

SuPeRBE training syllabus and related Learning Outcomes

The SuPeRBE Training System is structured in 13 Macro-Areas of Expertise (MAE), each composed of multiple Areas of Expertise (AE).

MAE 1.	Climate Change and Built Environment
AE 1.1	Fundamentals of climate change
AE 1.2	Policies and governance for climate adaptation
AE 1.3	Methods and tools for climate risk assessment and management
AE 1.4	Climate adaptation strategies and solutions
MAE 2.	RBE Assessment System
AE 2.1	RBE Method
AE 2.2	RBTool-CE
AE 2.3	RNTool-CE
MAE 3.	Risk Assessment at small urban scale - Heavy precipitation
AE 3.1	Buildings A1.1 - Damage risk for residential buildings A1.2 - Damage risk for public buildings
AE 3.2	Transport
AE 3.3	Energy
AE 3.4	Water A4.3 - Damage risk for sewage system
AE 3.5	Health
AE 3.6	Emergency Services
AE 3.7	Tourism
MAE 4.	Risk Assessment at small urban scale - Flooding
AE 4.1	Buildings B1.1 - Damage risk for residential buildings B1.2 - Damage risk for public buildings
AE 4.2	Transport B2.2 - Damage risk for road transport network B2.5 - Damage risk for bicycle and pedestrian paths
AE 4.3	Water
AE 4.4	Health B8.1 - Health risk for population
AE 4.5	Emergency Services B9.1 - Efficiency risk for civil protection service
MAE 5.	Risk Assessment at small urban scale - Extreme heat
AE 5.1	Buildings
AE 5.2	Transport
AE 5.3	Energy
AE 5.4	Environment & Biodiversity
AE 5.5	Health C8.1 - Health risk for population
AE 5.6	Emergency services C9.1 - Efficiency risk for emergency medical services
AE 5.7	Tourism
MAE 6.	Risk Assessment at small urban scale - Drought
AE 6.1	Water D4.2- Damage risk for water supply network

AE 6.2	Environment & Biodiversity D7.1 - Damage risk for Urban green spaces D7.3 - Damage risk for Street Trees
AE 6.3	Health
AE 6.4	Emergency services
MAE 7.	Risk Assessment at small urban scale – Storm (no KRC)
AE 7.1	Buildings
AE 7.2	Transport
AE 7.3	Health
AE 7.4	Emergency services
MAE 8.	Risk Assessment at small urban scale- Wild fire (no KRC)
AE 8.1	Emergency Services
MAE 9.	Risk Assessment at small urban scale- Mass movement (no KRC)
AE 9.1	Buildings
AE 9.2	Transport
AE 9.3	Emergency Services
AE 9.4	Tourism
MAE 10.	Risk Assessment at building scale
AE 10.1	Heavy precipitation A4.2 - Façade openings A5.2 - Roof Weatherproofing A13.1 - Landscaping - Paving and other hard surfacing
AE 10.2	Flooding B4.2 - Façade openings B8.3 - Electricity generation and distribution B10.4 - Drainage systems B14.1 - Location - Proximity
AE 10.3	Extreme heat C4.1 - External wall systems, cladding and shading devices C4.2 - Façade openings C5.1 - Roof structure C15.1 - Comfort
AE 10.4	Drough D6.1 - Sanitary fittings D10.1 - Cold water distribution
AE 10.5	Storm E4.2 - Façade openings E5.1 -Roof Structure
AE 10.6	Wild fire F4.1 - External wall systems, cladding and shading devices F11.2 - Firefighting installations F13.2 - Fencing, railing and walls F14.1 – Location - Proximity
AE 10.7	Mass movement G2.3 - External wall systems, cladding and shading devices G14.1 – Location - Proximity
MAE 11.	Decision Making for climate adaptation
AE 11.1	Decision Making for climate adaptation at building and small urban scale
MAE 12.	Digital tools for climate adaptation
AE 12.1	SuPeRBE Platform

MAE 13.	Policy instruments for climate adaptation
AE 13.1	Local climate adaptation planning
AE 13.2	Climate resilient spatial planning
AE 13.3	Climate adaptation in Strategic Environmental Assessment
AE 13.4	Climate adaptation in Urban Health

The three SuPeRBE e-courses cover all the contents described above providing diversified knowledge and skills in relation to the levels of competence expected for the three target groups:

- decision-maker (DM): level 1
- technical coordinator (TC): level 2
- professional (PR): level 3

The learning outcomes of the SuPeRBE training system in relation to the different Areas of Expertise are described below.

MAE 1	Climate Change and Built Environment				
AE 1.1	Fundamentals of climate change				
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO1.1.1	Recognizing climate change as a critical environmental issue	Minimal knowledge of: - climate change-related terms; - climate change as a global environmental issue; - link between climate change and the built environment.	Recognizing climate change terminology and concepts when encountered in basic documents or discussions. Identifying general relationships between climate issues and buildings	1	DM, TC, PR
LO1.1.2	Analyzing socio-economic dimensions of climate change in the built environment	Minimal knowledge of: - social vulnerability to climate impacts - economic costs of inaction vs adaptation - environmental justice in urban settings	Analyzing the distribution of climate risks among populations; Integrating equity and justice principles into adaptation planning	1	DM, TC, PR
LO1.1.3	Understanding ethical responsibility and professional roles in addressing climate change	Minimal knowledge of: - ethical frameworks pro-climate action - role of professionals in shaping sustainable futures	Reflecting on the ethical dimensions of climate-related decisions; Defend ethically the decision to the public, the investor, and the professional community	1	DM, TC, PR
LO1.1.4	Applying fundamental scientific concepts of climate change specifically related to	Basic knowledge of: - scientific principles of climate change.	Describing basic climate concepts and communicating simple ideas about how		

	buildings and infrastructure	- influence of human activities on climate change, with emphasis on the role of buildings and infrastructure. - key climate risks and impacts on built environments.	buildings contribute to climate change. Identifying elementary climate risks in given scenarios involving the built environment.	2	TC, PR
LO1.1.5	Explaining climate change mechanisms, identifying major climate-related risks affecting the built environment	Medium knowledge of: - physical and scientific basis of climate change, including greenhouse gas sources, links and interactions within built environments. - primary climate-related impacts on buildings and urban areas. - key terms, metrics, and concepts used to quantify climate impacts.	Explaining climate change causes, processes, and effects relevant to buildings and urban contexts. Analysing standard building-related climate impacts using recognized metrics and communicate results effectively to stakeholders.	3	PR

