



## RE-EURECA-PRO

# The Research and Innovation Dimension of the European University on Responsible Consumption and Production

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## Abstract

This deliverable aims to create an international transversal skills training program at EURECA-PRO, arming early-stage researchers with the essential resources to amplify their skills. The document starts with an exhaustive review of the literature on transversal skills training that R1<sup>1</sup> researchers need for their career development. We establish a framework based on seven competence groups: Management, Communication, Interpersonal, Impact, Self-management, Cognitive, and Research. The study is followed by the compilation and analysis of the training courses offered to researchers of the alliance in the scholar years 2022-2023 and 2023-2024 and is validated by a survey targeting the participants of the PhD journey. The results show that researchers would move to other institutions for transversal skills formation purposes and that more English language courses and training in Management and Impact competences are needed. The culmination of this effort is the presentation of two comprehensive lists of training courses: Annex I, which specifies courses available in English, and Annex II, which catalogues courses in local languages. These lists, alongside the transversal skills rubrics and definitions housed in Annex III, will be made available to the alliance's researchers through the EURECA-PRO PhD Journey and on the EURECA-PRO official website.

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<sup>1</sup> This report utilises the European Commission's 2011 framework from the European Research Area to categorise researchers into four distinct professional stages: R1, defined as 'First Stage Researcher'; R2, known as 'Recognised Researcher'; R3, titled 'Established Researcher'; and the pinnacle, R4, designated as 'Leading Researcher'.

## 1 Introduction

Transversal skills have gained growing attention (Gibb, 2014), especially in Early Career Researchers (ECRs) (Sun et al., 2023). These skills complement researchers' technical skills (Meissner & Shmatko, 2019; Weber et al., 2018), increasing their career development prospects in a competitive context, their employability, and the possibilities to engage different career paths in the academic, public, and private sectors (Weber et al., 2018).

However, reality shows that there is a need for transversal skill development in doctoral education (Pham, 2023; Young et al., 2020). R1 researchers demand more support to develop their transversal skills (Young et al., 2020). Many higher education institutions (HEIs) in Europe are aware of this situation and are creating transversal skills programmes for R1 researchers to increase the acquisition of relevant skills for career development (Deem, 2022).

Joining the previous demands, the main objective of Deliverable D5.5 is to create an international transversal skills training programme to be integrated into the PhD Journey of EURECA-PRO in which R1 researchers, in the first instance, and any researcher of the alliance, in the second instance, can take advantage of learning new skills. Therefore, three specific objectives must be achieved:

1. Creation of a framework to be applied to the transversal skills training programme by a review of the literature to the creation of a framework that covers the transversal skills needed by R1 researchers.
2. Collection of transversal skills training courses on EURECA-PRO by gathering information on all training courses for researchers to detect best practices on transversal skills training.
3. Creation of the international transversal skills training programme to publicly share and deliver to the PhD Journey of EURECA-PRO.

## 2 A framework for the international transversal skills training programme at EURECA-PRO

The first step before designing the international transversal skills training programme at EURECA-PRO is to create a framework that supports the programme. This framework covers the most important transversal skills that R1 researchers need to be trained in. To create the framework, a systematic review of the literature has been carried out to detect and screen crucial competencies and skills that should be incorporated into a training programme.

Deliverable D5.2 must be considered. created a RE-EURECA-PRO framework with a compilation of all the transversal skills in which researchers could be trained, mapping 69 transversal skills. Therefore, the new framework aims to screen the essential skills that must be included in a doctoral training programme. On the other hand, Deliverable D5.3. explored the list of the most demanded transversal skills for R1 researchers; however, more evidence is needed to conclude with a framework that works as a reference to create a transversal skills training programme. That is why a systematic review of the transversal skills for doctoral formation is needed.

### 2.1 Methodology

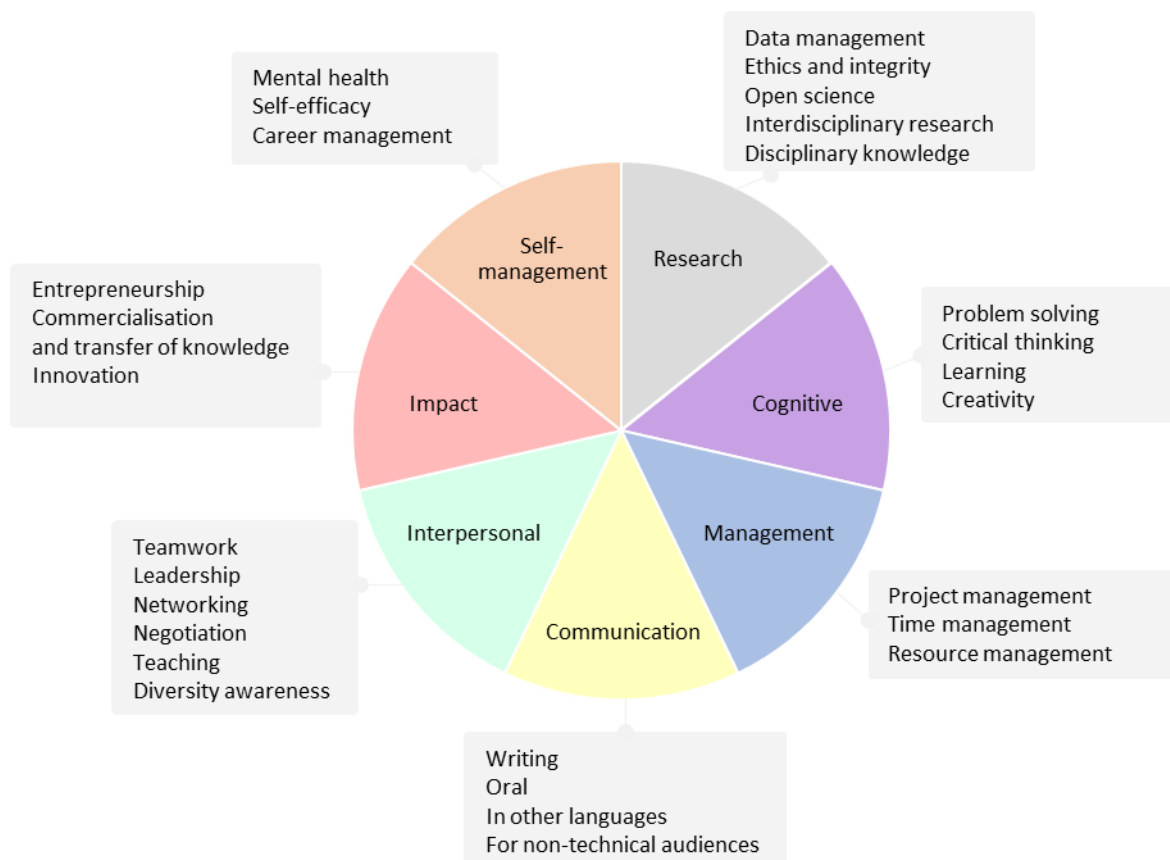
This study is based on a systematic review in which we searched for transversal skills (training) that researchers need in the first stage of their career. For this purpose, Scopus and Web of Science databases were used. The list of keywords was “transversal”, “transferable”, “generic”, “soft”, “professional”, “key”, “core”, “employability”, “twenty-first century” and “research\*”, “academ\*”, “scholar\*”, “ecr\*”, “early-career researcher\*”, “early career researcher\*”, “Phd”, “doctor\*”, and “predoctor\*”. These keywords must appear in the titles, abstracts, and/or keywords of journal articles in the English language from 2003 to 2023. The journal articles are related to the field of social sciences. The search was carried out on the 1<sup>st</sup> of August 2023.

The results from Scopus and Web of Science were exported to an MS Excel spreadsheet in which a first screening of the titles and abstracts was performed. Then, the full texts of the remaining articles were assessed based on the eligibility of the content. Thirteen journal

articles were eligible for the creation of the framework for the transversal skills training programme.

## 2.2 The creation of the framework

A comprehensive framework that classifies the essential transversal skills for R1 researchers will provide guidance to the international transversal skills training programme at EURECA-PRO. The framework uses the articles of the systematic review, the EURODOC Transferable Skills for Early Career Researchers Framework (Weber et al., 2018), and the ResearchComp Competence Framework (European Commission, 2023). The framework consists of seven competence areas, each with a list of skills, as shown in Figure 1.



**Figure 1. Framework for the transversal skills training program**

“Competence” is defined as “a combination of knowledge & understanding, skills, and attitudes” (Schwendinger et al., 2022), which enables people to adequately address different situational challenges (Weber et al., 2018). Seven competences are considered in the framework in Figure 1:

- *Cognitive competences* (European Commission, 2023; Weber et al., 2018), which cover the different thinking styles to identify, manage, and solve problems adequately (Díaz et al., 2018).
- *Communication competences*, which are linked to giving and receiving information in different ways, such as writing, speaking, listening, presenting, or using body language, in an appropriate style, towards different target groups, channels, and in different languages (European Commission, 2023).
- *Impact competences*, also called “making an impact” (European Commission, 2023), are oriented to the impact researchers make on society via the transfer of knowledge, entrepreneurship, commercialisation, patenting, innovation, intellectual property, and others (Weber et al., 2018).
- *Interpersonal competences* (Weber et al., 2018) encompass working with others (European Commission, 2023) in teams and networks, motivating others, and fostering collaborative and healthy working environments (Díaz et al., 2018).
- *Management competences*, also called “managing research” (European Commission, 2023), involve the management and planning of resources, such as projects, personnel, budgets, and deadlines, among others (European Commission, 2023).
- *Research competences* (Weber et al., 2018) include technical skills that researchers need in their working routines to do research and manage research tools: methods, literature, data analysis, disciplinary knowledge, open science, interdisciplinarity and ethics, among others (European Commission, 2023; Weber et al., 2018).
- *Self-management competences*, also named “manage personal professional development” (European Commission, 2023), refer to the competences to continuously support professional and career development and personal development and self-improvement.

Moreover, “skill” is defined as “the ability and capacity to carry out the processes and use the existing knowledge to achieve results” (Schwendinger et al., 2022). The transversal skills in each competence of the framework have been chosen following the justifications of the literature selected from the systematic review, as seen in Table. The definitions of the transversal skills can be seen in Annex III.



**Table 1. List of the transversal skills in each competence of the framework**

<b>Transversal skills</b>	<b>References supporting its importance</b>
<b>Management competences</b>	
Project management	Ashonibare (2023); Dowsett & Lacey (2023); Durette et al. (2016); Koç et al. (2015); Meissner & Shmatko (2019); Pham (2023); Ruuskanen et al. (2018); Sakurai & Pyhältö (2021)
Time management	Ashonibare (2023); Camarinha-Matos et al. (2020); Dowsett & Lacey (2023); Lees et al. (2023); Pham (2023); Ruuskanen et al. (2018)
Resource management	(Camarinha-Matos et al. (2020); Durette et al. (2016); Lees et al. (2023)
<b>Communication competences</b>	
Writing	Camarinha-Matos et al. (2020); Dowsett & Lacey (2023); Koç et al. (2015); Pham (2023); Ruuskanen et al. (2018); Sakurai & Pyhältö (2021)
Oral	Dowsett & Lacey (2023); Durette et al. (2016); Meissner & Shmatko (2019); Ruuskanen et al. (2018); Sakurai & Pyhältö (2021)
Communication in other languages	Weber et al. (2018)
Communication for nontechnical audiences	Weber et al. (2018)
<b>Interpersonal competences</b>	
Teamwork	Camarinha-Matos et al. (2020); Dowsett & Lacey (2023); Lees et al. (2023); Meissner & Shmatko (2019); Pham (2023); Ruuskanen et al. (2018); Sakurai & Pyhältö (2021)
Leadership	Camarinha-Matos et al. (2020); Dowsett & Lacey (2023); Meissner & Shmatko (2019); Sakurai & Pyhältö (2021)
Networking	Dowsett & Lacey (2023); Lees et al. (2023); Meissner & Shmatko (2019); Sun et al. (2023)
Negotiation	Camarinha-Matos et al. (2020); Meissner & Shmatko (2019)
Teaching	Ruuskanen et al. (2018); Sakurai & Pyhältö (2021)
Diversity awareness	Camarinha-Matos et al. (2020); Koç et al. (2015); Sakurai & Pyhältö (2021)
<b>“Making an impact” competences</b>	
Entrepreneurship	Camarinha-Matos et al. (2020); Meissner & Shmatko (2019); Sakurai & Pyhältö (2021)
Commercialisation and transfer of knowledge	Sakurai & Pyhältö (2021)
Innovation	Dowsett & Lacey (2023)
<b>Self-management competences</b>	

Mental health	In this group different terms have been grouped: resilience (Durette et al., 2016), self-reflection (Sun et al., 2023), self-confidence (Lees et al., 2023); emotional intelligence addressing challenging situations (Dowsett & Lacey, 2023; Meissner & Shmatko 2019) and stress management (Pham, 2023).
Self-efficacy	In this group the term self-efficacy is included (Dowsett & Lacey, 2023; Meissner & Shmatko, 2019; Sakurai & Pyhältö, 2021), as well as other terms such as enthusiasm and motivation (Ashonibare, 2023; Meissner & Shmatko, 2019) and discipline and perseverance (Meissner & Shmatko, 2019)
Career management	Lees et al. (2023); Sakurai & Pyhältö (2021); Sun et al. (2023)
<b>Cognitive competences</b>	
Problem solving	Camarinha-Matos et al. (2020); Dowsett & Lacey (2023); Durette et al. (2016); Meissner & Shmatko (2019); Pham (2023)
Critical thinking	Durette et al. (2016); Pham (2023)
Learning	Meissner & Shmatko (2019); Ruuskanen et al. (2018)
Creativity	Meissner & Shmatko (2019)
<b>Research competences</b>	
Data analysis	Dowsett & Lacey (2023); Koç et al. (2015); Meissner & Shmatko (2019); Pham (2023); Ruuskanen et al. (2018)
Research ethics and integrity principles	Camarinha-Matos et al. (2020); Dowsett & Lacey (2023); Koç et al. (2015); Meissner & Shmatko (2019); Sakurai & Pyhältö (2021)
Open science	Sakurai & Pyhältö (2021); Weber et al. (2018)
Interdisciplinary research	European Commission (2023); Weber et al. (2018)
Disciplinary knowledge	The name of this group is taken from Weber et al. (2018). This group also includes information literacy and management (Sakurai & Pyhältö, 2021; Van Damme & Kerkhofs, 2017) and research methods (Nikol & Lietzmann, 2019; Van Damme & Kerkhofs 2017) have been included.

Source: own elaboration.

### 3 Collection of transversal skills training courses on EURECA-PRO

The second step to creating the international transversal skills training programme at EURECA-PRO is to collect the training courses for researchers, especially those addressing R1 researchers, on EURECA-PRO. Once all the training courses have been compiled, the transversal skills training has been screened, resulting in a database with all the transversal skills training courses.

The doctoral schools and programmes of the institutions of EURECA-PRO have also been researched, as seen in the next section.

The institutions that make up EURECA-PRO are nine. They are:

- Universidad de León (ULE)
- Silesian University of Technology (SUT)
- University of Petrosani (UP)
- University of Applied Sciences Mittweida (HSMW)
- Technische Universität Bergakademie Freiberg (TU-BAF)
- Montanuniversität Leoben (MUL)
- Technical University of Crete (TUC)
- Hasselt University (UH)
- University of Lorraine (UL)

#### 3.1 Doctoral schools at EURECA-PRO

The doctoral schools and programmes of the partner institutions in EURECA-PRO were checked to avoid missing information in the creation of the transversal skills training programme, as well as the number of R1 researchers in each institution. The links and the the number of R1 researchers of the doctoral schools are given in Table 2:

**Table 2. Links and number of R1 Researchers of the doctoral programmes in EURECA-PRO**

Institution	Number of R1 Researchers	Link
ULE	533	<a href="https://centros.unileon.es/esdule/">https://centros.unileon.es/esdule/</a>
SUT	660	<a href="https://www.polsl.pl/rjo15-sd/en/">https://www.polsl.pl/rjo15-sd/en/</a>
UP	157	<a href="https://www.upet.ro/en/#top">https://www.upet.ro/en/#top</a>
HSMW	81	<a href="https://www.forschung.hs-mittweida.de/promovieren-an-der-hsmw/">https://www.forschung.hs-mittweida.de/promovieren-an-der-hsmw/</a>
TU-BAF	884	<a href="https://tu-freiberg.de/en/university/facilities/institutions/graduate-and-research-academy">https://tu-freiberg.de/en/university/facilities/institutions/graduate-and-research-academy</a>
MUL	411	<a href="https://www.unileoben.ac.at/en/studying/doctoral-studies/">https://www.unileoben.ac.at/en/studying/doctoral-studies/</a>
TUC	257	<ul style="list-style-type: none"> <li>• School of Production Engineering and Management [<a href="https://www.phd.pem.tuc.gr/el/archi">https://www.phd.pem.tuc.gr/el/archi</a>]</li> <li>• School of Electrical and Computer Engineering [<a href="https://www.ece.tuc.gr/en/studies/graduate-studies/phd-in-electrical-and-computer-engineering-1">https://www.ece.tuc.gr/en/studies/graduate-studies/phd-in-electrical-and-computer-engineering-1</a>]</li> <li>• School of Chemical Engineering and Environmental Engineering [<a href="https://www.chenveng.tuc.gr/el/spoydes/didaktorikes/didaktorikes-spydes-stin-periballontiki-michaniki">https://www.chenveng.tuc.gr/el/spoydes/didaktorikes/didaktorikes-spydes-stin-periballontiki-michaniki</a>]</li> <li>• School of Architecture and Engineering [<a href="https://www.arch.tuc.gr/el/spoydes/metapychiakes-spydes/didaktorikes-spydes">https://www.arch.tuc.gr/el/spoydes/metapychiakes-spydes/didaktorikes-spydes</a>]</li> <li>• School of Mineral Resources Engineering [<a href="https://www.mred.tuc.gr/el/spoydes/didaktorikes-spydes">https://www.mred.tuc.gr/el/spoydes/didaktorikes-spydes</a>]</li> </ul>
UH	813	<a href="https://www.uhasselt.be/en/doctoral-schools#anch-doctoral-schools">https://www.uhasselt.be/en/doctoral-schools#anch-doctoral-schools</a>
UL	1,800	<a href="http://doctorat.univ-lorraine.fr/en/doctoral-schools">http://doctorat.univ-lorraine.fr/en/doctoral-schools</a>

Source: own elaboration.

