed through coordinated educational experiences aimed at providing functional knowledge that efficiently addresses a task or problem arising in everyday personal and professional life that requires a teaching and learning process. (ANECA, 2012)

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ANECA guide to producing the verification report for official university programmes (bachelor's and master's degrees), 2012.

RD 822/2021

Learning outcomes
What are they?

Learning outcomes (LOs) are statements of what a learner is expected to know, understand and/or be able to demonstrate at the end of a learning period. They are usually defined in terms of a mixture of **knowledge, skills, abilities, attitudes and understanding** that an individual will attain as a result of his or her successful engagement in a particular set of higher education experiences. (Adam, 2006)

↗

Focus 1 Learning outcomes. Catalan University Quality Assurance Agency (AQU)

Programme

Competencies

- ☑ Basic (BC)
- ☑ General (GC)
- ☑ Interdisciplinary (UOC) (IC)
- ☑ Specific (SC)

2007-2021

RD 822/2021

Learning outcomes (LOs)

- ☑ Knowledge
- ☑ Skills
- ☑ Competencies

LO = *K* + *S* + *C*

Nomenclature in accordance with international degree design standards [Catalan Higher Education Qualifications Framework (CHE-QF)] and Spanish and European standards for the classification and description of jobs and professions [https://esco.ec.europa.eu/en].

Learning outcomes (*K* + *S* + *C*)

Knowledge

The result of assimilating information through learning. Knowledge is the body of facts, principles, theories and practices related to a field of work or study. In the EQF, knowledge is described as theoretical or factual.

+

Competencies

The proven ability to use knowledge and skills (also personal, social and/or methodological skills) autonomously and responsibly in work or study situations and in professional and personal development.
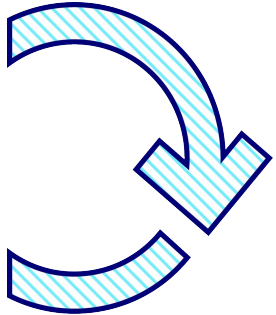
+

Skills

The ability to apply knowledge and use it to complete tasks and solve problems. The EQF describes skills as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments).

So what's new?

➡️ **In terms of operations**, a programme's competencies and learning outcomes are the same.

➡️ **What has changed is…**

- **The names and classification.**

- **There are now more of them:** a programme should have between 25 and 35 programme LOs. This means that learning outcomes provide greater specificity than the old competencies. A competency can now be described in two or three different programme LOs. Specializations have their own LOs.

- There are no compulsory programme LOs mandated by an official authority (except for programmes that qualify graduates for regulated professions).

What should I do from now on?

Specific Competencies

Interdisciplinary Competencies

Basic Competencies

General Competencies
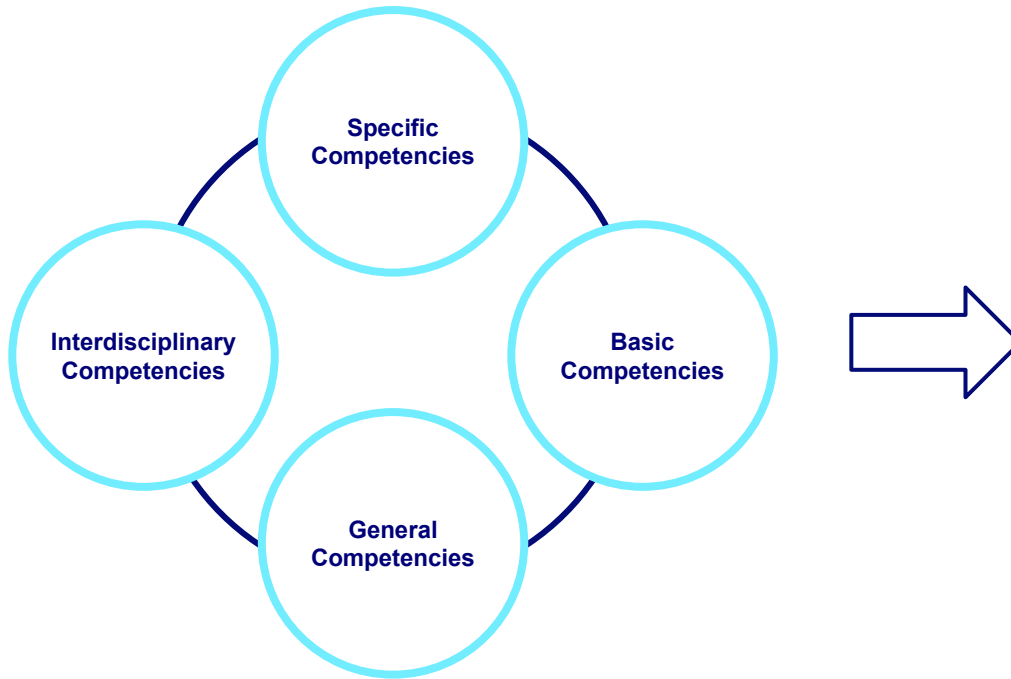
Learning outcomes: Knowledge (K)