MAE 1. Climate Change and Built Environment					
AE 1.2 Policies and governance for climate adaptation					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO1.2.1	Understanding key concepts	Minimum knowledge of: - Climate adaptation - Resilience - Adaptation policies - Governance - Policy instruments - Local and national climate planning	Understanding basic definitions and differences between adaptation and mitigation. Understanding types of governance (local, regional, national) and discussing local vs national roles in climate adaptation and governance.	1	DM, TC, PR
LO1.2.2	Understanding major international frameworks guiding climate adaptation	Minimum knowledge of: - The Paris Agreement - Sustainable Development oals (SDGs) - The Intergovernmental Panel on Climate Change (IPCC)	Understanding basic concepts of major international climate adaptation frameworks and goals.	1	DM, TC, PR
LO1.2.3	Analysing different policy tools and instruments for climate resilience	Basic knowledge of: - Good examples of adaptation policies - Climate-resilient building codes	Selecting real-world successful case studies of climate adaptation policies and their	2	TC, PR

	in the built environment	- Financial incentives for green infrastructure	solutions as a good example and inspiration. Understanding how specific policy instruments are designed to address climate-related risks.		
LO1.2.4	Evaluating policy effectiveness using climate risk and vulnerability assessment tools	Medium knowledge of: - Risk and vulnerability assessment - Resilience indicators - Climate adaptation policy	Analysing the policy effectiveness of climate adaptation policies by using risk and vulnerability assessment tools in a certain area.	3	PR

MAE 1. Climate Change and Built Environment					
AE 1.3 Methods and tools for climate risk assessment and management					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO1.3.1	Recognizing climate risks relevant to the built environment	Minimal knowledge of: - types of climate risks (floods, heatwaves, storms, etc.); - an understanding of the potential baseline impacts on buildings and infrastructure - guidelines from the local SECAP (Sustainable Energy Climate Action Plan) – if available	Identifying common climate risks in various regions; Recognizing general implications for the built environment	1	DM, TC, PR
LO1.3.2	Understanding the purpose and value of climate risk assessment tools in decision-making	Minimal knowledge of: - what climate risk assessment is and why it matters - general categories of tools (e.g., mapping, modelling, screening) - their role in planning and design	Recognizing situations where climate risk assessment is relevant; Asking for or supporting the use of appropriate tools in projects or policies	1	DM, TC, PR
LO1.3.3	Understanding the role of assessment tools in identify climate risks	Basic knowledge of: - purpose and types of risk assessment tools - existing tools - input data to feed the tool	Describing how tools support risk-informed decisions; Selecting appropriate tool types for project needs	2	TC, PR
	Applying climate risk assessment tools	Basic knowledge of: - risk matrices, vulnerability	Using selected tools to assess climate risks; Interpreting outputs to		

LO1.3.4		assessments, GIS-based tools; - key data inputs and outputs	inform decisions in projects or planning	2	TC, PR
LO1.3.5	Engaging stakeholders in climate risk assessment and decision-making processes	Basic knowledge of: - participatory risk assessment methods - co-creation and co-design in climate adaptation solutions in the built environment	Facilitating discussions and integrating local knowledge into risk assessment; Mediating between technical assessments and community concerns	2	TC, PR
LO1.3.6	Evaluating tool performance and integrating risk management strategies	Medium knowledge of: - performance criteria and limits of tools; - integration with mitigation/adaptation planning	Critically evaluating tool suitability and effectiveness; Integrating results into planning and design strategies	3	PR

MAE 1.	Climate Change and Built Environment				
AE 1.4	Climate adaptation strategies and solutions				
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO1.4.1	Understanding key concepts: climate adaptation strategies and solutions	Minimum knowledge of: - Climate adaptation - Sustainable Energy and Climate Action Plans (SECAPs) - Risk and vulnerability assessment (RVA) - Climate adaptation solutions	Understanding the basics of RVAs, SECAPs, and their role in climate adaptation of the built environment. Understanding the basic types of adaptation solutions (infrastructural, institutional, behavioural, nature-based)	1	DM, TC, PR
LO1.4.2	Selecting key climate risks facing the built environment.	Minimum knowledge of: - Climate-related hazards - Climate risk - Vulnerability	Understanding threats and selecting relevant hazards in a certain area.	1	DM, TC, PR
LO1.4.3	Investigating structural and non-structural adaptation solutions	Basic knowledge of: - Structural adaptation solutions - Non-structural adaptation solutions - Context in which to use each of the two solutions	Understanding examples of structural and non-structural adaptation solutions. Proposing an adequate type of solution (structural/ non-structural) for a certain area.	2	TC, PR

LO1.4.4	Evaluate the benefits of adaptation solutions	Basic knowledge of: - Adaptation solutions - Nature-based solutions - Infrastructure solutions - Institutional solutions - Behavioural solutions	Selecting different types of solutions that would benefit an area. Proposing the best solution for an area.	2	TC, PR
LO1.4.5	Designing adaptation strategies	Medium knowledge of: - SECAPs - Development of SECAPs - Multi-sectoral plans - Using RVA tools - Climate adaptation solutions - Climate adaptation strategies	Designing climate adaptation plans. Proposing a set of solutions for all-around climate adaptation in a certain area. Analysing existing climate adaptation plans and solutions.	3	PR

MAE 2. Resilient Built Environment (RBE) Assessment System					
AE 2.1 RBE Method					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO2.1.1	Understanding the basic purpose and structure of the RBE Method for assessing climate risks at urban and building scale.	Minimal knowledge of: -the concept of climate risk and its components (hazard, exposure, vulnerability); - RBE Method as an assessment method for climate risk assessment at building and urban scale -results of RBE Method based assessments	Discussing basic RBE Method concepts and identifying simple cases of its application in buildings and neighbourhoods.	1	DM, TC, PR
LO2.1.2	Applying the RBE Method structure to identify climate risk components in urban or building scale assessments.	Basic knowledge of: -RBE Method structure (Issues, Macro-Categories, Risk Categories) -RBE Method assessment process and workflow -types of criteria and indicators used in the	Applying the RBE Method to understand the risk assessment process and results.	2	TC, PR

		method (vulnerability, hazard, exposure)			
LO2.1.3	Explaining the RBE Method use to carry out comprehensive climate risk assessments at building and neighbourhood scale.	Medium knowledge of: -the complete logic and workflow of the RBE Method -aggregation rules and weight assignment procedures within the RBE framework - customization of the RBE-based tools (RNTool, RBTool) based on local conditions and priorities.	Explaining the RBE Method to conduct structured assessments of climate risk at building and neighbourhood scale. Selecting and configuring appropriate indicators and tools to reflect local exposure, vulnerability, and hazard conditions. Interpreting calculated risk values and generating consistent assessment outputs.	3	PR

MAE 2. Resilient Built Environment (RBE) Assessment System					
AE 2.2 Resilient Neighbourhood Tool (RNTool)					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO2.2.1	Understanding the purpose of RNTool for climate risk assessments at the neighbourhood scale.	Minimum knowledge of: -the aim of RNTool within the RBE Assessment System	Discussing the strategic role of RNTool in climate resilience planning and recognizing its use in supporting local decision-making.	1	DM, TC, PR
LO2.2.2	Applying RNTool to support climate risk assessment of urban neighbourhoods.	Basic knowledge of: -structure and logic of RNTool - types of Issues, Urban Sectors and Risk Categories used in the tool - types of indicators and data required for RNTool input.	Applying RNTool to input local data and perform a basic risk analysis. Selecting relevant indicators based on available data and local conditions. Producing simplified output to support internal planning and reporting.	2	TC, PR
LO2.2.3	Explaining the use of RNTool to perform structured, contextualized climate risk assessments of urban areas.	Medium knowledge of: -full structure and functioning of RNTool, including the contextualisation process and selection of relevant Macro-Categories and Indicators	Applying RNTool independently to carry out climate risk assessments at the neighbourhood scale. Customizing the tool by selecting context-specific indicators, assigning weights, and interpreting composite risk values.	3	PR

