



WP 5 - Development of Professional Qualification and Training Framework

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WP 5 - Development of Professional Qualification and Training Framework

Introduction

The aims of WP5 are:

- to create and develop a new profile for OSH professionals with qualifications in units of learning outcomes based on the ECVET system. It is foreseen the creation of innovative programs for teaching and vocational training;
- to arrange teaching plans and materials to support learning courses standardized at EU level;
- to create flexible instruments to validate, to transfer and to acknowledge learning results;
- to develop pilot courses for trainers and evaluators;
- to define a proper application of the credit systems to the teaching modes applied: face to face, in service, work based learning, e-learning and virtual environments.

Summary

The preparation of the WP5 started in the Porto meeting of the partnership in 9th and 10th May 2011. It was agreed that the deliverables would be adjusted to the progress of WP3 and WP4. One of the decisions was to adapt the D5.3 to the identification of existing courses that could satisfy some or all requirements of D5.2. This was due to the fact that it was not possible to create new e-learning materials to satisfy the requirements. The procedures agreed were to define D5.1 as a result of the deliverables of WP4, define the structures of courses of levels 4 to 7 of EQF in OSH according to the Learning Outcomes defined in D5.1 and obtain examples of existing courses in OSH that could comply with D5.2 requirements in terms of Learning Outcomes and of assessment modes. The process is based on the fact that any professional that has a certain level of qualification has acquired all LOs of previous levels.



D5.1 - Developing Learning Outcomes for Qualifications in Occupational Health and Safety using the European Qualifications Framework (EQF) levels of achievement

Work-Package 4 of the project developed a series of occupational standards for people involved in the profession and of practice of health and safety. These standards describe the functions of the job that people actually do in employment and are specific descriptions of the professional tasks and activities that are carried out. The standards, therefore, give the ultimate objective of education and training programmes that are developed and answer the question of what does a student need to be able to do in employment.

These occupational standards are not, as such, programmes of education but do link to the development of courses of study. To enable such study programmes to be developed by the project, the tasks within the occupational standards were analysed as to the level of study necessary, based on EQF¹ descriptors, of which the knowledge, skills and competences should be delivered. This levelling process was based on the existing content of the European Safety Manager (EurOSHM) and European Safety Technician (EurOSHT)² which indicated that a range of levels between 4 and 7 would be necessary.

The link between occupational standards and education and assessment standards is via developing a series of learning outcomes for the educational programmes. The learning outcomes describe what a student is expected to learn in a programme of study and so need to co-ordinate with the occupational standards. To facilitate this work, the 19 occupational standards developed in Work-Package 4 were analysed and grouped by function, which would enable subsequent development of educational programmes to deliver using a progressive cohesive approach. The functions selected for this purpose were based on the widely used OHSAS 18001 Safety Management system³ stages. These are:

- A. Developing OSH Systems, Strategies, Policies and Culture
- B. Implementing OSH Systems
- C. Monitoring OSH Systems
- D. Maintaining and Reviewing OSH Systems
- E. Professional Development and Conduct



The Learning Outcomes were developed with reference to the Occupational Standards using the levels determined by the initial work in Work-Package 4. Strong verbs based on Bloom's Taxonomy³ were used with escalation through the levels of the EQF as appropriate. This would enable subsequent developers of educational programmes based on these outcomes to develop either single level or in particular for the higher levels a multiple level modular approach. The tasks required by the occupational standards would also be referenced during the subsequent development of educational programmes. The functional maps of the learning outcomes and the occupational standards should be used in conjunction with each other for this usage.

The relationship between the labour market and education as shown by the adaptation in CEDEFOP *The Dynamics of qualifications* of Gielen et al's 2000 feedback loop⁴ between the requirements of the labour market and education to provide competent professionals and illustrates the methodology used within this project is illustrated in Figure 1.

Labour Market

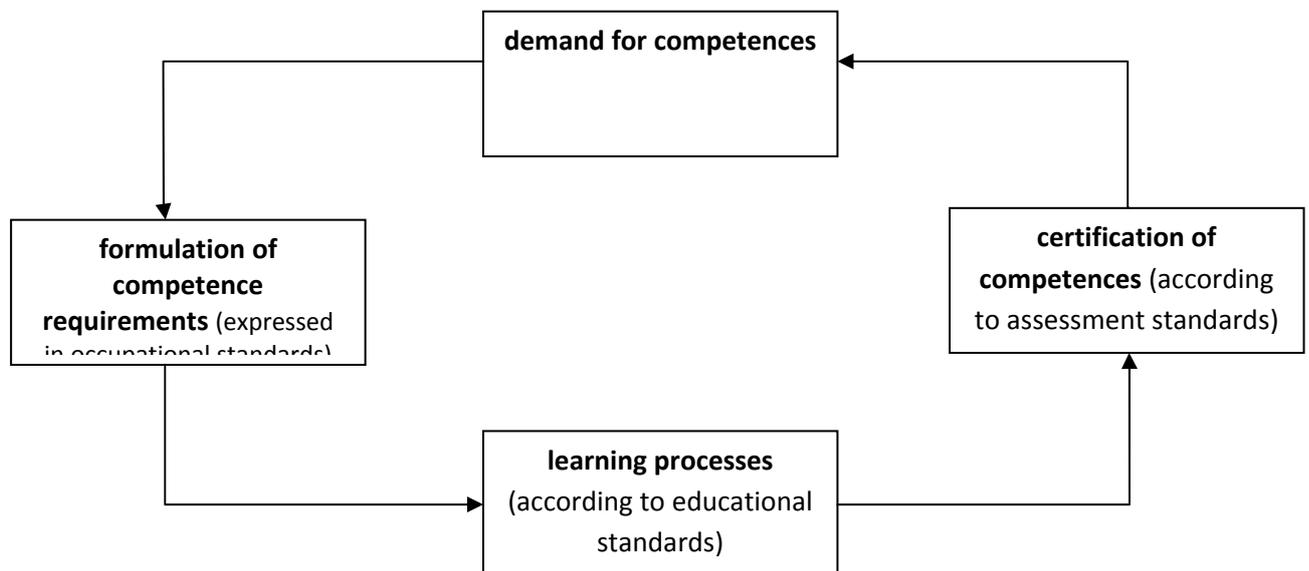


Figure 1

Competence-Based Education



The learning outcomes are presented in tabular form in Appendix 1. With the functional mapping against OSHAS 18001 in Appendix 2. Also given within the tables are the estimations of whether there the outcome represents the development of Knowledge, a Skill or Competence as described by the EQF. These, however are quite subjective and can only be indicative and can be interpreted more broadly by those people who are actually developing education or training courses.

The complete document is reported in appendix 1.

D5.2 - Development of Teaching Plans and Materials

1. Scope and objectives of this deliverable

Based on the definition of the OSH profile a set of relevant course materials will be elaborated. The criterion is that materials adopted have proven sufficient efficacy to achieve the acquisition of the required competences. The adoption will comprehend different formats for learning and teaching. It will be a compilation that takes into consideration cultural diversity but address professional requirements.

2. Short description of the EUSAFE project and of the project step where the deliverable is fitting

D.5.2 will define the structure of courses that will deliver the competences defined in D.5.1. The structure proposed is based in a survey of definitions of course structures to achieve specific competences.

3. Destination/audience, potential user of the document

End-users: Educational Institutions, Teachers, Trainers.

4. Description of the methodology applied and of the actions implemented in developing the document (as applicable)

a. Methodology applied

The methodology adopted was based on the consultation of projects, published research on course structure based on Learning Outcomes and on competences. This proposal was adapted to the circulating documents of D5.1. and to outputs of WP3 and WP4.

b. Sources of information utilized and key reference documents

- Reference documents (Attachment 1)
- Projects outputs (Attachment 2)



- EUSAFE deliverables and documents (WP3, WP4 e D5.1 del WP5)

In Appendix 2 the course structure is reported for the 4 OSH profiles reported here below:

- LEVEL 4: OSH course Level 4 (Technician Junior)
- LEVEL 5: OSH course Level 5 (Technician Senior)
- LEVEL 6: OSH course Level 6 (Manager Junior)
- LEVEL 7: OSH course Level 7 (Manager Senior)

NOTE

The reader is kindly asked to reply to a questionnaire for the OSH profiles/levels reported in Appendix 2, aggregated as “Technician” and “Manager”. To connect to the WP5 Survey, please access the www.eusafe.org web site and click on the WP5 Survey area, on the left part of the home page.



Attachment 1

Reference documents

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Attachment 2

Projects Outputs

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WP 5 - Development of Professional Qualification and Training Framework

APPENDIX 1

D5.1 - Developing Learning Outcomes for Qualifications in Occupational Health and Safety using the European Qualification Framework (EQF) levels of achievement



D5.1 - Developing Learning Outcomes for Qualifications in Occupational Health and Safety using the European Qualifications Framework (EQF) levels of achievement

Work-Package 4 of the project developed a series of occupational standards for people involved in the profession and of practice of health and safety. These standards describe the functions of the job that people actually do in employment and are specific descriptions of the professional tasks and activities that are carried out. The standards, therefore, give the ultimate objective of education and training programmes that are developed and answer the question of what does a student need to be able to do in employment.

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- A. Developing OHS Systems, Strategies, Policies and Culture;
- B. Implementing OHS Systems;
- C. Monitoring OHS Systems;
- D. Maintaining and Reviewing OHS Systems and
- E. Professional Development and Conduct

The Learning Outcomes were developed with reference to the Occupational Standards using the levels determined by the initial work in Work-Package 4. Strong verbs based on Bloom's Taxonomy³ were used with escalation through the levels of the EQF as appropriate. This would enable subsequent developers of educational programmes based on these outcomes to develop either single level or in particular for the higher levels a multiple level modular approach. The tasks required by the occupational standards would also be referenced during the subsequent development of educational programmes. The functional maps of the learning outcomes and the occupational standards should be used in conjunction with each other for this usage.