The different programmes show different numbers of training courses and organisations. UH counts with a framework that is used to categorise the training courses (Van Damme & Kerkhofs, 2017). This framework was considered in the creation of the framework for the international transversal skills training programme at EURECA-PRO.

On the other hand, the number of R1 researchers is relevant because the institutions have different number. It influences the transversal skills training offer of each institution, since the offer could vary if the institutions count with many R1 researchers, such as UL (1,800 R1 researchers) TU-BAF (884 R1 researchers), or UH (813 R1 researchers). It does mean that institutions with lower numbers of R1 researchers do not have a good offer for their training, as can be seen in the next section.

### 3.2 The database about the transversal skills training courses in EURECA-PRO

The collection of training courses for researchers within the institutions of EURECA-PRO allows us to examine the transversal skills training that can be offered in the international transversal skills training programme.

Milestone 10 (MS10) and Deliverable D5.2. also analysed a database on the best practices on transversal skills training for the scholar year 2021-2022 within RE-EURECA-PRO institutions. The difference between the database used in MS10 and Deliverable D5.2. The database in this study covers the training courses for the scholar year 2022-2023, as well as new fields and new institutions that have been added. The newly incorporated institutions from EURECA-PRO were UL and UH. Concerning the fields, the oldest database contains the fields “Name of the training course, in original language”, “Name of the training course, in the English language”, “Brief Description”, “Duration (hours)”, “Field of the target group”, “Recipient target group”, and “Other comments”. In the new database, “Brief Description” has been replaced by “Description of the training” and “Content”, and new fields have been added: “Link of the training, if available”, “Training format”, and “Instructor(s) name and email”. The last three fields provide more information regarding the construction of a training programme.

Although the compilation was about the scholar year 2022-2023, the training courses from UL, UH and SUT are from the year 2023-2024, which can be seen on their websites (see Table Links of the doctoral schools and programmes in EURECA-PRO). MWHS also presents some training courses currently offered by Saxeed (2023), a regional initiative of Saxon universities to foster the entrepreneurial spirit. Saxeed is also associated with TU-BAF.

Once the training courses have been compiled in the database under study, screening has been executed. From the 451 training courses in total, 370 training courses remain. Two exclusion criteria were applied:

1. The training courses must target at least R1 researchers.
2. The training courses must not be overly specific, particularly when the topics are of only local relevance.

As a second step, the remaining training courses were divided into the language in which they were taught. Since the transversal skills training programme must operate in EURECA-PRO, training courses in the English language are of special interest. However, transversal skills training courses in the local language should not be rejected. Therefore, two groups of training courses have been formed: training in English and training in the local language, as shown in Table 3.

**Table 3. Training courses by language**

<b>Competence</b>	<b>MUL</b>	<b>MWHS</b>	<b>TU-BAF</b>	<b>TUC</b>	<b>SUT</b>	<b>UH</b>	<b>UL</b>	<b>ULE</b>	<b>UP</b>	<b>Total</b>
<b>Cognitive</b>		<b>1</b>		<b>4</b>		<b>1</b>	<b>2</b>	<b>3</b>		<b>11</b>
English				1		1				2
Local language		1		3			2	3		9
<b>Communication</b>	<b>2</b>	<b>8</b>	<b>4</b>		<b>2</b>	<b>10</b>	<b>35</b>	<b>22</b>	<b>1</b>	<b>75</b>
English	2		3		2	10	15	10		33
Local language		8	1				20	12	1	42
<b>Impact</b>		<b>22</b>		<b>4</b>	<b>5</b>		<b>9</b>			<b>40</b>
English		1			3		4			8
Local language		21		4	2		5			32
<b>Interpersonal</b>	<b>2</b>	<b>14</b>	<b>7</b>		<b>1</b>	<b>8</b>	<b>19</b>	<b>20</b>		<b>70</b>
English	2	1	1		1	8	1	1		14
Local language		13	6				18	19		56
<b>Management</b>		<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>7</b>	<b>1</b>		<b>16</b>
English		1				2	1			4
Local language		1	2	1	1		6	1		12
<b>Research</b>	<b>1</b>	<b>7</b>	<b>3</b>	<b>7</b>	<b>11</b>	<b>7</b>	<b>28</b>	<b>38</b>	<b>3</b>	<b>103</b>
English	1	1	3	5	3	7	4	2		24
Local language		6		2	8		24	36	3	79
<b>Self-management</b>		<b>5</b>	<b>6</b>			<b>13</b>	<b>11</b>	<b>8</b>		<b>43</b>
English		1				13	2			16
Local language		4	6				9	8		27
<b>Total</b>	<b>5</b>	<b>59</b>	<b>22</b>	<b>16</b>	<b>20</b>	<b>41</b>	<b>111</b>	<b>92</b>	<b>4</b>	<b>370</b>
Total English	5	5	7	6	9	41	27	13		113
Total Local language		54	15	10	11		84	79	4	257

Source: own elaboration.

Of the 370 transversal skills training courses, 257 (69%) were in local languages and 113 (31%) were in English. Since the imbalance is notable between both offers, training courses in local languages cannot be rejected and could be used for any EURECA-PRO researcher who knows the local language of the institution of interest. Moreover, training courses in local languages might be adapted if needed. By institutions, UH, with 36% of the total offers in English,

followed by UL, with 24%, respectively, have the largest percentages of English offers at EURECA-PRO. This could be because UL and UH are the institutions with many R1 researchers (1,800 and 813 R1 researchers, respectively).

Furthermore, the distribution of the training courses by the seven competences of the framework in Figure 1 is relevant since we can detect the areas with fewer training offers. The competence group with the most offers is the Research group (28%), followed by the Communication (23%) and Interpersonal (19%) groups. The competence group with fewer offers is Cognitive (3%), followed by Management (4%) and Impact (11%).

The competence groups are also distributed in different ways through the institutions. Describing the distribution of the competences by institutions is pertinent because when it comes to designing new training courses, the institutions with more training courses should be considered. The Cognitive group (11 courses) is led by TUC (4 courses), followed by ULE (3 courses) and UL (2 courses). Communication counts with 84 courses, in which UL has a big weight (35 courses), followed by ULE (22 courses), and UH (10 courses). In Impact (40), MWHS is the leader (22 courses), continuing with UL (9 courses) and SUT (5 courses); then, the fact that MWHS is associated with Saxeed (2023), the regional initiative of Saxon universities to foster the entrepreneurial spirit, influence its leading role in Impact. The Interpersonal group encompasses 71 courses, of which ULE (20) and UL (19) are the biggest, followed by MWHS (14). In Management (16), UL (7) is the first, while the rest of the institutions have two (HSMW, TU-BAF, UH), one, or any. The Research competence is the biggest group with 105 courses, in which ULE (38) leads, followed by UL (28), and SUT (11). Finally, Self-management is about 43 courses, in which UH (13) has the highest weight, followed by UL (11) and ULE (8).

Inside the English offer, the training courses have been categorised into their format in Table 4; hence, there are three groups: in-person, online, and hybrid. The format is relevant since an international training programme should provide flexibility in their format (Dowsett & Lacey, 2023); hence, a wider audience can access the training without physical mobilities.

**Table 4. Training courses by format**

	MUL	MWHS	TU-BAF	TUC	SUT	UH	UL	ULE	UP	Total
<b>Cognitive</b>				1		1				2
In-person				1						1
Online						1				1
<b>Communication</b>	2		3		2	10	15	10		33
Hybrid						1				1
In-person	2		1		2	7	11	7		24
Online			2			2	4	3		8
<b>Impact</b>			1		3		4			8
In-person			1		3		3			7
Online							1			1
<b>Interpersonal</b>	2	1	1		1	8	1	1		14
In-person	2	1	1		1	6	1			12
Online						2		1		2
<b>Management</b>			1			2	1			4
In-person			1							1
Online						2	1			3
<b>Research</b>	1	1	3	5	3	7	4	2		24
Hybrid						1				1
In-person	1	1	1	5	2	4	1	1		15
Online			2		1	2	3	1		8
<b>Self-management</b>			1			13	2			16
Hybrid						2				2
In-person			1			10				11
Online						1	2			3
<b>Total general</b>	5	5	7	6	9	41	27	13		113
Hybrid						4				4
In-person	5	5	3	6	8	27	16	8		78
Online			4		1	10	11	5		31

Source: own elaboration.

The in-person offer, with 69% of the total offer in English, is larger than the rest of the formats, in which the online format counts 27% and the hybrid format 4%. The institution with the largest offers in English in all formats is UH (36%), followed by UL (24%). The remaining institutions account for 40% of the total number of training courses in English, therefore, even if they have a good offer in their local languages, there is room to improve their offer in English.

Furthermore, the distribution of the English training courses by the competences of our framework shows that the competence group with more offers is the Communication group



(37%), followed by the Research group (23%), similar to the local languages' comparison, in which Research (28%) and Communication (23%) were the largest groups. On the other hand, the competence group in English with fewer offers is Cognitive (2%), followed by Management (4%), which is also similar to the local languages' comparison, with Cognitive (3%), followed by Management (4%).

In conclusion, this analysis contributes to the creation of two lists of training courses, one about training courses in English, which can be seen in Annex I, and the other about training courses in local languages in Annex II. More details about them are provided in the next section.

## 4 The international transversal skills training programme at EURECA-PRO

The international transversal skills training programme at EURECA-PRO is described in the following section. Moreover, a survey was launched to validate with the target group, in this case, the PhD Journey participants in 2022, their interest in the training programme.

### 4.1 The program

The international transversal skills training programme at EURECA-PRO consists of a compilation of transversal skills training courses that can be seen in Annex I and Annex II. Annex I is about the training offered in English, whereas Annex II is about the training offered in the local language of the partner institution. Both annexes offer comprehensive training on transversal skills that complement R1 researchers' formation. Counting 113 transversal skills training courses in English and 257 in the local languages, the training covers the seven areas of competence of the framework created: Cognitive, Communication, Impact, Interpersonal, Management, Research, and Self-management.

The target group of the international transversal skills training programme is the EURECA-PRO PhD Journey. The 2022 version was approximately three weeks of training with one week of physical mobility for R1 researchers from October to December 2022 at EURECA-PRO partner universities. The physical mobility was carried out concurrently at six partner universities; the ULE programme was named the EURECA-PRO Young Researchers Forum and was carried out in October (EURECA-PRO, 2022).

On the other hand, since the documents will be public, Annex I and Annex II will be shared not only with the participants of the PhD Journey but also with the entire research community of EURECA-PRO. The documents will be uploaded on the website of EURECA-PRO (2023).

The expected results from the international transversal skills training programme at EURECA-PRO are twofold:

1. Improve the formation of the researchers, especially those in the EURECA-PRO PhD Journey and in their R1 stage. It is recommended that R1 researchers complete at least

- 1 training course per competence. The scheduling, duration, and availability of each training course will depend on the organising institution. Researchers' mobilities to attend training courses will depend on the researchers' institutions.
2. Serve as a guide, in which the staff in charge of the doctoral programmes in EURECA-PRO can use Annex I, Annex II and Annex III to obtain a global view of the available resources in EURECA-PRO, for example, by identifying the best contact to train a specific course, adapting existing courses and new editions, or creating new training courses.

#### 4.2 Validation of the International Transversal Skills Training Programme in EURECA-PRO by a survey

Finally, a survey was carried out with the objective of considering the opinion of the participants of the PhD Journey in 2022 about the International Transversal Skills Training Programme in EURECA-PRO, which is being developed in this study. The opinion of the participants of the PhD Journey in 2022 is highly relevant since they are the target group of this programme, although any researcher of EURECA-PRO could benefit from the training courses of the programme. The survey was launched in October 2023 and lasted until the beginning of November 2023. It was shared with 43 participants of the PhD Journey in 2022, including the 21 participants of the EURECA-PRO Young Researchers Forum. The survey obtained 18 responses. Sociodemographic information from 17 respondents is described in the tables below. The information in the tables is not crossed to protect the anonymity of the respondents.

**Table 5. Institutional affiliation of the respondents**

Institution	Frequency
Hasselt University (Belgium) – UH	2
Silesian University of Technology (Poland) – SUT	6
Technical University of Crete (Greece) – TUC	1
Technische Universität Bergakademie Freiberg (Germany) – TU-BAF	1
Universidad de León (Spain) – ULE	4
Université de Lorraine (France) – UL	1
University of Petrosani (Romania) – UP	2
Total	17

Source: own elaboration.

**Table 6. Area of research of the respondents**

Area of research-	Frequency
Economics and business sciences	3
Education and psychology	1
Engineering/technology and computer sciences	7
Environmental sciences	3
Life and biological sciences	1
Physical sciences, mathematics, and chemical sciences	2
Total	17

Source: own elaboration.

**Table 7. Gender of the respondents**

Gender	Frequency
Female	12
Male	5
Total	17

Source: own elaboration.

**Table 8. Respondents' number of years enrolled in a doctoral programme**

Years enrolled in a doctoral programme	Frequency
2 years	4
3 years	9
4 years	2
5 years	1
Already finished	1
Total	17

Source: own elaboration.

Furthermore, two questions with a Likert-scale rating were asked in the survey. Eighteen respondents answered. The first question was about the level of agreement in the statements in Table 9 regarding international transversal skills training in EURECA-PRO (1= Strongly disagree; 2= Disagree; 3= Neither agree nor disagree; 4= Agree; 5= Strongly agree).

**Table 9. Likert-scale rating results about the level of agreement of the items asked**

Items	Average mark
I would be interested in participating in an international transversal skills programme from EURECA-PRO.	4.56
I would move to other institutions of EURECA-PRO for in-person trainings on transversal skills.	4.39
I would enrol online trainings on transversal skills.	3.83

Source: own elaboration.

The results of Table 9 show that the international transversal skills programme of EURECA-PRO would be of interest to PhD participants in 2022. They would also be willing to move to other institutions for in-person training on transversal skills more than enrolling in online transversal skills training courses. Since 69% of the total training courses are in local languages and 31% in English, suggestions on improving the English offer could be stated.

The second question was about the transversal skills training they think they are missing in their formation, in which they answered in terms of the level of relevance of the competence groups (1= Very irrelevant; 2= irrelevant; 3= Neither relevant nor irrelevant; 4= relevant; 5= Very relevant).

**Table 10. Likert-scale rating results about the level of relevance of the items asked**

Item	Average mark
Impact (e.g., entrepreneurship, commercialisation, innovation)	4.00
Management (e.g., manage projects, time, resources)	3.89
Communication (e.g., writing, oral, in other languages)	3.78
Interpersonal (e.g., teamwork, leadership, networking, negotiation)	3.78
Self-management (e.g., mental health, self-efficacy, career management)	3.72
Cognitive (e.g., problem solving, critical thinking, creativity)	3.61
Research (e.g., analysis, ethics, open science, interdisciplinarity)	3.50

Source: own elaboration.

The results of Table 10 demonstrate that impact competence is the group that participants from the PhD journey miss the most in their formation, followed by management competence. However, Management and Impact competences training offers are relatively low in EURECA-PRO in both local and English languages (4% in Management; 11% in Impact) and English only (4% in Management; 14% in Impact).

In the last positions, Research competence has the lowest mark. Although the reason is not explicitly stated in the survey, it could be deduced that since the Research competence training courses are the biggest group in the database in local languages (28%) and the second in English (24%), they are not missed in the formation of the R1 researchers. The cognitive competence also ranks low; in addition, the training offers are also low, either in English (2%)

or in local languages (3%), which could mean that R1 researchers and institutions do not show interest in this competence area. More reasons behind the marks of all competences should be studied in further research using, for example, qualitative research and larger samples.

