

## Course Syllabi on "TRIZ Workshop Training" for Levels 1 – 2

### Level 1

**Course Title:** Fundamental TRIZ Workshop Training

**Duration:** 3 days (24 Hours)

**Organizer:** TRIZ Institute Thailand

**Instructor:** TriZit Benjaboonyazit (Certified TRIZ Specialist Level 4)

**Requirement:** Participants should be familiar with basic knowledge of Science Technology.

**Acquired competence:** After the training, upon the success of certification test, participants should have the following competence,

- 1) Know the essence of TRIZ and be able to explain it in their own words.
- 2) Understand the fundamental notions of TRIZ and be able to illustrate it with their own examples.
- 3) Capable of finding subsystems and super-systems of specified object.
- 4) Capable of finding a key non-desirable effect (NE) via construction of cause/effect chains diagram.
- 5) Capable of formulating Technical Contradiction.
- 6) Capable of working with the Table of Technical Contradiction Resolution.

### **CONTENTS:**

- 1) Introduction to the background and fundamentals of TRIZ.
- 2) Trial and Error and Systematic Innovation
- 3) Patents, sources of Technological Innovation.
- 4) Key finding in TRIZ Patents Research: Level of Invention, Definition of Inventive Problem, Patterns of Technology Evolution, Patterns of Invention.
- 5) Ideal Final Result (IFR).
- 6) Psychological Inertia.
- 7) TRIZ Process.
- 8) Cause Effect Chains Diagram.
- 9) Contradictions Matrix.
- 10) 40 Inventive Principles to resolve technical contradiction.

### **Training Process:**

- 1) Face to face training in classroom both for in-house and public training.

- 2) Explanations on each topic with examples using TRIZ Book and Presentation Slides.
- 3) Discussions with Questions & Answers
- 4) Individual assignments.
- 5) Group workshop and presentation.

**Methods for certification:** Verbal or written test will be conducted individually to certify the acquired competence. Participants who pass the certification test, they will be qualified to apply for the International TRIZ Association (MATRIZ) Certificate Level 1. In addition, Certificate of TRIZ Institute Thailand Level 1 will be given to those who pass the certification test.

## Level 2

**Course Title:** Advanced TRIZ Workshop Training

**Duration:** 5 days (40 Hours)

**Organizer:** TRIZ Institute Thailand

**Instructor:** TriZit Benjaboonyazit (Certified TRIZ Specialist Level 4)

**Requirement:** Fundamental knowledge of TRIZ for Science and Technology is required to take the course. Certificate of MATRIZ Level 1 or a similar training evidence on Fundamental TRIZ (the length is not less than 24 hours) must be provided.

**Acquired competence:** Besides all the competence in Level 1 requirements, after the training, upon the success of certification test, participants should have the following additional competence,

- 1) Be able to illustrate the main notions of TRIZ with their own examples.
- 2) Be able to use the notion of Ideal Final Result (IFR) in problem solving
- 3) Be able to solve problems using Su-Field analysis.
- 4) Be able to solve problems using System of Standard Solutions.
- 5) Be able to use effects in problem solving.
- 6) Know the structure of ARIZ, have skills of formulating Macro-Level and Micro-level Physical Contradiction (PC).
- 7) Be able to use the method of Smart Little People (SLP) simulation in problem solving.
- 8) Be able to apply the studied TRIZ tools for solving training problems.
- 9) Know main principles and fields of application of other methods.

## **CONTENTS:**

- 1) Review of Fundamental TRIZ.
- 2) Roadmap of Advanced TRIZ.
- 3) Analysis of initial situation.
- 4) Analysis to model functional interactions within a product or a process.
- 5) Examples and exercises on Function Analysis.
- 6) Substance-Field Modeling and Analysis
- 7) 76 Inventive Standard Solutions
- 8) Examples and exercises on Substance-Field Modeling and Inventive Standard Solutions.
- 9) Laws of Technological Evolution.
- 10) Examples and exercises on Laws of Technological Evolution.
- 11) The Logic of Algorithm of Solving Inventive Problems (ARIZ-85C)
- 12) Detailed analysis of a problem solving process with ARIZ.
- 13) Examples and exercises on ARIZ.
- 14) DTC operator (Dimension - Time - Cost).
- 15) Overview of additional tools and fields of application of other methods, for example, Main Parameters of Value (MPV), Functional Trimming, Brainstorming, Morphological analysis and synthesis.

## **Training Process:**

- 1) Face to face training in classroom both for in-house and public training.
- 2) Explanations on each topic with examples using TRIZ Book and Presentation Slides.
- 3) Discussions with Questions & Answers
- 4) Individual assignments.
- 5) Group workshop and presentation.

**Methods for certification:** Term Paper or written test will be conducted individually to certify the acquired competence. Participants who pass the certification test, they will be qualified to apply for the International TRIZ Association (MATRIZ) Certificate Level 2. In addition, Certificate of TRIZ Institute Thailand Level 2 will be given to those who pass the certification test.