		-methodologies for local adaptation of the tool (e.g. tailoring weights, indicators, and thresholds to local conditions).	Using assessment results to identify priority areas and recommend suitable adaptation measures in spatial planning or project development.		
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MAE 2. Resilient Built Environment (RBE) Assessment System					
AE 2.3 Resilient Building Tool (RBTool)					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO2.3.1	Understanding the strategic function of RBTool in assessing climate risks at building scale.	Minimum knowledge of: -the aim of RBTool within the RBE Assessment System	Discussing the strategic role of RBTool in climate resilience planning and recognizing its use in supporting decision-making.	1	DM, TC, PR
LO2.3.2	Applying RBTool to support climate risk assessment of buildings.	Basic knowledge of: -structure and logic of RBTool - types of Issues, Urban Sectors and Risk Categories used in the tool - types of indicators and data required for RBTool input.	Applying RBTool to input data and perform initial risk analysis on building components. Identifying critical building elements based on exposure and vulnerability. Supporting the preparation of technical reports.	2	TC, PR
LO2.3.3	Explaining the use of RBTool to perform structured, contextualized climate risk assessments of buildings.	Medium knowledge of: -full structure and functioning of RBTool, including the contextualisation process and selection of relevant Macro-Categories and Indicators -methodologies for local adaptation of the tool (e.g. tailoring weights, indicators, and thresholds to local conditions).	Explaining the use RBTool independently to assess climate risk across building components and systems Customising the selection of indicators and weights to reflect building-specific and local conditions. Interpreting output results to propose tailored technical and design adaptation measures.	3	PR

MAE 3 Risk Assessment at small urban scale – Heavy precipitation					
AE 3.1 Urban Sector: Buildings – Risk Category A1.1 - Damage Risk for residential buildings					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 3.1.1	Understanding the risk category “Damage risk for residential buildings” (A1.1), in relation to heavy precipitation hazard	Minimal knowledge of: - Heavy precipitation intensity and frequency; -Relevance of a risk assessment methodology.	Discussing the basics of Heavy precipitation risk and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 3.1.2	Applying the risk category “Damage risk for residential buildings” (A1.1) and the related assessment criteria for the concerned territory	Basic knowledge of: -Vulnerability indicators scoring processes. -Benchmark categorization.	Applying risk assessment criteria indicators for buildings risk assessment at the urban scale in the concerned territory	2	TC, PR
LO 3.1.3	Calculating the indicators for assessing the risk category “Damage risk for residential buildings” (A1.1)	Medium knowledge of: -Geospatial analysis in the context of flash flooding.	Performing step-by-step calculations of the indicators using technical drawing, GIS for geoprocessing and CAD for urban area delineation and calculations.	3	PR

MAE 3 Risk Assessment at small urban scale – Heavy precipitation					
AE 3.1 Urban Sector: Buildings – Risk Category A1.2 - Damage Risk for public buildings					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 3.1.4	Understanding the risk category “Damage risk for public buildings” (A1.2), in relation to heavy precipitation hazard	Minimal knowledge of: - Heavy precipitation intensity and frequency; -Relevance of a risk assessment methodology.	Discussing the basics of Heavy precipitation risk and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 3.1.5	Applying the risk category “Damage risk for public buildings” (A1.2) and the related assessment criteria for the concerned territory	Basic knowledge of: -Vulnerability indicators scoring processes. -Benchmark categorization.	Applying risk assessment criteria indicators for buildings risk assessment at the urban scale in the concerned territory	2	TC, PR

LO 3.1.6	Calculating the indicators for assessing the risk category “Damage risk for public buildings” (A1.2)	Medium knowledge of: -Geospatial analysis in the context of flash flooding.	Performing step-by-step calculations of the indicators using technical drawing, GIS for geoprocessing and CAD for urban area delineation and calculations.	3	PR
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MAE 3 Risk Assessment at small urban scale – Heavy precipitation

AE 3.4 Urban Sector: Water – Risk Category A4.3 - Damage risk for sewage system

LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 3.4.1	Understanding the risk category „Damage risk for sewage system” (A4.3) in relation to heavy precipitation hazard	Minimal knowledge of: heavy precipitation intensity and frequency; basic understanding of sewer system vulnerability	Discussing the basics of sewage system risks under heavy precipitation and the relevance of vulnerability indicators	1	DM, TC, PR
LO 3.4.2	Applying the risk category “Damage risk for sewage system” (A4.3) and the related assessment criteria for the concerned territory	Basic knowledge of: vulnerability indicator scoring processes for sewage infrastructure, benchmark categorization, and criteria for assessing system performance under heavy precipitation	Applying risk assessment criteria and indicators to evaluate sewage system exposure and vulnerability at the urban scale, considering local conditions	2	TC, PR
LO 3.4.3	Calculating the indicators for assessing the risk category “Damage risk for sewage system”	Medium knowledge of: geospatial analysis, sewer system modelling and hydraulic capacity assessment in the context of heavy precipitation	Performing step-by-step calculations of indicators using GIS for geoprocessing, CAD for network delineation, and hydraulic modelling tools for assessing surcharge and overflow risks	3	PR

MAE 4 Risk Assessment at small urban scale – Floods

AE 4.1 Urban Sector: Buildings - Risk Category B1.1 - Damage risk for residential buildings

LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 4.1.1	Understanding the risk category “Damage risk for residential buildings” (B1.1) in	Minimal knowledge of: - Flood intensity and frequency;	Discussing the basics of flood hazard and the relevance of each vulnerability indicator.	1	

	relation to flood hazard	-Relevance of a risk assessment methodology.			DM, TC, PR
LO 4.1.2	Applying the risk category “Damage risk for residential buildings” (B1.1) and the related assessment criteria for the concerned territory	Basic knowledge of: -Vulnerability indicators scoring processes. -Benchmark categorization.	Applying risk assessment criteria indicators for flood risk assessment at the urban scale in the concerned territory	2	TC, PR
LO 4.1.3	Calculating the indicators for assessing the risk category “Damage risk for residential buildings” (B1.1)	Medium knowledge of: - Geospatial analysis and surface mapping in the context of flood risk.	Performing step-by-step calculations of the indicators using GIS for geoprocessing and CAD for urban area delineation and calculations.	3	PR