Finally, an open question was asked about any other suggestions, in which two positive comments were recorded: one on the suitability of EURECA-PRO in creating the international transversal skills training programme (*“EURECA-PRO is the right place to have all in one, skills, knowledge, practice, experience and professionalism.”*), and the willingness to participate of one participant (*“I wish you success in the implementation of the International Transversal Skills Training Programme in EURECA-PRO and I wish to participate in a professional development course for doctoral researchers. [...]”*).

## 5 Conclusions

The international transversal skills training programme at EURECA-PRO aims at offering R1 researchers a comprehensive programme from which they can benefit from to enhance their career development. The EURECA-PRO PhD journey R1 researchers are the main target group, although any research can potentially benefit from it.

To provide more scientific consistency to support the programme, a framework was developed from a systematic review in which transversal skills training was searched for R1 researchers. Thirteen journal articles were used, as well as the EURODOC Transferable Skills for Early Career Researchers Framework (Weber et al., 2018) and the ResearchComp Competence Framework (European Commission, 2023). The framework includes seven competences (Management, Communication, Interpersonal, Impact, Self-Management, Cognitive, and Research), each with transversal skills. Definitions and more information about each transversal skill can be found in Annex III.

Then, the doctoral programmes at EURECA-PRO have been checked, where a framework from UH has been considered to categorise transversal skills training courses (Van Damme & Kerkhofs, 2017). Furthermore, a collection and analysis of a database with the training courses for researchers currently running in UH, UL, SUT and MWHS and from the scholar year 2022-2023 in the rest of the partners and MWHS has been executed. A total of 370 training courses were useful for the training programme, in which the institution with the largest offer is UL (111 training courses), followed by ULE (92 training courses), and HSMW (59 training courses). The last institution and TU-BAF are associated with Saxeed (2023), the regional initiative of Saxon universities to foster the entrepreneurial spirit; this synergy could be beneficial for the training of R1 Researchers.

Of 370 training courses, 69% of the offers were in local languages and 31% were in English. By institutions, UH, with 36% of the total offers in English, followed by UL, with 24%, respectively, has the largest percentages of English offers in EURECA-PRO. This could be because UL and UH are the institutions with a large number of R1 researchers, so they could

be considered the most appropriate ones to advise others when it comes to design training courses in English.

More specifically, for the offer in English, the in-person offer is the largest (69%). The results show that the competences with more offers in total are Research and Communication competences (28% and 23%, respectively). On the other hand, the competence groups with fewer offers are the Cognitive and Management competences (3% and 4%, respectively).

On the other hand, the results of the distribution of the competences by institutions is pertinent because when it comes to designing new training courses, the institutions with more training courses could play an important role: in the Cognitive competence, TUC should lead; in Communication and Management, UL should be selected; in Impact, MWHS, with the help of Saxeed (2023), should play a primary role; in Interpersonal and Research, ULE could lead; and in Self-management, UH should have the highest weight.

Moreover, a survey was launched to validate with the PhD Journey participants in 2022 their interest in the training programme. Participants showed interest in the training programme and were willing to move to other institutions for in-person training. Conclusions from the survey were obtained, together with the database, such as improving the English offer, as well as more training on Management and Impact competences.

Finally, the framework and the two resulting lists of training courses, one in English (Annex I) and one in the local languages (Annex II). They will be shared with the EURECA-PRO PhD Journey and uploaded to the EURECA-PRO official website so that all researchers from the alliance can benefit from it. The expected results from the international transversal skills training programme at EURECA-PRO are improving the formation of the researchers, especially those in the EURECA-PRO PhD Journey and R1 researchers, for better career development. On the other hand, it will serve as a guide in which doctoral programmes in EURECA-PRO obtain a global view of the available resources in EURECA-PRO, implementing actions such as identifying the best contacts, adapting existing courses, or creating new training courses. It is recommended in future research to study the impact of the programme in practice, as well as continuing researching the reasons behind the interest of the



transversal skills and competence groups using other methods such as qualitative research and descriptive research with larger samples.

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## 7 Annex I. Training courses in EURECA-PRO in English

Table A-I-1. Training courses in EURECA-PRO in English

Name of the training course	Description of the training	University	Training format	Instructor(s)	Duration (hours)	Category
<a href="#">Real creativity - a practical approach to problem solving</a>	In any context, people are needed to establish practical, creative habits that allow them to innovate, solve problems and collaborate positively. Throw into that mix the fact that any PhD project is an exercise in problem solving and that every pitch, funding bid or publication requires novelty, and people benefit from the ability to come up with new and workable ideas. The aim is to develop creative and confident people who can rely on their resourcefulness, creativity and skills to break new ground, to solve problems and to perform well.	UH	Online	Jamie McDonald, external expert	12	Cognitive, Creativity
Decision Making and Learning in Multi-Agent Worlds - Information Management Methods (Engineering/technology, including computer science)	In this module the following topics are treated: Utility Theory, Decision Theory, Game Theory (cooperative/noncooperative); rationality and strategic decision making; Reinforcement Learning and Multiagent Reinforcement Learning; Elements of Unsupervised Learning and Probabilistic Topic Modelling; Deep Learning and Deep Reinforcement Learning; learning in game-theoretic and multiagent environments.	TUC	In-person	E. Petrakis, epetrakis@tuc.gr	30	Cognitive, Problem solving
<a href="#">Effective Communication in Academia. Module 1: English for Science and Research</a>	This module aims to develop participants' language skills in their role as scientists. Therefore, there is a strong focus on writing scientific texts and giving scientific presentations with a high degree of accuracy and fluency and using a wide range of adequate vocabulary, collocations, and style. Our activities are also designed to help participants communicate with ease in informal professional contexts, such as networking or small talk during a conference coffee break. In addition, participants will be equipped to communicate effectively in the peer-review process.	MUL	In-person	Jennifer Fink, jennifer.fink@unileoben.ac.at	12	Communication, Communication in other languages
<a href="#">Effective Communication in Academia. Module 3: Cooperating in International Projects</a>	Participants practice situations they are likely to encounter in international projects (e.g., writing emails, talking on the phone, negotiating with partners, discussing financial aspects of a project, dealing with legal issues (on a linguistic level). Another important learning objective of this module is the use of diplomatic language.	MUL	In-person	Jennifer Fink, jennifer.fink@unileoben.ac.at	12	Communication, Communication in other languages; Interpersonal, Diversity awareness
<a href="#">Engaging with policy makers</a>	Research often identifies problems and proposes solutions – and these often require action from governments to have real-world impact. However, to researchers' great frustration, policies are often based on emotions and politics rather than evidence. This workshop, by Critical Narratives, will equip participants with the tools and skills to efficiently find their way through the world of government, politics, and advocacy, and to influence those who make the decisions in their field of expertise.	UH	In-person	Critical Narratives, external agency	3	Communication, For nontechnical audiences
<a href="#">Writing for nonpeers and press</a>	The purpose of this workshop is to offer practical tools to write your own popular scientific blog, press release, opinion article, magazine article,	UH	Hybrid	Ann De Ron, external expert	15	Communication, For nontechnical audiences

	leaflet, mail or other text. The workshop is also useful if you want to contribute to texts by press officers or (science) journalists.					
<a href="#">Introduction to science communication</a>	The purpose of this workshop is to raise awareness of the importance of science communication; allow the sharing of reflections and learning between workshop participants based on their own previous experiences; and inspire and encourage participants to engage in science communication activities	UL	In-person	Vanessa Mignan Jenkins, external expert	6	Communication, For nontechnical audiences
How to integrate and re-elaborate digital content MOOC	This MOOC aims at managing digital tools when dealing with digital content, bureaucracy, digital signature, and collaborative tools.	ULE	Online	María Fernández Raga, maria.raga@unileon.es	20	Communication, For nontechnical audiences
<a href="#">Presenting in English for Scientists</a>	This workshop focuses on gaining skills for successfully presenting scientific findings and research results to any audience. To create realistic scenarios, participants can contribute their recent scientific research results to hold different mini- as well as a final presentation which are analysed and given feedback to.	TU-BAF	Online	Antje Kaufmann, TU-BAF	16.15	Communication, In other languages
<a href="#">Pronunciation and intonation in English</a>	Sounding professional and intelligible in English is essential to present your research and to connect with colleagues. In this course, you will learn to improve your English pronunciation and intonation through theoretical insight and practical exercises.	UH	In-person	Annelien De Geest, annelien.degeest@kuleuven.be	10	Communication, In other languages
<a href="#">Certification in english - Metz</a>	Enable doctoral students to have their English language skills recognised at a minimum B2 level.	UL	In-person		6	Communication, In other languages
<a href="#">Certification in english - Nancy</a>	Enable doctoral students to have their English language skills recognised at a minimum B2 level.	UL	In-person		6	Communication, In other languages
<a href="#">Validate your level of language practice in English - Metz</a>	To enable doctoral students to have their English language skills, which they have already acquired, recognised at least level B2 of the CEFR (Common European Framework of Reference for Languages).	UL	In-person		6	Communication, In other languages
<a href="#">Validate your level of language practice in English - Nancy</a>	To enable doctoral students to have their English language skills, which they have already acquired, recognised at least level B2 of the CEFR (Common European Framework of Reference for Languages).	UL	In-person		6	Communication, In other languages
<a href="#">Apprendre le français</a>	The course focuses on learning the French language to be able to communicate in a variety of everyday, university and even professional situations, depending on the level.	UL	In-person	DéFLE speakers, FLE specialists, UL	40	Communication, In other languages
Secrets of pronunciation: Past tenses	This course focuses on enhancing your pronunciation and intonation skills, specifically addressing past tenses. In addition, participants will learn to gain theoretical insights and engage in practical exercises to refine their spoken English.	ULE	In-person	Escuela de Formación, ULE		Communication, In other languages
<a href="#">At your own pace! English conversation course</a>	The training is focused on classes on specific topics and everyday situations, without continuity in learning, so students have the flexibility to take alternate months depending on their availability.	ULE	In-person	Centro de idiomas, ULE	Continuous offer	Communication, In other languages

<a href="#">Official Language Accreditation assessments and training</a>	A wide variety of Official Accreditation assessments and training are offered in languages such as English (ACLES, IELTS, TOEIC, TOEFL, OXFORD, LINGUASKILL), French (TCF), and Portuguese (LAPE).	ULE	In-person	Centro de idiomas, ULE	Continuous offer	Communication, In other languages
<a href="#">One2One</a>	The aim of this programme is to offer an exclusive, customised, and personalised service to meet the specific needs of the student in private sessions. In these sessions, the student will receive the advice, counselling, help and explanations necessary for those students who wish to obtain a private and totally personalised service in language teaching. The sessions can focus on general language training in English, French, German, Portuguese, Italian, Japanese, Russian and Arabic, on the specific preparation of language level accreditations, or on any other specific need of the student (preparation for job interviews, preparation of academic or professional presentations, for example).	ULE	In-person	Centro de idiomas, ULE	Continuous offer	Communication, In other languages
Spanish course MOOC	This Spanish language course aims at accomplishing the level A2 according to the Common European Framework of Reference for Languages in TransPlat platform.	ULE	Online	Centro de idiomas, ULE	20	Communication, In other languages
<a href="#">Speak English with Ease - Nancy</a>	This module aims to develop the PhD researchers' communicative skills in English, and their proficiency and confidence when talking about their research work.	UL	In-person	Jérémy Laporte, UL	15	Communication, In other languages; Communication, Oral
<a href="#">Surviving your First Presentation in English - Nancy</a>	This module aims to enable early career researchers to develop the ability to present their research work orally by mastering the English language as well as the academic codes for this type of language practice. The aim is to work on voice, speech, and gestures in a multimodal perspective of oral communication.	UL	In-person		15	Communication, In other languages; Communication, Oral
<a href="#">Speak English with Ease</a>	This module aims to develop the PhD researchers' communicative skills in English, and their proficiency and confidence when talking about their research work.	UL	Online		15	Communication, In other languages; Communication, Oral
<a href="#">My First Poster in English</a>	This module aims to enable PhD students to create a research poster in English by helping them to adapt their writing style to the format of the poster, and to make it readable and attractive.	UL	Online		15	Communication, In other languages; Communication, Oral
<a href="#">Surviving your First Presentation in English</a>	This module aims to develop the PhD researchers' confidence and communicative skills in English when talking about their research work in an academic context.	UL	Online		15	Communication, In other languages; Communication, Oral
<a href="#">Writing Academic English: A Survival Kit - Nancy</a>	This module aims to consolidate the scientific writing skills of early career researchers (ECR). The aim is to better understand the expectations of this specific genre and to work on the methods that will enable them to become autonomous in English for academic purposes.	UL	In-person		15	Communication, In other languages; Communication, Writing
<a href="#">Writing Academic English: A Survival Kit</a>	This module aims to enable doctoral researchers to enrich their vocabulary and to improve their writing style to write academic English proficiently.	UL	Online	Jill Gaumet, UL	15	Communication, In other languages; Communication, Writing
Skills for presentations	Key linguistic devices for improved presentation skills (register, structure, signposting). Effective use of voice: pacing, pausing, rhythm and intonation. The impact of visual aids. Elements of nonverbal	SUT	In-person		15	Communication, Oral



	communication. Problems and questions (interruptions, wrong slide, anticipating questions, etc.). Using humour and anecdote.					
<a href="#">Public Speaking (Edition 2)</a>	This workshop provides with general tools with respect to presenting and speaking for an audience. The focus is not limited to academic presentations; the workshop is relevant to all types of presentations.	UH	In-person	Marc Van den Eede, external expert	17	Communication, Oral
<a href="#">Public Speaking/Pitching</a>	When a friend asks you to explain your research topic you get lost for words, you start to notice that your body blocks and on top of that you seem to lose the interest of your friend. Sounds familiar? If so, you are invited to explore the world of pitching and public speaking during a two-day workshop by Jelle de Wit. During the first day the trainer will guide you into the world of Pitching & Public Speaking with a presentation & practical exercise. On the second day you will have the opportunity to give a short pitch for the trainer and other participants of the workshop.	UH	In-person	Jelle de Wit, external expert	8.30	Communication, Oral
<a href="#">Show, don't tell: Creating visuals about your research (edition 2)</a>	This training introduces researchers to the selection, creation and editing of images to communicate about their research. Topics such as the importance of images in science communication, communication principles, types of images, and the use of visuals in the daily research are discussed.	UH	In-person	Koen Van den Eeckhout, external expert	15	Communication, Oral
<a href="#">Public Speaking Workshop</a>	This training aims at understanding how stress works, realising how embodiment and commitment give more power to speeches, assessing the power of words, and initiating self-confidence and try the "let it go".	UL	In-person	Alexandre Eber, external expert	12	Communication, Oral; Self-management, Self-efficacy
How to deliver effective oral presentations	This workshop aims at guiding participants and providing them with the basic skills to prepare effective oral presentations adapted to the audience and the specific purpose.	ULE	In-person	María Felisa Muñoz Doyague, suca@unileon.es	6	Communication, Oral
Design thinking and communication skills	This workshop aims at equipping them with basic knowledge to identify steps of design thinking and to communicate results effectively.	ULE	In-person	María Felisa Muñoz Doyague, suca@unileon.es	6	Communication, oral; Impact, entrepreneurship
English in Academic Settings and Scientific writing	The aims of this training are: professional self-presentation; talking about your research and PhD dissertation; scientific writing; principles of writing scientific articles; parts of a scientific article (AIMRaD); strategies for writing a good article and developing writing skills; style, structures and vocabulary of an article; and good paragraphs and text cohesion.	SUT	In-person		30	Communication, Writing
<a href="#">Compiling Academic Paper</a>	In this module, participants will learn how to make compiling academic papers to improve their success in academia.	TU-BAF	Online	Antje Kaufmann, TU-BAF	13	Communication, Writing
<a href="#">Posterpresenting</a>	This workshop focuses on gaining skills for successfully presenting scientific findings and research results to conference audience. To create realistic scenarios, you are invited to contribute your recent scientific research results to hold different mini- as well as a final presentation, which will be analysed and given feedback to.	TU-BAF	In-person	Antje Kaufmann, TU-BAF	7	Communication, Writing
<a href="#">Creating Effective Research Posters</a>	This lecture discusses how to create more visual posters that get attention, facilitate navigation, and convey messages through strict selection, careful phrasing, and effective layout.	UH	Online	Jean-Luc Doumont, external expert	2	Communication, Writing
<a href="#">Grant-Writing Skills at the early-career level:</a>	Grant reviewers often say that wonderful projects do not get funded because the idea was not communicated clearly enough. Excellent	UH	Online	Julia Staykova-McKinnon, external expert	8	Communication, Writing