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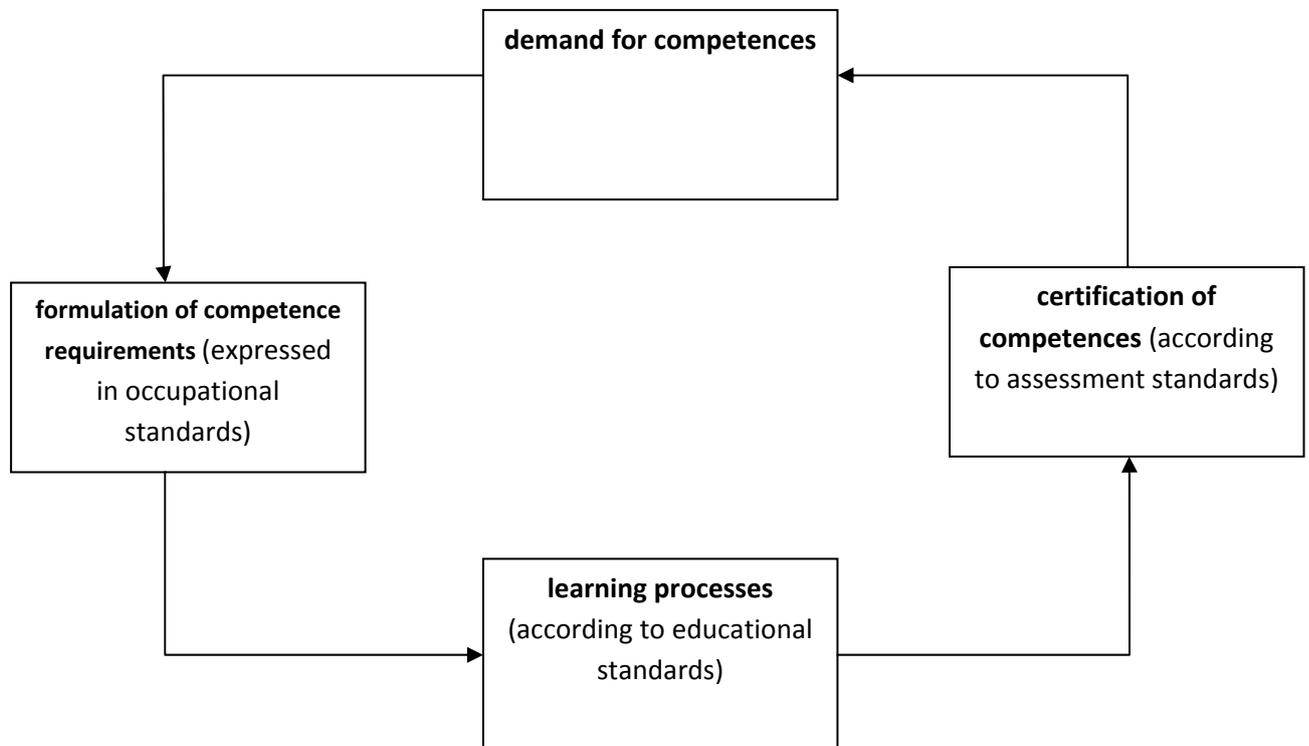


Figure 1

The learning outcomes are against OSHAS 18001 in Appendix 1. The outcome represents the competence. These, however are quite subjective and can only be indicative and can be interpreted more broadly by those people who are actually developing education or training course.

Competence-Based Education

The functional mapping of whether there is described by the EQF.

interpreted more broadly by



Annex 1: Learning Objectives mapped by Function - Develop, Implement, Monitor, Maintain, Contribute

Level 4	Level 5	Level 6	Level 7	Function
		A6.1 – A6.9	A7.1 – A7.8	A. Developing OHS Systems, Strategies, Policies and Culture
B4.1 – B4.9	B5.1 – B5.8	B6.1 – B6.17	B7.1 – B7.5	B. Implementing OHS Systems
C4.1 – C4.3	C5.1 – C5.4	C6.1 – C6.9	C7.1 – C7.5	C. Monitoring OHS Systems
		D6.1 – D6.7	D7.1 – D7.6	D. Maintaining and Reviewing OHS Systems
E4.1 – E4.2 A4.6(part)		E6.1 – E6.11	E7.1 – E7.3	E. Professional Development and Conduct



Level 4

OSH course Level 4 (Technician Junior)

Aims

The aim of this programme is to enable the learner to recognise a range of hazards encountered in the workplace and to assess the risks associated with them and manage those with low risk outcomes, or where processes have already been established.

B. Implementing OHS Systems

Health and Safety Strategies, Policies and Culture

At the end of the course a person should be able to:		
B 4.1	K	Identify hazards with the potential to cause harm and/or loss
B 4.2	K	Describe the risks associated with common occupational hazards
B 4.3	K	Outline suitable techniques for assessing occupational risks
B 4.4	K	Describe suitable methods to control risks
B 4.5	K	State local requirements for legal compliance
B4.6	K	Identify applicable legislation and sources of associated documentation
B 4.7	K	Identify where to find expert advice, guidance and information
B 4.8	S	Select appropriate methods for identifying hazards and evaluating risk
B 4.9	S	Consider and prioritise where further risk controls are required
B 4.10	C1	Prioritise those areas in workplaces where there is the most potential to cause harm



Level 4

C. Monitoring OHS Systems

At the end of the course a person should be able to:		
C 4.1	S	Assist in the implementation of inspections and monitoring systems
C 4.2	C1	Record significant findings
C 4.3	C2	Select suitable methods of keeping records relating to OHS

Level 4

E. Professional Development and Conduct

At the end of the course a person should be able to:		
E 4.1	K	Identify where to find expert advice, guidance and information
E 4.2	C2	Recognise one's own level of competence



Level 5

OSH course Level 5 (Technician Senior)

Aims

The aim of this programme is to build on the knowledge and skills learned at level 4 and to integrate these into either simple management systems for organisations possessing less complex risks or to work as part of a management team in an organisation with more complex risks.

B. Implementing OHS Systems

Health and Safety Strategies, Policies and Culture

At the end of the course a person should be able to:		
B 5.1	K	Identify a range of methods of risk control
B 5.2	K	Prepare effective instructions for workplace procedures
B 5.3	K	Describe main legal responsibilities for OHS
B 5.4	K	Recommend suitable risk control methods
B 5.5	K	Design suitable methods for the communication of risk to those affected
B 5.6	K	Identify training requirements for OHS
B 5.7	S	Interpret the results of risks assessments and operate systems of control
B 5.8	C1	Deliver instructions relating to OHS in a suitable and effective manner



Level 5

C. Monitoring OHS Systems

At the end of the course a person should be able to:		
C 5.1	S	Select suitable monitoring and measuring equipment
C 5.2	C1	Conduct workplace inspections
C 5.3	C2	Record significant findings
C 5.4	C2	Conduct investigations into accidents in the workplace



Level 6

OSH course Level 6 (Manager Junior)

Aim

The aim of this programme is to develop professionals who can design, implement, maintain and monitor safety management systems for organisations with hazards possessing either high or complex risks.

A. Developing OHS Systems

Health and Safety Strategies, Policies and Culture

At the end of the course a person should be able to:		
A 6.1	K	Develop health and safety policies for organisations across a full range of risk profiles
A 6.2	K	Generate systems to identify hazards or hazardous events and prioritise and control risks arising from them
A 6.3	K	Explain the impact of health and safety requirements on the inputs, conversion processes and outputs of an organisation
A 6.4	K	Explain the factors that affect risk tolerability or acceptability
A 6.5	S	Specify the concept of safety culture in an organisation and how it integrates with other management functions
A 6.6	S	Devise goals and performance targets for health and safety within health and safety policies
A 6.7	C1	Use an evidence based approach to develop health and safety strategy, policy and culture
A6.8	C1	Inspire organisations to believe in the health, safety and well-being of people affected by work
A 6.9	C2	Develop arrangements for contractors or within shared responsibility workplaces



Level 6

B. Implementing OHS Systems

At the end of the course a person should be able to:		
B 6.1	K	Explain the theory and practice of organisational communication and the applicability to health and safety management systems
B 6.2	K	Effectively communicate information, ideas, problems and solutions to the full range of people they encounter at work
B 6.3	K	Justify the principles and applicability of the tools and techniques available to measure risk
B 6.4	K	Illustrate how the systems devised meet statutory legal requirements in the jurisdiction of operation and support legal compliances
B6.5	K	Explain the role of European and local legislation in the development of OHS
B 6.6	K	Explain the role of behavioural safety programmes and the application of relevant programmes
B 6.7	S	Undertake hazard identification and evaluation across a range of environments
B 6.8	S	Devise risk control strategies across a range of environments
B 6.9	S	Implement risk control strategies across a range of environments
B6.10	S	Use suitable techniques to coach people to recognise the importance of occupational health and safety
B 6.11	S	Use Information Technology to develop health and safety systems as appropriate
B 6.12	C1	Adapt systems to incorporate diversity and inclusivity in the workplaces
B6.13	C1	Develop effective relationships, interactions and management of people
B6.14	C1	Use effective coaching skills
B 6.15	C2	Develop safe systems of work and associated documentation
B 6.16	C2	Use communication tools
B 6.17	C2	Develop safe systems of work



Level 6

C. Monitoring OHS Systems

At the end of the course a person should be able to:		
C 6.1	K	Appraise pro-active monitoring tools to determine their applicability to help organisations meet their statutory and organisational needs
C 6.2	K	Describe reactive monitoring tools
C 6.3	K	Analyse techniques for monitoring the data generated by health and safety systems
C 6.4	K	Use suitable and appropriate analysis, assessment and recording techniques
C 6.5	K	Explain the purpose of safety audits, their design, techniques
C 6.6	S	Investigate loss events and their legal implications
C 6.7	C1	Use suitable techniques for monitoring risk control
C6.8	C1	Analyse and interpret the results of safety audits
C 6.9	C2	Design health and safety audit questionnaires



Level 6

D. Maintaining and Reviewing OHS Systems

At the end of the course a person should be able to:		
D 6.1	K	Generate performance targets
D 6.2	K	Create health and safety review systems
D 6.3	K	Develop actions plans, following from reviews
D 6.4	K	Review European and national standards applicable to health and safety
D 6.5	K	Describe the impact of organisational change to the management of OHS
D6.6	K	Explain the concept and application of continuous improvement
D 6.7	S	Plan health and safety reviews



Level 6

E. Professional Development and Conduct

At the end of the course a person should be able to:		
E 6.1	K	Recognise that health and safety is a dynamic discipline and that it is necessary to keep up to date
E 6.2	K	Describe learning styles and their effectiveness in health and safety both for individual practitioners and the workforce they advise
E 6.3	K	Describe the principles that underpin ethical practice in health and safety
E 6.4	K	Evaluate sources of health and safety information and external contacts with central bodies
E 6.5	S	Compile a personal development portfolio
E 6.6	S	Use Information Technology to develop health and safety systems as appropriate
E 6.7	C1	Reflect on new developments in health and safety
E 6.8	C1	Recognise the role of related professions to OHS
E 6.9	C2	Justify the input of a OHS professional within an organisation
E 6.10	C2	Use management tools for the operation of an OHS department
E6.11	C2	Use effective people relationships tools to support the operation of OHS systems



Level 7

OSH course Level 7 (Manager Senior)

Aim

The aim of this programme is to develop professionals who have high level management and strategic skills in the context of organisations which possess a range of risks which need to be managed.

A. Developing OHS Systems

Health and Safety Strategies, Policies and Culture

At the end of the course a person should be able to:		
A 7.1	K	Appraise the health and safety culture of an organisation
A 7.2	K	Analyse components of safety strategies for an organisation
A 7.3	K	Develop OHS competence schemes
A 7.4	K	Appraise OHS performance targets
A 7.5	S	Devise a safety management system for an organisation
A 7.6	C1	Justify OHS systems against organisational objectives
A7.7	C1	Justify the integration of OHS management into the overall management culture
A7.8	C1	Explain how an OHS practitioner can be a change agent and drive the agenda for change within their organisation



Level 7

B. Implementing OHS Systems

At the end of the course a person should be able to:		
B 7.1	K	Interpret the theory and practice of organisational communication with respect to health and safety management systems
B 7.2	K	Compare general management techniques and describe how these can be used to influence health and safety management
B 7.3	K	Compare available standards for health and safety management
B 7.4	K	Communicate OHS risks in the context of organisational risk
B 7.5	C1	Compare ranges of communication techniques and be able to select appropriate techniques for the intended audience

Level 7

C. Monitoring OHS Systems

At the end of the course a person should be able to:		
C 7.1	K	Compare the effectiveness of monitoring systems
C 7.2	K	Describe how to improve OHS
C 7.3	S	Develop change strategies to improve OHS in organisations
C 7.4	C1	Communicate the changes necessary to OHS systems
C 7.5	C2	Challenge existing OHS systems when necessary



Level 7

D. Maintaining OHS Systems

At the end of the course a person should be able to:		
D 7.1	K	Explain the concept of continual improvement in health and safety performance
D 7.2	K	Evaluate the efficiency and cost effectiveness of safety management systems
D 7.3	K	Interpret feedback from health and safety management monitoring systems
D 7.4	K	Evaluate new techniques of reviewing the maintenance of safety management systems
D 7.5	S	Utilise benchmarking techniques
D 7.6	C2	Utilise appropriate national and European standards to improve business performance

Level 7

E. Professional Development and Conduct

At the end of the course a person should be able to:		
E 7.1	K	Explain, debate and justify professional ethics in practice
E 7.2	S	Develop a professional skills portfolio and recognise the importance of professional reflection
E 7.3	S	Demonstrate professional advocacy in relation to health and safety



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APPENDIX 2

D5.2 - Development of Teaching Plans and Materials



D5.2.1 - OSH Course LEVEL 4

OSH Course Structure for OSH Level 4 – TECHNICIAN JUNIOR

- A. *Target audience*
- B. *Objective*
- C. *Learning outcomes*
- D. *Example of application*
- E. *How to write LOs?*
- F. *How to choose the appropriate assessment method?*
- G. *Step by step procedure*

Annex 1: Example of learning outcomes for a OSH management course

Annex 2: OSH EQF Competences and Assessment Methods

Annex 3: Using the LO template

A. *Target audience*

Teachers and course designers from OSH Higher and Continuing Education Institutions

B. *Objective*

Help course designers write learning outcomes (LOs) using a LO template. LOs are very important because they describe knowledge, skills and competences learners demonstrate at the end of a course.