MAE 4 Risk Assessment at small urban scale – Floods					
AE 4.1 Urban Sector: Buildings - Risk Category B1.2 - Damage risk for public buildings					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 4.1.4	Understanding the risk category “Damage risk for public buildings” (B1.2) in relation to flood hazard	Minimal knowledge of: - Flood intensity and frequency; -Relevance of a risk assessment methodology.	Discussing the basics of flood hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 4.1.5	Applying the risk category “Damage risk for public buildings” (B1.2)) and the related assessment criteria for the concerned territory	Basic knowledge of: -Vulnerability indicators scoring processes. -Benchmark categorization.	Applying risk assessment criteria indicators for flood risk assessment at the urban scale in the concerned territory	2	TC, PR
LO 4.1.6	Calculating the indicators for assessing the risk category “Damage risk for public buildings” (B1.2)	Medium knowledge of: - Geospatial analysis and surface mapping in the context of flood risk.	Performing step-by-step calculations of the indicators using GIS for geoprocessing and CAD for urban area delineation and calculations.	3	PR

MAE 4 Risk Assessment at small urban scale – Floods					
AE 4.2 Urban Sector: Transport - Risk Category B2.2 - Damage risk for road transport network					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)

LO 4.2.1	Understanding the risk category “Damage risk for road transport network” (B2.2) in relation to flood hazard	Minimal knowledge of: - Flood intensity and frequency; -Relevance of a risk assessment methodology.	Discussing the basics of flood hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 4.2.2	Applying the risk category “Damage risk for road transport network” (B2.2) and the related assessment criteria for the concerned territory	Basic knowledge of: -Vulnerability indicators scoring processes. -Benchmark categorization.	Applying risk assessment criteria indicators for flood risk assessment at the urban scale in the concerned territory	2	TC, PR
LO 4.2.3	Calculating the indicators for assessing the risk category “Damage risk for road transport network” (B2.2)	Medium knowledge of: - Geospatial analysis and surface mapping in the context of flood risk.	Performing step-by-step calculations of the indicators using GIS for geoprocessing and CAD for urban area delineation and calculations.	3	PR

MAE 4 Risk Assessment at small urban scale – Floods					
AE 4.2 Urban Sector: Transport - Risk Category B2.5 - Damage risk for bicycle and pedestrian paths					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 4.2.4	Understanding the risk category “Damage risk for bicycle and pedestrian paths” (B2.5) in relation to flood hazard	Minimal knowledge of: - Flood intensity and frequency; -Relevance of a risk assessment methodology.	Discussing the basics of flood hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 4.2.5	Applying the risk category “Damage risk for bicycle and pedestrian paths” (B2.5) and the related assessment criteria for the concerned territory	Basic knowledge of: -Vulnerability indicators scoring processes. -Benchmark categorization.	Applying risk assessment criteria indicators for flood risk assessment at the urban scale in the concerned territory	2	TC, PR
LO 4.2.6	Calculating the indicators for assessing the risk category “Damage risk for bicycle and pedestrian paths” (B2.5)	Medium knowledge of: - Geospatial analysis and surface mapping in the context of flood risk.	Performing step-by-step calculations of the indicators using GIS for geoprocessing and CAD for urban area delineation and calculations.	3	PR

MAE 4. Risk Assessment at Small Urban Scale - Floods					
AE 4.4 Urban Sector: Health (B8) - Risk Category: B8.1 – Health risk for population					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 4.4.1	Understanding the role of vulnerability and exposure indicators (e.g., population density, age structure, dwelling conditions) in determining population-level health risks	Minimal knowledge of: – Concept of vulnerability and exposure in public-health risk. – How demographic and housing factors influence health outcomes. – Purpose and interpretation of vulnerability/exposure indicators (e.g., density, age distribution, ground-floor dwellings).	Discussing how population characteristics modify health risk levels and influence decision-making in urban risk management.	1	DM, TC, PR
LO 4.4.2	Applying B8.1 vulnerability and exposure indicators (e.g., ground-floor dwellings, population density, age of residents) to assess health-risk conditions of urban populations under multi-hazard contexts.	Basic knowledge of: – Definitions and methodological foundations of B8.1 indicators. – Scoring, normalization, and weighting of vulnerability and exposure indicators. – Benchmark ranges and categorization criteria used in B8.1.	Applying vulnerability/exposure indicators and benchmark values to generate a population health-risk index using simplified datasets or templates.	2	TC, PR
AD.4.4.3	Calculating, integrating, and interpreting multi-indicator vulnerability and exposure metrics (e.g., density, demographic structure, dwelling typologies) to produce health-risk maps and analyses.	Medium knowledge of: – Geospatial/statistical processing of vulnerability and exposure data. – Correlation between environmental, demographic, and housing indicators and health outcomes. – Methods for GIS-based representation and interpretation of population vulnerability.	Performing step-by-step calculation of all B8.1 indicators using GIS and statistical tools, integrating outputs to map and interpret population health-risk levels.	3	PR

MAE 4. Risk Assessment at small urban scale - Flooding					
AE 4.5 Urban Sector: Emergency services – Risk Category B9.1 - Efficiency risk for civil protection service					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)

LO 4.5.1	Understanding the risk category “Efficiency risk for civil protection service” (B9.1) in relation to extreme temperature hazard	Minimal knowledge of: -Flooding Phenomena; -Relevance of a risk assessment methodology.	Discussing the basics of floods events and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 4.5.2	Applying the risk category “Efficiency risk for civil protection service” (B9.1) and the related assessment criteria for the concerned territory	Basic knowledge of: -Vulnerability indicators scoring processes. -Benchmark categorization.	Applying risk assessment criteria indicators for emergency civil protection services risk assessment at urban scale in the concerned territory	2	TC, PR
LO 4.5.3	Calculating the indicators for assessing the risk category “Efficiency risk for civil protection service” (B9.1)	Medium knowledge of: -Geospatial analysis and surface mapping in the context of floods.	Performing step by step calculations of the indicator using GIS for geoprocessing and CAD for urban area delineation and surface area calculations.	3	PR

MAE 5. Risk Assessment at small urban scale - Extreme heat					
AE 5.5 Urban Sector: Health – Risk Category C8.1 - Health risk for population					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 5.5.1	Understanding the risk category “Health risk for population” (C8.1) in relation to extreme heat hazard	Minimal knowledge of: -Urban Heat Island Phenomena; -Relevance of a risk assessment methodology.	Discussing the basics of Urban Heat Island and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 5.5.2	Applying the risk category “Health risk for population” (C8.1) and the related assessment criteria for the concerned territory	Basic knowledge of: -Vulnerability indicators scoring processes. -Benchmark categorization.	Applying risk assessment criteria indicators for health risk assessment at urban scale in the concerned territory	2	TC, PR
LO 5.5.3	Calculating the indicators for assessing the risk category “Health risk for population” (C8.1)	Medium knowledge of: -Geospatial analysis and surface mapping in the context of UHI.	Performing step by step calculations of the indicator using GIS for geoprocessing and CAD for urban area delineation and surface area calculations.	3	PR