K1:

K2:

K3:

(...)

Learning outcomes: Skills (S)

S1:

S2:

S3:

(...)

Learning outcomes: Competencies (C)

C1:

C2:

C3:

(...)

Total number: 25-35

The old **general or interdisciplinary competencies** are now **skills and/or competencies** (but not knowledge)

Skills	
Foreign language (compulsory for bachelor's degrees) ⚠	
Problem-solving	
Creativity	
Logical thinking	
Intuitive thinking	
Creative thinking	
Critical thinking	
Manual skills	
Use of methods and instruments	
Communication skills, oral and written expression	

Competencies	
Use and application of ICT (compulsory for bachelor's degrees) ⚠	
Global ethical commitment (compulsory for bachelor's and university master's degrees) ⚠	
Teamwork	

For more skills and competencies, see **slides 18 to 21**

You can check the requirements at
Resultados de aprendizaje transversales en los programas oficiales UOC (PiQ-eLinC)

02

The difference between learning objectives and learning outcomes

Difference between learning objectives and learning outcomes

Programme learning objectives

- The description is based on the teaching intention.
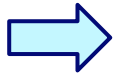- They describe what the teaching staff want to cover.

Examples

- The bachelor's degree in XXXX provides students with a sound understanding of the structure of XXXX.
- The programme fosters students' learning about XXXX.
- Students will become familiar with XXXX.

→ **linked to the programme**

Learning outcomes

- Learning outcomes are statements of what a student is expected to know, understand and/or be able to demonstrate at the end of a learning period.
- Specific, Measurable, Attainable, Relevant and Time-bound.

Examples

- Assess social responsibility actions through a coherent set of indicators.
- Justify the importance of good governance as a key component of social responsibility.
- Use methodological tools to assess the environmental impact of a product, service, process or system throughout its life cycle.
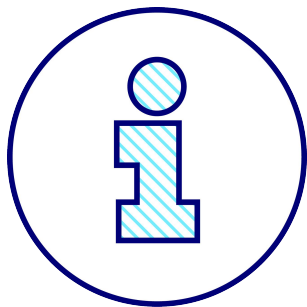
→ **linked to the programme and the subject**

03

Writing learning outcomes:

☑ **Things to bear in mind**
☑ **How to write them**
☑ **Recommendations for writing LOs**
☑ **Type of learning outcome: Knowledge (K)**
☑ **Type of learning outcome: Skills (S)**
☑ **Type of learning outcome: Competencies (C)**

Things to bear in mind

01
This new nomenclature (K, S, C) must be taken into account when writing LOs

02
The total number of Cs cannot be greater than the sum of K and S:
$C \leq K + S$

03
For programme LOs established by the UOC for bachelor's and university master's degrees, see this **document** ↗

How to write them

Action verb + **object +** conditions, attitudes or context *(nature of the action)*

Examples

➡️ **Design** specific sustainability and social responsibility policies for each part of an organization's value chain.

➡️ **Apply** sustainability and social responsibility policies to each part of an organization's value chain based on a given model.
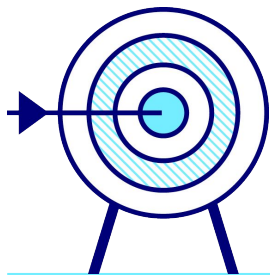
➡️ **Produce** high-quality information products intended to benefit society in accordance with the right to information.

