Course Title: Critical Thinking & Problem-Solving Skills: From Analysis to Action

- **Duration:** 5 Days (approximately 35-40 instructional hours)
- **Course Goal:** To equip professionals with a structured, systematic, and creative toolkit for thinking critically, analyzing complex problems, identifying root causes, generating innovative solutions, and making sound, well-reasoned decisions in a dynamic business environment.
- **Core Focus:** Mastering analytical thinking, root cause analysis, creative problem-solving, and effective decision-making.

Learning Objectives:

Upon successful completion of this workshop, participants will be able to:

- **Define** critical thinking and differentiate it from automatic, reactive thinking.
- **Apply** a structured framework for analyzing complex problems and breaking them down into manageable parts.
- **Identify** and challenge their own assumptions and cognitive biases in decision-making.
- **Utilize** a variety of root cause analysis tools (like the 5 Whys and Fishbone Diagram) to move beyond symptoms.
- **Employ** creative problem-solving and brainstorming techniques (like SCAMPER and Six Thinking Hats) to generate a wide range of innovative solutions.
- **Evaluate** potential solutions using a systematic criteria-based approach.
- **Make** more effective and defensible decisions under conditions of uncertainty or incomplete information.
- **Communicate** their analysis, proposed solutions, and decisions clearly and persuasively.
- **Create** a personal action plan to apply critical thinking and problem-solving skills to a real-world challenge.

Target Audience:

- Professionals at all levels who are required to solve problems and make decisions.
- Managers, team leaders, and supervisors.
- Project managers, business analysts, and process improvement specialists.
- Technical experts who need to improve their problem-solving and decision-making capabilities.
- Anyone seeking to enhance their analytical and strategic thinking skills.

Prerequisites:

- None. This course is designed to be accessible to all professionals.

Teaching Methodology:

This is a highly interactive and problem-based workshop. Participants learn by doing. The methodology includes:

- **Interactive Lectures:** Introducing core concepts, frameworks, and analytical tools.

- **Cognitive Exercises & Puzzles:** Short, engaging activities to challenge thinking patterns.
- **Case Study Analysis:** Applying problem-solving frameworks to complex, real-world business scenarios.
- **Intensive Workshops & Simulations:** Participants work in groups to solve problems from start to finish using the tools provided.
- **Group Discussions & Debates:** Exploring different perspectives and challenging assumptions.
- **Action Planning:** Developing personal plans to apply learning directly to their work.

*(For **Online Delivery**, this will be adapted using breakout rooms for case study analysis, virtual whiteboards (e.g., Miro/Mural) for brainstorming and root cause analysis, polls to gauge perspectives, and interactive Q&A sessions.)*

Materials Provided:

- Comprehensive digital or printed workbook with key concepts, frameworks, tool guides, and exercises.
- Templates for the 5 Whys, Fishbone Diagram, solution evaluation matrix, and a problem-solving worksheet.
- Detailed case study documents for analysis and problem-solving.
- A personal action plan template for applying these skills.
- Certificate of Completion.

Detailed Day-by-Day Curriculum

Day 1: The Foundation – What is Critical Thinking?

- **Module 1: Moving Beyond Automatic Thinking (Approx. 2 hours)**
  - Welcome, introductions, and course objectives.
  - Defining Critical Thinking: The disciplined art of analyzing, assessing, and improving thought.
  - Differentiating critical thinking from reactive or "fast" thinking (System 1 vs. System 2).
  - The core elements of reasoning (Purpose, Question, Information, Interpretation, Concepts, Assumptions, Implications, Point of View).
  - **Activity:** "The Detective" – A short puzzle that requires participants to separate observation from inference.
- **Module 2: Uncovering Assumptions & Cognitive Biases (Approx. 3 hours)**
  - The danger of hidden assumptions in decision-making.
  - Introduction to common cognitive biases that derail thinking (e.g., Confirmation Bias, Anchoring Bias, Groupthink, Availability Heuristic, Sunk Cost Fallacy).
  - Strategies for recognizing and mitigating your own biases.
  - **Workshop:** Analyzing a business case study to identify the hidden assumptions and cognitive biases that led to a poor outcome.
- **Module 3: A Structured Problem-Solving Framework (Approx. 2.5 hours)**

- Introducing a systematic, multi-step approach to problem-solving that will frame the week:
    1. Define the Problem Clearly.
    2. Analyze the Root Causes.
    3. Generate Potential Solutions.
    4. Evaluate Solutions & Make a Decision.
    5. Plan & Implement the Solution.
    6. Review & Learn.
- The importance of resisting the urge to jump to solutions.
- **End of Day 1 Recap & Q&A.**