<a href="#">Focus on the FWO Postdoctoral Fellowship</a>	science is not enough for writing a successful grant proposal. To get funded, you also need excellent grantsmanship. So, how do you make sure the advantages of your work are understood and appreciated?					
<a href="#">Medical Writing</a> (for Health/medical sciences)	This course includes the following topics: introduction to drug development (different phases, key documents, guidelines, and regulations); introduction to medical writing; clinical study protocol writing; clinical study report writing; lean writing (including a test); inclusive writing; and experienced word training (tips and tricks).	UH	In-person	EMTEX, external organization	8.30	Communication, Writing
<a href="#">The dissertation workshop: The essentials of dissertation writing</a>	Acquire technical tools for the valorisation of research work.	UL	In-person		6	Communication, Writing
<a href="#">How to succeed in academic publishing, with visuals (edition 2)</a> (Physical sciences, mathematics and chemical sciences)	In this workshop you will learn to design a quality figure for your publication, PhD thesis or presentation, with hands-on practices and real-world examples. We will demystify many of the most common pitfalls and problems and give you some good practices that will avoid problems down the road. This course also includes a comprehensive overview of the ethics of image editing to always assure scientific integrity.	UH	In-person	Somersault18:24, external organization	8	Communication, Writing; Cognitive, Creativity
Communication styles	The training aims at explaining the fundamentals of the different communication styles, in which students will work on their self-awareness, and creating connection bridges with different communication styles.	ULE	In-person	Octava, external organization	8	Communication; Interpersonal, leadership
Methods of economic effectiveness analysis	In this module, participants will learn how to manage the different methods of economic effectiveness analysis.	SUT	In-person	Adam Gumiński, adam.guminski@polsl.pl	30	Impact, Commercialisation and transfer of knowledge
Management of research and development project and outcomes commercialisation	In this module, participants will learn how to manage research and development project and outcomes concerning commercialisation.	SUT	In-person	Piotr Kordel, piotr.kordel@polsl.pl	15	Impact, Commercialisation and transfer of knowledge
Technology assessment-theoretical foundations and development	In this module, participants will learn how to assess technology, from its theoretical foundations to its development.	SUT	In-person	Waldemar Czajkowski, waldemar.czajkowski@polsl.pl	15	Impact, Commercialisation and transfer of knowledge
<a href="#">48 hours to wake up dormant patents</a>	To develop a partnership with research teams of the Université de Lorraine to help them transform dormant patents or research into potential innovations.	UL	In-person	Collégium Lorraine Management Innovation, l'ENSGSI and PEEL	25.30	Impact, Commercialisation
<a href="#">Pizza and Product management</a>	The short workshop offers a compact introduction to product management in a relaxed atmosphere with pizza and cold drinks. Learn more about the role and responsibilities of the product manager, get tips for your personal success as a future product manager and much more.	MWHS	In-person	Alex Key, MWHS	3.30	Impact, Entrepreneurship
<a href="#">Discover entrepreneurship</a>	Discover and participate in the construction of an entrepreneurial or development project. Doctoral students are asked to work on a project of their choice and to build the broad outlines of it around the business plan. In this perspective, they had to consider the different aspects related to the project (competition, suppliers, prices, customers,	UL	Online	Aramis Marin, external expert	12	Impact, Entrepreneurship

	turnover, provisional budget, financing, legal and technological aspects, etc.).					
<a href="#">Entrepreneurship and innovation in a global environment</a>	This module aims to show how entrepreneurship and innovation work in a globalized environment.	UL	In-person	Collegium Lorraine Management Innovation, l'ENSGSI and PEEL	22	Impact, Entrepreneurship
<a href="#">French-German Workshop to discover Industry 4.0</a>	This course is organised as a challenge where French and German students will work together to understand and experiment the concept of Industry 4.0. The teams will propose solutions and action plans to transform a typical industrial SME into a digitalised 4.0 SME company	UL	In-person	Davy Monticolo, davy.monticolo@univ-lorraine.fr; Manon Enjolras, manon.enjolras@univ-lorraine.fr; Fatima Hamdani	21	Impact, Entrepreneurship
Seminar Inter- and transcultural aspects of teaching and learning at universities	Within this seminar, Inter- and transcultural aspects concerning teaching and learning will be implemented.	MWHS	In-person	Susann Lippmann, MWHS	8	Interpersonal, Diversity awareness
<a href="#">Intercultural communication: Meet people instead of cultures &amp; practice communication styles</a>	In this training, we explore how you can get to know our foreign colleagues a bit better and learn from each other. We take out time to get to know each other in this workshop too. The key is that you always meet a person, not a culture.	UH	In-person	Ann De Ron, external expert	14	Interpersonal, Diversity awareness
<a href="#">Gender &amp; diversity seminar: Bystander intervention for researchers</a>	The eighth edition of their 'gender & diversity seminar' focuses on 'Bystander intervention for researchers'. Topics such as how to identify harassment as a researcher, colleague or supervisor and be aware of its warning signs using the Red Flag System developed in Period's "It's Not That Grey" Guide on sexual harassment will be treated, as well as concrete tools and methods to intervene as a bystander to stop harassment from developing further and the creation of positive change by changing the culture around harassment and sexual violence in your own surrounding.	UH	In-person	Juliette Sanchez-Lambert and Anoushka Dufeil, external experts	2	Interpersonal, Diversity awareness
Effective communication skills in cross-cultural context	Communication toolkit. Managing diversity in networking. Building awareness of social and cultural differences. Active Listening. Becoming a global leader. Language of debating. Building communication skills through improvisation. Pronunciation.	SUT	In-person		15	Interpersonal, Diversity awareness; Communication, In other languages
<a href="#">Ready for take-off: establishing a good basis for PhD supervision</a>	This workshop is aimed at duos of supervisors and PhD students. It is meant to trigger discussion about the topic of doctoral supervision and to put it on the agenda by stimulating participants to discuss preferences and expectations. The focus is on increasing insight and awareness, as well as on providing strategies that may help in building a strong supervisor/supervisee relationship. A tool that may be used as a starting point for effective communication between supervisee and supervisor will be introduced.	UH	In-person	Ilse Van Damme, ilse.vandamme@uhasselt.be	6	Interpersonal, Leadership
<a href="#">CIVIC Challenge 2023</a>	In this workshop you will learn the basic principles of Design Thinking, specifically focused on a complex and realistic healthcare problem in close collaboration with the work field. Each day will encompass a step of the design thinking process. At the start of the day, you will gain insights	UH	In-person	THINK3 simulation & innovation lab, external organization	40	Interpersonal, Leadership; Cognitive, Problem solving

	in the basic principles and techniques of each stage, followed by interactive hands-on group sessions.					
<a href="#">Meeting skills</a>	This workshop places a strong emphasis on good meetings practice, gradually also drawing on the participants' own experiences and cases. The most important frame of reference is the circumplex of interpersonal communication (which some of the participants may already be familiar with).	UH	In-person	Wim Coessens, external expert	8	Interpersonal, Leadership; Research, Interdisciplinary research
<a href="#">Female brain power: (Self-)leadership module for female professionals (online program)</a>	The training program 'Female brain power' teaches the essential skills that professional women need to fully develop their unique female potential, enhance their power, and take the lead. Based on neuroscience, this training provides effective strategies and solutions for women to significantly improve their (self-)leadership skills and strengthen their career position. It focuses on perceptions, behaviours, stereotypes, and (unconscious) destructive self-bias women uniquely face in their career development. Based on a mixture of theory and practice, the participants learn to tackle performance, power and relationships, negotiation skills and positive influence.	UH	Online	Karolien Notebaert, external expert	17	Interpersonal, Leadership; Self-management, Self-efficacy
<a href="#">Teaching and Learning STEM I</a>	Planning effective courses and lessons, Constructive Alignment, learning taxonomies, interaction with students, Flipped Classroom, Open Educational Resources, reflecting on the role as a lecturer, basic learning theories, enhancing critical thinking, active learning, collaborative learning, metacognition and self-regulated learning, interactive online meetings, virtual learning environments, basic functions, and activities on Moodle. Participants are expected to complete short activities between the sessions, write a reflection, and take part in in a follow-up meeting to discuss their first experiences after applying the newly acquired knowledge in their courses.	MUL	In-person	Leonore Peer, leonore.peer@unileoben.ac.at	14	Interpersonal, Teaching
<a href="#">Teaching and Learning STEM II</a>	Motivating learning scenarios (self-determination theory, ARCS model), Problem-based learning, scaffolding (Cognitive load theory), self-regulated learning, collaborative learning, group work, diversity as an opportunity, formative and summative assessment, portfolios and alternative methods of assessment, exam questions, written and oral exams, rubrics, advanced features, and activities on Moodle, (more) myths about teaching and learning	MUL	In-person	Leonore Peer, leonore.peer@unileoben.ac.at	14	Interpersonal, Teaching
Teaching Week	Event related to teaching at TU-BAF	TU-BAF	In-person	Rita von Eggeling	14	Interpersonal, Teaching
<a href="#">Start session teaching professionalisation (HLS) (Health/medical sciences)</a>	To guarantee the quality of education within the faculties Medicine and Life Sciences (GLW) & Rehabilitation sciences and physiotherapy (RWS), we offer all starting PhD students a customised info session to get to know the curricula of the different study programmes and the teaching concept. The first part of the start session is specific for PhD students with teaching activities in RWS on one hand and GLW on the other hand. The second part of this session is a workshop focusing on the basic didactical skills.	UH	In-person		2	Interpersonal, Teaching

<a href="#">Teaching and Learning at University</a>	This is a comprehensive, research-based teaching skills development course for young PhD Students teaching at university level.	UL	In-person	Grégory Miras, UL	24	Interpersonal, Teaching
Prepare your students for real-life challenges: Cooperative and problem-based learning in higher education	This course provides an insight into student-centred teaching methodologies, such as problem-based learning and cooperative learning, to prepare students for critical thinking and problem solving and to increase students' employability.	ULE	Online	Leonore Peer, leonore.peer@unileoben.ac.at	22.30	Interpersonal, Teaching
<a href="#">Collaborating successfully with others</a>	This workshop is for those who want to collaborate, whether you want to work better within your team, across departments, universities, or groups, or to communicate more effectively in tricky circumstances.	UH	Online	Jamie McDonald, external expert	6	Interpersonal, Teamwork
<a href="#">Introduction to agile project management with scrum</a>	Our workshop "Introduction to agile project management with Scrum" teaches you a proven approach for complex projects. Scrum encourages a collaborative way of working and agile thinking to respond quickly to changes. We introduce the three roles of the Scrum framework and show how work is organised in short, iterative sprints. Daily stand-up meetings help keep an eye on progress and solve problems early. Scrum is based on continuous improvement and adapting to change.	MWHS	In-person		4	Management, Project management
<a href="#">Conducting your doctoral project</a>	Having the tools to act as a young project leader will contribute to a successful PhD. The objectives are having tools to manage your research project as a young project leader; approaching the PhD as a global project and developing a strategic implementation; and thinking about the educational aspect of your doctoral project.	UL	Online	ADOC Talent Management, UL	15	Management, Project management
<a href="#">Fast forward: Project management and personal productivity training for researchers (edition 2)</a>	This training is designed to help you implement an agile project and personal productivity system in your research projects. It will transform the way you work and help you achieve new levels of clarity, focus and momentum in your projects, while reducing your stress levels.	UH	Online	Nadine Sinclair, external expert	8.30	Management, Project management; Management, Time management; Self-management, Self-efficacy
<a href="#">Overcoming procrastination – getting things done</a>	In this highly interactive and confidential online workshop, we explore the possible origins of your procrastination, from the features of tasks that make them unappealing to your own personal map of meaning, avoidance and concerns that keep the unhelpful behaviour in place. We use this understanding as a basis for deriving effective goals that may help you overcome that habit and get the thing done. No promises, of course, and not without some challenge, but by implementing what you learn you'll give yourself a sounder prospect of success.	UH	Online	Jamie McDonald, external expert	3	Management, Time management; Self-management, Self-efficacy
Deep Learning with Keras/TensorFlow	In this workshop you will learn how to manage the tools of Keras and TensorFlow to manage Deep Learning.	SUT	In-person	Paweł Kasprowski, pawel.kasprowski@polsl.pl	30	Research, Data management
Statistical Design of Experiments	In this workshop, statistical design of experiments is developed.	SUT	In-person	Tomasz Krawczyk, tomasz.krawczyk@polsl.pl	15	Research, Data management
Data Visualisation	In this workshop, specific tools to visualise data will be developed.	TU-BAF	Online	Peter Heym, external expert	6	Research, Data management
An Introduction to Statistics and Statistical Thinking – an activity-	In this workshop, you will learn how to approach and answer questions such as "How do I correctly compare multiple groups? How sure can I be about my results? What influence does variation (the noise in the data)	TU-BAF	Online	Peter Heym, external expert	14	Research, Data management

based statistics workshop	have on my results? Was my sample size big enough at all? What if there are outliers in my data, and if there are, am I allowed to remove them?". Beside the questions that are of practical purposes you will learn ways how to better plan your experiment, defining minimum sample sizes, understanding the influence of variation and the effect on identifying outliers. Additionally, you will get to know terms like statistical significance, P values, confidence intervals, null hypothesis significance testing, T Tests and analysis of variance (ANOVA), as well as outlier tests and tests of normality.					
Advanced Topics in Time Series Analysis with R (Engineering/technology, including computer science)	Introduction to the R Programming Environment, Review of basic concepts in time series analysis, ARMA(p,q) Models, SARIMA models for time series with complex trends and periodicities,	TUC	In-person	D. Christopoulos, dchristopoulos@tuc.gr	30	Research, Data management
Big Data Processing and Analysis (Engineering/technology, including computer science)	Effective compression techniques for high-volume data sets: sampling, histograms, wavelets; Approximate query processing; Continuous data streams:	TUC	In-person	M. Garofalakis, mgarofalakis@tuc.gr	30	Research, Data management
Coding Theory (Engineering/technology, including computer science)	Principles of information theory (entropy, mutual information, capacity). Algebraic structures (group, ring, field, polynomial, finite field, vector space). Channel coding (channel code, error correction, linear code, generator matrix, dual code, parity-check matrix, syndrome decoding). Cyclic codes	TUC	In-person	G. Karystinos, gkarystinos@tuc.gr	30	Research, Data management
Machine Learning (Engineering/technology, including computer science)	Basic concepts of machine learning and statistics. Supervised learning: least mean squares (LMS), logistic regression, perceptron, Gaussian discriminant analysis, naive Bayes, support vector machines, model selection and feature selection, ensemble methods (bagging, boosting).	TUC	In-person	M. Lagoudakis, lagoudakis@tuc.gr	30	Research, Data management
Selected Topics in Databases (Engineering/technology, including computer science)	This course covers a selection of the following topics: Design and implementation issues in databases.	TUC	In-person	A. Deligiannakis, adeligiannakis@tuc.gr	30	Research, Data management
<a href="#">Research data management trainings (RDM)</a>	The UHasselt RDM team can give you advice on data management planning, policies, best practices, tools, etc. You can contact them directly with your questions and/or follow one or more of their trainings. For their course offer, more information and registration, see their training calendar.	UH	Hybrid		Continuous offer	Research, Data management
<a href="#">ARIES: Artificial Intelligence for Environment &amp; Sustainability</a>	Workshop on artificial intelligence for ecosystem services modelling with ARIES tool.	ULE	In-person	Basque Centre on Climate Change, external organization	3	Research, Data management
<a href="#">Design of Experiments</a>	The workshop covers a spectrum of basic concepts of statistics that are necessary to apply good scientific practice in one's own research and	TU-BAF	In-person	Peter Heym, external expert	14	Research, Disciplinary knowledge

	trains the ability to critically question one's own results as well as the results of others.					
<a href="#">How to get published (edition 2 - online)</a>	This self-paced online workshop will guide researchers through all stages of the publication process, allowing them to plan their writing and publication methods, and ultimately their career, with much greater care. This online version consists of prerecorded sessions and several assignments, with the help of online tools such as google sheets, google docs and an online forum. In addition, there will be a 45-minute individual session with Dr. Anton Froeyman for each participant, with many time slots to choose from.	UH	Online	Anton Froeyman, external expert	Continuous offer	Research, Disciplinary knowledge
<a href="#">How to get published (edition 3)</a>	The aim of this workshop is to guide young researchers through all stages of the publication process, allowing them to plan their writing and publication methods, and ultimately their career, with much greater care.	UH	In-person	Anton Froeyman, external expert	15	Research, Disciplinary knowledge
<a href="#">Method as critique: Two-day winter school on critical social science methodologies for studying power</a> (for Social sciences)	How do we grasp the ways in which power operates through affect, the psychosocial or capitalist ideology? What kind of masculine and Eurocentric assumptions are embedded in methodological virtues such as "objectivity" and "systematisation"? Are conventional social science methodologies able to fully capture embodied or repressed experiences of patriarchal violence? What measures are requisite for rendering Whiteness perceptible, considering its proclivity to operate beneath the guise of social neutrality? This course introduces junior researchers to various critical methodologies for studying power.	UH	In-person		14	Research, Disciplinary knowledge
<a href="#">The dissertation workshop: Finding and managing bibliographic references</a>	Acquire technical tools for the valorisation of research work	UL	In-person		5	Research, Disciplinary knowledge
<a href="#">Mind the GAP (Good Academic Practices) tool</a>	In the context of responsible research, Mind the GAP (Good Academic Practices) is a novel online training tool on research integrity aimed at PhD students and more experienced researchers, jointly developed by the five universities in Flanders, Belgium.	UH	Online		Continuous offer	Research, Ethics and integrity
<a href="#">Research integrity in scientific professions</a>	The objective of this training is to disseminate a culture of research integrity within institutions. Rather than passing on knowledge (this is not a learning process), it is a matter of raising awareness of the various issues associated with research integrity and encouraging a critical approach by proposing the basic elements necessary to understand and support the requirements of research integrity.	UL	Online		8	Research, Ethics and integrity
<a href="#">How might we use the circular economy approach to reach climate targets? – Creating Ideas with Design Thinking</a>	The climate change is one of the largest challenges in the world. As a result, environmental protection is of paramount importance and enables new technologies. A change could be offered by the circular economy approach. In the workshop you will work in small groups on the topic how might we use the circular economy approach to reach climate targets. After a short introduction to the challenges of climate change you create solutions by using the Design Thinking process. Design thinking is an agile innovation approach that helps you generate business ideas that work in	MWHS	In-person	Andre Uhlmann, head of the start-up network SAXEED at the TU-BAF	25.30	Research, Interdisciplinary research