➡️ **Assess** the impact of institutional policies, strategies and decisions through advanced political science analysis techniques.

Recommendations for writing LOs

Use a **description that helps with the assessment**

- Use only **one verb (an action verb in infinitive form)** to ensure that the LO can be objectively measured/assessed.

  ☑ For example:
  cite, link, apply, analyse
  See Appendix 1 ↗

- **If this is not possible**, use gerunds and/or prepositions

  ☑ For example:
  "Make judgements *using*..."
  "Use technologies *to obtain* data...).

- **Avoid verbs** that describe behaviours that **CANNOT** be objectively measured/assessed.

  ☒ For example:
  know, understand, become aware of, appreciate, learn, become familiar with, think, etc.
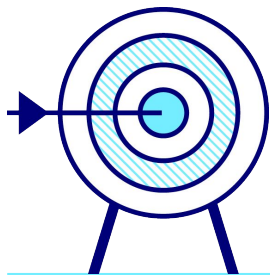
The LO must be **realistic and achievable in the programme**.

Consider formulas such as: "Once they have successfully completed their learning (subject, course, programme), students will be able to..."

Recommendations for writing LOs

➡ Write clear, simple and concise sentences that can be understood by students, teaching staff and the general public.

➡ Review the wording to ensure it takes into account the type of learning to be achieved in a bachelor's, university master's or doctoral degree as provided in the Spanish and Catalan Higher Education Qualifications Frameworks (MECES and CHE-QF).

➡ Take into account the whole programme: identify whether the programme LOs will be worked on in only one subject or course or if they will also have to be covered in other subjects.

Type of learning outcome:

Knowledge
(K)

Know:
This is related to knowledge and understanding of the facts, principles, theories and practices involved in a field of work or study. For example: identifying concepts, understanding rules, recognizing tools, methodologies and protocols, explaining procedures, interpreting data or linking theories, etc.

- Identify criminological theories and understand the empirical evidence that supports them.
  (Bachelor's Degree in Criminology)

- Interpret the main sustainability and social responsibility concepts and approaches in organizations.
  (University Master's Degree in Sustainability and Social Responsibility Management)

- Examine the regulations governing organizations' operations in terms of sustainability and social responsibility.
  (University Master's Degree in Sustainability and Social Responsibility Management)

Type of learning outcome:

Skills
(S)

Know how:
Apply knowledge and use it to complete tasks or solve problems.

*Based on the relevance of these communication skills in the programme as a whole and the breadth given to them in their wording, they could also be classified as competencies.

- Problem-solving
- Innovation
- Creativity
- Logical thinking
- Intuitive thinking
- Creative thinking
- Critical and self-critical thinking
- Searching for, analysing and summarizing information
- Use of methods and instruments
- Manual skills, use of methods, instruments, materials and tools
- Decision-making
- Initiative
- Project design and management
- Time planning and management
- Ability to adapt to new situations
- Interpersonal relations
- Foreign language skills (compulsory skill in all bachelor's degrees)
- Oral and written expression*
- Convey information to different audiences and intended recipients*

Type of learning outcome:

Skills
(S)

Know how:
Apply knowledge and use it to complete tasks or solve problems.

Examples

- Design specific policies for the management of organizations' main impacts on economic, social, environmental, labour and/or good governance matters.
(University Master's Degree in Sustainability and Social Responsibility Management)

- Use management techniques in organizations' relations with the main stakeholders, ensuring responsible and sustainable operations.
(University Master's Degree in Sustainability and Social Responsibility Management)

- Analyse the teaching profession in the digital society in terms of its historical development and the social conditions of each era.
(University Master's Degree in Teacher Training)

Type of learning outcome:

Competencies
(C)

Use or apply:
Knowledge and skills **for work** or study and in **professional and personal development**.

*Based on the relevance of this competency in the degree as a whole and the breadth given to it in its wording, it could also be classified as a skill.

- **Independent work**, learning to learn, constantly refreshing learning

- **Collaborative work***

- Use and application of **technologies** (compulsory competency for all bachelor's degrees)

- **Global ethical commitment** and **gender perspective** (compulsory competency for all bachelor's and university master's degrees)

- **Create**, **assess**, **advise, manage change**, **lead, negotiate**, be accountable, work responsibly in your workplace or occupation and with an enterprising spirit and a commitment to quality in **professional practice**

Type of learning outcome:

Competencies
(C)

Use or apply:
Knowledge and skills **for work** or study and in **professional and personal development**.

