



HIGH  
BRIDGE  
ACADEMY

Course Syllabus

# STRUCTURED PROBLEM- SOLVING 1 & 2

# COURSE OVERVIEW

Structured Problem Solving 1 & 2 offers a step-by-step exploration of advanced problem-solving and decision-making techniques, crucial in intricate business environment.

It aims to develop practical, analytical, and strategic thinking skills through interactive sessions.

This course is built on the High Bridge 8-Step Problem-Solving methodology to build on foundational concepts, guiding participants through a series of interactive exercises, case studies, and discussions.

## Structured Problem Solving 1 – Diagnosis

Structured Problem-Solving 1 is centered around the Diagnosis steps of Problem-Solving, including picking the right problems to solve, defining a problem and aligning it with stakeholders, structuring the problem, creating and prioritizing root-cause hypotheses for investigation, crafting a storyline to guide the investigation, collecting data to test the hypotheses and conducting analyses.

### Learning Objective 1: Foundations of Problem Solving

Set the stage for the workshop, expose the usefulness of a structured problem-solving method and outline problems worth solving.

#### Key Takeaways

1. **Usefulness:** Understanding the importance of structured problem solving in business.
2. **Definitions:** Learning the taxonomy of problem-solving.
3. **Problem Selection:** Developing a robust decision-making frame to pick problems worth solving

### Learning Objective 2: Effective Problem Definition

Master the art of accurately defining problems using structured methodologies.

#### Key Takeaways

#### Example questions

<ol style="list-style-type: none"> <li>1. <b>From Pyramid to Linear Deck:</b> Strategies to translate multi-dimensional arguments into a linear, easy-to-follow slide deck format, aligning with cognitive processing patterns.</li> <li>2. <b>Crafting Action Titles:</b> Techniques for creating concise, powerful action titles that encapsulate key messages and direct audience focus effectively.</li> <li>3. <b>Implementing the 'So What' Technique:</b> Training to employ the 'So What' questioning approach for developing insightful, action-oriented slide content.</li> <li>4. <b>Storyline Analysis and Critique:</b> Group exercises to critically assess existing slide decks, identifying areas for improvement and coherence in storytelling.</li> <li>5. <b>Feedback Mechanisms:</b> Encouraging continuous improvement through detailed critiques, especially in specialized fields like healthcare, to ensure accuracy and relevance.</li> </ol>	<ul style="list-style-type: none"> <li>• How to create impactful action titles?</li> <li>• What are the common mistakes a junior consultant makes with action titles?</li> <li>• How can you support the title with the correct data?</li> <li>• What is the best way to show your data to support the conclusion in the action title?</li> <li>• What are the most common chart trade-offs and how should you choose which chart to use?</li> <li>• What are the best charts to use for each analysis/insight type?</li> </ul>
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## Learning Objective 3: Decomposing Complex Problems

Delve into breaking down complex problems into smaller, manageable parts.

Key Takeaways	Example questions
<ol style="list-style-type: none"> <li>1. <b>MECE:</b> Grasping the essentials of the MECE (Mutually Exclusive, Collectively Exhaustive) principle.</li> <li>2. <b>Brainstorming:</b> The role of brainstorming and clustering in problem decomposition.</li> <li>3. <b>Diversity:</b> Identifying different perspectives on a problem</li> </ol>	<ul style="list-style-type: none"> <li>• What are the differences between business and scientific hypotheses?</li> <li>• What are the key elements in defining a good hypothesis?</li> <li>• What is MECE and how can you be MECE when structuring your hypotheses?</li> <li>• What are the 4 types of MECE breakdowns used to properly structure complex problems?</li> <li>• What is a Baseline/Fact pack? Why is it so useful?</li> </ul>

## Learning Objective 4: Hypothesis Development

Cultivate the ability to form and test robust hypotheses in business contexts.

Key Takeaways	Example questions
<ol style="list-style-type: none"> <li><b>Importance:</b> Importance of hypothesis-driven approach in problem-solving.</li> <li><b>Hypothesis:</b> Techniques for developing strong, testable hypotheses.</li> <li><b>Strength:</b> Evaluating the strength of a hypothesis</li> </ol>	<ul style="list-style-type: none"> <li>What approach to maximize the probability of brainstorming the right hypotheses?</li> <li>How to prompt AI models to support the brainstorming process?</li> <li>Why to frame hypotheses in a sentence?</li> </ul>

## Learning Objective 5: Prioritizing Root-Cause Hypotheses for Investigation

Learn effective prioritization techniques using the Pareto principle and prioritization matrices.