Day 2: Deep Analysis – Defining the Problem & Finding the Root Cause

- **Module 4: Step 1: Defining the Problem Clearly (Approx. 2.5 hours)**
    - Techniques for articulating a clear, concise, and unbiased problem statement.
    - Scoping the problem: Breaking down large, complex problems into manageable components.
    - The "Is/Is Not" analysis to create a sharp problem definition.
    - Gathering and evaluating relevant information and data.
    - **Workshop:** Participants take a vague problem from a case study and craft a precise problem statement.
- **Module 5: Step 2: Root Cause Analysis with the 5 Whys (Approx. 2 hours)**
    - Moving beyond treating symptoms to finding the fundamental cause.
    - Introduction to the 5 Whys technique.
    - Best practices for effective application.
    - **Activity:** Applying the 5 Whys to a series of simple and then more complex problems.
- **Module 6: Advanced Root Cause Analysis with the Fishbone (Ishikawa) Diagram (Approx. 3 hours)**
    - The Fishbone Diagram as a tool for brainstorming and structuring potential causes.
    - Exploring the common categories (e.g., People, Process, Technology, Environment, etc.).
    - Facilitating a root cause analysis session with a team.
    - **Intensive Workshop:** Participants work in groups to create a detailed Fishbone Diagram for the primary case study problem.
    - **End of Day 2 Recap & Q&A.**

Day 3: Creative Solutions & Generating Options

- **Module 7: Overcoming Mental Blocks to Creativity (Approx. 2 hours)**
    - The relationship between critical and creative thinking.
    - Techniques for challenging conventional wisdom and "the way we've always done it."
    - The principle of separating idea generation from idea evaluation.
- **Module 8: Brainstorming & Idea Generation Techniques (Approx. 3 hours)**
    - Effective brainstorming rules and facilitation.
    - Advanced brainstorming techniques:
        - **SCAMPER:** Substitute, Combine, Adapt, Modify, Put to another use, Eliminate, Reverse.

        - **Reverse Brainstorming:** How could we *cause* this problem?
        - **Brainwriting / Silent Brainstorming.**
    - **Workshop:** Participants use the SCAMPER technique to generate a wide range of solutions for the case study problem.
- **Module 9: Structured Creative Thinking with Six Thinking Hats (Approx. 2.5 hours)**
    - Introduction to Edward de Bono's Six Thinking Hats model as a tool for parallel thinking and exploring a problem from multiple perspectives.
    - The role of each hat: White (Facts), Red (Feelings), Black (Cautions), Yellow (Benefits), Green (Creativity), Blue (Process).
    - Facilitating a Six Thinking Hats session.
    - **Simulation:** A facilitated group discussion applying the Six Thinking Hats to evaluate a proposed solution.
    - **End of Day 3 Recap & Q&A.**

Day 4: Making Sound Decisions

- **Module 10: Step 4: Evaluating Solutions & Making a Decision (Approx. 3 hours)**
    - Moving from a long list of ideas to a short list of viable solutions.
    - Developing clear, weighted evaluation criteria.
    - Using a **Solution Evaluation Matrix** to objectively compare options.
    - Considering risks, constraints, and unintended consequences for each solution.
    - **Workshop:** Participants create and use a solution evaluation matrix to select the best solution from the options they generated on Day 3.
- **Module 11: Decision-Making Under Uncertainty (Approx. 2.5 hours)**
    - Strategies for making decisions when you don't have all the information.
    - Introduction to decision trees for mapping out choices and potential outcomes.
    - The importance of piloting or testing solutions on a small scale.
    - Knowing when a "good enough" decision now is better than a "perfect" decision later.
- **Module 12: Communicating & Justifying Your Decision (Approx. 2 hours)**
    - Building a logical and persuasive argument for your chosen solution.
    - Structuring your recommendation for maximum impact.
    - Anticipating questions and challenges from stakeholders.
    - Gaining buy-in and building support for implementation.
    - **Activity:** Participants craft an "elevator pitch" to justify their recommended solution from the workshop.
    - **End of Day 4 Recap & Q&A.**

Day 5: Implementation, Learning & Your Action Plan

- **Module 13: Step 5 & 6: Planning Implementation & Reviewing Outcomes (Approx. 2.5 hours)**
    - Creating a basic action plan for implementing the chosen solution.
    - Identifying potential implementation risks and developing mitigation plans.
    - The importance of establishing metrics to measure the success of the solution.
    - Creating a feedback loop: The value of After-Action Reviews (AARs) to learn from the problem-solving process itself.

- **Module 14: Capstone: The Problem-Solving Challenge (Approx. 3 hours)**
    - **Final Simulation:** Participants are given a new, complex case study and work in teams to apply the entire 6-step problem-solving framework from start to finish within a time limit.
    - Teams will be expected to produce:
        1. A clear problem statement.
        2. A root cause analysis (e.g., Fishbone).
        3. A recommended solution with justification.
    - Groups present their findings for peer and instructor feedback.
- **Module 15: Your Critical Thinking Action Plan (Approx. 1.5 hours)**
    - **Action Planning Workshop:** Participants reflect on their key learnings and identify their personal "thinking traps."
    - They select a real-world problem they are currently facing and create a plan to apply the structured problem-solving framework to it.
- **Module 16: Course Review & Commitment to Critical Thinking (Approx. 1 hour)**
    - Review of the key frameworks and tools.
    - Open forum for final questions.
    - Participants share one key commitment to thinking more critically in their role.
    - Course evaluation and closing.