- Advise families on the teaching and learning process and their children's personal, academic and professional guidance.
  (University Master's Degree in Teacher Training)

- Apply sustainability and social responsibility policies that integrate coordination between organizations' various functional areas.
  (University Master's Degree in Sustainability and Social Responsibility Management)

- Assess the outcome of a data science project critically, objectively and with reasons.
  (University Master's Degree in Data Science)

04

Programme, subject and course LOs

Programme

Learning outcomes (K, S, C)

Total number: 25-35

Subject
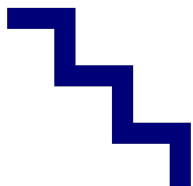
Learning outcomes

Total number: up to 8
Subjects with more than one course may have more LOs

Course

Learning outcomes

Number: at least 8.
The final project has them all.

Assessment criteria

Example of the programme-subject-course relationship

Programme

Use techniques and methodologies linked to sustainability and social responsibility research, advice and/or training. (S)
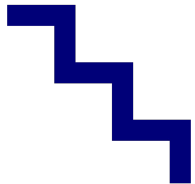
Subject

Interpret the result of an organization's carbon footprint calculation in terms of its benefits for the organization.

Course

Climate Change and Carbon Footprint

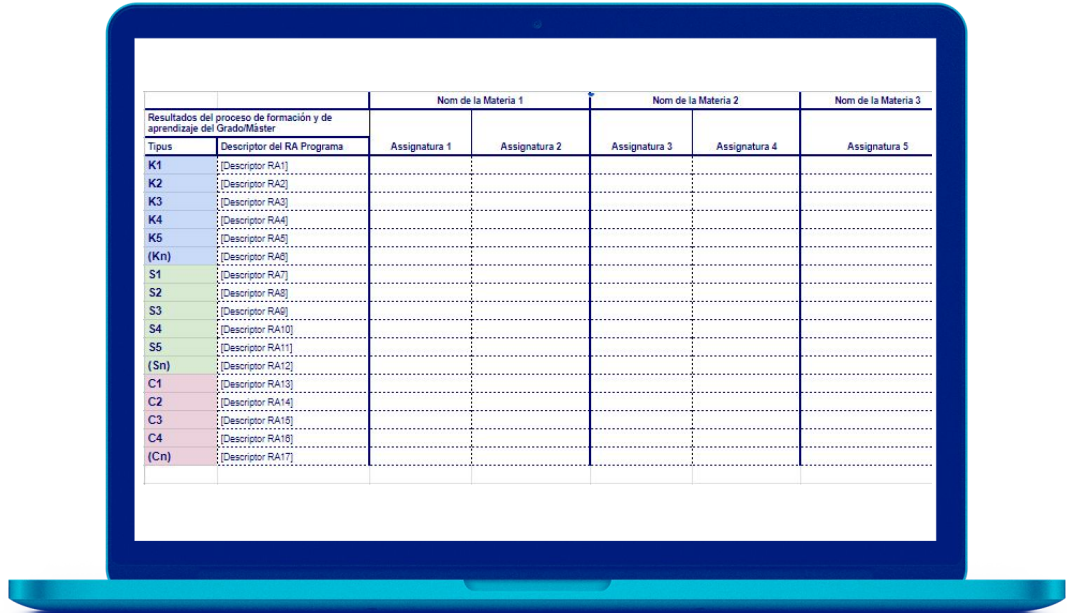Identify the differences between organizational and product carbon footprints.

(Example of an LO from the University Master's Degree in Sustainability and Social Responsibility Management)

Link between programme and course LOs

⚠️

Important!

- Although **you're not required to include the programme/course LO map in the report, it is key to ensuring a good design and establishing the links between the programme and course LOs**. In fact, courses designed based on the Niu Challenge need this link.

- The programme LOs (K, S, C) must be covered in compulsory courses. No programme LOs can be worked on only in optional courses.