Key Takeaways	Example questions
<ol style="list-style-type: none"> <li><b>80/20:</b> Application of the Pareto principle and experience in hypothesis prioritization.</li> <li><b>Matrix:</b> Employing methodical prioritization matrices for focused problem-solving.</li> <li><b>Dimensions:</b> Criteria-based decision-making in choosing hypotheses to investigate.</li> </ol>	<ul style="list-style-type: none"> <li>Why should you never skip the prioritization stage?</li> <li>What criteria do we usually use to prioritize hypotheses?</li> </ul>

## Learning Objective 6: Crafting Storylines and Preparing Workplans

Gain expertise in creating persuasive storylines for presenting analyses and solutions.

Key Takeaways	Example questions
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<ol style="list-style-type: none"> <li>1. <b>Importance:</b> Understanding the structure and purpose of business storylines.</li> <li>2. <b>Storyline:</b> Crafting compelling, logical narratives for problem-solving presentations.</li> <li>3. <b>Workplans:</b> Creating structured workplans to guide the hypothesis testing</li> </ol>	<ul style="list-style-type: none"> <li>• How to convert hypotheses into storylines?</li> <li>• How to organize the analytical work using workplans?</li> <li>• What are ghost slides and what is their relationship with your hypotheses and the workplan?</li> </ul>
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## Structured Problem Solving 2 - Design

Structured Problem-Solving 2 is centered around the Design steps of Problem-Solving, including brainstorming and prioritizing initiatives, crafting a storyline to guide the investigation, collecting data to support recommendations, analyzing the data to build business cases, shortlisting initiatives for implementation and presenting final results to stakeholders.

### Learning Objective 1: Initiative Brainstorming & Storyline Creation

To develop creative solutions for the identified challenges and organizing plausible initiatives in a compelling storyline first draft.

Key Takeaways	Example questions
<ol style="list-style-type: none"> <li>1. <b>Initiative Brainstorming:</b> Learning the techniques and mindsets to generate the highest number of ideas to solve the problem at hand</li> <li>2. <b>Initiative Prioritization:</b> Applying prioritization protocols to shortlist initiatives with the highest potential for exploration; using top-down estimations to evaluate potential impact</li> <li>3. <b>Storyline Creation:</b> Organizing shortlisted initiatives in a coherent and cohesive story that will guide the building of the business cases</li> </ol>	<ul style="list-style-type: none"> <li>• Why must we separate divergent and convergent thinking?</li> <li>• What criteria to use to prioritize initiatives for further exploration?</li> </ul>

## Learning Objective 2: Data Requests and Analysis Techniques

To explore strategies for making effective data requests and to understand various analysis types, their applications, and common challenges associated with them.

Key Takeaways	Example questions
<ol style="list-style-type: none"> <li><b>Ideal Data Requests:</b> Learning to make clear and specific data requests, focusing on criteria such as individual, deliberate, easy, absolute, and time-limited.</li> <li><b>Analysis Types:</b> Gaining proficiency in predictive analysis and understanding their application in building business cases.</li> <li><b>Analysis Challenges:</b> Addressing common challenges in analysis, including design, interpretation, and handling unreliable or incomplete data.</li> </ol>	<ul style="list-style-type: none"> <li>What are the main types analysis and when can you use each of them?</li> <li>How to make structured data requests and avoid re-work?</li> <li>What data sources can we resort to, both quantitative and qualitative?</li> <li>What are the essential steps to efficiently clean a database?</li> <li>How to do predictive analysis (including modeling)?</li> <li>What resources to use to deal with complex analyses?</li> </ul>

## Learning Objective 3: Prioritization and Solution Synthesis

To master methods for prioritizing initiatives based on their strategic fit and financial impact, and to learn the principles of solution synthesis in a business context.

Key Takeaways	Example questions
<ol style="list-style-type: none"> <li><b>Initiative Shortlisting for Implementation:</b> Techniques for evaluating initiatives considering impact, financial metrics, strategic fit, and resource allocation.</li> <li><b>Synthesis Principles:</b> Understanding the distinction between analysis (structuring) and synthesis, and how to effectively synthesize solutions.</li> </ol>	<ul style="list-style-type: none"> <li>What criteria should we consider to prioritize initiatives?</li> <li>How can a great analysis facilitate prioritization?</li> <li>How to identify and capture quick-wins/low-hanging fruit?</li> <li>How can you properly synthesize your recommendation to your stakeholders?</li> </ul>

<p><b>3. Top-Down and Bottom-Up Communication:</b> Exploring these concepts across various business contexts, including their applications in estimation and decision-making.</p>	<ul style="list-style-type: none"><li>• What is top-down communication and why is it better than bottom-up communication in most cases?</li><li>• What are the principles for delivering a strong presentation?</li></ul>
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