	the real world. The key to design thinking lies in the mindset and in the personal attitude of those involved. We help you to go through the design thinking process with our own business idea.					
Circular economy	In this training, the fundamentals of circular economy will be established.	SUT	Online	Krzysztof Pikoń, krzysztof.pikon@polsl.pl		Research, Interdisciplinary research
<a href="#">KBC Winter School - Bright minds for social responsibility - 2023</a>	You want to apply your knowledge and ideas to real-world ESG challenges. You want to challenge yourself as part of an interdisciplinary team of PhD candidates and postdocs coming from different fields of expertise and different universities, to help you give your CV a competitive edge. You want to get an inside view of the corporate world, and reflect on labour market trends and challenges, corporate social responsibility (CSR), company culture, etc. You want to learn from PhDs coming from different academic backgrounds why they decided to transfer to the corporate world, which competences they brought to the work floor, and which competences still needed further developing. See full programme here. You want to expand your professional network.	UH	In-person		14	Research, Interdisciplinary research; Interpersonal, Teamwork; Interpersonal, Diversity awareness
<a href="#">EURECA-PRO Young Researchers Forum</a>	This event aimed at setting a benchmark for participants, within interpersonal transversal skills development, to explore multidisciplinary challenges and opportunities and innovative solutions about the United Nations Sustainable Development Goal number 12 on Responsible Consumption and Production (UN SDG 12).	ULE	In-person	EURECA-PRO and RE-EURECA-PRO at ULE	30.45	Research, Interdisciplinary research; Interpersonal, networking
Implementation of interdisciplinary Project Based Learning (PBL) projects	It was targeted at academics with an interest in acquiring the basic knowledge and skills to effectively implement interdisciplinary PBL programs in the academic curricula. The objective was to stimulate the educational process by solving real problems thus, connecting the learning process with its application in the real world.	ULE	In-person	Dariusz Buchczik, Dariusz.Buchczik@polsl.pl	40	Research, Interdisciplinary research
<a href="#">Version control with GitLab and open source licence selection for scripts and research software</a>	In this hands-on workshop you will learn the basics of software version control and apply these concepts to your scripts and software by using the GitLab version management system.  Additionally, you will learn how to select a suitable licence for your scripts, and verify its correctness, in an automated way. This is important when publishing code with commercialisation potential in the future.  This training is targeted towards the researchers who develop scripts and software but have little to no git, IT and Open Source Software (OSS) licensing knowledge.	UH	In-person	Emiliano Mancini, emiliano.mancini@uhasselt.be; and Naeem Muhammad, naeem.muhammad@kuleuven.be	2	Research, Open science
<a href="#">Open Science: the fundamentals about scientific publications</a>	5.5 hours of interactive training in small groups, combining theory and practice on Arche to be followed at your own pace, final quizzes used to validate the course and which you must have passed to be able to participate in the videoconference, and exchange time in videoconference to validate the two courses.	UL	Online	Trainers of the University of Lorraine Libraries	5.30	Research, Open science



<a href="#">Open Science: Discovering research data</a>	This training is available on Arche. To complete this module, you must attend a total of at least 6 hours of training: Survival Kit for the Research Data World and producing, managing, storing, disseminating research data.	UL	Online	Trainers of the UL Libraries and external speakers	6	Research, Open science
<a href="#">Library: training for Open Access, Archivework, library databases, etc.</a>	Training courses for researchers (individuals or groups) are offered by internal library staff and external library experts per demand and on request throughout the academic year.	MUL	In-person	Trainers from the MUL Library, <a href="mailto:univbibl@unileoben.ac.at">univbibl@unileoben.ac.at</a>	On demand	Research, Open science; Research, Disciplinary knowledge
<a href="#">My future after graduation in Germany</a>	This event is aimed at all international students who want to take up a profession in Germany after their studies or who want to start their own business. Together with namenlos! UG, we are organising a panel discussion with lectures on the topic of working in Germany after graduation for international students.	MWHS	In-person		4	Self-management, Career management
<a href="#">Academic Talent Development</a>	The main question this workshop centers around is: what does it take to become successful in academia? The aim is to increase the personal academic effectiveness and efficiency of starting academic researchers. What skills do you need in academia? how good are your current skills? How to get better skills? Which improvement is when needed? How can you realise the improvements?	UH	In-person	Eelko Huizingh, external expert	16	Self-management, Career planning
<a href="#">Managing my PhD (edition 3)</a>	In this workshop, by Joeri Wielandts (KU Leuven), you will explore how you can manage your doctoral research successfully as a whole, considering different expectations and roles while maintaining a good work life balance.	UH	In-person	Joeri Wielandts, <a href="mailto:joeri.wielandts@kuleuven.be">joeri.wielandts@kuleuven.be</a>	11	Self-management, Career planning
<a href="#">Individual career coaching</a>	A PhD degree opens a wide range of avenues for challenging and exciting job opportunities. Pursuing a career in academia is only one of the options. In a climate of innovation and growth, the qualities of young researchers are an excellent match to the needs of the labour market. Sometimes it is difficult, however, to find the right match on your own. To support PhD students and postdocs in their career development, individual career coaching is offered - through the doctoral schools (in collaboration with the career center), but by an external coach. There are approximately 12 available spots per year.	UH	Hybrid	Els Deboutte and Rilla Lysens, external experts	Continuous offer	Self-management, Career planning
<a href="#">Career development trajectory: Gain insight into your talents and ambitions</a>	This career coaching trajectory is meant to increase your insight into your own talents and ambitions, to assist you in preparing for a job interview, and to ultimately help you to be more successful at the labour market. The trajectory is guided by Dr Ilse van Damme (UHasselt Career Center) and comprises six half-day sessions, spread out over 3 months, with assignments to prepare at home in-between sessions.	UH	In-person	Ilse Van Damme, <a href="mailto:ilse.vandamme@uhasselt.be">ilse.vandamme@uhasselt.be</a>	33	Self-management, Career planning
<a href="#">Demonstrating your competences in your CV, LinkedIn profile and cover letter to convince your future employer</a>	This workshop will help you translate your rough ideas into unique and clear 'selling points'. These will help you to present yourself in such a way that any future employer understands how you can be of value to their organisation. At the end of the workshop, you will have an irresistible CV and LinkedIn profile, and you feel confident on how to communicate your	UH	In-person	Maike Taconis, external expert	7.30	Self-management, Career planning

	competences and skills during network conversations, interviews and in cover letters. You will be ready to apply for the next step in your career!					
<a href="#">Job Shadowing - 2023</a>	PhD candidates and postdocs who engage in job shadowing gain insight into the work routine of a professional, his/her role(s) and responsibilities and the company culture. Job shadowing provides a better (and nuanced) understanding of the skills and competencies needed to succeed and thrive in a particular job. In short, it allows to 'test-drive' a career. Job shadowing gives PhD candidates and postdocs an opportunity to: explore a career field and experience a typical day on the job – no strings attached; assess their "fit" with a particular position and/or organisation learn how to present and apply their expertise through discussions with professionals; and broaden their professional network.	UH	Online		6	Self-management, Career planning
<a href="#">Demonstrating your competences in your CV, LinkedIn profile and cover letter to convince your future employer (edition 2)</a>	This workshop will help you translate your rough ideas into unique and clear 'selling points'. These will help you to present yourself in such a way that any future employer understands how you can be of value to their organisation. At the end of the workshop, you will have an irresistible CV and LinkedIn profile, and you feel confident on how to communicate your competences and skills during network conversations, interviews and in cover letters. You will be ready to apply for the next step in your career!	UH	In-person	Maaïke Taconis, external expert	7.30	Self-management, Career planning
<a href="#">MOOC Doctorat et Poursuite de Carrière/PhD and Career Development</a>	During this training, participants will gain the following skills: - Identify, value and develop their skills/competencies - Develop their professional development project - Use/Create communication tools/support materials - Discover or optimise the use of professional social networks - Apply for targeted job offers and send unsolicited applications - Master new digital and collaborative tools - Promote the creation/Be part of a community of PhD students and holders based on sharing, collaboration and mutual aid.	UL	Online	PHDOOC, UL	12	Self-management, Career planning
<a href="#">Preparing your international mobility</a>	To guide PhD students in planning their international mobility project, considering their personal and professional objectives.	UL	Online	Kristina Berkut, UL	6	Self-management, Career planning
<a href="#">Bullet journaling as a tool for planning my research (edition 3)</a>	Every person has felt overwhelmed once in their life with all the tasks they have to accomplish, especially researchers that need to manage their projects (PhD students, postdocs, professors). Bullet journaling is an effective tool for planification that helps become more efficient in task management and gives a productivity boost. This workshop is relevant for any person who wish to get structure in his/her tasks and daily activity and help reach set objectives. By means of presentation, discussion and hands-on experience, the tool and will give practical and clear instructions to get started with your own bullet journal will be introduced. Every participant will receive a blank bullet journal at the start of the workshop (ruler and pen(s) to be brought by the participants).	UH	In-person	Joëlle De Weerd, joelle.de.weerd@vub.be	2	Self-management, Career planning; Management, Project management
<a href="#">Stress and resilience for researchers (edition 3)</a>	The aim of the first session of this workshop is to obtain a better understanding of how our stress system works and what the impact is of (chronic) stress on our brain and physical and mental health. We will explore the concept of resilience from different angles and discover ways	UH	In-person	Stephan Marchant, stephan.marchant@kuleuven.be	8	Self-management, Mental health

	to strengthen it. These insights provide inspiration to draw up a personal action plan that outlines what you want to do differently from now on to obtain a better sense of balance.					
<a href="#">Embracing your agency for change: Finding joy in the pursuit of a better world (PhDrinks)</a>	In this lecture, Professor Griet Verbeeck will share her personal journey spanning three decades of dedicated work for sustainability, including what she tries to realise as Sustainability Coordinator of UH, in close collaboration with a dedicated team of allies. She will encourage you to reflect upon your own journey thus far in research, and beyond, while equipping you with valuable tools and perspectives to discover your own unique place and role within the vital realm of societal, economic, or environmental transformation.	UH	In-person	Griet Verbeeck, griet.verbeeck@uhasselt.be	2.30	Self-management, Mental health
<a href="#">Hack your brain: Unlocking your true potential and bringing your best performance</a>	The workshop guides participants to find their low-energy-path, the path in life where one can excel with the least energy use or, in the best case, energy gain. To this purpose, this workshop focuses on two crucial self-development capacities.	UH	In-person	Karolien Notebaert, external expert	13.30	Self-management, Self-efficacy
<a href="#">Building effective habits (edition 2)</a>	In this workshop we will explore the science of building or changing habits and put theory into practice. You will be asked to perform a self-assessment diary study as prework to the workshop, so that in the workshop you can start working on changing your undesired habits to desired habits. Also, during the workshop, we will plan out the creation of a new habit and use scientifically proven approach to grow your efficacy with creating an effective habit.	UH	In-person		4	Self-management, Self-efficacy; Self-management, Mental health
<a href="#">Setting boundaries and priorities</a>	The program takes a thorough approach to help you deal with the difficulties of setting boundaries and to learn how to prioritise. You will get to know yourself better and challenge yourself to approach your work differently. Using a personality questionnaire (HPS360) and a mini-coaching session, you will learn why it is difficult to say no and/or why you have a hard time setting (and sticking to) priorities. During the program, we will pay attention to 'how to say it' (social skills in setting boundaries) as well as the internal experience (the discomfort) and work on your individual learning goals.	UH	Hybrid	Jonathan Fox, external expert	20.45	Self-management, Self-efficacy; Self-management, Mental health; Management, Time management

Source: own elaboration.

## 8 Annex II. Training courses in EURECA-PRO in local languages

Table A-II-1. Training courses in EURECA-PRO in local languages

Name of the training course	Category	Institution in charge
<a href="#">Process Glasses for Scientists</a>	Cognitive	MWHS
<a href="#">Using mind maps in doctoral studies</a>	Cognitive	UL
<a href="#">Zététique and intellectual self-defence</a>	Cognitive, Critical thinking	UL
Digital resources for learning and research in the Humanities	Cognitive, Learning	ULE
Agile learning applied to teaching work	Cognitive, Learning	ULE
Learning, understanding, reasoning... keys to learning for deep understanding	Cognitive, Learning	ULE
Special Topics in Information & Decision Systems	Cognitive, Problem solving	TUC
Problem Solving Methods in Management	Cognitive, Problem solving	TUC
Multicriteria Decision Systems	Cognitive, Problem solving	TUC
<a href="#">Storytelling</a>	Communication, oral	MWHS
Communicate confidently and at eye level, even in conflicts	Communication; Interpersonal	MWHS
<a href="#">Developing individual and group communication skills - Nancy</a>	Communication, For nontechnical audiences	UL
<a href="#">Experimentarium</a>	Communication, For nontechnical audiences	UL
<a href="#">Science &amp; Media: learning to write for the general public</a>	Communication, For nontechnical audiences	UL
<a href="#">Science and comics</a>	Communication, For nontechnical audiences	UL
<a href="#">Health: talking to the general public about your research</a>	Communication, For nontechnical audiences	UL
<a href="#">Take a tour of your research laboratory</a>	Communication, For nontechnical audiences	UL
<a href="#">Creating a Twitch programme about research</a>	Communication, For nontechnical audiences	UL
<a href="#">Media training: communicating with the media</a>	Communication, For nontechnical audiences	UL
Strategies to increase the visibility and impact of scientific production	Communication, For nontechnical audiences	ULE
The first steps to disseminate your research like a professional	Communication, For nontechnical audiences	ULE
LinkedIn for researchers and teachers	Communication, For nontechnical audiences	ULE
Effective use of social networks in the university environment: are they all for the same purpose?	Communication, For nontechnical audiences	ULE
Get closer to the German language	Communication, In other languages	ULE
Development of language skills specific to scientific communication in English	Communication, In other languages	UP
<a href="#">Pitch training</a>	Communication, oral	MWHS
<a href="#">Communication and rhetoric</a>	Communication, oral	MWHS

<a href="#">Quick-wittedness</a>	Communication, Oral	MWHS
<a href="#">Communicate with Impact: The workshop for rhetoric, self-marketing and a confident appearance</a>	Communication, Oral	MWHS
<a href="#">Voice training</a>	Communication, oral	MWHS
<a href="#">Public speaking (face-to-face) - Metz</a>	Communication, Oral	UL
<a href="#">Public Speaking Workshop (face-to-face)</a>	Communication, Oral	UL
<a href="#">Public speaking (Nancy)</a>	Communication, Oral	UL
<a href="#">Public speaking (Metz)</a>	Communication, Oral	UL
<a href="#">Oral scientific communication</a>	Communication, Oral	UL
<a href="#">My thesis in 180 seconds</a>	Communication, Oral	UL
<a href="#">Face-to-faces: doctoral students share their research</a>	Communication, Oral	UL
Present your research quickly and effectively. Edition 1	Communication, Oral	ULE
Present your research quickly and effectively. Issue 2	Communication, Oral	ULE
Basic communication skills for your presentations as a researcher.	Communication, Oral	ULE
Basic seminar on science communication as part of the workshop on science communication	Communication, Oral; Communication, For nontechnical audiences	TU-BAF
<a href="#">Pitch Perfect - Presenting start-up ideas successfully</a>	Communication, Oral; Impact, Entrepreneurship	MWHS
Psycho-corporal care of the voice	Communication, Oral; Self-management, Mental Health	ULE
<a href="#">The dissertation workshop: The essentials of dissertation writing</a>	Communication, Writing	UL
<a href="#">Writing retreat</a>	Communication, Writing	UL
<a href="#">Constructing and writing a scientific article (in social and clinical sciences)</a>	Communication, Writing	UL
<a href="#">Designing and communicating with a poster (Nancy)</a>	Communication, Writing	UL
<a href="#">Designing and communicating with a poster (Metz)</a>	Communication, Writing	UL
Formal rules and practical keys for the writing of scientific texts in Science and Health Sciences	Communication, Writing	ULE
Scientific language and linguistic correctness for research papers	Communication, Writing	ULE
Formal rules and key practices for the writing of scientific texts in Science and Health Sciences	Communication, Writing	ULE
<a href="#">Strategic training "digital transfer"</a>	Impact, Commercialisation	MWHS
Audit in business management	Impact, Commercialisation and transfer of knowledge	SUT
Business economics in practice	Impact, Commercialisation and transfer of knowledge	SUT
<a href="#">Discover intellectual property</a>	Impact, Commercialisation	UL
<a href="#">Industrial contracts and patents</a>	Impact, Commercialisation	UL