C. *Learning outcomes*

After reading the manual, course designers will be able to:

- describe what LOs consist in;
- develop LOs for one of their OSH courses using the EQF or NQF;
- develop learner evaluation that is aligned with LOs.

D. *Example of application*

A course designer of OSH level 4 should describe the course using these four main elements:

- Course level in reference to OSH EQF
- ECTS (European Credit Transfer System) or ECVET (European Credit system for Vocation and Education Training) credits
- Descriptions of LOs
- Description of assessment method



LOs are described in three domains: knowledge, skills and competences. These refer to the three domains of the OSH EQF (see report of output D.5.1). Assessment methods must be adequate to evaluate and to guarantee the acquisition of these LOs.

E. *How to write LOs?*

It is recommended to use the following guide: Kennedy, D, Hyland, A and Ryan, N. (2006). Writing and Using Learning Outcomes: a Practical Guide.

http://www.externarelationer.adm.gu.se/digitalAssets/1272/1272565_Writing_and_Using_Learning_Outcomes.pdf

F. *How to choose the appropriate assessment method?*

It is recommended to use the matrix of Annex 2.

G. *Step by step procedure*

Step 1 – Write Learning Outcomes (LO) for the course

Step 2 – Specify the course level according to OSH EQF

Step 3 – Choose the assessment method for each LO using the matrix of Annex 2

Step 4 – Specify the number of credits ECTS or ECVET

Step 5 – Use the LO template to create the detailed description of the OSH course



Annex 1

Learning Outcomes for OSH LEVEL 4 – TECHNICIAN JUNIOR

The learning outcomes are described in three areas: *Knowledge*, *Skills* and *Competences*.

Knowledge

When completed all training or accreditation of prior learning the participant will have knowledge of the processes within the discipline of OSH that:

- Identify hazards with the potential to cause harm and/or loss
- Describe the risks associated with common occupational hazards
- Outline suitable techniques for assessing occupational risks
- Describe suitable methods to control risks
- State local requirements for legal compliance
- Identify applicable legislation and sources of associated documentation
- Identify where to find expert advice, guidance and information
- Select appropriate methods for identifying hazards and evaluating risk
- Consider and prioritise where further risk controls are required
- Prioritise those areas in workplaces where there is the most potential to cause harm

Skills

When completed all training or accreditation of prior learning the participant will have skills within the discipline of OSH that:

- Select appropriate methods for identifying hazards and evaluating risk
- Consider and prioritise where further risk controls are required
- Assist in the implementation of inspections and monitoring systems

Competences

When completed all training or accreditation of prior learning the participant will have competences within the discipline of OSH that:

- Prioritise those areas in workplaces where there is the most potential to cause *harm* – C1
- Record significant findings – C1



- Select suitable methods of keeping records relating to OHS – C2
- Select sources of expert advice, guidance and information – C1
- Recognise one's own level of competence – C2

Teaching, learning and assessment methods

Learner will acquire knowledge and understanding mainly from the module texts, with supporting material provided via reference texts, computing environments, specially developed computing environments, computer conferencing and web-based resources. Formal assessment of the taught modules is by way of continuous or discrete assessment in the forms and types as presented in Annex 2 for each type of Learning Outcomes: Knowledge, Skills and Competences.

A practical example of detailed Learning Outcomes applied to OHS LEVEL 4 profile (Technician Junior) is reported here below.

The Learning Outcomes are taken from the Eusafe document "Deliverable D5.1" in Appendix 1.



Level 4

OSH course Level 4 (Technician Junior)

Aims

The aim of this programme is to enable the learner to recognise a range of hazards encountered in the workplace and to assess the risks associated with them and manage those with low risk outcomes, or where processes have already been established.

B. Implementing OHS Systems

Health and Safety Strategies, Policies and Culture

At the end of the course a person should be able to:		
B 4.1	K	Identify hazards with the potential to cause harm and/or loss
B 4.2	K	Describe the risks associated with common occupational hazards
B 4.3	K	Outline suitable techniques for assessing occupational risks
B 4.4	K	Describe suitable methods to control risks
B 4.5	K	State local requirements for legal compliance
B4.6	K	Identify applicable legislation and sources of associated documentation
B 4.7	K	Identify where to find expert advice, guidance and information
B 4.8	S	Select appropriate methods for identifying hazards and evaluating risk
B 4.9	S	Consider and prioritise where further risk controls are required
B 4.10	C1	Prioritise those areas in workplaces where there is the most potential to cause harm



Level 4

C. Monitoring OHS Systems

At the end of the course a person should be able to:		
C 4.1	S	Assist in the implementation of inspections and monitoring systems
C 4.2	C1	Record significant findings
C 4.3	C2	Select suitable methods of keeping records relating to OHS

Level 4

E. Professional Development and Conduct

At the end of the course a person should be able to:		
E 4.1	K	Identify where to find expert advice, guidance and information
E 4.2	C2	Recognise one's own level of competence



Annex 2: OSH EQF Competences and Assessment Methods

Assessment	Adaptable test	Chat room	CLOZE question assignments	Concept map	Discussion group	Drag and drop	Drop down	E-portfolio	Essay style	Game-Based	Gap-fill	Group assessment	Hotspot	Mathematical	Multiple choice	Numeric response	Peer assessment	Role-play	Sequence response	Short answer	Simulation	Text matching	True/false	publication	Wiki
Levels 4 to 7																									
(K) advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	x		x		x	x	x		x		x		x	x	x	x			x	x		x	x	x	x
(S) advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study	x	x		x	x	x		x		x		x						x			x				
(C1) manage complex technical or professional activities or projects, taking responsibility for decision making in unpredictable work or study contexts	x	x		x	x	x				x								x			x				
(C2) take responsibility for managing professional development of individuals and groups				x	x	x				x		x					x	x			x				



Annex 3: Using the LO template

Fields	Explanations
Part A: Module data	Short identification of the module the following ILO (intended learning outcome) is part of.
[01] Name of the module	[01] Name of module as used in corresponding curriculum
[02] ISCED code of the module	[02] The ISCED code (see " Erasmus Subject Code -- ISCED classification ") classifies the subject of learning units (typically of complete programmes). Mostly the ISCED codes of a specific <i>module</i> and the superordinate <i>programme</i> will be the same. But in a significant number of cases there will be a difference, e.g. <ul style="list-style-type: none"> ▪ soft skills modules (09 = Personal Skills) in Engineering programmes (5 = Engineering, Manufacturing and Construction) ▪ mathematics modules (461 = Mathematics) in Business programmes (340 = Business and Administration).
Part B: Details of specific learning outcome:	For comparison, development and individual use of specific LOs it is necessary to be able to find and unambiguously identify them. Additional information will be asked referring to assessment methods.
[03] Fulltext [English]	[03] Fulltext [English]: Wording of the specific ILO as used in corresponding curriculum: in English – translation (from original language) or original text
[04] Fulltext [in original language - if not English]	[04] Fulltext [in original language - if not English]: Leave blank if original language is English
[05] Fulltext [further language/s]	[05] Fulltext [further language/s]: Here is space for translations into any other languages
[06] ISCED code - classifying the learning outcome	[06] The ISCED code (see " Erasmus Subject Code -- ISCED classification ") classifies the subject of learning units (typically of complete programmes). Mostly the ISCED codes of a specific



	<p><i>LO</i> and the superordinate <i>module</i> will be the same.</p> <p>But in a number of cases there will be a difference (similar as with modules and programmes), e.g.</p> <ul style="list-style-type: none"> ▪ mathematical LOs (461 = Mathematics) in Engineering modules (5 = Engineering, Manufacturing and Construction) ▪ economic LOs (314 = Economics) in Civil engineering modules (582 = Building and civil engineering)
<p>[07] Domain</p>	<p>[07] Domain: For the purpose of clear identification of LOs we apply a trinomial classification of the domain of learning outcomes:</p> <ul style="list-style-type: none"> ▪ discipline specific: relevant only in the context of one specific subject – like medical, chemical or psychological knowledge / competences ▪ methodical: knowledge or competence overarching some or many disciplines like research methodology, documentation skills or statistics ▪ personal / social: all knowledge, skills, attitudes and competences necessary to enable and improve living and working in a social context. <p>(The classification of the domain was adopted from: Tippelt, R. / Mandl, H. / Straka, G. (2003): Entwicklung und Erfassung von Kompetenz in der Wissensgesellschaft – Bildungs- und wissens-theoretische Perspektiven. In: Gogolin, I. / Tippelt, R. (Hrsg.): Innovation durch Bildung. Beiträge zum 18. Kongress der Deutschen Gesellschaft für Erziehungswissenschaft. Opladen, S. 349-369.)</p>
<p>[08] Ability</p>	<p>[08] Ability: For the purpose of clear identification of LOs we use the OSH EQF classification of learning outcomes – supplemented by attitudes (which still lack in the EQF model):</p> <ul style="list-style-type: none"> ▪ Knowledge: the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. In the context of the European Qualifications Framework, knowledge is described as theoretical and/or factual ▪ Skill: the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of the European Qualifications Framework, skills are



	<p>described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments)</p> <ul style="list-style-type: none"> ▪ Attitude: “a relatively enduring organisation of beliefs, feelings, and behavioural tendencies towards socially significant objects, groups, events or symbols” (Hogg & Vaughan 2005, p. 150); “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (Eagly & Chaiken, 1993, p. 1) ▪ Competence: the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. In the context of the European Qualifications Framework, competence is described in terms of responsibility and autonomy. <p>Sources</p> <p>For knowledge, skill and competence: European Commission: The European Qualifications Framework for Lifelong Learning (EQF), Luxembourg: Office for Official Publications of the European Communities, 2008, ISBN 978-92-79-08474-4.</p> <p>For attitude: Hogg, Michael A. / Vaughan, Graham M. (2005; 4th edition). Social psychology. Harlow: Pearson. Eagly, A.H. / Chaiken, S. (1993). The Psychology of Attitudes, Fort Worth, TX: Harcourt Brace Jovanovich.</p>
[09] EQF level	[09] EQF level: Relevant in our context are only the four academic levels of the OSH EQF: 6 – bachelor
[10] Level of performance	[10] Level of performance: With reference to competences the intended level of performance might be variable: comparative simple competences (e.g.: to develop software solving a simple, well defined problem) can be fully accomplished in a bachelor programme while complex competences (e.g.: to be able to construct a highway bridge) will be developed not further than advanced level in a master programme.