MAE 5. Risk Assessment at small urban scale - Extreme heat					
AE 5.6 Urban Sector: Emergency services – Risk Category C9.4 - Efficiency risk for emergency medical services					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 5.6.1	Understanding the risk category “Emergency medical services” (C9.4) in relation to extreme temperature hazard	Minimal knowledge of: -Urban Heat Island Phenomena; -Relevance of a risk assessment methodology.	Discussing the basics of Urban Heat Island and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 5.6.2	Applying the risk category “Emergency medical services” (C9.4) and the related assessment criteria for the concerned territory	Basic knowledge of: -Vulnerability indicators scoring processes. -Benchmark categorization.	Applying risk assessment criteria indicators for emergency medical services risk assessment at urban scale in the concerned territory	2	TC, PR
LO 5.6.3	Calculating the indicators for assessing the risk category “Emergency medical services” (C9.4)	Medium knowledge of: -Geospatial analysis and surface mapping in the context of UHI.	Performing step by step calculations of the indicator using GIS for geoprocessing and CAD for urban area delineation and surface area calculations.	3	PR

MAE 6 Risk Assessment At Small Urban Scale - Drought					
AE 6.1 Urban Sector: Water (D4) - Risk Category D4.2 – Damage risk for water supply network					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 6.1.1	Understanding how drought influences water scarcity and water supply networks	Basic knowledge of: - What drought is - General impacts of drought on urban systems - Basic elements of risk: hazard, exposure, vulnerability - Basics of water scarcity and affected urban systems.	Explaining drought-related risks Discussing links between drought and water supply Understand simple conceptual diagrams (e.g., impact chains)	1	DM, TC, PR

LO 6.1.2	Analysing vulnerability of water supply networks using specific indicators	Medium knowledge of: - Meaning and relevance of indicators - Concept of normalization and benchmark values (HIB/LIB indicators). - Interpretation of normalized vulnerability levels.	Selecting and validating relevant datasets Structuring and interpreting data for assessments Selecting benchmarking and vulnerability categories	2	TC, PR
LO 6.1.3	Performing a complete drought risk assessment by integrating hazard, exposure, and vulnerability into a final risk score for the water supply system. Using weighting, scoring, and risk classification.	Advanced knowledge of: - Normalization intervals, weighting schemes, and composite vulnerability value (VV) calculation. - Exposure value (EV) and hazard value (HV) concepts in quantitative terms. - Complete risk formula and interpretation of combined scores. - Ability to link ecological, hydrological, and climatic data to integrated assessments.	Applying weighting and aggregate indicators into a vulnerability index. Using full indicator calculations from raw data. Selecting and justifying final risk levels and support decision-making	3	PR

MAE 6.	Risk Assessment At Small Urban Scale - Drought				
AE 6.2	Urban Sector: Environment & biodiversity (D7) - Risk Category D7.1- Damage risk for urban green spaces				
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 6.2.1	Understanding the basic concepts of drought risk in the urban environment	Basic knowledge of: - What drought is - General impacts of drought on urban systems - Basic elements of risk: hazard, exposure, vulnerability - Introduction to affected systems and vulnerability criteria	Explaining drought-related risks Discussing vulnerable ecological components Understand simple conceptual diagrams (e.g., impact chains)	1	DM, TC, PR

LO 6.2.2	Analysing and selecting the drought vulnerability framework to assess ecological indicators and understand how basic indicators contribute to vulnerability evaluation.	Medium knowledge of: - Meaning and relevance of indicators - Concept of normalization and benchmark values (HIB/LIB indicators). - Interpretation of normalized vulnerability levels.	Selecting and validating relevant datasets Structuring and interpreting data for assessments Selecting benchmarking and vulnerability categories	2	TC, PR
LO 6.2.3	Performing a complete drought risk assessment by integrating hazard, exposure, and vulnerability into a final risk score. Using weighting, scoring, and risk classification.	Advanced knowledge of: - Normalization intervals, weighting schemes, and composite vulnerability value (VV) calculation. - Exposure value (EV) and hazard value (HV) concepts in quantitative terms. - Complete risk formula and interpretation of combined scores. - Ability to link ecological, hydrological, and climatic data to integrated assessments.	Applying weighting and aggregate indicators into a vulnerability index. Using full indicator calculations from raw data. Selecting and justifying final risk levels and support decision-making	3	PR

MAE 6. Risk Assessment At Small Urban Scale - Drought					
AE 6.2 Urban Sector: Environment & biodiversity (D7) - Risk Category D7.3- Damage risk for street trees					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 6.2.4	Understanding the basic concepts of drought risk in the urban environment	Basic knowledge of: - What drought is - General impacts of drought on urban systems - Basic elements of risk: hazard, exposure, vulnerability - Introduction to affected systems and vulnerability criteria	Explaining drought-related risks Discussing vulnerable ecological components Understand simple conceptual diagrams (e.g., impact chains)	1	DM, TC, PR

LO 6.2.5	Analysing and selecting the drought vulnerability framework to assess ecological indicators and understand how basic indicators contribute to vulnerability evaluation.	Medium knowledge of: - Meaning and relevance of indicators - Concept of normalization and benchmark values (HIB/LIB indicators). - Interpretation of normalized vulnerability levels.	Selecting and validating relevant datasets Structuring and interpreting data for assessments Selecting benchmarking and vulnerability categories	2	TC, PR
LO 6.2.6	Performing a complete drought risk assessment by integrating hazard, exposure, and vulnerability into a final risk score. Using weighting, scoring, and risk classification.	Advanced knowledge of: - Normalization intervals, weighting schemes, and composite vulnerability value (VV) calculation. - Exposure value (EV) and hazard value (HV) concepts in quantitative terms. - Complete risk formula and interpretation of combined scores. - Ability to link ecological, hydrological, and climatic data to integrated assessments.	Applying weighting and aggregate indicators into a vulnerability index. Using full indicator calculations from raw data. Selecting and justifying final risk levels and support decision-making	3	PR

MAE 10 Risk Assessment at building scale					
AE 10.1	Hazard: Heavy precipitation Building element: Façade Risk Category: A4.2 - Damage risk for façade openings				
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 10.1.1	Understanding the risk category “Damage risk for façade openings” (A4.2) in relation to heavy precipitation hazard	Minimal knowledge of: - Heavy precipitation intensity and frequency; - Relevance of a risk assessment methodology.	Discussing the basics of heavy precipitation hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 10.1.2	Applying the risk category “Damage risk for façade openings” (A4.2) and the related assessment criteria for the concerned territory	Basic knowledge of: - Vulnerability indicators scoring processes. - Benchmark categorization.	Applying risk assessment criteria indicators for heavy precipitation risk assessment at the building scale in the concerned territory	2	TC, PR
	Calculating the indicators for assessing	Medium knowledge of:	Performing step-by-step calculations of the		

LO 10.1.3	the risk category "Damage risk for façade openings" (A4.2)	- Geospatial analysis and surface mapping in the context of heavy precipitation risk.	indicators using GIS for geoprocessing and CAD for building delineation and calculations.	3	PR
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MAE 10 Risk Assessment at building scale					
AE 10.1	Hazard: Heavy precipitation Building element: Roof Risk Category: A5.2 - Damage risk for weatherproofing of roofs				
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 10.1.4	Understanding the risk category "Damage risk for weatherproofing of roofs" (A5.2) in relation to heavy precipitation hazard	Minimal knowledge of: - Heavy precipitation intensity and frequency; -Relevance of a risk assessment methodology.	Discussing the basics of heavy precipitation hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 10.1.5	Applying the risk category "Damage risk for weatherproofing of roofs" (A5.2) and the related assessment criteria for the concerned territory	Basic knowledge of: -Vulnerability indicators scoring processes. -Benchmark categorization.	Applying risk assessment criteria indicators for heavy precipitation risk assessment at the building scale in the concerned territory	2	TC, PR
LO 10.1.6	Calculating the indicators for assessing the risk category "Damage risk for weatherproofing of roofs" (A5.2)	Medium knowledge of: - Geospatial analysis and surface mapping in the context of heavy precipitation risk.	Performing step-by-step calculations of the indicators using GIS for geoprocessing and CAD for building delineation and calculations.	3	PR