↗
Template Map

		Nom de la Materia 1		Nom de la Materia 2		Nom de la Materia 3
Resultados del proceso de formación y de aprendizaje del Grado/Màster						
Tipus	Descriptor del RA Programa	Assignatura 1	Assignatura 2	Assignatura 3	Assignatura 4	Assignatura 5
K1	[Descriptor RA1]					
K2	[Descriptor RA2]					
K3	[Descriptor RA3]					
K4	[Descriptor RA4]					
K5	[Descriptor RA5]					
(Kn)	[Descriptor RA6]					
S1	[Descriptor RA7]					
S2	[Descriptor RA8]					
S3	[Descriptor RA9]					
S4	[Descriptor RA10]					
S5	[Descriptor RA11]					
(Sn)	[Descriptor RA12]					
C1	[Descriptor RA13]					
C2	[Descriptor RA14]					
C3	[Descriptor RA15]					
C4	[Descriptor RA16]					
(Cn)	[Descriptor RA17]					

05

Reference material

Reference material

RA Transversals UOC RD 822

Plantilla Mapa RAs Titulació i Matèries_Verifiques _Reverifiques_Modifiques

Resultats d'aprenentatge. Ús en els plans d'estudis de graus i màsters universitaris. Casos pràctics. 27 June 2023. AQU

FOCUS 1. Degree programme profiles (2022) AQU

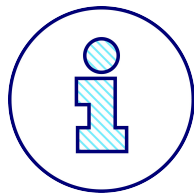**FOCUS 2. Assessment of learning outcomes** (2023) AQU

Elaboració i ús de RA. Ús en els plans d'estudis de graus i màsters universitaris. Casos pràctics. 27 June 2023. AQU *(PPT version)*

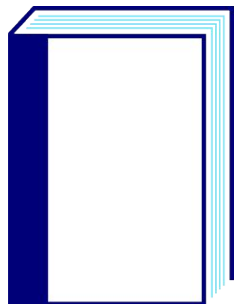**Catalan Higher Education Qualifications Framework (CHE-QF)** (2023)

Focus 3: Fully online or blended degree programmes (2023) AQU

06

Appendix 1:
Verbs for writing LOs

Appendix 1: Verbs and types of learning

Types of learning	Verbs
Knowledge (fact recall)	*cite, define, list, write, identify, illustrate, indicate, report, name, provide, carry out, count, recognize, remember, relate, select*
Understanding (the ability to identify and understand relationships)	*associate, compare, convert, support, demonstrate, describe, discuss, distinguish, outline, estimate, explain, infer, report, interpret, sort, reformulate, summarize, review, suggest, translate*
Application (use of knowledge)	*apply, change, classify, lead, build, demonstrate, discover, develop, determine, draw, dramatize, use, illustrate, interpret, research, modify, operate, sort, practise, predict, prepare, produce, schedule, restructure, solve, translate, use*

Appendix 1: Verbs and types of learning

Types of learning	Verbs
Analysis (deconstructing and researching knowledge)	*analyse, categorize, compare, critique, debate, determine, differentiate, discriminate, distinguish, structure, examine, experiment, identify, research, ask, test, relate, solve, summarize, select, probe*
Assessment (making a judgement of value or suitability)	*assess, calculate, conclude, contrast, critique, support, disprove, discriminate, estimate, interpret, justify, judge, measure, review, score, prioritize, qualify, validate*
Creation (combining information to create a new connected unit of knowledge)	*adapt, combine, compile, compare, compose, build, create, divide, design, explain, formulate, generate, devise, integrate, plan, propose, relate, rearrange, restructure, put together, review, summarize, systematize, unify*
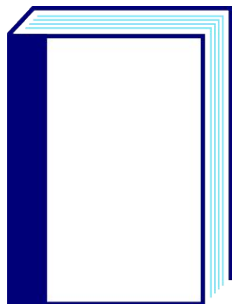
07

Appendix 2:
Types of matches
and examples

Types and examples of matches (or mismatches) between former competencies (FCs) and programme LOs

The examples are for guidance only, based on the indications provided by AQU. The writing and classification of each LO may be modified at each programme director's discretion.