	<p>1 – Novices are characterised by “rigid adherence to taught rules or plans, little situational perception, no discretionary judgement”</p> <p>2 – Advanced beginners are able to use “guidelines for action based on attributes or aspects (aspects are global characteristics of situations recognisable only after some prior experience)”, their “situational perception is still limited”, while “all attributes and aspects are treated separately and given equal importance”</p> <p>3 – Competent persons are ready for “coping with crowdedness” and “conscious, deliberate planning”, they are able to “see actions at least partially in terms of longer-term goals” and to apply “standardised and routinised procedures”.</p> <p>Sources: Dreyfus, Stuart E. & Dreyfus, Hubert L. (1980), A Five-Stage Model of the Mental Activities Involved in Directed Skill Acquisition.</p>
<p>[11] Assessment methods applicable</p>	<p>[11] Assessment methods applicable: Try to classify the methods you use for assessment of this specific learning outcome according to the following list provided by VIRQUAL.</p> <ol style="list-style-type: none"> 1 – Adaptive Test 2 – Chat room 3 – CLOZE Question Type 4 – Collaborative assignments 5 – Concept Map 6 – Discussion Group 7 – Drag-And-Drop Question Type 8 – Drop-Down question type 9 – E-Portfolio 10 – Essay Style Question Type 11 – Game-Based Learning 12 – Gap Fill Question Type 13 – Group Assessment 14 – Hotspot Question Type



	<p>15 – Mathematical Question Type 16 – Multiple Choice Question Type 17 – Numeric Response Question Type 18 – Peer Assessment 19 – Role-play 20 – Sequence Response Question Type 21 – Short Answer Question Type 22 – Simulation 23 – Text Matching Question Type 24 – True/false question type 25 – Website or publication 26 – Wiki</p>
Part C: Module details:	The following information provides details of the module. It has to be entered only once per module – preferably with the first of it's learning outcomes.
[12] Percentage of distance learning [0 - 100% of workload]	[12] Percentage of distance learning [0 - 100% of workload]: to which degree distance learning (e-learning) is scheduled - in % of total workload of students.
[13] Percentage of distance assessment [0 - 100% of total assessment]	[13] Percentage of distance assessment [0 - 100% of total assessment]: to which degree distance assessment (e-assessment) is used - in % of total assessment
[14] Detailed description (rtf file)	<p>[14] Detailed description (rtf file): The core information of the module collected by a template (https://www.learning-outcomes.org/mod/resource/view.php?id=15) with following fields:</p> <p>General Information / Module</p> <ul style="list-style-type: none"> • Title in original language • Erasmus Subject code • ISCED code • Internal code • Web address • Institution: • Name abbreviation



	<ul style="list-style-type: none"> • Erasmus ID code • Web address • Study Programme/s • using this module • Module Details • Teaching language/s • ECTS Credits • Total workload (in hours) • Contact hours • Pre-requisites • Module objective • Module content • Applicable Methods • % of distance learning • % distance assessment • Teaching methods • Assessment methods <p>Learning Outcomes</p> <ul style="list-style-type: none"> • #1: English / original language to • #x: English / original language
[15] URL (of module description)	[15] URL (of module description): If there is a module description available in the internet, please enter it here.
[16] Erasmus code – classifying the module	<p>[16] Erasmus code – classifying the module (see "Erasmus Subject Code -- ISCED classification") classifies the subject of learning units (typically of complete programmes). Mostly the Erasmus codes of a specific module and the superordinate programme will be the same.</p> <p>But in a significant number of cases there will be a difference, e.g.</p> <ul style="list-style-type: none"> • soft skills modules (16.0 = Personal Skills) in Engineering programmes (06.0 = Engineering, Technology) • mathematics modules (11.1 = Mathematics) in Business programmes (04.0 = Business Studies, Management Sciences).
[17] Number of module within programme	[17] Number of module within programme: If there is a fixed sequence of modules within a programme – what is the number of this specific module?



Part D: Programme identifier:	The following information provides details of the Programme. It has to be entered only once per module – preferably with the first of it’s learning outcomes.
[18] Title / ISCED code / Erasmus code / URL of programme	[18] Title / ISCED code / Erasmus code / URL of programme: LO is part of following study programme
[19] Qualification profile of programme	[19] Qualification profile of programme: Qualification profile of study programme above
[20] Title(s) / ISCED code(s) / Erasmus code(s) / URL(s) of further programme(s)	[20] Title(s) / ISCED code(s) / Erasmus code(s) / URL(s) of further programme(s): LO is part of following further study programme/s
Part E: Information about authors:	To be able to understand all entries an modifications / additions it will be valuable to know something about the authoring process.
[21] Date of entry, comments, e-mail address of author(s)	[21] Date of entry, comments, e-mail address of author(s): Who did what, why and when?



D5.2.2 - OSH Course LEVEL 5

OSH Course Structure for OSH Level 5 – TECHNICIAN SENIOR

- A. *Target audience*
- B. *Objective*
- C. *Learning outcomes*
- D. *Example of application*
- E. *How to write LOs?*
- F. *How to choose the appropriate assessment method?*
- G. *Step by step procedure*

Annex 1: Example of learning outcomes for a OSH management course

Annex 2: OSH EQF Competences and Assessment Methods

Annex 3: Using the LO template

A. *Target audience*

Teachers and course designers from OSH Higher and Continuing Education Institutions

B. *Objective*

Help course designers write learning outcomes (LOs) using a LO template. LOs are very important because they describe knowledge, skills and competences learners demonstrate at the end of a course.

C. *Learning outcomes*

After reading the manual, course designers will be able to:

- describe what LOs consist in;
- develop LOs for one of their OSH courses using the EQF or NQF;
- develop learner evaluation that is aligned with LOs.

D. *Example of application*

A course designer of OSH level 5 should describe the course using these four main elements:

- Course level in reference to OSH EQF
- ECTS (European Credit Transfer System) or ECVET (European Credit system for Vocation and Education Training) credits
- Descriptions of LOs
- Description of assessment method



LOs are described in three domains: knowledge, skills and competences. These refer to the three domains of the OSH EQF (see report of output D.5.1). Assessment methods must be adequate to evaluate and to guarantee the acquisition of these LOs.

E. *How to write LOs?*

It is recommended to use the following guide: Kennedy, D, Hyland, A and Ryan, N. (2006). Writing and Using Learning Outcomes: a Practical Guide.

http://www.externarelationer.adm.gu.se/digitalAssets/1272/1272565_Writing_and_Using_Learning_Outcomes.pdf

F. *How to choose the appropriate assessment method?*

It is recommended to use the matrix of Annex 2.

G. *Step by step procedure*

Step 1 – Write Learning Outcomes (LO) for the course

Step 2 – Specify the course level according to OSH EQF

Step 3 – Choose the assessment method for each LO using the matrix of Annex 2

Step 4 – Specify the number of credits ECTS or ECVET

Step 5 – Use the LO template to create the detailed description of the OSH course



Annex 1

Learning Outcomes for OSH LEVEL 5 – TECHNICIAN SENIOR

The learning outcomes are described in three areas: *Knowledge*, *Skills* and *Competences*.

Knowledge

When completed all training or accreditation of prior learning the participant will have knowledge of the processes within the discipline of OSH that:

- Identify a range of methods of risk control
- Prepare effective instructions for workplace procedures
- Describe main legal responsibilities for OHS
- Recommend suitable risk control methods
- Design suitable methods for the communication of risk to those affected
- Identify training requirements for OHS

Skills

When completed all training or accreditation of prior learning the participant will have skills within the discipline of that:

- Interpret the results of risks assessments and operate systems of control
- Select suitable monitoring and measuring equipment

Competences

When completed all training or accreditation of prior learning the participant will have competences within the discipline of OSH that:

- Deliver instructions relating to OHS in a suitable and effective manner – C1
- Conduct workplace inspections – C1
- Record significant findings – C2
- Conduct investigations into accidents in the workplace – C2



Teaching, learning and assessment methods

Learner will acquire knowledge and understanding mainly from the module texts, with supporting material provided via reference texts, computing environments, specially developed computing environments, computer conferencing and web-based resources. Formal assessment of the taught modules is by way of continuous or discrete assessment in the forms and types as presented in Annex 2 for each type of Learning Outcomes: Knowledge, Skills and Competences.

A practical example of detailed Learning Outcomes applied to OHS LEVEL 5 profile (Technician Senior) is reported here below.

The Learning Outcomes are taken from the Eusafe document “Deliverable D5.1” in Appendix 1.



Level 5

OSH course Level 5 (Technician Senior)

Aims

The aim of this programme is to build on the knowledge and skills learned at level 4 and to integrate these into either simple management systems for organisations possessing less complex risks or to work as part of a management team in an organisation with more complex risks.

B. Implementing OHS Systems

Health and Safety Strategies, Policies and Culture

At the end of the course a person should be able to:		
B 5.1	K	Identify a range of methods of risk control
B 5.2	K	Prepare effective instructions for workplace procedures
B 5.3	K	Describe main legal responsibilities for OHS
B 5.4	K	Recommend suitable risk control methods
B 5.5	K	Design suitable methods for the communication of risk to those affected
B 5.6	K	Identify training requirements for OHS
B 5.7	S	Interpret the results of risks assessments and operate systems of control
B 5.8	C1	Deliver instructions relating to OHS in a suitable and effective manner



Level 5

C. Monitoring OHS Systems

At the end of the course a person should be able to:		
C 5.1	S	Select suitable monitoring and measuring equipment
C 5.2	C1	Conduct workplace inspections
C 5.3	C2	Record significant findings
C 5.4	C2	Conduct investigations into accidents in the workplace



Annex 2: OSH EQF Competences and Assessment Methods

Assessment	Adaptable test	Chat room	CLOZE question assignments	Concept map	Discussion group	Drag and drop	Drop down	E-portfolio	Essay style	Game-Based	Gap-fill	Group assessment	Hotspot	Mathematical	Multiple choice	Numeric response	Peer assessment	Role-play	Sequence response	Short answer	Simulation	Text matching	True/false	publication	Wiki
Levels 4 to 7																									
(K) advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	x		x		x	x	x		x		x		x	x	x	x			x	x		x	x	x	x
(S) advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study	x	x		x	x	x		x		x		x						x				x			
(C1) manage complex technical or professional activities or projects, taking responsibility for decision making in unpredictable work or study contexts	x	x		x	x	x				x								x				x			
(C2) take responsibility for managing professional development of individuals and groups				x	x	x				x		x					x	x				x			