MAE 10 Risk Assessment at building scale					
AE 10.1	Hazard: Heavy precipitation Building element: Landscaping Risk Category: A13.1 - Damage risk for paving and other hard surfacing				
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 10.1.7	Understanding the risk category "Damage risk for paving and other hard surfacing in landscaping" (A13.1) in relation to heavy precipitation hazard	Minimal knowledge of: - Heavy precipitation intensity and frequency; -Relevance of a risk assessment methodology.	Discussing the basics of heavy precipitation hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR
	Applying the risk category "Damage risk for paving and other hard surfacing in	Basic knowledge of: -Vulnerability indicators scoring processes.	Applying risk assessment criteria indicators for heavy precipitation risk assessment at the		

LO 10.1.8	landscaping" (A13.1) and the related assessment criteria for the concerned territory	-Benchmark categorization.	building scale in the concerned territory	2	TC, PR
LO 10.1.9	Calculating the indicators for assessing the risk category "Damage risk for paving and other hard surfacing in landscaping" (A13.1)	Medium knowledge of: - Geospatial analysis and surface mapping in the context of heavy precipitation risk.	Performing step-by-step calculations of the indicators using GIS for geoprocessing and CAD for building delineation and calculations.	3	PR

MAE 10 Risk Assessment at building scale					
AE 10.2 Hazard: Floods Building element: Façade Risk Category: B4.2 - Damage risk for façade openings					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 10.2.1	Understanding the risk category "Damage risk for façade openings" (B4.2) in relation to Flood hazard	Minimal knowledge of: - Flood potential risks and vulnerability drivers; -Relevance of a risk assessment methodology.	Discussing the basics of Flood hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 10.2.2	Applying the risk category "Damage risk for façade openings" (B4.2) and the related assessment criteria for the analysed buildings	Basic knowledge of: -Vulnerability indicators and the system of analysis. -Benchmark categorization.	Applying risk assessment criteria indicators for Hazard risk assessment at the building scale in the concerned territory	2	TC, PR
LO 10.2.3	Calculating the indicators for assessing the risk category "Damage risk for façade openings" (B4.2)	Medium knowledge of: - Documental analysis and building's analysis in the context of Floods risk.	Performing step-by-step calculations of the indicators using the proposed methods for building's analysis and calculations.	3	PR
MAE 10 Risk Assessment at building scale					
AE 10.2 Hazard: Floods Building element: Energy System Risk Category: B8.3 - Damage risk for Electricity generation and distribution					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 10.2.4	Understanding the risk category "Damage risk for Electricity generation and distribution" (B8.3) in relation to Flood hazard	Minimal knowledge of: - Flood potential risks and vulnerability drivers;	Discussing the basics of Flood hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR

		-Relevance of a risk assessment methodology.			
LO 10.2.5	Applying the risk category “Damage risk for Electricity generation and distribution” (B8.3) and the related assessment criteria for the analysed building	Basic knowledge of: -Vulnerability indicators scoring processes. -Benchmark categorization.	Applying risk assessment criteria indicators for Flood risk assessment at the building scale in the concerned territory	2	TC, PR
LO 10.2.6	Calculating the indicators for assessing the risk category “Damage risk for Electricity generation and distribution” (B8.3)	Medium knowledge of: - Documental analysis and building’s analysis in the context of Floods risk.	Performing step-by-step calculations of the indicators using the proposed methods for building’s analysis and calculations.	3	PR

MAE 10	Risk Assessment at building scale				
AE 10.2	Hazard: Floods Building element: Sanitary system Risk Category: B10.4 – Damage risk for Drainage systems				
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 10.2.7	Understanding the risk category “Damage risk for Drainage systems” (B10.4) in relation to Flood hazard	Minimal knowledge of: Flood potential risks and vulnerability drivers; -Relevance of a risk assessment methodology.	Discussing the basics of Flood hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 10.2.8	Applying the risk category “Damage risk for Drainage systems” (B10.4) and the related assessment criteria for the analysed buildings	Basic knowledge of: -Vulnerability indicators scoring processes. -Benchmark categorization.	Applying risk assessment criteria indicators for Flood risk assessment at the building scale in the concerned territory	2	TC, PR
LO 10.2.9	Calculating the indicators for assessing the risk “Damage risk for Drainage systems” (B10.4)	Medium knowledge of: - Documental analysis and building’s analysis in the context of Floods risk.	Performing step-by-step calculations of the indicators using the proposed methods for building’s analysis and calculations.	3	PR

MAE 10	Risk Assessment at building scale				
AE 10.2	Hazard: Floods Building element: Location Risk Category: B14.1 – Building’s proximity				

LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 10.2.10	Understanding the risk category “Building’s proximity” (B14.1) in relation to Flood hazard	Minimal knowledge of: Flood potential risks and vulnerability drivers; -Relevance of a risk assessment methodology.	Discussing the basics of Flood hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 10.2.11	Applying the risk category “Building’s proximity” (B14.1) and the related assessment criteria for the analysed buildings	Basic knowledge of: -Vulnerability indicators scoring processes. -Benchmark categorization.	Applying risk assessment criteria indicators for Flood risk assessment at the building scale in the concerned territory	2	TC, PR
LO 10.2.12	Calculating the indicators for assessing the risk “Building’s proximity” (B14.1)	Medium knowledge of: - Documental analysis and building’s analysis in the context of Floods risk.	Performing step-by-step calculations of the indicators using the proposed methods for building’s analysis and calculations.	3	PR