<a href="#">Verwertungsschool - Kick-off event (online)</a>	Impact, Commercialisation and transfer of knowledge	MWHS
<a href="#">Business models</a>	Impact, Entrepreneurship	MWHS
<a href="#">Prototyping</a>	Impact, Entrepreneurship	MWHS
<a href="#">Are you already deciding systematically?</a>	Impact, Entrepreneurship	MWHS
<a href="#">Storytelling</a>	Impact, Entrepreneurship	MWHS
<a href="#">Video production</a>	Impact, Entrepreneurship	MWHS
<a href="#">Business plan</a>	Impact, Entrepreneurship	MWHS
<a href="#">Design Thinking</a>	Impact, Entrepreneurship	MWHS
<a href="#">From the digital mindset to the digital business model</a>	Impact, Entrepreneurship	MWHS
<a href="#">B2B Marketing</a>	Impact, Entrepreneurship	MWHS
<a href="#">Start-up financing (lecture)</a>	Impact, Entrepreneurship	MWHS
<a href="#">Start-Up: Basic knowledge for starting a business</a>	Impact, Entrepreneurship	MWHS
<a href="#">Start-up financing (exercise)</a>	Impact, Entrepreneurship	MWHS
<a href="#">Plan, Launch, Succeed: The workshop for a strong business plan and successful start-up</a>	Impact, Entrepreneurship	MWHS
<a href="#">Industry meets Start-up</a>	Impact, Entrepreneurship	MWHS
<a href="#">SAXEED goes GRÜNDERZEIT Vibes Zwickau</a>	Impact, Entrepreneurship	MWHS
<a href="#">Freelancer - Freelance work while studying!</a>	Impact, Entrepreneurship	MWHS
<a href="#">From idea to app</a>	Impact, Entrepreneurship	MWHS
<a href="#">Fail night</a>	Impact, Entrepreneurship	MWHS
Web-Based Data for Sustainability and Entrepreneurship	Impact, Entrepreneurship	TUC
Business Intelligence and Data Analytics	Impact, Entrepreneurship	TUC
Entrepreneurship and Business Evolution	Impact, Entrepreneurship	TUC
Service Quality and Customer Satisfaction	Impact, Entrepreneurship	TUC
<a href="#">Try your hand at entrepreneurship</a>	Impact, Entrepreneurship	UL
<a href="#">From Research to Innovation</a>	Impact, Innovation	MWHS
<a href="#">48 hours to bring ideas to life</a>	Impact, Innovation	UL
<a href="#">Strategic digital intelligence</a>	Impact, Innovation	UL
<a href="#">Rise Above: The workshop to strengthen resilience and overcome challenges</a>	Interpersonal, Diversity awareness	MWHS
Goal-oriented conversations with (international) students	Interpersonal, Diversity awareness	TU-BAF
<a href="#">Mastering intercultural situations: understanding them, managing interactions within a team, becoming aware of the scientific presuppositions of one's own culture.</a>	Interpersonal, Diversity awareness	UL

Equality plans as an instrument to achieve effective equality between women and men. Edition 2	Interpersonal, Diversity awareness	ULE
Appreciative communication for managers	Interpersonal, Leadership	TU-BAF
Leadership and Team Development - Success Factors of Teams in Times of Complexity and Change	Interpersonal, Leadership; Interpersonal, Teamwork	TU-BAF
<a href="#">Conflict management in science</a>	Interpersonal, Leadership; Interpersonal, Teamwork	TU-BAF
<a href="#">Research day</a>	Interpersonal, Networking	MWHS
<a href="#">Mittweida Night of Science</a>	Interpersonal, Networking	MWHS
<a href="#">23rd Young Researcher Conference</a>	Interpersonal, Networking	MWHS
<a href="#">The dissertation workshop: Managing your digital identity and organising your thoughts</a>	Interpersonal, Networking	UL
<a href="#">Researchers and networking</a>	Interpersonal, Networking	UL
<a href="#">Alumni network: networking tools and services</a>	Interpersonal, Networking	UL
<a href="#">SOIP "Preorientation" training from the alumni network's mentoring programme</a>	Interpersonal, Networking	UL
DigiLab OBS basic and advanced course	Interpersonal, Teaching	MWHS
DigiLab student activation in online seminars	Interpersonal, Teaching	MWHS
DigiLab Moodle	Interpersonal, Teaching	MWHS
DigiLab Opal	Interpersonal, Teaching	MWHS
Seminar Advising and Guiding	Interpersonal, Teaching	MWHS
Digital Workspace: Teaching and learning in hybrid events.	Interpersonal, Teaching	MWHS
Digital workspace: activation in video conferences.	Interpersonal, Teaching	MWHS
Digital workspace: making digital teaching come alive- improvisation techniques for synchronous teaching.	Interpersonal, Teaching	MWHS
<a href="#">Evaluation in teaching</a>	Interpersonal, Teaching	TU-BAF
<a href="#">Examination, evaluation and assessment of student performance</a>	Interpersonal, Teaching	TU-BAF
Introduction to university teaching - one-week seminar ( <a href="#">stage 1</a> )	Interpersonal, Teaching	UL
<a href="#">Introduction to university teaching: building a course, leading it, evaluating (stage 1) - Online</a>	Interpersonal, Teaching	UL
<a href="#">Introduction to university teaching: building a course, leading it, evaluating (stage 1)</a>	Interpersonal, Teaching	UL
<a href="#">Teaching and learning with digital technology: first discoveries (stage 1)</a>	Interpersonal, Teaching	UL
<a href="#">Teaching and learning with digital technology: first discoveries, Metz (stage1)</a>	Interpersonal, Teaching	UL
<a href="#">Teaching and learning with digital technology: towards hybrid practices (stage 2)</a>	Interpersonal, Teaching	UL
<a href="#">Examining teaching practices by analysing videos of university teachers (stage 2)</a>	Interpersonal, Teaching	UL
<a href="#">The teaching skills of the teacher-researcher: teaching project and collaborative and reflective approaches (stage 3)</a>	Interpersonal, Teaching	UL
<a href="#">Tutoring doctoral students new to teaching (stage 3)</a>	Interpersonal, Teaching	UL

<a href="#">Tutoring doctoral students new to teaching</a>	Interpersonal, Teaching	UL
<a href="#">MOOC Training to teach in higher education</a>	Interpersonal, Teaching	UL
Educational pills for university teaching	Interpersonal, Teaching	ULE
Digital video editing for the development of teaching materials	Interpersonal, Teaching	ULE
Introduction to Smowl. Steps for its correct use in online teaching	Interpersonal, Teaching	ULE
Introduction to Smowl: steps to its correct use in online teaching	Interpersonal, Teaching	ULE
Design and test your gamified class	Interpersonal, Teaching	ULE
VI Conference on Innovation in University Teaching	Interpersonal, Teaching	ULE
Artificial Intelligence platforms and agents in higher education	Interpersonal, Teaching	ULE
Augmented and mixed reality in higher education	Interpersonal, Teaching	ULE
Application of the Scientific Method in educational innovation projects and experiences.	Interpersonal, Teaching	ULE
Applications of artificial intelligence in education. Interuniversity course	Interpersonal, Teaching	ULE
Service-learning methodology and social responsibility: a way of transferring knowledge from teaching.	Interpersonal, Teaching	ULE
Applications of artificial intelligence in education. Edition 2	Interpersonal, Teaching	ULE
Applications of artificial intelligence in education. Edition 3	Interpersonal, Teaching	ULE
Course on creativity in the classroom	Interpersonal, Teaching; Cognitive, Creativity	ULE
How to easily generate educational videos and multimedia elements for students.	Interpersonal, Teaching; Communication, For nontechnical audiences	ULE
ChatGPT: what is it, how does it work and how to use it in research and teaching?	Interpersonal, Teaching; Research, Disciplinary knowledge	ULE
ChatGPT: what it is, how it works and how to use it in research and teaching. Ponferrada Edition	Interpersonal, Teaching; Research, Disciplinary knowledge	ULE
ChatGPT: what it is, how it works and how to use it in research and teaching? (Edition 2)	Interpersonal, Teaching; Research, Disciplinary knowledge	ULE
<a href="#">Team development</a>	Interpersonal, Teamwork	MWHS
<a href="#">Introduction to setting up a collaborative project based on a call for projects: the example of a European project (classroom-based)</a>	Interpersonal, Teamwork+	UL
<a href="#">The fundamentals of team and project management - Nancy</a>	Interpersonal, Teamwork+; Management, Project	UL
<a href="#">Human issues in project management and prevention of RPS</a>	Management, Project	UL
<a href="#">Setting up a scientific outreach project</a>	Management, Project	UL
<a href="#">Project management</a>	Management, Project management	MWHS
Decision Theory	Management, Project management	SUT
Project management for PhD students	Management, Project management	TU-BAF
Project management in a scientific context	Management, Project management	TU-BAF



<a href="#">Building your doctoral project</a>	Management, Project management	UL
<a href="#">MOOC Project Management</a>	Management, Project management	UL
Introduction to agile methodologies for project management and decision making	Management, Project management	ULE
<a href="#">SJPEG 23 003 - Introduction to research funding</a>	Management, Resource management	UL
Multicriteria Analysis And Financial Decisions	Management, Resource management; Cognitive, Problem solving	TUC
<a href="#">Finishing your thesis on time</a>	Management, Time management	UL
<a href="#">Quantitative data evaluation</a>	Research, Data management	MWHS
<a href="#">Blockchain Autumn School</a>	Research, Data management	MWHS
<a href="#">Workshop for Computational Intelligence</a>	Research, Data management	MWHS
Advanced Numerical Analysis	Research, Data management	TUC
<a href="#">Collecting and analysing SHS data</a>	Research, Data management	UL
<a href="#">Statistical modelling in SHS - Initial course</a>	Research, Data management	UL
<a href="#">Statistical modelling in SHS - Advanced course</a>	Research, Data management	UL
Web Scraping with Python	Research, Data management	ULE
Introduction to statistical analysis with SPSS. PhD	Research, Data management	ULE
Association and hypothesis testing with SPSS	Research, Data management	ULE
Handling R as if it were SPSS for the thesis: Introduction to R Commander	Research, Data management	ULE
Introduction to mediation and moderation analysis	Research, Data management	ULE
Handling R as if it were SPSS: Introduction to R Commander	Research, Data management	ULE
Data processing methods and techniques in engineering	Research, Data management	UP
Data processing and visualisation for teaching and research. Part I: Microsoft Excel	Research, Data management; Interpersonal, Teaching	ULE
Data processing and visualisation for teaching and research. Part II: Flourish	Research, Data management; Interpersonal, Teaching	ULE
Coaching sessions on scientific publishing	Research, Disciplinary knowledge	MWHS
Research methodology	Research, Disciplinary knowledge	SUT
Preparation and publication of scientific articles	Research, Disciplinary knowledge	SUT
Preparation and publication of scientific articles	Research, Disciplinary knowledge	SUT
Preparation and publication of scientific articles	Research, Disciplinary knowledge	SUT
Preparing and publishing scientific articles	Research, Disciplinary knowledge	SUT
<a href="#">Thesis workshop: Finding the information you need for your research</a>	Research, Disciplinary knowledge	UL
<a href="#">The dissertation workshop: Finding and managing bibliographic references</a>	Research, Disciplinary knowledge	UL

<a href="#">SJPEG 23 002 - Publishing in Management Sciences</a>	Research, Disciplinary knowledge	UL
<a href="#">LaTeX: a useful tool for the researcher</a>	Research, Disciplinary knowledge	UL
<a href="#">Advanced LATEX: advanced graphics with TikZ&amp;eC</a>	Research, Disciplinary knowledge	UL
<a href="#">Istex for PhD students: one resource for two uses (Initial module)</a>	Research, Disciplinary knowledge	UL
<a href="#">Istex for PhD students: one resource for two uses (Advanced module)</a>	Research, Disciplinary knowledge	UL
How to register clinical and theoretical research protocols	Research, Disciplinary knowledge	ULE
Basic concepts for publishing your research from the perspective of an editor and reviewer of scientific journals	Research, Disciplinary knowledge	ULE
The citation system in scientific publishing	Research, Disciplinary knowledge	ULE
Bibliography management with the new Mendeley Reference Manager (PhD)	Research, Disciplinary knowledge	ULE
Writing systematic reviews in the fields of biology and biosciences	Research, Disciplinary knowledge	ULE
Multidimensional analysis with SPSS	Research, Disciplinary knowledge	ULE
How to register clinical and theoretical research protocols	Research, Disciplinary knowledge	ULE
Tips for publishing your research from the perspective of an associate editor of JCR-indexed journals	Research, Disciplinary knowledge	ULE
The citation system in scientific publishing	Research, Disciplinary knowledge	ULE
The citation system in scientific publishing. Edition 2	Research, Disciplinary knowledge	ULE
How to elaborate, interpret and perform a meta-analysis	Research, Disciplinary knowledge	ULE
On-line tools for the elaboration of a systematic review of the literature (SLR)	Research, Disciplinary knowledge	ULE
Searching for scientific information in the fields of Science and Engineering	Research, Disciplinary knowledge	ULE
Searching for scientific information in the areas of Humanities and Social Sciences	Research, Disciplinary knowledge	ULE
Introduction to Qualitative Research: basics and methods	Research, Disciplinary knowledge	ULE
Technical and personal tools for publishing in high-impact journals	Research, Disciplinary knowledge	ULE
Manage your bibliographic references with Zotero	Research, Disciplinary knowledge	ULE
Bibliography management with the new Mendeley Reference Manager (PDI)	Research, Disciplinary knowledge	ULE
Manage your bibliographic references with Zotero (Edition 2)	Research, Disciplinary knowledge	ULE
Impact and citation indexes for scientific activity evaluation processes: sexennials and accreditations. Edition 1	Research, Disciplinary knowledge	ULE
Preparing a systematic review of the literature	Research, Disciplinary knowledge	ULE
Trends in peer review for scientific evaluation. Interuniversity course.	Research, Disciplinary knowledge	ULE
Bibliography management with the new Mendeley Reference Manager. Ponferrada Edition	Research, Disciplinary knowledge	ULE
Doctoral scientific research methodology. Drafting of the doctoral thesis. Intellectual property	Research, Disciplinary knowledge	UP
Digital tools and resources for survival in the humanities	Research, Disciplinary knowledge; Communication, Writing	ULE
Economic, legal and ethical context of scientific activity	Research, Ethics and integrity	SUT

Economic, legal and ethical conditioning of scientific activity	Research, Ethics and integrity	SUT
<a href="#">Controversy and scientific truth</a>	Research, Ethics and integrity	UL
<a href="#">Reflective practice in SHS research and scientific integrity</a>	Research, Ethics and integrity	UL
<a href="#">The research file submitted to the CPP (Comité de Protection des Personnes)</a>	Research, Ethics and integrity	UL
<a href="#">Culture of scientific integrity</a>	Research, Ethics and integrity	UL
<a href="#">Scientific integrity in scientific professions (FR)</a>	Research, Ethics and integrity	UL
<a href="#">Research ethics</a>	Research, Ethics and integrity	UL
<a href="#">Discovering scientific mediation</a>	Research, Ethics and integrity	UL
<a href="#">Science mediation summer school - ComScicon France</a>	Research, Ethics and integrity	UL
Licensing of scientific information	Research, Ethics and integrity	ULE
Licensing of scientific information (Edition 2)	Research, Ethics and integrity	ULE
Information security. PDI Edition	Research, Ethics and integrity	ULE
Ethics and academic integrity	Research, Ethics and integrity	UP
<a href="#">Doctoriales 4.0</a>	Research, Interdisciplinarity	UL
<a href="#">WE:CONSTRUCT - circular innovation challenge 2023</a>	Research, Interdisciplinary research	MWHS
<a href="#">Scientists' regulars' table at the WHZ</a>	Research, Interdisciplinary research	MWHS
Fundamentals of sustainable development - economic, social and ecological aspects	Research, Interdisciplinary research	SUT
Special Forecasting Topics: Innovative Economies And Societies	Research, Interdisciplinary research	TUC
<a href="#">Open Science: presentation and scientific publications</a>	Research, Open science	UL
<a href="#">Open Science: Discovering research data</a>	Research, Open science	UL
<a href="#">Open Science: communicating and promoting your research work online</a>	Research, Open science	UL
<a href="#">Open Science: The proper use of bibliometrics</a>	Research, Open science	UL
<a href="#">Open Science: Managing copyright as a doctoral student</a>	Research, Open science	UL
Challenges and responsibilities of the researcher in the face of the Open Science postulates	Research, Open science	ULE
<a href="#">Scholarship Application Training</a>	Self-management, Career management	TU-BAF
<a href="#">Applying in business - focus on job references</a>	Self-management, Career management	TU-BAF
<a href="#">Applying in business - focus on salary negotiation</a>	Self-management, Career management	TU-BAF
<a href="#">How to Promotion</a>	Self-management, Career management	TU-BAF
<a href="#">Professional integration and job search techniques</a>	Self-management, Career planning	UL
<a href="#">Identifying professional prospects linked to your doctorate</a>	Self-management, Career planning	UL
<a href="#">The job of International Consultant</a>	Self-management, Career planning	UL

<a href="#">Careers in academic research (distance learning)</a>	Self-management, Career planning	UL
<a href="#">Careers in R&amp;D</a>	Self-management, Career planning	UL
<a href="#">Alumni Webinars: career opportunities after thesis</a>	Self-management, Career planning	UL
<a href="#">Confident appearance</a>	Self-management, Mental health	MWHS
<a href="#">EmpowerHER: A workshop on empowering women and realising their full potential</a>	Self-management, Mental health	MWHS
<a href="#">Counter cleverly, react calmly - A little school of repartee</a>	Self-management, Mental health	MWHS
<a href="#">Archery</a>	Self-management, Mental health	TU-BAF
Who am I? - Recognising and using strengths and personality	Self-management, Mental health	TU-BAF
<a href="#">Managing mental workload in a PhD - online</a>	Self-management, Mental health	UL
Emotional health kit for teachers	Self-management, Mental health	ULE
Improving occupational health at the workplace: ergonomics at the workplace, awkward postures.	Self-management, Mental health	ULE
Mental health with a gender perspective. Edition 6	Self-management, Mental health	ULE
Mental health with a gender perspective. Edition 9	Self-management, Mental health	ULE
Mental health with a gender perspective. Issue 11	Self-management, Mental health	ULE
A or B? Decide now! Motivating asynchronous teaching with interactive explanatory films	Self-management, Self-efficacy	MWHS
<a href="#">Add value to your skills - Online</a>	Self-management, Self-efficacy	UL
<a href="#">Developing and asserting your skills</a>	Self-management, Self-efficacy	UL
Google Chrome: useful extensions if you are a researcher	Self-management, Self-efficacy	ULE
How to get the most out of Google search	Self-management, Self-efficacy	ULE
Lean tools for optimising productivity in teaching: Lean Thinking	Self-management, Self-efficacy; Interpersonal, Teaching	ULE

Source: own elaboration.