Annex 3: Using the LO template

Fields	Explanations
Part A: Module data	Short identification of the module the following ILO (intended learning outcome) is part of.
[01] Name of the module	[01] Name of module as used in corresponding curriculum
[02] ISCED code of the module	[02] The ISCED code (see " Erasmus Subject Code -- ISCED classification ") classifies the subject of learning units (typically of complete programmes). Mostly the ISCED codes of a specific <i>module</i> and the superordinate <i>programme</i> will be the same. But in a significant number of cases there will be a difference, e.g. <ul style="list-style-type: none"> ▪ soft skills modules (09 = Personal Skills) in Engineering programmes (5 = Engineering, Manufacturing and Construction) ▪ mathematics modules (461 = Mathematics) in Business programmes (340 = Business and Administration).
Part B: Details of specific learning outcome:	For comparison, development and individual use of specific LOs it is necessary to be able to find and unambiguously identify them. Additional information will be asked referring to assessment methods.
[03] Fulltext [English]	[03] Fulltext [English]: Wording of the specific ILO as used in corresponding curriculum: in English – translation (from original language) or original text
[04] Fulltext [in original language - if not English]	[04] Fulltext [in original language - if not English]: Leave blank if original language is English
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	<p><i>LO</i> and the superordinate <i>module</i> will be the same.</p> <p>But in a number of cases there will be a difference (similar as with modules and programmes), e.g.</p> <ul style="list-style-type: none"> ▪ mathematical LOs (461 = Mathematics) in Engineering modules (5 = Engineering, Manufacturing and Construction) ▪ economic LOs (314 = Economics) in Civil engineering modules (582 = Building and civil engineering)
<p>[07] Domain</p>	<p>[07] Domain: For the purpose of clear identification of LOs we apply a trinomial classification of the domain of learning outcomes:</p> <ul style="list-style-type: none"> ▪ discipline specific: relevant only in the context of one specific subject – like medical, chemical or psychological knowledge / competences ▪ methodical: knowledge or competence overarching some or many disciplines like research methodology, documentation skills or statistics ▪ personal / social: all knowledge, skills, attitudes and competences necessary to enable and improve living and working in a social context. <p>(The classification of the domain was adopted from: Tippelt, R. / Mandl, H. / Straka, G. (2003): Entwicklung und Erfassung von Kompetenz in der Wissensgesellschaft – Bildungs- und wissens-theoretische Perspektiven. In: Gogolin, I. / Tippelt, R. (Hrsg.): Innovation durch Bildung. Beiträge zum 18. Kongress der Deutschen Gesellschaft für Erziehungswissenschaft. Opladen, S. 349-369.)</p>
<p>[08] Ability</p>	<p>[08] Ability: For the purpose of clear identification of LOs we use the OSH EQF classification of learning outcomes – supplemented by attitudes (which still lack in the EQF model):</p> <ul style="list-style-type: none"> ▪ Knowledge: the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. In the context of the European Qualifications Framework, knowledge is described as theoretical and/or factual ▪ Skill: the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of the European Qualifications Framework, skills are



	<p>described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments)</p> <ul style="list-style-type: none"> ▪ Attitude: “a relatively enduring organisation of beliefs, feelings, and behavioural tendencies towards socially significant objects, groups, events or symbols” (Hogg & Vaughan 2005, p. 150); “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (Eagly & Chaiken, 1993, p. 1) ▪ Competence: the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. In the context of the European Qualifications Framework, competence is described in terms of responsibility and autonomy. <p>Sources</p> <p>For knowledge, skill and competence: European Commission: The European Qualifications Framework for Lifelong Learning (EQF), Luxembourg: Office for Official Publications of the European Communities, 2008, ISBN 978-92-79-08474-4.</p> <p>For attitude: Hogg, Michael A. / Vaughan, Graham M. (2005; 4th edition). Social psychology. Harlow: Pearson. Eagly, A.H. / Chaiken, S. (1993). The Psychology of Attitudes, Fort Worth, TX: Harcourt Brace Jovanovich.</p>
<p>[09] EQF level</p>	<p>[09] EQF level: Relevant in our context are only the four academic levels of the OSH EQF: 6 – bachelor</p>
<p>[10] Level of performance</p>	<p>[10] Level of performance: With reference to competences the intended level of performance might be variable: comparative simple competences (e.g.: to develop software solving a simple, well defined problem) can be fully accomplished in a bachelor programme while complex competences (e.g.: to be able to construct a highway bridge) will be developed not further than advanced level in a master programme.</p>



	<p>1 – Novices are characterised by “rigid adherence to taught rules or plans, little situational perception, no discretionary judgement”</p> <p>2 – Advanced beginners are able to use “guidelines for action based on attributes or aspects (aspects are global characteristics of situations recognisable only after some prior experience)”, their “situational perception is still limited”, while “all attributes and aspects are treated separately and given equal importance”</p> <p>3 – Competent persons are ready for “coping with crowdedness” and “conscious, deliberate planning”, they are able to “see actions at least partially in terms of longer-term goals” and to apply “standardised and routinised procedures”.</p> <p>Sources: Dreyfus, Stuart E. & Dreyfus, Hubert L. (1980), A Five-Stage Model of the Mental Activities Involved in Directed Skill Acquisition.</p>
<p>[11] Assessment methods applicable</p>	<p>[11] Assessment methods applicable: Try to classify the methods you use for assessment of this specific learning outcome according to the following list provided by VIRQUAL.</p> <ol style="list-style-type: none"> 1 – Adaptive Test 2 – Chat room 3 – CLOZE Question Type 4 – Collaborative assignments 5 – Concept Map 6 – Discussion Group 7 – Drag-And-Drop Question Type 8 – Drop-Down question type 9 – E-Portfolio 10 – Essay Style Question Type 11 – Game-Based Learning 12 – Gap Fill Question Type 13 – Group Assessment 14 – Hotspot Question Type



	<p>15 – Mathematical Question Type 16 – Multiple Choice Question Type 17 – Numeric Response Question Type 18 – Peer Assessment 19 – Role-play 20 – Sequence Response Question Type 21 – Short Answer Question Type 22 – Simulation 23 – Text Matching Question Type 24 – True/false question type 25 – Website or publication 26 – Wiki</p>
Part C: Module details:	The following information provides details of the module. It has to be entered only once per module – preferably with the first of it’s learning outcomes.
[12] Percentage of distance learning [0 - 100% of workload]	[12] Percentage of distance learning [0 - 100% of workload]: to which degree distance learning (e-learning) is scheduled - in % of total workload of students.
[13] Percentage of distance assessment [0 - 100% of total assessment]	[13] Percentage of distance assessment [0 - 100% of total assessment]: to which degree distance assessment (e-assessment) is used - in % of total assessment
[14] Detailed description (rtf file)	<p>[14] Detailed description (rtf file): The core information of the module collected by a template (https://www.learning-outcomes.org/mod/resource/view.php?id=15) with following fields:</p> <p>General Information / Module</p> <ul style="list-style-type: none"> • Title in original language • Erasmus Subject code • ISCED code • Internal code • Web address • Institution: • Name abbreviation



	<ul style="list-style-type: none"> • Erasmus ID code • Web address • Study Programme/s • using this module • Module Details • Teaching language/s • ECTS Credits • Total workload (in hours) • Contact hours • Pre-requisites • Module objective • Module content • Applicable Methods • % of distance learning • % distance assessment • Teaching methods • Assessment methods <p>Learning Outcomes</p> <ul style="list-style-type: none"> • #1: English / original language to • #x: English / original language
[15] URL (of module description)	[15] URL (of module description): If there is a module description available in the internet, please enter it here.
[16] Erasmus code – classifying the module	<p>[16] Erasmus code – classifying the module (see "Erasmus Subject Code -- ISCED classification") classifies the subject of learning units (typically of complete programmes). Mostly the Erasmus codes of a specific module and the superordinate programme will be the same.</p> <p>But in a significant number of cases there will be a difference, e.g.</p> <ul style="list-style-type: none"> • soft skills modules (16.0 = Personal Skills) in Engineering programmes (06.0 = Engineering, Technology) • mathematics modules (11.1 = Mathematics) in Business programmes (04.0 = Business Studies, Management Sciences).
[17] Number of module within programme	[17] Number of module within programme: If there is a fixed sequence of modules within a programme – what is the number of this specific module?



Part D: Programme identifier:	The following information provides details of the Programme. It has to be entered only once per module – preferably with the first of it's learning outcomes.
[18] Title / ISCED code / Erasmus code / URL of programme	[18] Title / ISCED code / Erasmus code / URL of programme: LO is part of following study programme
[19] Qualification profile of programme	[19] Qualification profile of programme: Qualification profile of study programme above
[20] Title(s) / ISCED code(s) / Erasmus code(s) / URL(s) of further programme(s)	[20] Title(s) / ISCED code(s) / Erasmus code(s) / URL(s) of further programme(s): LO is part of following further study programme/s
Part E: Information about authors:	To be able to understand all entries an modifications / additions it will be valuable to know something about the authoring process.
[21] Date of entry, comments, e-mail address of author(s)	[21] Date of entry, comments, e-mail address of author(s): Who did what, why and when?



D5.2.3 OSH Course LEVEL 6

OSH Course Structure for OSH Level 6 – MANAGER JUNIOR

- A. *Target audience*
- B. *Objective*
- C. *Learning outcomes*
- D. *Example of application*
- E. *How to write LOs?*
- F. *How to choose the appropriate assessment method?*
- G. *Step by step procedure*

Annex 1: Example of learning outcomes for a OSH management course

Annex 2: OSH EQF Competences and Assessment Methods

Annex 3: Using the LO template

A. *Target audience*

Teachers and course designers from OSH Higher and Continuing Education Institutions

B. *Objective*

Help course designers write learning outcomes (LOs) using a LO template. LOs are very important because they describe knowledge, skills and competences learners demonstrate at the end of a course.

C. *Learning outcomes*

After reading the manual, course designers will be able to:

- describe what LOs consist in;
- develop LOs for one of their OSH courses using the EQF or NQF;
- develop learner evaluation that is aligned with LOs.

D. *Example of application*

A course designer of OSH level 6 should describe the course using these four main elements:

- Course level in reference to OSH EQF
- ECTS (European Credit Transfer System) or ECVET (European Credit system for Vocation and Education Training) credits
- Descriptions of LOs



- Description of assessment method

LOs are described in three domains: knowledge, skills and competences. These refer to the three domains of the OSH EQF (see report of output D5.1). Assessment methods must be adequate to evaluate and to guarantee the acquisition of these LOs.

E. *How to write LOs?*

It is recommended to use the following guide: Kennedy, D, Hyland, A and Ryan, N. (2006). Writing and Using Learning Outcomes: a Practical Guide.

http://www.externarelationer.adm.gu.se/digitalAssets/1272/1272565_Writing_and_Using_Learning_Outcomes.pdf

F. *How to choose the appropriate assessment method?*

It is recommended to use the matrix of Annex 2.

G. *Step by step procedure*

Step 1 – Write Learning Outcomes (LO) for the course

Step 2 – Specify the course level according to OSH EQF

Step 3 – Choose the assessment method for each LO using the matrix of Annex 2

Step 4 – Specify the number of credits ECTS or ECVET

Step 5 – Use the LO template to create the detailed description of the OSH course



Annex 1

Learning Outcomes for OSH LEVEL 6 – MANAGER JUNIOR

The learning outcomes are described in three areas: *Knowledge, Skills and Competences*.