MAE 10	Risk Assessment at building scale				
AE 10.3	Hazard: Extreme Heat Building element: Façade Risk Category: C4.1 - Damage risk for external wall systems, cladding and shading devices				
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 10.3.1	Understanding the risk category “Damage risk for external wall systems, cladding and shading devices” (C4.1) in relation to the Extreme Heat hazard	Minimal knowledge of: - Trends and intensity of Extreme Heat; - Relevance of a risk assessment methodology.	Discussing the basics of Extreme Heat hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 10.3.2	Applying the risk category “Damage risk for external wall systems, cladding and shading devices” (C4.1) and the related assessment criteria for the concerned territory	Basic knowledge of: - Vulnerability indicators scoring processes. - Benchmark categorization.	Applying risk assessment criteria indicators for Extreme Heat risk assessment at the building scale in the concerned territory	2	TC, PR
LO 10.3.3	Calculating the indicators for assessing the risk category “Damage risk for external wall systems,	Medium knowledge of: - Geospatial analysis and surface mapping in the context of Extreme Heat risk.	Performing step-by-step calculations of the indicators using GIS for geoprocessing and CAD	3	PR

	cladding and shading devices" (C4.1)		for building delineation and calculations.		
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MAE 10 Risk Assessment at building scale					
AE 10.3 Hazard: Extreme Heat Building element: Façade Risk Category: C4.2 - Damage risk for façade openings					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 10.3.4	Understanding the risk category "Damage risk for façade openings" (C4.2) in relation to the Extreme Heat hazard	Minimal knowledge of: - Trends and intensity of Extreme Heat; - Relevance of a risk assessment methodology.	Discussing the basics of Extreme Heat hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 10.3.5	Applying the risk category "Damage risk for façade openings" (C4.2) and the related assessment criteria for the concerned territory	Basic knowledge of: - Vulnerability indicators scoring processes. - Benchmark categorization.	Applying risk assessment criteria indicators for Extreme Heat risk assessment at the building scale in the concerned territory	2	TC, PR
LO 10.3.6	Calculating the indicators for assessing the risk category "Damage risk for façade openings" (C4.2)	Medium knowledge of: - Geospatial analysis and surface mapping in the context of Extreme Heat risk.	Performing step-by-step calculations of the indicators using GIS for geoprocessing and CAD for building delineation and calculations.	3	PR

MAE 10 Risk Assessment at building scale					
AE 10.3 Hazard: Extreme Heat Building element: Roof Risk Category: C5.1 - Damage risk for roof structure					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 10.3.7	Understanding the risk category "Damage risk for roof structure" (C5.1) in relation to the Extreme Heat hazard	Minimal knowledge of: - Trends and intensity of Extreme Heat; - Relevance of a risk assessment methodology.	Discussing the basics of Extreme Heat hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 10.3.8	Applying the risk category "Damage risk for roof structure" (C5.1) and the related assessment criteria for the concerned territory	Basic knowledge of: - Vulnerability indicators scoring processes. - Benchmark categorization.	Applying risk assessment criteria indicators for Extreme Heat risk assessment at the building scale in the concerned territory	2	TC, PR
	Calculating the indicators for assessing	Medium knowledge of:	Performing step-by-step calculations of the		

LO 10.3.9	the risk category "Damage risk for roof structure" (C5.1)	- Geospatial analysis and surface mapping in the context of Extreme Heat risk.	indicators using GIS for geoprocessing and CAD for building delineation and calculations.	3	PR
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MAE 10 Risk Assessment at building scale					
AE 10.3	Hazard: Extreme Heat Building element: Occupants Risk Category: C15.1 - Damage risk for comfort				
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 10.3.10	Understanding the risk category "Damage risk for comfort" (C15.1) in relation to the Extreme Heat hazard	Minimal knowledge of: - Trends and intensity of Extreme Heat; - Relevance of a risk assessment methodology.	Discussing the basics of Extreme Heat hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 10.3.11	Applying the risk category "Damage risk for comfort" (C15.1) and the related assessment criteria for the concerned territory	Basic knowledge of: - Vulnerability indicators scoring processes. - Benchmark categorization.	Applying risk assessment criteria indicators for Extreme Heat risk assessment at the building scale in the concerned territory	2	TC, PR
LO 10.3.12	Calculating the indicators for assessing the risk category "Damage risk for comfort" (C15.1)	Medium knowledge of: - Geospatial analysis and surface mapping in the context of Extreme Heat risk.	Performing step-by-step calculations of the indicators using GIS for geoprocessing and CAD for building delineation and calculations.	3	PR

MAE 10 Risk Assessment at building scale					
AE 10.4	Hazard: Drought Building element: Fittings & Furnishings Risk Category: D6.1 - Damage risk for sanitary fittings				
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 10.4.1	Understanding the category 'Sanitary fittings' in relation to water efficiency and sustainable building design.	Minimal knowledge of: - Types of sanitary fittings (toilets, taps, showers, urinals). - Water-saving technologies (aerators, low-flow systems, dual-flush). - Basic principles of	Discussing the role of sanitary fittings in reducing water consumption and improving building sustainability.	1	DM, TC, PR

		water efficiency in buildings.			
LO 10.4.2	Applying water efficiency criteria to select appropriate sanitary fittings for building projects.	Basic knowledge of: - Water performance benchmarks and standards. - Methods to measure share of water-saving fixtures. - Plumbing system integration requirements.	Selecting and specifying sanitary fittings that meet water efficiency targets in building design.	2	TC, PR
LO 10.4.3	Assessing water reporting and monitoring solutions related to sanitary fittings.	Medium knowledge of: - Smart water meters and monitoring systems. - Data collection and reporting methods for water use. - BMS (Building Management System) integration.	Reviewing design documents and system specifications to verify inclusion of water monitoring and reporting solutions.	3	PR

MAE 10	Risk Assessment at building scale				
AE 10.4	Hazard: Drought Building element: Sanitary System Risk Category: D10.1 - Damage risk for cold water distribution				
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 10.4.4	Understanding the category 'Damage risk for cold water distribution' in relation to low temperature hazards at building level.	Minimal knowledge of: - Cold water distribution system components (pipes, valves, pumps, storage). - Effects of low temperatures on water systems (freezing, pipe bursting). - Typical damage mechanisms and failure modes.	Discussing how low temperature hazards impact cold water distribution systems and the importance of vulnerability assessment.	1	DM,TC, PR
	Applying damage risk criteria to assess	Basic knowledge of: - Vulnerability	Identifying vulnerable components in cold	2	TC, PR

LO 10.4.5	vulnerability of cold water distribution systems under low temperature conditions.	indicators (pipe insulation, material, exposure). - Identification of critical points in distribution networks. - Basic freeze-protection measures in buildings.	water distribution systems and proposing appropriate technical protection measures.		
LO 10.4.6	Assessing and verifying design solutions to reduce damage risk in cold water distribution systems at building level.	Medium knowledge of: - Design standards for freeze protection of water systems. - Integration of insulation, heating cables and monitoring. - Methods for reviewing technical drawings and specifications.	Reviewing design documents and specifications to verify inclusion of freeze-protection solutions for cold water distribution systems.	3	PR

MAE 10	Risk Assessment at building scale				
AE 10.5	Hazard: Storms Building element: Façade Risk Category: E4.2 - Damage risk for façade openings				
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 10.5.1	Understanding the risk category “Damage risk for façade openings” (E4.2) in relation to the Storm hazard	Minimal knowledge of: - Trends and intensity of Storms; - Relevance of a risk assessment methodology.	Discussing the basics of Storm hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 10.5.2	Applying the risk category “Damage risk for façade openings” (E4.2) and the related assessment criteria for the concerned territory	Basic knowledge of: - Vulnerability indicators scoring processes. - Benchmark categorization.	Applying risk assessment criteria indicators for Storm risk assessment at the building scale in the concerned territory	2	TC, PR
LO 10.5.3	Calculating the indicators for assessing the risk category “Damage risk for façade openings” (E4.2)	Medium knowledge of: - Geospatial analysis and surface mapping in the context of Storm risk.	Performing step-by-step calculations of the indicators using GIS for geoprocessing and CAD for building delineation and calculations.	3	PR

