Syllabus of the training modules on Critical Thinking and Problem Solving

Module/Workshop Title	**Critical Thinking and Problem Solving**
Learning outcomes Indicate the knowledge (facts, principles, theories and practices that characterize the training) and skills (ability to apply such knowledge) that the student is expected to acquire by the end of the course. They articulate how students will be able to employ the material, both in the context of the class and more broadly.	It takes practice to master critical thinking and problem-solving skills. For these reasons, students are expected to understand the main concepts of critical thinking and problem solving, in order to start their learning journey through these soft skills. What is important as a takeaway from the course is that we as humans are terrible critical thinkers and that there are methods that can help us make better decisions while solving problems. In particular, the students will develop the following competencies: • Knowledge: fundamentals of logics, cognitive biases, problem-solving techniques • Skills: identify own cognitive biases, identify biases in other, ability to apply a structured method to solve problems • Attitudes: metacognition, positivity with respect to problems
Course content and objectives Brief description of the course content, which skill(s) will be trained and the main topics covered that will allow students to achieve the expected learning outcomes.	In this course, we will train the soft skills involved in critical thinking, the process by which we develop and support our beliefs. This skill will be developed with the specific goal of solving problems. The course will empower the students to think in a more data-driven and analytical way, about what anyone believes on a certain problem, and to be more effective in solving it. **Course Schedule**

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	1- Critical Thinking: What is Critical Thinking, Obstacles to Critical Thinking, Reasons for Beliefs and Doubts [0.5 h] 2- Cognitive Biases: What is a Cognitive Bias, Thinking Fast and Slow, Classification of Cognitive Biases, Cognitive Biases and Experts Opinions [0.5 h] 3- Problem Solving: linking Critical Thinking and Cognitive Biases, the art of asking questions, problem framing, problem setting, Classification of methods of Problem Solving, Method for Problem Solving
Methodology Specify what the teaching method is (workshop with a theoretic part and exercises, role plays, games, simulations, questionnaires…) and how the proposed training activities respond to learning objectives. Indicate if any specific software or applications will be used.	Use Scenarios, Solving Contradictions, Combination, Crossover, Brainstorming 3-6-5, 9 quadrants, Functional Brainstorming, TRIZ Case Study: students will work on a real Problem Solving case [1.5 h]
Bibliography Indicate a short bibliography with reference texts, slides, tools etc.	Vaughn, L. (2008). The power of critical thinking: Effective reasoning about ordinary and extraordinary claims. Kahneman, D. (2011). Thinking, fast and slow. Macmillan.

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