Knowledge

When completed all training or accreditation of prior learning the participant will have knowledge of the processes within the discipline of OSH that:

- Devise health and safety policies for organisations across a full range of risk profiles
- Generate systems to identify hazards or hazardous events and prioritise and control risks arising from them
- Explain the impact of health and safety requirements on the inputs, conversion processes and outputs of an organisation
- Explain the factors that affect risk tolerability or acceptability
- Explain the theory and practice of organisational communication and the applicability to health and safety management systems
- Effectively communicate information, ideas, problems and solutions to the full range of people they encounter at work
- Justify the principles and applicability of the tools and techniques available to measure risk
- Illustrate how the systems devised meet statutory legal requirements in the jurisdiction of operation
- Explain the role of behavioural safety programmes
- Appraise pro-active monitoring tools to determine their applicability to help organisations meet their statutory and organisational needs
- Describe reactive monitoring tools
- Analyse techniques for monitoring the data generated by health and safety systems



- Use suitable and appropriate analysis, assessment and recording techniques
- Explain the purpose of safety audits, their design, techniques
- Generate performance targets
- Create health and safety review systems
- Develop actions plans, following from reviews
- Review European and national standards applicable to health and safety
- Describe the impact of organisational change to the management of OHS Recognise that health and safety is a dynamic discipline and that it is necessary to keep up to date
- Describe learning styles and their effectiveness in health and safety both for individual practitioners and the workforce they advise
- Describe the principles that underpin ethical practice in health and safety
- Evaluate sources of health and safety information

Skills

When completed all training or accreditation of prior learning the participant will have skills within the discipline of OSH that:

- Specify the concept of safety culture in an organisation and how it integrates with other management functions
- Devise goals and performance targets for health and safety within health and safety policies
- Undertake hazard identification and evaluation across a range of environments
- Devise risk control strategies across a range of environments
- Develop risk control strategies across a range of environments
- Use Information Technology to develop health and safety systems as appropriate
- Investigate loss events and their legal implications
- Plan health and safety reviews



- Compile a personal development portfolio
- Use Information Technology to develop health and safety systems as appropriate

Competences

When completed all training or accreditation of prior learning the participant will have competences within the discipline of OSH that:

- Use an evidence based approach to develop health and safety strategy, policy and culture – C1
- Develop arrangements for contractors or within shared responsibility workplaces – C2
- Adapt systems to incorporate diversity and inclusivity in the workplaces – C1
- Develop safe systems of work and associated documentation – C2
- Use communication tools – C2
- Develop safe systems of work – C2
- Use suitable techniques for monitoring risk control – C1
- Design health and safety audit questionnaires – C2
- Reflect on new developments in health and safety – C1
- Recognise the role of related professions to OHS – C1
- Justify the input of a OHS professional within an organization – C2
- Use management tools for the operation of an OHS department – C2

Teaching, learning and assessment methods

Learner will acquire knowledge and understanding mainly from the module texts, with supporting material provided via reference texts, computing environments, specially developed computing environments, computer conferencing and web-based resources. Formal assessment of the taught modules is by way of continuous or discrete assessment in the forms and types as presented in Annex 2 for each type of Learning Outcomes: Knowledge, Skills and Competences.



A practical example of detailed Learning Outcomes applied to OHS LEVEL 6 profile (Manager Junior) is reported here below.

The Learning Outcomes are taken from the Eusafe document “Deliverable D5.1” in Appendix 1.



Level 6

OSH course Level 6 (Manager Junior)

Aim

The aim of this programme is to develop professionals who can design, implement, maintain and monitor safety management systems for organisations with hazards possessing either high or complex risks.

A. Developing OHS Systems

Health and Safety Strategies, Policies and Culture

At the end of the course a person should be able to:		
A 6.1	K	Develop health and safety policies for organisations across a full range of risk profiles
A 6.2	K	Generate systems to identify hazards or hazardous events and prioritise and control risks arising from them
A 6.3	K	Explain the impact of health and safety requirements on the inputs, conversion processes and outputs of an organisation
A 6.4	K	Explain the factors that affect risk tolerability or acceptability
A 6.5	S	Specify the concept of safety culture in an organisation and how it integrates with other management functions
A 6.6	S	Devise goals and performance targets for health and safety within health and safety policies
A 6.7	C1	Use an evidence based approach to develop health and safety strategy, policy and culture
A6.8	C1	Inspire organisations to believe in the health, safety and well-being of people affected by work
A 6.9	C2	Develop arrangements for contractors or within shared responsibility workplaces



Level 6

B. Implementing OHS Systems

At the end of the course a person should be able to:		
B 6.1	K	Explain the theory and practice of organisational communication and the applicability to health and safety management systems
B 6.2	K	Effectively communicate information, ideas, problems and solutions to the full range of people they encounter at work
B 6.3	K	Justify the principles and applicability of the tools and techniques available to measure risk
B 6.4	K	Illustrate how the systems devised meet statutory legal requirements in the jurisdiction of operation and support legal compliances
B6.5	K	Explain the role of European and local legislation in the development of OHS
B 6.6	K	Explain the role of behavioural safety programmes and the application of relevant programmes
B 6.7	S	Undertake hazard identification and evaluation across a range of environments
B 6.8	S	Devise risk control strategies across a range of environments
B 6.9	S	Implement risk control strategies across a range of environments
B6.10	S	Use suitable techniques to coach people to recognise the importance of occupational health and safety
B 6.11	S	Use Information Technology to develop health and safety systems as appropriate
B 6.12	C1	Adapt systems to incorporate diversity and inclusivity in the workplaces
B6.13	C1	Develop effective relationships, interactions and management of people
B6.14	C1	Use effective coaching skills
B 6.15	C2	Develop safe systems of work and associated documentation
B 6.16	C2	Use communication tools
B 6.17	C2	Develop safe systems of work



Level 6

C. Monitoring OHS Systems

At the end of the course a person should be able to:		
C 6.1	K	Appraise pro-active monitoring tools to determine their applicability to help organisations meet their statutory and organisational needs
C 6.2	K	Describe reactive monitoring tools
C 6.3	K	Analyse techniques for monitoring the data generated by health and safety systems
C 6.4	K	Use suitable and appropriate analysis, assessment and recording techniques
C 6.5	K	Explain the purpose of safety audits, their design, techniques
C 6.6	S	Investigate loss events and their legal implications
C 6.7	C1	Use suitable techniques for monitoring risk control
C6.8	C1	Analyse and interpret the results of safety audits
C 6.9	C2	Design health and safety audit questionnaires



Level 6

D. Maintaining and Reviewing OHS Systems

At the end of the course a person should be able to:		
D 6.1	K	Generate performance targets
D 6.2	K	Create health and safety review systems
D 6.3	K	Develop actions plans, following from reviews
D 6.4	K	Review European and national standards applicable to health and safety
D 6.5	K	Describe the impact of organisational change to the management of OHS
D6.6	K	Explain the concept and application of continuous improvement
D 6.7	S	Plan health and safety reviews



Level 6

E. Professional Development and Conduct

At the end of the course a person should be able to:		
E 6.1	K	Recognise that health and safety is a dynamic discipline and that it is necessary to keep up to date
E 6.2	K	Describe learning styles and their effectiveness in health and safety both for individual practitioners and the workforce they advise
E 6.3	K	Describe the principles that underpin ethical practice in health and safety
E 6.4	K	Evaluate sources of health and safety information and external contacts with central bodies
E 6.5	S	Compile a personal development portfolio
E 6.6	S	Use Information Technology to develop health and safety systems as appropriate
E 6.7	C1	Reflect on new developments in health and safety
E 6.8	C1	Recognise the role of related professions to OHS
E 6.9	C2	Justify the input of a OHS professional within an organisation
E 6.10	C2	Use management tools for the operation of an OHS department
E6.11	C2	Use effective people relationships tools to support the operation of OHS systems



Annex 2: OSH EQF Competences and Assessment Methods

Assessment	Adaptable test	Chat room	CLOZE question assignments	Concept map	Discussion group	Drag and drop	Drop down	E-portfolio	Essay style	Game-Based	Gap-Fill	Group assessment	Hotspot	Mathematical	Multiple choice	Numeric response	Peer assessment	Role-play	Sequence response	Short answer	Simulation	Text matching	True/false	publication	Wiki
Levels 4 to 7																									
(K) advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	x		x		x	x	x		x		x		x	x	x	x			x	x		x	x	x	x
(S) advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study	x	x		x	x	x		x		x		x						x			x				
(C1) manage complex technical or professional activities or projects, taking responsibility for decision making in unpredictable work or study contexts	x	x		x	x	x				x								x			x				
(C2) take responsibility for managing professional development of individuals and groups				x	x	x				x		x					x	x			x				



Annex 3: Using the LO template

Fields	Explanations
Part A: Module data	Short identification of the module the following ILO (intended learning outcome) is part of.
[01] Name of the module	[01] Name of module as used in corresponding curriculum
[02] ISCED code of the module	[02] The ISCED code (see " Erasmus Subject Code -- ISCED classification ") classifies the subject of learning units (typically of complete programmes). Mostly the ISCED codes of a specific <i>module</i> and the superordinate <i>programme</i> will be the same. But in a significant number of cases there will be a difference, e.g. <ul style="list-style-type: none"> ▪ soft skills modules (09 = Personal Skills) in Engineering programmes (5 = Engineering, Manufacturing and Construction) ▪ mathematics modules (461 = Mathematics) in Business programmes (340 = Business and Administration).
Part B: Details of specific learning outcome:	For comparison, development and individual use of specific LOs it is necessary to be able to find and unambiguously identify them. Additional information will be asked referring to assessment methods.
[03] Fulltext [English]	[03] Fulltext [English]: Wording of the specific ILO as used in corresponding curriculum: in English – translation (from original language) or original text
[04] Fulltext [in original language - if not English]	[04] Fulltext [in original language - if not English]: Leave blank if original language is English
[05] Fulltext [further language/s]	[05] Fulltext [further language/s]: Here is space for translations into any other languages
[06] ISCED code - classifying the learning outcome	[06] The ISCED code (see " Erasmus Subject Code -- ISCED classification ") classifies the subject of learning units (typically of complete programmes). Mostly the ISCED codes of a specific



	<p><i>LO</i> and the superordinate <i>module</i> will be the same.</p> <p>But in a number of cases there will be a difference (similar as with modules and programmes), e.g.</p> <ul style="list-style-type: none"> ▪ mathematical LOs (461 = Mathematics) in Engineering modules (5 = Engineering, Manufacturing and Construction) ▪ economic LOs (314 = Economics) in Civil engineering modules (582 = Building and civil engineering)
<p>[07] Domain</p>	<p>[07] Domain: For the purpose of clear identification of LOs we apply a trinomial classification of the domain of learning outcomes:</p> <ul style="list-style-type: none"> ▪ discipline specific: relevant only in the context of one specific subject – like medical, chemical or psychological knowledge / competences ▪ methodical: knowledge or competence overarching some or many disciplines like research methodology, documentation skills or statistics ▪ personal / social: all knowledge, skills, attitudes and competences necessary to enable and improve living and working in a social context. <p>(The classification of the domain was adopted from: Tippelt, R. / Mandl, H. / Straka, G. (2003): Entwicklung und Erfassung von Kompetenz in der Wissensgesellschaft – Bildungs- und wissens-theoretische Perspektiven. In: Gogolin, I. / Tippelt, R. (Hrsg.): Innovation durch Bildung. Beiträge zum 18. Kongress der Deutschen Gesellschaft für Erziehungswissenschaft. Opladen, S. 349-369.)</p>
<p>[08] Ability</p>	<p>[08] Ability: For the purpose of clear identification of LOs we use the OSH EQF classification of learning outcomes – supplemented by attitudes (which still lack in the EQF model):</p> <ul style="list-style-type: none"> ▪ Knowledge: the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. In the context of the European Qualifications Framework, knowledge is described as theoretical and/or factual ▪ Skill: the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of the European Qualifications Framework, skills are



	<p>described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments)</p> <ul style="list-style-type: none"> ▪ Attitude: “a relatively enduring organisation of beliefs, feelings, and behavioural tendencies towards socially significant objects, groups, events or symbols” (Hogg & Vaughan 2005, p. 150); “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (Eagly & Chaiken, 1993, p. 1) ▪ Competence: the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. In the context of the European Qualifications Framework, competence is described in terms of responsibility and autonomy. <p>Sources</p> <p>For knowledge, skill and competence: European Commission: The European Qualifications Framework for Lifelong Learning (EQF), Luxembourg: Office for Official Publications of the European Communities, 2008, ISBN 978-92-79-08474-4.</p> <p>For attitude: Hogg, Michael A. / Vaughan, Graham M. (2005; 4th edition). Social psychology. Harlow: Pearson. Eagly, A.H. / Chaiken, S. (1993). The Psychology of Attitudes, Fort Worth, TX: Harcourt Brace Jovanovich.</p>
[09] EQF level	[09] EQF level: Relevant in our context are only the four academic levels of the OSH EQF: 6 – bachelor
[10] Level of performance	[10] Level of performance: With reference to competences the intended level of performance might be variable: comparative simple competences (e.g.: to develop software solving a simple, well defined problem) can be fully accomplished in a bachelor programme while complex competences (e.g.: to be able to construct a highway bridge) will be developed not further than advanced level in a master programme.