MAE 10 Risk Assessment at building scale					
AE 10.5 Hazard: Storms Building element: Roof Risk Category: E5.1 - Damage risk for roof structure					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 10.5.4	Understanding the risk category “Damage risk for roof structure” (E5.1) in relation to the Storm hazard	Minimal knowledge of: - Trends and intensity of Storms; - Relevance of a risk assessment methodology.	Discussing the basics of Storm hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 10.5.5	Applying the risk category “Damage risk for roof structure” (E5.1) and the related assessment criteria for the concerned territory	Basic knowledge of: - Vulnerability indicators scoring processes. - Benchmark categorization.	Applying risk assessment criteria indicators for Storm risk assessment at the building scale in the concerned territory	2	TC, PR
LO 10.5.6	Calculating the indicators for assessing the risk category “Damage risk for roof structure” (E5.1)	Medium knowledge of: - Geospatial analysis and surface mapping in the context of Storm risk.	Performing step-by-step calculations of the indicators using GIS for geoprocessing and CAD for building delineation and calculations.	3	PR

MAE 10 Risk Assessment at building scale					
AE 10.6 Hazard: Wild fire Building element: Façade Risk Category: F4.1 - Damage risk for external wall systems, cladding and shading devices					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 10.6.1	Understanding the risk category “Damage risk for external wall systems, cladding and shading devices” (F4.1) in relation to wild fire hazard	Minimal knowledge of: - Conditions contributing to the outbreak of wild fires - -Relevance of a risk assessment methodology.	Discussing the basics of wild fire hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 10.6.2	Applying the risk category “Damage risk for external wall systems, cladding and shading devices” (F4.1) in relation to wild fire hazard	Basic knowledge of: -Vulnerability indicators scoring processes. -Benchmark categorization.	Applying risk assessment criteria indicators for wild fire risk assessment at the building scale in the concerned territory	2	TC, PR
	Calculating the indicators for assessing the risk	Medium knowledge of:	Performing step-by-step calculations of the		

LO 10.6.3	category "Damage risk for external wall systems, cladding and shading devices" (F4.1) in relation to wild fire hazard	- Geospatial analysis and surface mapping in the context of wild fires risk.	indicators using GIS for geoprocessing and CAD for building delineation and calculations.	3	PR
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MAE 10 Risk Assessment at building scale					
AE 10.7	Hazard: Mass movement Building element: Location Risk Category: G14.1 - Damage risk for proximity				
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 10.7.1	Understanding the risk category "Damage risk for proximity" (G14.1) in relation to mass movement hazard	Minimal knowledge of: - Mass movement intensity and frequency; -Relevance of a risk assessment methodology.	Discussing the basics of mass movement hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR
LO 10.7.2	Applying the risk category "Damage risk for proximity" (G14.1) and the related assessment criteria for the concerned territory	Basic knowledge of: -Vulnerability indicators scoring processes. -Benchmark categorization.	Applying risk assessment criteria indicators for mass movement risk assessment at the building scale in the concerned territory	2	TC, PR
LO 10.7.3	Calculating the indicators for assessing the risk category "Damage risk for proximity" (G14.1)	Medium knowledge of: - Geospatial analysis and surface mapping in the context of mass movement risk.	Performing step-by-step calculations of the indicators using GIS for geoprocessing and CAD for building delineation and calculations.	3	PR

MAE 10 Risk Assessment at building scale					
AE 10.7	Hazard: Mass movement Building element: Load bearing structural frame Risk Category: G2.3 - Damage risk for external walls				
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 10.7.4	Understanding the risk category "Damage risk for external walls" (G2.3) in relation to mass movement hazard	Minimal knowledge of: - Mass movement intensity and frequency; -Relevance of a risk assessment methodology.	Discussing the basics of mass movement hazard and the relevance of each vulnerability indicator.	1	DM, TC, PR

LO 10.7.5	Applying the risk category “Damage risk for external walls” (G2.3) and the related assessment criteria for the concerned territory	Basic knowledge of: -Vulnerability indicators scoring processes. -Benchmark categorization.	Applying risk assessment criteria indicators for mass movement risk assessment at the building scale in the concerned territory	2	TC, PR
LO 10.7.6	Calculating the indicators for assessing the risk category “Damage risk for external walls” (G2.3)	Medium knowledge of: - Geospatial analysis and surface mapping in the context of mass movement risk.	Performing step-by-step calculations of the indicators using GIS for geoprocessing and CAD for building delineation and calculations.	3	PR

MAE 11 Decision Making for climate adaptation					
AE 11.1 Decision Making for climate adaptation at small urban scale and building scale					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 11.1.1	Understanding the SuPeRBE Decision Making Model and reasoning about how to use it in supervising and monitoring effective multi-scalar interventions	Basic knowledge of: -the structure and phases of the SuPeRBE Model -principles of cross-scale adaptation planning -participatory methods supporting decision-making	Explaining the phases and logic of the model Discussing strategies for supervision and monitoring across scales	1	DM, TC, PR
LO 11.1.2	Analysing and selecting the data needed in the different steps of the SuPeRBE Decision Making Model in order to define and manage effectively the implementation of adaptation measures	Medium knowledge of: -data for selecting indicators for RBTool and RNTTool -main sources of information on hazard, exposure, and vulnerability -approaches to setting benchmarks and assigning weights	Selecting and validating relevant datasets Structuring and interpreting data for assessments Managing information to support adaptation planning	2	TC, PR
LO 11.1.3	Applying the SuPeRBE Decision Making Model using the concerned SuPeRBE assessment tools in relation to the different implementation steps.	Advanced knowledge of: -methods for evaluating and ranking adaptation scenarios -use of simulation tools to test and visualise measures	Applying assessment tools Using simulation tools to compare scenarios Selecting and justifying optimal adaptation measures	3	PR

MAE 12 Digital tools for climate adaptation					
AE 12.1 SuPeRBE Platform					
LO Code	LO Description	Knowledge	Skill	Requested for level of competence	Target group (DM, TC, PR)
LO 12.1.1	Understanding the main functionalities of the SuPeRBE Platform.	Minimal knowledge of: - Interpretation of contextualized local tools - Interpretation of results of RBE Assessment.	Navigating the SuPeRBE Platform and understanding the results of contextualization and Decision-Making Processes.	1	DM, TC, PR
LO 12.1.2	Calculating the climate risk for contextualized local tools.	Basic knowledge of: - Simple Decision-Making Processes (application of the RBE Assessment in the Platform)	Applying the SuPeRBE Platform to complete simple Decision-Making Processes to assess climate risk.	2	TC, PR
LO 12.1.3	Completing Advanced Decision-Making Processes.	Medium knowledge of: - Contextualization process (selecting categories and criteria, setting benchmarks and weights) - Advanced Decision-Making Processes - Application of the RBE Assessment for diagnosis and adaptation packages	Applying the SuPeRBE Platform to contextualize local tools and performing step-by-step Advance Decision-Making Processes for assessing climate risk and adaptation packages.	3	PR