PROJECT DESCRIPTION

A variety of tools and techniques will be presented during the course of the semester. The tools presented are currently used in a variety of industrial settings, both manufacturing and service.

The objective of this project is for the student to create a case study using at least 1 tool from each of the following modules:

Problem Understanding (Chapter 3)
    Flow chart
    Critical Incident
    Spider Chart
    Performance Matrix

Problem Data Collection (Chapter 5)
    Sampling
    Surveys
    Checksheet

Problem Cause Investigation (Chapter 4)
    Brainstorming
    Brain-writing
    Is – Is Not Matrix
    Nominal Group Technique
    Paired Comparisons

Root Cause Data Analysis (Chapter 6)
    Histogram
    Pareto Chart
    Scatter Chart
    Problem Concentration Diagram
    Relations Diagram
    Affinity Diagram

Root Cause Identification (Chapter 7)
    Cause-and-Effect (Fishbone)
    Matrix Diagram
    Five (5) Why's
    Fault Tree Analysis

Select one tool from either Chapter 8 or Chapter 9

Root Cause Elimination (Chapter 8)
    Six Thinking Hats
    SIT (Strategic Innovative Thinking)
    TRIZ

Solution Implementation (Chapter 9)
    Fault Tree Diagram
    Force Field Analysis

NOTE: The project/narrative shall utilize at least 6 of the tools described above.

PROJECT DESCRIPTION

Each student will be responsible for creating the narrative and demonstrating implementation of the RCA tools.

The narrative created can be fictitious, taken from the headlines and/or previous work history. Two example cases are contained in the back of the textbook. If the narrative is taken from the headlines of current (past) events references must be included regarding where the information was gathered.   If the narrative is taken from previous work history, business confidentiality shall be maintained and any identifying information shall be obscured.

Due Date:

The case studies shall be presented on the last day of lecture.
Each presentation will be 15 - 20 minutes in length.

Presentation:
Each student will provide a brief description of the problem and demonstration of how the tools were used.   This can be a power-point presentation, poster or using the whiteboard/flip chart.

Presentation Guidelines

Begin by stating the problem or issue that was selected.

Walk through the complete investigation process. In each phase describe
> Which tool was selected?
> Why this tool was selected?
> How the tool was used (present summary of data)?

Conclude the presentation with a statement indicating what the root cause was.

Phases of the process (one tool each – six tools total)
1. Understanding the problem
2. Potential Causes
3. Data Collection Methods
4. Data Analysis
5. Root Cause Identification
6. Root Cause Elimination / Solution Implementation

Deliverables:
1. Written paper (narrative) describing problem and demonstrating use of individual tools
2. Presentation which is a summary of the narrative

Grading - 100 points total

25 points   Clarity and cohesiveness of narrative
60 points   Use of individual tools
15 points   Presentation