	<p>1 – Novices are characterised by “rigid adherence to taught rules or plans, little situational perception, no discretionary judgement”</p> <p>2 – Advanced beginners are able to use “guidelines for action based on attributes or aspects (aspects are global characteristics of situations recognisable only after some prior experience)”, their “situational perception is still limited”, while “all attributes and aspects are treated separately and given equal importance”</p> <p>3 – Competent persons are ready for “coping with crowdedness” and “conscious, deliberate planning”, they are able to “see actions at least partially in terms of longer-term goals” and to apply “standardised and routinised procedures”.</p> <p>Sources: Dreyfus, Stuart E. & Dreyfus, Hubert L. (1980), A Five-Stage Model of the Mental Activities Involved in Directed Skill Acquisition.</p>
<p>[11] Assessment methods applicable</p>	<p>[11] Assessment methods applicable: Try to classify the methods you use for assessment of this specific learning outcome according to the following list provided by VIRQUAL.</p> <ol style="list-style-type: none"> 1 – Adaptive Test 2 – Chat room 3 – CLOZE Question Type 4 – Collaborative assignments 5 – Concept Map 6 – Discussion Group 7 – Drag-And-Drop Question Type 8 – Drop-Down question type 9 – E-Portfolio 10 – Essay Style Question Type 11 – Game-Based Learning 12 – Gap Fill Question Type 13 – Group Assessment 14 – Hotspot Question Type



	<p>15 – Mathematical Question Type 16 – Multiple Choice Question Type 17 – Numeric Response Question Type 18 – Peer Assessment 19 – Role-play 20 – Sequence Response Question Type 21 – Short Answer Question Type 22 – Simulation 23 – Text Matching Question Type 24 – True/false question type 25 – Website or publication 26 – Wiki</p>
Part C: Module details:	The following information provides details of the module. It has to be entered only once per module – preferably with the first of it's learning outcomes.
[12] Percentage of distance learning [0 - 100% of workload]	[12] Percentage of distance learning [0 - 100% of workload]: to which degree distance learning (e-learning) is scheduled - in % of total workload of students.
[13] Percentage of distance assessment [0 - 100% of total assessment]	[13] Percentage of distance assessment [0 - 100% of total assessment]: to which degree distance assessment (e-assessment) is used - in % of total assessment
[14] Detailed description (rtf file)	<p>[14] Detailed description (rtf file): The core information of the module collected by a template (https://www.learning-outcomes.org/mod/resource/view.php?id=15) with following fields:</p> <p>General Information / Module</p> <ul style="list-style-type: none"> • Title in original language • Erasmus Subject code • ISCED code • Internal code • Web address • Institution: • Name abbreviation



	<ul style="list-style-type: none"> • Erasmus ID code • Web address • Study Programme/s • using this module • Module Details • Teaching language/s • ECTS Credits • Total workload (in hours) • Contact hours • Pre-requisites • Module objective • Module content • Applicable Methods • % of distance learning • % distance assessment • Teaching methods • Assessment methods <p>Learning Outcomes</p> <ul style="list-style-type: none"> • #1: English / original language to • #x: English / original language
[15] URL (of module description)	[15] URL (of module description): If there is a module description available in the internet, please enter it here.
[16] Erasmus code – classifying the module	<p>[16] Erasmus code – classifying the module (see "Erasmus Subject Code -- ISCED classification") classifies the subject of learning units (typically of complete programmes). Mostly the Erasmus codes of a specific module and the superordinate programme will be the same.</p> <p>But in a significant number of cases there will be a difference, e.g.</p> <ul style="list-style-type: none"> • soft skills modules (16.0 = Personal Skills) in Engineering programmes (06.0 = Engineering, Technology) • mathematics modules (11.1 = Mathematics) in Business programmes (04.0 = Business Studies, Management Sciences).
[17] Number of module within programme	[17] Number of module within programme: If there is a fixed sequence of modules within a programme – what is the number of this specific module?



Part D: Programme identifier:	The following information provides details of the Programme. It has to be entered only once per module – preferably with the first of it’s learning outcomes.
[18] Title / ISCED code / Erasmus code / URL of programme	[18] Title / ISCED code / Erasmus code / URL of programme: LO is part of following study programme
[19] Qualification profile of programme	[19] Qualification profile of programme: Qualification profile of study programme above
[20] Title(s) / ISCED code(s) / Erasmus code(s) / URL(s) of further programme(s)	[20] Title(s) / ISCED code(s) / Erasmus code(s) / URL(s) of further programme(s): LO is part of following further study programme/s
Part E: Information about authors:	To be able to understand all entries an modifications / additions it will be valuable to know something about the authoring process.
[21] Date of entry, comments, e-mail address of author(s)	[21] Date of entry, comments, e-mail address of author(s): Who did what, why and when?



D5.2.3 OSH Course LEVEL 7

OSH Course Structure for OSH Level 7 – MANAGER SENIOR

- A. *Target audience*
- B. *Objective*
- C. *Learning outcomes*
- D. *Example of application*
- E. *How to write LOs?*
- F. *How to choose the appropriate assessment method?*
- G. *Step by step procedure*

Annex 1: Example of learning outcomes for a OSH management course

Annex 2: OSH EQF Competences and Assessment Methods

Annex 3: Using the LO template

A. *Target audience*

Teachers and course designers from OSH Higher and Continuing Education Institutions

B. *Objective*

Help course designers write learning outcomes (LOs) using a LO template. LOs are very important because they describe knowledge, skills and competences learners demonstrate at the end of a course.

C. *Learning outcomes*

After reading the manual, course designers will be able to:

- describe what LOs consist in;
- develop LOs for one of their OSH courses using the EQF or NQF;
- develop learner evaluation that is aligned with LOs.

D. *Example of application*

A course designer of OSH level 7 should describe the course using these four main elements:

- Course level in reference to OSH EQF
- ECTS (European Credit Transfer System) or ECVET (European Credit system for Vocation and Education Training) credits
- Descriptions of LOs
- Description of assessment method



LOs are described in three domains: knowledge, skills and competences. These refer to the three domains of the OSH EQF (see report of output D.5.1). Assessment methods must be adequate to evaluate and to guarantee the acquisition of these LOs.

E. *How to write LOs?*

It is recommended to use the following guide: Kennedy, D, Hyland, A and Ryan, N. (2006). Writing and Using Learning Outcomes: a Practical Guide.

http://www.externarelationer.adm.gu.se/digitalAssets/1272/1272565_Writing_and_Using_Learning_Outcomes.pdf

F. *How to choose the appropriate assessment method?*

It is recommended to use the matrix of Annex 2.

G. *Step by step procedure*

Step 1 – Write Learning Outcomes (LO) for the course

Step 2 – Specify the course level according to OSH EQF

Step 3 – Choose the assessment method for each LO using the matrix of Annex 2

Step 4 – Specify the number of credits ECTS or ECVET

Step 5 – Use the LO template to create the detailed description of the OSH course

Annex 1

Learning Outcomes for OSH LEVEL 7 – MANAGER SENIOR

The learning outcomes are described in three areas: *Knowledge, Skills and Competences*.

Knowledge

When completed all training or accreditation of prior learning the participant will have knowledge of the processes within the discipline of OSH that:

- Appraise the health and safety culture of an organisation
- Analyse components of safety strategies for an organization
- Develop OSH competence schemes
- Appraise OSH performance targets



- Interpret the theory and practice of organisational communication with respect to health and safety management systems
- Compare general management techniques and describe how these can be used to influence health and safety management
- Compare available standards for health and safety management
- Communicate OSH risks in the context of organisational risk
- Compare the effectiveness of monitoring systems
- Describe how to improve OSH
- Explain the concept of continual improvement in health and safety performance
- Evaluate the efficiency and cost effectiveness of safety management systems
- Interpret feedback from health and safety management monitoring systems
- Evaluate new techniques of reviewing the maintenance of safety management systems
- Explain, debate and justify professional ethics in practice

Skills

When completed all training or accreditation of prior learning the participant will have skills within the discipline of OSH that:

- Devise a safety management system for an organization
- Develop change strategies to improve OSH in organisations
- Utilise benchmarking techniques
- Develop a professional skills portfolio and recognise the importance of professional reflection
- Demonstrate professional advocacy in relation to health and safety



Competences

When completed all training or accreditation of prior learning the participant will have competences within the discipline of OSH that:

- Justify OSH systems against organisational objectives – C1
- Compare ranges of communication techniques and be able to select appropriate techniques for the intended audience – C1
- Communicate the changes necessary to OSH systems – C1
- Challenge existing OSH systems when necessary – C2
- Utilise appropriate national and European standards to improve business performance – C2

Teaching, learning and assessment methods

Learner will acquire knowledge and understanding mainly from the module texts, with supporting material provided via reference texts, computing environments, specially developed computing environments, computer conferencing and web-based resources. Formal assessment of the taught modules is by way of continuous or discrete assessment in the forms and types as presented in Annex 2 for each type of Learning Outcomes: Knowledge, Skills and Competences.

A practical example of detailed Learning Outcomes applied to OHS LEVEL 7 profile (Manager Senior) is reported here below.

The Learning Outcomes are taken from the Eusafe document “Deliverable D5.1” in Appendix 1.



Level 7

OSH course Level 7 (Manager Senior)

Aim

The aim of this programme is to develop professionals who have high level management and strategic skills in the context of organisations which possess a range of risks which need to be managed.