## 9 Annex III. Transversal skills rubrics and definitions

### 9.1.1 Management competences

#### 9.1.1.1 Project management

Manage and plan different resources needed for specific projects, such as personnel, budget, deadline, results, and quality, as well as use project management tools to monitor progress to achieve specific objectives within a set time and budget (European Commission, 2023).

Table A-III-1 shows the rubric of these skills.

**Table A-III-1. Project management**

Foundational	Intermediate	Advanced	Expert
Know about project, planning, prioritisation, and organisation methodologies.	Productively use project management tools.	Identify synergies among multiple projects.	Are in charge of designing the project management for distinguished research projects.
Collaborate on projects and meet deadlines.	Manage their own research projects. Detect and address risks properly.	Anticipate and manage conflicts within the team and other stakeholders. Support less experienced researchers in project management.	Manage complex projects in which unpopular but well-argued decisions must be taken. Are acknowledged as brilliant project managers.

Source: European Commission (2023).

#### 9.1.1.2 Time management

Determine the level of importance of tasks and give them priority to establish schedules and carry out work autonomously to achieve the requirements needed (European Commission, 2023). Table A-III-2 shows the rubric of these skills.

**Table A-III-2. Time management**

Foundational	Intermediate	Advanced	Expert
Know about the different time management methodologies and acknowledge the importance of working in a sustainable way.	Maintain a sustainable work-life balance and participate in creating sustainable work environments (European Commission, 2022).	Their own time management skills are well-established. Assess their own impact on the work environment and support others (European Commission, 2022).	Are key individuals in terms of coaching on time management.
Correctly apply time management methods to their own and other simple research projects.	Strategically apply their own time management systems. Prioritise, plan, and schedule. Are forward-thinking and flexible (European Commission, 2022).	Manage several complex projects in a sustainable way for them and others. Detect synergies among projects to balance constraints and opportunities in terms of managing time efficiently and productively.	Are renowned for designing sustainable work environments with work-life balance.
Although work autonomously planning projects to meet objectives, seek support if needed in terms of adapting the schedule (European Commission, 2022).	Deal with and adapt to unforeseen changes. Seek advice and reassurance if needed.	Demand prioritisation in sustainable ways to work-life balance (European Commission, 2022).	Prioritise and control many complex projects. Anticipate unexpected changes in a smooth, balanced and sustainably way.  Strategically apply a long-term vision and prove evidence for the importance of implementing more sustainable approaches (European Commission, 2022).

Source: European Commission (2023).

### 9.1.1.3 Resource management

Detect relevant sources of funding and prepare applications for research grants to obtain funds and grants, as well as managing techniques to convince potential investors (in the organisation or external) to fund research initiatives (European Commission, 2023). Table A-III-3 shows the rubric of these skills.

**Table A-III-3. Resource management**

Foundational	Intermediate	Advanced	Expert
Know about the available funding sources (European Commission, 2023). Also know about the procedures for funding and evaluation of research (European Commission, 2022).	Are aware of the importance of funding and its impact on their institution and own research (European Commission, 2022).	Perceive a wider economic context (European Commission, 2022).	Have an impact on funding policy within their own research field (European Commission, 2023), the higher education and other professional associations (European Commission, 2022).
Participate in the design of research proposals.	Are involved with funding sources and their application procedures.	Support other researchers about funding opportunities and their application procedures.	Lead prestigious international and interdisciplinary alliances' applications.
	Control the application for small research grants and fellowships and participate in larger ones.	Lead big alliances and their procedures.	Are significant subjects in terms of funding for their own institution.
		Are active contributors in terms of funding on their own institution.	

Source: European Commission (2023).

## 9.1.2 Communication competences

### 9.1.2.1 Writing

Organise ideas, arguments, and decisions in a written, readable, and correct language, as well as edit research considering the layout, typography, structure, and complexity of the texts, all adapted to the target audience (Van Damme & Kerkhofs, 2017). Table A-III-4 shows the rubric of these skills.

**Table A-III-4. Writing**

Foundational	Intermediate	Advanced	Expert
Participate under supervision, to create content for research in an appropriate style (article, grant, proposal, book chapter, etc.).	Apply the literacy requirements for different target groups and objectives (European Commission, 2022)	Demonstrate an advanced academic writing level and literacy in a wide range of context communication channels (European Commission, 2022).	Demonstrate an advanced academic writing level in related disciplines outside their primary discipline. Support others from other research areas and outside academia.
Are confident with academic publishing processes and tools.	Communicate in an appropriate style to academics and nonspecialist audiences (European Commission, 2023). Present complex ideas in a readable and clear way (European Commission, 2022).	Lead a significant production of research literature.	Are renowned for their writing skills. Have an impact on innovate writing tools and methodologies also outside academia.
	Support less experienced researchers in writing skills.	Excel the academic publishing tools and procedures.	
	Assess other academic and technical texts in their own research area.	Assess other academic and technical texts in their own and different research areas.	

Source: European Commission (2023).

#### 9.1.2.2 Oral

Oral skills include the ability to understand and engage in a discipline's discourses and rhetorical situations by delivering formal oral presentations or performances and to express and interpret ideas—both their own and those of others—in clear oral presentations or performances. Express and interpret ideas, both their own and others, in a clear oral presentation or performance, as well as understanding and participating in different discipline discourses and rhetorical situations by conducting formal oral presentations and performances (Loyola Marymount University, 2023). Table A-III-5 shows the rubric of these skills.



**Table A-III-5. Oral**

Foundational	Intermediate	Advanced	Expert
Develop and convey ideas, theories, arguments, and results in an understandable adapted way to the listener.	Find contact with the audience. Encourage communication and interactions among the audience.	Easily make complex issues accessible. Pay attention to the structure of their message and adapt their approach to any situation.	Are known as proficient orators and presenters and train others inside and outside academia.
Make presentations and present in an interesting way. Use storytelling.	Implement persuasive and well-structured arguments and reasoning. Make use of pertinent and convincing examples and comparisons.	Strategically engage in knowledge exchange.	
Respond appropriately to questions.	Strategically adapt audio-visual aids to the target audience.	Purposely pay attention to body language of the audience. Show appropriate nonverbal behaviour in terms of eye contact and posture and adapt their voice in terms of volume and intonation.	
	Demonstrate professionalism and self-confidence.	Support other less experienced researchers.	

Source: Van Damme & Kerkhofs (2017).

### 9.1.2.3 Communication in other languages

Communication in other languages is defined as the proficient knowledge of other languages for research and career development (Van Damme & Kerkhofs, 2017). The Common European Framework of Reference for Languages (CEFR) (Council of Europe, 2023) should be used to assess communication skills in languages other than one's native tongue. This framework evaluates proficiency in four key areas: writing, listening, grammar, and oral expression. The proficiency levels range from A1 (starter) to C2 (proficient).

#### 9.1.2.4 Communication for nontechnical audiences

Communicate research, through visual presentations and various forms of written, spoken, and digital communication, to a nonscientific audience, such as the general public, the industry, or the public administration, being able to adapt scientific concepts, debates, and findings (European Commission, 2023). Table A-III-6 shows the rubric of these skills.

**Table A-III-6. Communication for nontechnical audiences**

Foundational	Intermediate	Advanced	Expert
Value the importance of engaging with the public.	Acknowledge the beneficial effects of public engagement in research.	Demand and foster environments where the public engagement is present.	Support organisations for the setup of public engagement campaigns.
Listen with attention and speak with intention.	Actively participate in the promotion of the public understanding of their research.	Control the public's image of their research area.	Have an impact on the whole society, with the power to transform the conventional approach (Knowledge4Policy, 2023).
Differentiate between scientific and nonscientific arguments.	Provides value, evidence, and policy recommendations with an impact on legislation and outside academia (Knowledge4Policy, 2023).	Lead important public engagement projects.	Are known for communicating scientific topics in a charismatic and interesting way inside and outside academia.
Show their own research in small events.		Convey complex issues in briefings in an understandable and enriching way with policy and political implications (Knowledge4Policy, 2023).	
Adapt their message regarding the organisation in question (Knowledge4Policy, 2023).		Support other researchers with less experience.	

Source: European Commission (2023).

### 9.1.3 Interpersonal competences

#### 9.1.3.1 Teamwork

Work confidently and efficiently within a team, with each doing their part contributing to the team objectives (European Commission, 2023).

Table A-III-7 shows the rubric of these skills.

**Table A-III-7. Teamwork**

Foundational	Intermediate	Advanced	Expert
Identify the differences in working methodologies within teams. Considers the needs of others.  Appreciate the impact of own behaviour on teamwork.	Purposefully empathise and know their priorities and those of own coworkers. Cooperate in a healthy work environment to optimise the results.  Acknowledge the importance of team leadership and know their role.	Are active listeners and can detect and enhance qualities and abilities of the members of the team. Collaborate in an effective and comprehensive way, sharing and communicating the area of expertise with other research fields and stakeholders.  Maintain active attention to the opportunities and threats regarding working in teams and networks. Follow team dynamics and manage conflicts.	Influence the team working environment at their surrounding environment (at a departmental and institutional level).  Lead successful teams.  Can design and applying comprehensive long-term models and strategies where all partners/members are comfortable while getting the best out of each one.

Source: European Commission (2023).

### 9.1.3.2 Leadership

Manage people align their collective direction, develop strategic plans, and constantly renew an organisation (McKinsey, 2022). Table A-III-8 shows the rubric of these skills.

**Table A-III-8. Leadership**

Foundational	Intermediate	Advanced	Expert
Recognise leadership styles and interact accordingly.	Develop their own leadership style (Van Damme & Kerkhofs, 2017).	Interact adequately with others from other disciplinary areas (European Commission, 2023) and stakeholders outside academia (Van Damme & Kerkhofs, 2017) .	Are recognised for own effective leadership styles.
Can define objectives and agreements, monitor, and assign tasks in a way in which it is known what to expect from them (Van Damme & Kerkhofs, 2017).	Recognise contributions of others and use them strategically and goal-oriented (Van Damme & Kerkhofs, 2017).	Take responsibility for building and leading teams and delegate strategically (Nowell et al., 2021).	Are references in terms of communication. Empower others and foster their autonomy (Van Damme & Kerkhofs, 2017).
Accept others' opinions, are inclusive and have no prejudices.	Manage the positive behaviours of coworkers to achieve better collaborative results.	Support the development of less experienced researchers (European Commission, 2023). Can adapt their own style to the needs of others, taking on different roles, such as mentor, supervisor, and coach (Van Damme & Kerkhofs, 2017).	Have significant impact on innovation, creativity, problem solving, and relationship-building.

Source: European Commission (2023).

### 9.1.3.3 Networking

Develop contacts, partnerships, and alliances to exchange information, foster collaborations, and cocreate shared value, research, and innovation with different stakeholders. Develop personal branding and position oneself in networking environments (European Commission, 2023). Table A-III-9 shows the rubric of these skills.

**Table A-III-9. Networking**

Foundational	Intermediate	Advanced	Expert
Understand professional socialisation (Nowell et al., 2021).	Develop collaborative networks in cross-disciplinary teams.	Engage with stakeholders outside academia.	Are references creating and leading collaboration within and outside the own institution.
Value collaborative work and are accessible.	Consider the inclusion in networks (European Commission, 2023; Van Damme & Kerkhofs, 2017).	Develop advantageous networks connected to specific research interests.	Lead extensive international networks with partners inside and outside academia.
Manage working relationships with colleagues.	Strategically use offline and online networking environments for the promotion of one's own profile (European Commission, 2023), as well as contacting them for specific information (Van Damme & Kerkhofs, 2017).	Foster their own institution to Establish collaborative networks.	Are remembered as useful contact points and for getting useful referrals (Van Damme & Kerkhofs, 2017).
Actively search for interesting contacts (Van Damme & Kerkhofs, 2017)			

Source: European Commission (2023).

#### 9.1.3.4 Negotiation

Exchange ideas while analysing issues and interests at stake, enabling opposing sides to resolve disputes and reach an agreement or making decisions to resolve disputes (European Commission, 2023). Table A-III-10 shows the rubric of these skills.

**Table A-III-10. Negotiation**

Foundational	Intermediate	Advanced	Expert
Understand the pillars of negotiation.	Apply negotiation strategies with a clear vision.	Creatively demonstrate and anticipate scenarios in negotiating processes.	Support others to create and implement strategies.
Show interest in the opinions and motivations of others.	Rigorously defend their arguments and can rebut any kind of argument.	Lead negotiations and propose impactful creative solutions.	Are key negotiators who tackle complex and contentious topics with an influence in the workplace.
Convey their own viewpoints effectively (Van Damme & Kerkhofs, 2017).	Handle workplace conflicts (Nowell et al., 2021).	Anticipate conflicts (Nowell et al., 2021). Manage them to achieve optimal results while preserving the relationship (Van Damme & Kerkhofs, 2017).	Own greater political awareness (Nowell et al., 2021).

Source: European Commission (2023).

### 9.1.3.5 Teaching

Students are instructed in the theory and practice of academic or vocational subjects, transferring the content of their own and others' research activities (European Commission, 2023). Table A-III-11 shows the rubric of these skills.

**Table A-III-11. Teaching**

Foundational	Intermediate	Advanced	Expert
Know teaching and learning theories and methods (Nowell et al., 2021; Weber et al., 2018).	Develop their own teaching style. Support students research skills.	Apply different methodologies to improve their own teaching. Manage educational programmes.	Write their own teaching philosophy (Nowell et al., 2021). Seek for opportunities to enhance education through research.
Teach, develop courses, and assess at Bachelor level.	Cosupervise postgraduate research projects.	Promote teaching-learning-research connections and interactions.	Lead educational programmes and ensure their quality.
Support in the supervision of end-of-degree projects.	Look for influence from their own research on their teaching.	Supervise postgraduate researcher.	Are renowned as inspirational teachers and supervisors.
Are aware of research- education interactions.			

Source: European Commission (2023).

### 9.1.3.6 Diversity awareness

Manage diverse approaches that enrich research environments, projects, and outputs (Nowell et al., 2021). Table A-III-12 shows the rubric of these skills.

**Table A-III-12. Diversity awareness**

Foundational	Intermediate	Advanced	Expert
Value diversity and its benefits.	Engage in diversity projects and research on diversity.	Support less experienced researchers on inclusiveness and diversity.	Play an active role in policy on diversity and equality standards.
Are receptive towards different perspectives, and respectful to others' differences.	Demand inclusiveness, diversity, and intercultural sensitivity in teams and collaborations.	Actively promote inclusiveness, diversity, and intercultural values at the institutional level.	Are recognised for managing diversity, equality, and intercultural standards in different institutions.
Comprehend the perspective of gender, diversity, inclusiveness, cultural values, and equality concepts.	Express empathy towards others' cultures and values (Knowledge4Policy, 2023). An expanded worldview allowed them to empathise with other cultures and values (Schwendinger et al., 2022).	Have an integrated worldview perspective and acknowledge that other cultures do not revolve around their own (Knowledge4Policy, 2023; Schwendinger et al., 2022).	