	Type of match	Formula
Case 1	Full	FC = K + S + C
Case 2	Specific competencies that are now K	FC = K
Case 3	Specific competencies that are now S	FC = S
Case 4	Specific competencies that are now C	FC = C
Case 5	Specific competencies that do not include C	FC = K + S
Case 6	Specific competencies that do not include S	FC = K + C
Case 7	Specific competencies that do not include K	FC = S + C
Case 8	What about the former basic competencies?	Identify keywords and rearrange
Case 9	What about the former general competencies?	Rewrite and rearrange as S, subject to a few exceptions
Case 10	What about the former interdisciplinary competencies (UOC ICs)?	They can be left as S or C
Case 11	What if an LO can be both S and C?	Choose based on the importance and the total number of programme LOs
Case 12	What if there's no match?	Reject or rewrite
Case 13	Check that everything is correct	Review the description in terms of the all K, S and C components

Types and examples of matches between former competencies (FCs) and programme LOs

Former competency (FC)	Example of a match
SC. **Assess**, **contrast** and **make decisions** about the most suitable psychological assessment and intervention models and techniques in each context, and **identify** and **describe** the models and techniques in each case.	K. **Describe** psychological assessment and intervention models and techniques. S. **Contrast** psychological assessment and intervention models and techniques. C. **Make informed decisions** about the models and techniques most suited to different psychological intervention situations.

Case 1

Full match　　　FC = K + S + C

SC. **Assess** the impact of organizations' policies, strategies and decisions by **recognizing** and **applying** the most advanced political science techniques and methodologies.	K. **Recognize** the key aspects of political decision-making. S. **Apply** analytical methods to explain the behaviour and interactions of politicians and political groups. C. **Assess** the impact of organizations' policies, strategies and decisions.

Types and examples of matches between former competencies (FCs) and programme LOs

Case 2

FCs that are now K

FC = K

Former competency (FC)	Example of a match
SC. **Identify** the characteristics, attributes, components, structure and potential of current advertising communication.	**K. Identify** the characteristics, attributes, components, structure and potential of current advertising communication. **S.** - **C.** -
SC. **Explore** cultural and artistic processes in all their forms.	**K. Explore** cultural and artistic processes in all their forms. **S.** - **C.** -
SC. **Understand** the various drivers of change in human societies that trigger or put an end to historical processes.	**K. Explain** the various drivers of change in human societies that trigger or put an end to historical processes. **S.** - **C.** -
SC. **Recognize** the key elements of the health system's structure, management, organization and decision-making at the micro, meso and macro levels, as well as the various health systems' environments and conditioning factors.	**K. Recognize** the key elements of the health system's structure at the micro level and the various health systems' environments and conditioning factors. **S.** - **C.** -

Types and examples of matches between former competencies (FCs) and programme LOs

Case 3

___

FCs that are now S
FC = S

Former competency (FC)	Example of a match
SC. **Produce creative contents** that connect with the audiences, in different formats and narrative forms, that are in line with the unique nature of the communication platforms, media or channels.	K. - S. **Produce** creative contents, in different formats and narrative forms, that are in line with the unique nature of the communication platforms, media or channels. C. -
SC. **Produce high-quality information products** intended to benefit society in accordance with the right to information.	K. - S. **Produce** high-quality information products intended to benefit society in accordance with the right to information. C. -

Types and examples of matches between former competencies (FCs) and programme LOs

Case 4

FCs that are now C
FC = C

Former competency (FC)	Example of a match
SC. **Mediate** in situations of risk and conflict in the workplace.	K. - S. - C. **Mediate** in situations of risk and conflict in the workplace.
SC. **Manage** organizations' change processes effectively.	K. - S. - C. **Manage** organizations' change processes effectively.

Types and examples of matches between former competencies (FCs) and programme LOs

Case 5

FCs that do not include C
FC = K + S

Former competency (FC)	Example of a match
SC. **Analyse** a data science problem with the ability to identify and **define** the appropriate requirements to solve it.	K. **Define** the appropriate requirements to solve data science problems. S. **Analyse** a data science problem. C. -
SC. **Identify**, interpret and **apply** factual assumptions, the principles of law and legislation.	K. **Identify** the principles of law. S. **Apply** factual assumptions, the principles of law and legislation. C. -

Types and examples of matches between former competencies (FCs) and programme LOs

Case 6

FCs that do not include S
FC = K + C

Former competency (FC)	Example of a match
SC. **Recognize** the key components of a career as a dietitian-nutritionist, including the ethical principles and legal responsibilities entailed, and **practise** this profession with respect for people and their habits, beliefs and cultures.	K. **Recognize** the key components of a career as a dietitian-nutritionist, including the ethical principles and legal responsibilities entailed. S. - C. **Practise this profession** with respect for people and their habits, beliefs and cultures.