A. Developing OHS Systems

Health and Safety Strategies, Policies and Culture

At the end of the course a person should be able to:		
A 7.1	K	Appraise the health and safety culture of an organisation
A 7.2	K	Analyse components of safety strategies for an organisation
A 7.3	K	Develop OHS competence schemes
A 7.4	K	Appraise OHS performance targets
A 7.5	S	Devise a safety management system for an organisation
A 7.6	C1	Justify OHS systems against organisational objectives
A7.7	C1	Justify the integration of OHS management into the overall management culture
A7.8	C1	Explain how an OHS practitioner can be a change agent and drive the agenda for change within their organisation



Level 7

B. Implementing OHS Systems

At the end of the course a person should be able to:		
B 7.1	K	Interpret the theory and practice of organisational communication with respect to health and safety management systems
B 7.2	K	Compare general management techniques and describe how these can be used to influence health and safety management
B 7.3	K	Compare available standards for health and safety management
B 7.4	K	Communicate OHS risks in the context of organisational risk
B 7.5	C1	Compare ranges of communication techniques and be able to select appropriate techniques for the intended audience

Level 7

C. Monitoring OHS Systems

At the end of the course a person should be able to:		
C 7.1	K	Compare the effectiveness of monitoring systems
C 7.2	K	Describe how to improve OHS
C 7.3	S	Develop change strategies to improve OHS in organisations
C 7.4	C1	Communicate the changes necessary to OHS systems
C 7.5	C2	Challenge existing OHS systems when necessary



Level 7

D. Maintaining OHS Systems

At the end of the course a person should be able to:		
D 7.1	K	Explain the concept of continual improvement in health and safety performance
D 7.2	K	Evaluate the efficiency and cost effectiveness of safety management systems
D 7.3	K	Interpret feedback from health and safety management monitoring systems
D 7.4	K	Evaluate new techniques of reviewing the maintenance of safety management systems
D 7.5	S	Utilise benchmarking techniques
D 7.6	C2	Utilise appropriate national and European standards to improve business performance

Level 7

E. Professional Development and Conduct

At the end of the course a person should be able to:		
E 7.1	K	Explain, debate and justify professional ethics in practice
E 7.2	S	Develop a professional skills portfolio and recognise the importance of professional reflection
E 7.3	S	Demonstrate professional advocacy in relation to health and safety



Annex 2: OSH EQF Competences and Assessment Methods

Assessment	Adaptable test	Chat room	CLOZE question assignments	Concept map	Discussion group	Drag and drop	Drop down	E-portfolio	Essay style	Game-Based	Gap-fill	Group assessment	Hotspot	Mathematical	Multiple choice	Numeric response	Peer assessment	Role-play	Sequence response	Short answer	Simulation	Text matching	True/false	publication	Wiki
Levels 4 to 7																									
(K) advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	x		x		x	x	x	x		x		x		x	x	x			x	x		x	x	x	x
(S) advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study	x	x		x	x	x		x		x		x						x			x				
(C1) manage complex technical or professional activities or projects, taking responsibility for decision making in unpredictable work or study contexts	x	x		x	x	x				x								x			x				
(C2) take responsibility for managing professional development of individuals and groups				x	x	x				x		x					x	x			x				



Annex 3: Using the LO template

Fields	Explanations
Part A: Module data	Short identification of the module the following ILO (intended learning outcome) is part of.
[01] Name of the module	[01] Name of module as used in corresponding curriculum
[02] ISCED code of the module	[02] The ISCED code (see " Erasmus Subject Code -- ISCED classification ") classifies the subject of learning units (typically of complete programmes). Mostly the ISCED codes of a specific <i>module</i> and the superordinate <i>programme</i> will be the same. But in a significant number of cases there will be a difference, e.g. <ul style="list-style-type: none"> ▪ soft skills modules (09 = Personal Skills) in Engineering programmes (5 = Engineering, Manufacturing and Construction) ▪ mathematics modules (461 = Mathematics) in Business programmes (340 = Business and Administration).
Part B: Details of specific learning outcome:	For comparison, development and individual use of specific LOs it is necessary to be able to find and unambiguously identify them. Additional information will be asked referring to assessment methods.
[03] Fulltext [English]	[03] Fulltext [English]: Wording of the specific ILO as used in corresponding curriculum: in English – translation (from original language) or original text
[04] Fulltext [in original language - if not English]	[04] Fulltext [in original language - if not English]: Leave blank if original language is English
[05] Fulltext [further language/s]	[05] Fulltext [further language/s]: Here is space for translations into any other languages
[06] ISCED code - classifying the learning outcome	[06] The ISCED code (see " Erasmus Subject Code -- ISCED classification ") classifies the subject of learning units (typically of complete programmes). Mostly the ISCED codes of a specific



	<p><i>LO</i> and the superordinate <i>module</i> will be the same.</p> <p>But in a number of cases there will be a difference (similar as with modules and programmes), e.g.</p> <ul style="list-style-type: none"> ▪ mathematical LOs (461 = Mathematics) in Engineering modules (5 = Engineering, Manufacturing and Construction) ▪ economic LOs (314 = Economics) in Civil engineering modules (582 = Building and civil engineering)
<p>[07] Domain</p>	<p>[07] Domain: For the purpose of clear identification of LOs we apply a trinomial classification of the domain of learning outcomes:</p> <ul style="list-style-type: none"> ▪ discipline specific: relevant only in the context of one specific subject – like medical, chemical or psychological knowledge / competences ▪ methodical: knowledge or competence overarching some or many disciplines like research methodology, documentation skills or statistics ▪ personal / social: all knowledge, skills, attitudes and competences necessary to enable and improve living and working in a social context. <p>(The classification of the domain was adopted from: Tippelt, R. / Mandl, H. / Straka, G. (2003): Entwicklung und Erfassung von Kompetenz in der Wissensgesellschaft – Bildungs- und wissens-theoretische Perspektiven. In: Gogolin, I. / Tippelt, R. (Hrsg.): Innovation durch Bildung. Beiträge zum 18. Kongress der Deutschen Gesellschaft für Erziehungswissenschaft. Opladen, S. 349-369.)</p>
<p>[08] Ability</p>	<p>[08] Ability: For the purpose of clear identification of LOs we use the OSH EQF classification of learning outcomes – supplemented by attitudes (which still lack in the EQF model):</p> <ul style="list-style-type: none"> ▪ Knowledge: the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. In the context of the European Qualifications Framework, knowledge is described as theoretical and/or factual ▪ Skill: the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of the European Qualifications Framework, skills are



	<p>described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments)</p> <ul style="list-style-type: none"> ▪ Attitude: “a relatively enduring organisation of beliefs, feelings, and behavioural tendencies towards socially significant objects, groups, events or symbols” (Hogg & Vaughan 2005, p. 150); “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (Eagly & Chaiken, 1993, p. 1) ▪ Competence: the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. In the context of the European Qualifications Framework, competence is described in terms of responsibility and autonomy. <p>Sources</p> <p>For knowledge, skill and competence: European Commission: The European Qualifications Framework for Lifelong Learning (EQF), Luxembourg: Office for Official Publications of the European Communities, 2008, ISBN 978-92-79-08474-4.</p> <p>For attitude: Hogg, Michael A. / Vaughan, Graham M. (2005; 4th edition). Social psychology. Harlow: Pearson. Eagly, A.H. / Chaiken, S. (1993). The Psychology of Attitudes, Fort Worth, TX: Harcourt Brace Jovanovich.</p>
[09] EQF level	[09] EQF level: Relevant in our context are only the four academic levels of the OSH EQF: 6 – bachelor
[10] Level of performance	[10] Level of performance: With reference to competences the intended level of performance might be variable: comparative simple competences (e.g.: to develop software solving a simple, well defined problem) can be fully accomplished in a bachelor programme while complex competences (e.g.: to be able to construct a highway bridge) will be developed not further than advanced level in a master programme.



	<p>1 – Novices are characterised by “rigid adherence to taught rules or plans, little situational perception, no discretionary judgement”</p> <p>2 – Advanced beginners are able to use “guidelines for action based on attributes or aspects (aspects are global characteristics of situations recognisable only after some prior experience)”, their “situational perception is still limited”, while “all attributes and aspects are treated separately and given equal importance”</p> <p>3 – Competent persons are ready for “coping with crowdedness” and “conscious, deliberate planning”, they are able to “see actions at least partially in terms of longer-term goals” and to apply “standardised and routinised procedures”.</p> <p>Sources: Dreyfus, Stuart E. & Dreyfus, Hubert L. (1980), A Five-Stage Model of the Mental Activities Involved in Directed Skill Acquisition.</p>
<p>[11] Assessment methods applicable</p>	<p>[11] Assessment methods applicable: Try to classify the methods you use for assessment of this specific learning outcome according to the following list provided by VIRQUAL.</p> <ol style="list-style-type: none"> 1 – Adaptive Test 2 – Chat room 3 – CLOZE Question Type 4 – Collaborative assignments 5 – Concept Map 6 – Discussion Group 7 – Drag-And-Drop Question Type 8 – Drop-Down question type 9 – E-Portfolio 10 – Essay Style Question Type 11 – Game-Based Learning 12 – Gap Fill Question Type 13 – Group Assessment 14 – Hotspot Question Type



	<p>15 – Mathematical Question Type</p> <p>16 – Multiple Choice Question Type</p> <p>17 – Numeric Response Question Type</p> <p>18 – Peer Assessment</p> <p>19 – Role-play</p> <p>20 – Sequence Response Question Type</p> <p>21 – Short Answer Question Type</p> <p>22 – Simulation</p> <p>23 – Text Matching Question Type</p> <p>24 – True/false question type</p> <p>25 – Website or publication</p> <p>26 – Wiki</p>
Part C: Module details:	The following information provides details of the module. It has to be entered only once per module – preferably with the first of it's learning outcomes.
[12] Percentage of distance learning [0 - 100% of workload]	[12] Percentage of distance learning [0 - 100% of workload]: to which degree distance learning (e-learning) is scheduled - in % of total workload of students.
[13] Percentage of distance assessment [0 - 100% of total assessment]	[13] Percentage of distance assessment [0 - 100% of total assessment]: to which degree distance assessment (e-assessment) is used - in % of total assessment
[14] Detailed description (rtf file)	<p>[14] Detailed description (rtf file): The core information of the module collected by a template (https://www.learning-outcomes.org/mod/resource/view.php?id=15) with following fields:</p> <p>General Information / Module</p> <ul style="list-style-type: none"> • Title in original language • Erasmus Subject code • ISCED code • Internal code • Web address • Institution: • Name abbreviation



	<ul style="list-style-type: none"> • Erasmus ID code • Web address • Study Programme/s • using this module • Module Details • Teaching language/s • ECTS Credits • Total workload (in hours) • Contact hours • Pre-requisites • Module objective • Module content • Applicable Methods • % of distance learning • % distance assessment • Teaching methods • Assessment methods <p>Learning Outcomes</p> <ul style="list-style-type: none"> • #1: English / original language to • #x: English / original language
[15] URL (of module description)	[15] URL (of module description): If there is a module description available in the internet, please enter it here.
[16] Erasmus code – classifying the module	<p>[16] Erasmus code – classifying the module (see "Erasmus Subject Code -- ISCED classification") classifies the subject of learning units (typically of complete programmes). Mostly the Erasmus codes of a specific module and the superordinate programme will be the same.</p> <p>But in a significant number of cases there will be a difference, e.g.</p> <ul style="list-style-type: none"> • soft skills modules (16.0 = Personal Skills) in Engineering programmes (06.0 = Engineering, Technology) • mathematics modules (11.1 = Mathematics) in Business programmes (04.0 = Business Studies, Management Sciences).
[17] Number of module within programme	[17] Number of module within programme: If there is a fixed sequence of modules within a programme – what is the number of this specific module?



Part D: Programme identifier:	The following information provides details of the Programme. It has to be entered only once per module – preferably with the first of it’s learning outcomes.
[18] Title / ISCED code / Erasmus code / URL of programme	[18] Title / ISCED code / Erasmus code / URL of programme: LO is part of following study programme
[19] Qualification profile of programme	[19] Qualification profile of programme: Qualification profile of study programme above
[20] Title(s) / ISCED code(s) / Erasmus code(s) / URL(s) of further programme(s)	[20] Title(s) / ISCED code(s) / Erasmus code(s) / URL(s) of further programme(s): LO is part of following further study programme/s
Part E: Information about authors:	To be able to understand all entries an modifications / additions it will be valuable to know something about the authoring process.
[21] Date of entry, comments, e-mail address of author(s)	[21] Date of entry, comments, e-mail address of author(s): Who did what, why and when?