Source: European Commission (2023).

### 9.1.4 Impact competence

#### 9.1.4.1 Entrepreneurship

Demonstrate proactive thinking and determination to successfully develop business and business ideas (European Commission, 2023). Table A-III-13 shows the rubric of these skills.

**Table A-III-13. Entrepreneurship**

Foundational	Intermediate	Advanced	Expert
Understand entrepreneurial thinking.	Perform tests to improve new ideas and take planned risks.	Have a holistic approach to turning ideas into real projects (Van Damme & Kerkhofs, 2017) and assess the development of products and services.	Support the entrepreneurial development of others.
Are encouraged to create value with their own research.	Can develop innovative ideas (Van Damme & Kerkhofs, 2017).	Connect others in entrepreneurial projects, developing relationships in business context (Van Damme & Kerkhofs, 2017).	Have a clear statement about what can be explored in any research project through entrepreneurial activities.
Recognise the value of commercialisation of research results (Van Damme & Kerkhofs, 2017).	Actively look for opportunities to create value within their own research.		Relate projects from interdisciplinary research fields to trends, needs, and challenges.
			Make policies in knowledge transfer.

Source: European Commission (2023).

#### *9.1.4.2 Commercialisation and transfer of knowledge*

Manage the transfer of knowledge and processes of knowledge valorisation to maximise technology, intellectual property, expertise, and capability within the research field (European Commission, 2023). Table A-III-14 shows the rubric of these skills.



**Table A-III-14. Commercialisation and transfer of knowledge**

Foundational	Intermediate	Advanced	Expert
Know the fundamentals of commercial exploitation of research results, as well as data ownership, copyright, IPR, and licencing.	Connect their research ideas to commercialisation.  Have dealt with the protection of research outputs, open access, and licences.	Recognise research projects' potential for new products/services and can turn their research into ventures.  Active connection with technology transfer offices. Promote more connection with the innovation community and create networks to influence change.	Strategically support others commercialisation projects.  Are recognised for successful adoptions of new ideas and their engagement and firm bonds with the innovation communities.
Value the importance of knowledge transfer and the role of academia in innovation.	Contribute to knowledge transfer within society.	Support less experienced researchers in terms of commercialisation and IP.	Develop new procedures for IP protection.

Source: European Commission (2023).

#### 9.1.4.3 Innovation

Apply thinking, techniques, models, methods, and strategies to manage innovation, also in collaboration with external stakeholders (European Commission, 2023). Table A-III-15 shows the rubric of these skills.

**Table A-III-15. Innovation**

Foundational	Intermediate	Advanced	Expert
Know the fundamentals of innovation within academia and external stakeholders.	Actively develop bonds with external stakeholders to exploit their research and other ideas detected.	Create collaborative platforms cocreation and innovation.  Lead the collaboration with external stakeholders.	Contribute to renewing research view by introducing innovativeness. Create new ways of understanding and working (Van Damme & Kerkhofs, 2017).
Understand interdisciplinary research and are encouraged to collaborate with external stakeholders.	Search for interdisciplinary research.  Are willing to challenge traditional viewpoints (Van Damme & Kerkhofs, 2017).	Support and stimulate others in terms of innovation (Van Damme & Kerkhofs, 2017) .	Are recognised for innovation projects with external stakeholders.

Source: European Commission (2023).

## 9.1.5 Self-management competences

### 9.1.5.1 *Mental health*

Abilities and knowledge to effectively manage mental health challenges (Indeed, 2023). This group of skills involves some specific skills mentioned in the literature, such as resilience, to face and adapt to challenges to overcome them (Indeed, 2022); self-confidence, to accept and trust oneself (University of South Florida, 2023); emotional intelligence, to manage one's emotions and the emotions of others (Harvard Business School, 2019); and stress management, to reduce stress and its negative impacts on one's well-being (Davis, 2023). Table A-III-16 shows the rubric of these skills.

**Table A-III-16. Mental health**

Foundational	Intermediate	Advanced	Expert
Know the link between work, physical and mental health, and well-being.	Maintains a sustainable work-life balance and well-being.	Actively demand work-life balance and well-being promotions for them and team at an institutional level.	Create and apply policies on work-life balance and wellbeing in their institutions. Plan vacation schedules and work hours at an institutional level (Nowell et al., 2021).
Know the fundamentals of emotional intelligence, resilience, self-confidence, and stress management.	Apply emotional intelligence, resilience, self-confidence, and stress management tools to analyse themselves and learn from others' values (Schwendinger et al., 2022).	Support other researchers to manage their mental health (European Commission, 2023). Help them expand their empathy and emotional capacities (Schwendinger et al., 2022).	Is known for having an impact on policies on work-life balance and wellbeing at national and international levels.
Seek support and resources when faced with mental instability.	Know the institutional policies about mental health and take responsibility for their own personal and work situation.		
Considers the needs of others (European Commission, 2023). Show empathy with others and do not make judgements and prejudices (Schwendinger et al., 2022).	Support other researchers in managing their mental health. Participate in a healthy work environment.		

Source: European Commission (2023).

### 9.1.5.2 Self-efficacy

Individuals' confidence in their capacity to properly behave to produce specific performance achievements (American Psychological Association, 2009). This group of skills includes more specific skills such as enthusiasm, motivation, discipline, and perseverance. Table A-III-17 shows the rubric of this skill. Table A-III-17 shows the rubric of these skills.

**Table A-III-17. Self-efficacy**

Foundational	Intermediate	Advanced	Expert
Know the fundamentals of personal productivity, self-efficacy, discipline, and perseverance (Nowell et al., 2021).	Apply productivity tools to sustain their work-life balance and well-being (Nowell et al., 2021).	Establish strategies to deal with adversities in the team that stop personal productivity and self-efficacy.	Are known as confident decision-makers in complex uncertain contexts.
Show enthusiasm and motivation at work.	Listen and motivate other researchers and contribute to an efficient work environment.	Confidently make decisions based on limited information.	Advise institutions inside and outside academia to improve personal productivity and self-efficacy.

Source: European Commission (2023).

### 9.1.5.3 Career planning

Manage, plan, and execute informed decisions about professional career development (Díaz et al., 2018). Table A-III-18 shows the rubric of these skills.

**Table A-III-18. Career planning**

Foundational	Intermediate	Advanced	Expert
Seek mentoring for career development (European Commission, 2023) and has a presence on professional social media.	Recognise networks that are important to career development.	Coach others in research career development. Develop professional and personal skills for them and others.	Mentor less experienced researchers in their career development.
Write their CV effectively, identify their skill gaps, and manage documentation on achievements (Weber et al., 2018).	Actively pursue self and career improvement (European Commission, 2023), and set realistic, achievable goals to increase their employability (Nowell et al., 2021).	Plan career development and assessment for them and others (Weber et al., 2018).	Are reference points for expanding lifelong learning and stable professional development.
Search for jobs and apply. Manage job applications (Weber et al., 2018).	Strategically apply interview techniques (Weber et al., 2018).	Negotiate career options for them and others (myIDP Science Careers, 2023).	Manage recruitment processes.

Source: European Commission (2023).

## 9.1.6 Cognitive competences

### 9.1.6.1 Problem solving

Design and manage solutions to practical, operational, or conceptual problems that derive from the execution of work (European Commission, 2023). Table A-III-19 shows the rubric of these skills.

**Table A-III-19. Problem solving**

Foundational	Intermediate	Advanced	Expert
Know the principles of problem analysis and decision-making.	Assess their own and others' solutions to address problems.	Address interdisciplinary problems.	Challenge traditional thinking and bring new knowledge through their own research.
Assess their own research.	Examine problems from multiple angles and find solutions by asking precise questions (Van Damme & Kerkhofs, 2017).	Inquire about existing hypotheses and establish new ones.	Are renowned for actively contributing to understanding and solving complex problems.
Create simple research hypotheses.	Verify hypotheses considering a broad range of research problems.	Modify complex problems into smaller easier parts (Van Damme & Kerkhofs, 2017).	

Source: European Commission (2023).

### 9.1.6.2 Critical thinking

Think with one's own critical judgement and assumptions, as well as developing one's work based on critical thinking (European Commission, 2023). Table A-III-20 shows the rubric of these skills.

**Table A-III-20. Critical thinking**

Foundational	Intermediate	Advanced	Expert
Understand arguments with high complexity and abstraction (European Commission, 2023) and articulate their own assumptions (European Commission, 2022).	Detect and reject biased thinking (European Commission, 2022). Distinguish relevant arguments (Van Damme & Kerkhofs, 2017).	Develop solid arguments and convince others.  Ensure critical thinking in research by applying methods and approaches (European Commission, 2022, 2023).	Create research environments with critical thinking standards b (European Commission, 2022, 2023).
Listen and consider the thoughts of others.	Think originally and are independent, making robust and realistic judgments based on evidence (European Commission, 2022).	Encourage critical thinking in experienced and nonexperienced researchers.	Are known for their critical thinking. Encourage critical thinking in other disciplines and outside academia. They generate an impact on policy making (European Commission, 2022).
Detect and validate problems (European Commission, 2022).	Assess the assumptions of others (European Commission, 2022), and make a comparative evaluation of relevant criteria. Are aware of their own position based on evidence (Van Damme & Kerkhofs, 2017).		

Source: European Commission (2023).

### 9.1.6.3 Learning

Demonstrate willingness and ability to learn and acquire knowledge, as well as ask useful and challenging questions and put learning into practice (Van Damme & Kerkhofs, 2017). Table A-III-21 shows the rubric of these skills.

**Table A-III-21. Learning**

Foundational	Intermediate	Advanced	Expert
Learn through experience on a diary basis.	Experiment with different learning experiences, such as prototyping, peer-to-peer learning, experiments, etc.	Learn from research advances.	Implement strategies for life-long learning based on research and evidence-based methodologies.
Learn from reflection on failures and achievements.	Reflect on their own and others' failures analysing their approach instead of the causes and effects.	Establish opportunities for the team to reflect on failures and achievements.	Are known for changing working cultures toward sustainable life-long learning (Schwendinger et al., 2022).
Address challenges as learning and growth opportunity.	Analyse others' performance to assess themselves and learn from it.	Create networks of learning and support others.	

Source: European Commission (2023).

#### 9.1.6.4 Creativity

Develop several ideas and solutions, exploring and experimenting with innovative approaches and combining knowledge and resources to create value to existing and new challenges (European Commission, 2023). Table A-III-22 shows the rubric of these skills.

**Table A-III-22. Creativity**

Foundational	Intermediate	Advanced	Expert
Are analytical, curious, and open-minded.	Create, convey, and test alternative solutions and ideas.	Design novel and valuable ideas.	Go beyond current solutions to address relevant scientific problems.
Look for different angles and viewpoints.	Ask specific questions to enrich their perspective (Schwendinger et al., 2022).	Transfer ideas and solutions to a broad range of contexts (Schwendinger et al., 2022).	Have their own method to generate value. Are known for their experience in applying different methodologies regarding creativity (Schwendinger et al., 2022).
Identify, express, and seize new ideas and opportunities (Schwendinger et al., 2022).	Examine ideas from different research fields, also from outside academia (Schwendinger et al., 2022).	Change their inquiry style to broaden their perspective (Schwendinger et al., 2022).	Challenge the norm in a visionary way.
		Inspire and develop others' creativity.	

Source: European Commission (2023).

## 9.1.7 Research competences

### 9.1.7.1 Data Analysis

Produce and analyse research data from the application of research methods, as well as store the data in research databases, supporting their reuse of the data, making data as open as possible, and applying data management principles (European Commission, 2023). Table A-III-23 shows the rubric of these skills.

**Table A-III-23. Data Analysis**

Foundational	Intermediate	Advanced	Expert
Detect if data from specific sources of information is credible, valid, and reliable.	Follow findable, accessible, interoperable, and reusable (FAIR) principles to organise and store of data.	Manage different data analysis tools integrating data management plans in knowledge strategies and ethical requirements (Schwendinger et al., 2022). Apply metrics to assess the success of data methods.	Design and implement new methods, processes, and practices to manage data, information, and digital content in a structured digital environment.
Manage data storage and organisation in an accessible way.	Manage different data analysis tools easily (Schwendinger et al., 2022).	Promote FAIR principles within their institution.	Are renowned as a data analysis and management expert. Are also known as defenders of FAIR principles (European Commission, 2023), data transparency, openness and accessibility as well as cultivating a culture of open data (Schwendinger et al., 2022).
Analyse data transparently following legal and ethical requirements.		Support other team members in their team in a structured, transparent, and accessible way.	

Source: European Commission (2023).

### 9.1.7.2 Research ethics and integrity

Apply ethical principles, good practices and legislation in research, innovation, and personal integrity (European Commission, 2022). Table A-III-24 shows the rubric of these skills.

**Table A-III-24. Research ethics and integrity**

Foundational	Intermediate	Advanced	Expert
Know the fundamentals of research ethical standards and integrity principles. Are aware of privacy and GDPR requirements (Van Damme & Kerkhofs, 2017).	Demonstrate a high command of ethics in research.	Actively participate in ethical committees.	Contribute significantly to developing ethical guidelines and methodologies to ensure high ethical standards in academia.
Know the ethics practices of the institution, such as code of good practices (if available).	Advise other colleagues about ethical issues in research.	Support others applying measures to ethical issues in research.	Are renowned and collaborate with policy makers on ethics policies inside and outside academia.
Seek expert advice when in doubt.	Demonstrate standards of good research practice (Van Damme & Kerkhofs, 2017). Take measures to combat falsification and plagiarism.	Disseminate public understanding of ethics in research.	
Act with professional integrity, honesty, and transparency (Van Damme & Kerkhofs, 2017).			
Manage confidential information discretely (Van Damme & Kerkhofs, 2017).			

Source: European Commission (2023).

### 9.1.7.3 Open science

Research with an approach on open cooperative work that includes the sharing of knowledge, results, and tools as widely as possible (European Research Executive Agency, 2023). Table A-III-25 shows the rubric of these skills.



**Table A-III-25. Open science**

Foundational	Intermediate	Advanced	Expert
Understands the value and fundamentals of Open Science.	Are familiarised with Open Science.	Support less experienced researchers in Open Science.	Design national and international Open Science Evaluation, Policies, and Tools at a national and international level.
Are getting familiarised with Open Access, Data, Reproducible Research, Science Evaluation, Policies and Tools.	Connect Open Science with their own research area.	Promote Open Science in their institution.	Lead important international Open Science projects.
	Share Open Science practices with others.	Manage Open Science in a significant number of projects.	Are renowned in Open Science worldwide (OpenAire, 2023).

Source: European Commission (2023).

#### 9.1.7.4 Interdisciplinary research

Research and collaboration across disciplinary and functional boundaries to enrich research data and findings (European Commission, 2023).

Table A-III-26 shows the rubric of these skills.

**Table A-III-26. Interdisciplinary research**

Foundational	Intermediate	Advanced	Expert
Value the importance of considering other disciplines different from own research area to maximise the potential impact of research (Van Damme & Kerkhofs, 2017).	Play an active role in interdisciplinary meetings, bringing synergies and reasoning.	Design and implement innovative approaches to apply in interdisciplinary research.	Implement a novel approach and constantly challenge traditional methods.
Collaborate in interdisciplinary groups. Interact and learn from researchers from other disciplines.	Harmonize the own interests and those of others to maximise joint results (Van Damme & Kerkhofs, 2017).	Can switch the interdisciplinary contexts easily. Think comparatively (Van Damme & Kerkhofs, 2017).	Are renowned. Have a significant influence on the international policy agenda to develop disciplinary research.
	Leads interdisciplinary research team. Collaborates with researchers at the national and international level.	Lead interdisciplinary research networks.	
	Support less experienced researchers.	Involve researchers with less experience in interdisciplinary research. Detect intentions, needs and positions of individuals to detect their strengths to recognise common/conflicting interests (Van Damme & Kerkhofs, 2017).	

Source: European Commission (2023).

#### 9.1.7.5 *Disciplinary knowledge*

Demonstrate deep knowledge and complex understanding of our own research area (European Commission, 2023), research methods and methodologies, and information literacy. Table A-III-27 shows the rubric of these skills.

**Table A-III-27. Disciplinary knowledge**

Foundational	Intermediate	Advanced	Expert
Comprehend relevant knowledge of their own research area.	Contribute with original advances in their area. Support the societal, political, ethical, and integrity implications of knowledge creation in their area.	Create new knowledge to be able to approach and get disciplines closer.	Have a detailed interdisciplinary understanding of their own and related research areas.
Are aware of the advances within their research area.	Systematically create, organise, validate, share, and store information in a proficient way.	Implement new research tools, methodology, and methods in their own area.	Are known researchers and influence national and international agendas in their research area.
Manage information databases. Create reliable data.	Coordinate an independent research group.	Manage collaborative research networks.	Develop guidelines and educational materials for conducting research.
Know and apply different research methods and methodologies in their area to collect primary source information.	Collaborate with research outside of their own institution.	Support less experienced researchers in their own field.	Lead important research organisations.
Are supervised and learn from senior researchers in their own institutions. Collaborative in the research of the area.			

Source: European Commission (2023).