Former competency (FC)	Example of a match
SC. Design, **apply** and **assess** victim protection and support measures.	K. - S. **Apply** victim protection and support measures. C. **Assess** victim protection and support measures.

Case 7

FCs that do not include K
FC = S + C

Types and examples of matches between former competencies (FCs) and programme LOs

Case 8

What about the basic competencies (in bachelor's and university master's degrees)?

⚠ **Although you're not required to include them or keep the same description, you can identify keywords and rearrange them.**

Former competency (FC)	Example of a match
BC1. Acquire the knowledge and understanding needed to develop and/or **apply original ideas**, often in a research context.	S. Apply ideas…
BC2. Apply the knowledge acquired and **problem-solving skills** to new or unfamiliar settings within broader (or multidisciplinary) contexts related to the field of study.	S. Solve complex problems...
BC3. Integrate knowledge and **formulate complex judgments** based on information that, despite being incomplete or limited, **reflects the social and ethical responsibilities** involved when applying knowledge and making judgements.	S. Formulate judgements… C. Act in an ethical and socially responsible manner
BC4. Clearly and unambiguously **communicate** conclusions, as well as the knowledge and **reasoning** on which they are based, to specialist and non-specialist audiences.	S. Communicate… S. Argue…
BC5. Have the necessary learning skills to **continue studying** in a predominantly self-managed or **independent** manner.	C. Independent work / learning to learn / lifelong learning / in the workplace / in professional practice.

Types and examples of matches between former competencies (FCs) and programme LOs

Case 9

What about the general competencies (in bachelor's and university master's degrees)?

⚠️ **They are now described and classified as skills (S), except for independent work and learning to learn. Depending on the description, leadership can be deemed a competency.**

Search, analysis, assessment and use of information
Creative thinking
Critical thinking
Planning and organization
Foreign language
Problem-solving
Read the scientific literature in a critical way, considering its source, placing it within an epistemological framework and identifying and checking its contributions to the existing knowledge in the discipline
Compare theoretical approaches and models
Use and application of ICT
Decision-making

Skills

Independent work, learning to learn	**Competency** (*)
Oral and written expression / Oral and written expression	**Competency** (*)
Leadership / Leadership	**Skills or Competency** (*)

(*) See slides 18 and 20.

Back to list of cases ❯

Types and examples of matches between former competencies (FCs) and programme LOs

Case 10

What about the interdisciplinary competencies (UOC ICs)?

⚠️ **They can be left as S or C, or you can tailor them to each programme.**
See RA Transversals UOC RD 822

Former competency (FC)	Example of a match
IC. Foreign language	**S**. Understand and produce oral and written texts in academic and professional contexts, demonstrating a B2 proficiency level (under the Common European Framework of Reference for Languages) in a foreign language.
IC. Global ethical commitment / Gender perspective	**C**. Act honestly, ethically and sustainably, exercising social responsibility, respecting human rights and diversity, and incorporating the gender perspective, in both academic and professional practice. (Compulsory for bachelor's degrees) **C**. Act honestly, ethically and sustainably, exercising social responsibility, respecting human rights and diversity, and incorporating the gender perspective, in both academic and professional practice, and produce solutions to drive improvements in these practices. (Compulsory for university master's degrees)
IC. Ability to work in multidisciplinary teams	**C**. Work as part of a team in multidisciplinary environments; work in a networked team; work collaboratively.

Former competency (FC)	Example of a match
GC. Apply creative thinking to collaborative work.	S. Apply creative thinking to collaborative work. C. Apply creativity strategies to teamwork.

Case 11

What if an LO can be both S and C?

⚠️ **You should choose based on the importance / distinctiveness in the programme as a whole and on the number of S and C components left in each case (maximum 25-35 degree LOs)**

Case 12

___

What to do when there's no match

Option 1:
Reject it

Option 2:
Rewrite part of it

Option 3:
Rewrite all of it
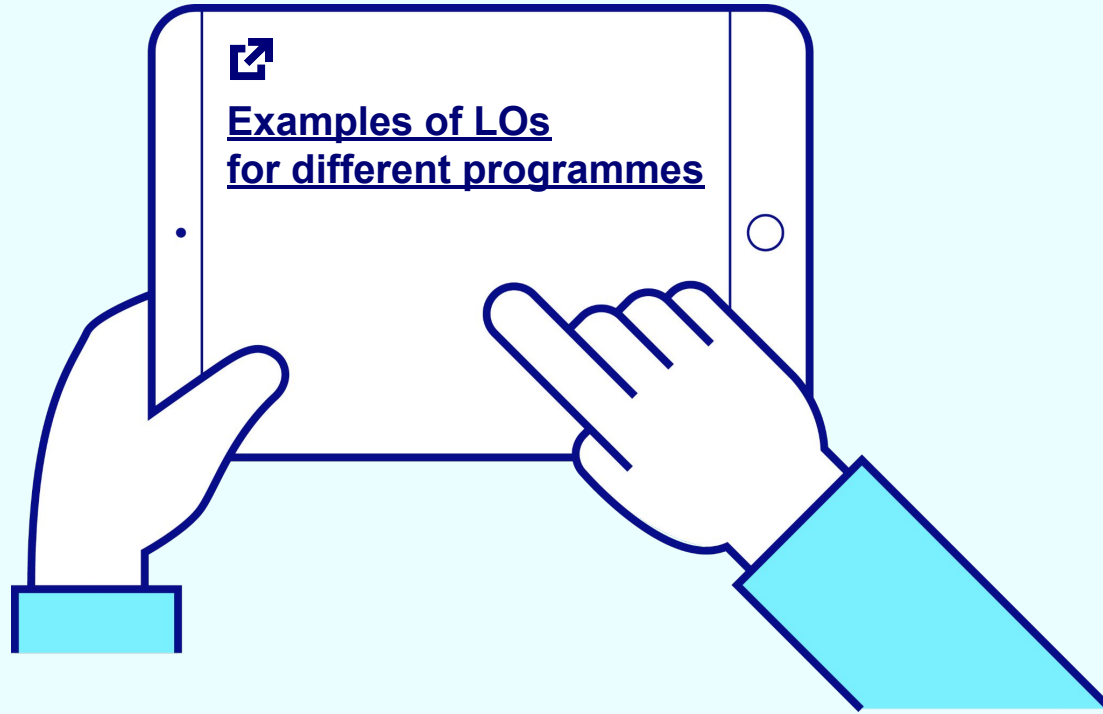
Case 13

Check that everything is correct

Always review the description of programme, subject and course LOs to ensure they are correct.

Action verb + object + conditions, attitudes or context

➡ **Design specific sustainability and social responsibility policies for each part of an organization's value chain.**
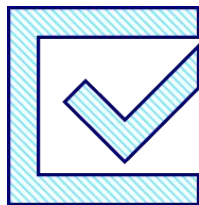
**Examples of LOs
for different programmes**

08

Appendix 3:
Put yourself to the test!

Put yourself to the test!

Competencies under RD 2007: Knowledge, Skill or Competency?

Base the advertising communication strategy on its aims and purpose.

Make an appropriate use of the statistical software tools needed for data modelling, analysis and visualization problems.

Interpret food composition tables and databases.

Evaluate security and crime prevention policies.

Empathize with customers to drive change in the environment.

Design, implement and assess an anti-bullying intervention plan for secondary schools.

Apply initiative and an enterprising spirit in problem-solving.

Identify the critical aspects of a cultural management project.

Put yourself to the test!

Competencies under RD 2007: Knowledge, Skill or Competency?

Base the advertising communication strategy on its aims and purpose.	K
Make an appropriate use of the statistical software tools needed for data modelling, analysis and visualization problems.	S
Interpret food composition tables and databases.	K
Evaluate security and crime prevention policies.	C
Empathize with customers to drive change in the environment.	C
Design, implement and assess an anti-bullying intervention plan for secondary schools.	S + C
Apply initiative and an enterprising spirit in problem-solving.	S + C
Identify the critical aspects of a cultural management project.	K