



## SYLLABUS

### I. GENERAL DATA

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|---------------------------|--|
| 1.1. Course               | : <b>CONTINUOUS IMPROVEMENT WORKSHOP</b> |
| 1.2. Code                 | : NG 02605                               |
| 1.3. Academic Cycle       | : VI                                     |
| 1.4. Credits              | : 2                                      |
| 1.5. Nature of the course | : Obligatory                             |
| 1.6. Weekly hours         | : 4 Theory                               |
| 1.7. Requirement          | : Workshop on Creativity and Innovation  |
| 1.8. Curriculum           | : 2006-II                                |

### II. SUMMARY:

To educate you (the student) on the continuous improvement methodology and provide you with the necessary skills and knowledge to utilize the appropriate Managerial Quality Tools in a continuous improvement process.

**GRADING:** This course consists of 12 grades including a final project and presentation. The lowest grade will be dropped (not including final project and presentation). At the end of each step in the continuous improvement methodology a real life case will be addressed as a team to resemble a real life situation.

**CLASS STRUCTURE:** Each week will see a different step of the continuous improvement methodology, team building and managerial tools.

**ATTENDANCE:** Attendance is encouraged and recommended. If you miss 30% of the total class you won't be allowed to pass the course.

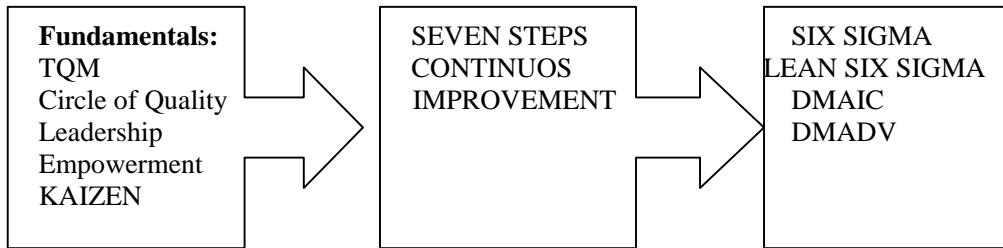
### III. PROFESSIONAL COMPETENCES:

This course teaches the Global Business Administration student the necessary tools to become an engaging contender in this ever more competitive world market. It provides the student with the necessary knowledge to detect opportunities and resolve problems with efficiency allowing him to stay in front of change and providing a competitive advantage.

### IV. SUBJECT COMPETENCES:

1. Student learns how to use primary improvement tools
2. Student learns to detect main problems
3. Student learns to analyze negative situations inside company
4. Student learns how to develop actions plans to resolve problems
5. Student learns how to develop a supervision plan and supervision guide
6. Student learns how to determine success/failure of an improvement project.

**V. LEARNING WEB:**



**VI. LEARNING UNITS:**

UNIT 1. TOTOL QUALITY MANAGEMENT:

| TOPICS  | ACTIVITIES  | WEEK  |
|---|---|-------|
| <ul style="list-style-type: none"> <li>- Total Quality</li> <li>- Total Quality Management</li> <li>- TQM – Requirements</li> <li>- Values in the Culture of the Quality</li> <li>- Phases to Implement the TQM</li> <li>- TQM Benefits</li> <li>- New approaches for the Quality Administration</li> <li>- Team Work and Circles of Quality</li> <li>- Circle of Quality</li> <li>- Leadership</li> <li>- Characteristics of a Leader</li> <li>- Empowerment</li> <li>- Basic Concepts</li> <li>- Think in Processes</li> <li>- Continuous Improvements</li> </ul> | <ul style="list-style-type: none"> <li>- Presentation</li> <li>- Introduction</li> <li>- Definitions and concept to discuss in class</li> </ul> | 1 - 2 |

UNIT 2. INTRODUCTION TOOLS CONTINUOUS IMPROVEMENT

| TOPICS   | ACTIVITIES        | WEEK  |
|--|-------------------|-------|
| <ul style="list-style-type: none"> <li>- Requirement for Continuous Improvement</li> <li>- Kaizen Philosophy</li> <li>- Systematic Thinking</li> <li>- Quality Tools – 7 Classic Old Tools</li> <li>- Ishikawa Diagram</li> <li>- Pareto Chart</li> <li>- Check Sheet</li> <li>- Control Chart</li> <li>- Flow Chart</li> <li>- Histogram</li> <li>- Scatter Diagram</li> <li>- Quality Tools – 7 New tools</li> <li>- Affinity Diagram</li> </ul> | Graded Exercise 1 | 2 - 3 |



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| <ul style="list-style-type: none"> <li>- Tree Diagram</li> <li>- Relations Diagram/ Relation Matrix</li> <li>- PERT</li> <li>- Failure Mode and Effects Analysis (FMEA)</li> <li>- Decision Tree</li> <li>- Correlation Analysis</li> </ul> |  |  |
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**UNIT 3. 7 STEPS OF CONTINUOUS IMPROVEMENT**

| TOPIC   | ACTIVITIES                         | WEEK  |
|---|------------------------------------|-------|
| <p><b>Step 1</b><br/>           Select the problem<br/>           1.1. Mision of the Process or Area</p> <ul style="list-style-type: none"> <li>- Process Diagram</li> <li>- Flow Chart</li> <li>- Network Diagram</li> <li>- Process Map</li> <li>- Block Chart</li> </ul> <p>1.2 Verify the objective and policies of the area or process</p> <ul style="list-style-type: none"> <li>- Characteristics of a Good objective</li> <li>- Marketing objectives and indicators</li> <li>- Balance score card</li> </ul> <p>1.3 Compare the results with the goals</p> <ul style="list-style-type: none"> <li>- Control of Processes</li> </ul> <p>Benchmarking<br/>           1.4 Identify the Problems<br/>           1.5 Evaluate the problems and select the main problem<br/>           Examples</p> | Case 1                             | 4 - 9 |
| <p><b>Step 2</b><br/>           Understand the Situation and Establish Goals<br/>           2.1 Decide the characteristics to be studied</p> <ul style="list-style-type: none"> <li>- Variables and Indicators</li> </ul> <p>2.2 Understand the situation<br/>           2.3 Decide the goals and limits of time to accomplish it<br/>           Brainstorming</p>  | Case 2<br>Team Building Exercise 1 |       |
| <p><b>Step 3</b><br/>           Planning the Activities<br/>           3.1 Decide the Action items</p> <ul style="list-style-type: none"> <li>- Cronogram and Action Plan</li> </ul> <p>3.2 Decide the activities' cronogram</p> <ul style="list-style-type: none"> <li>- GANTT</li> </ul> <p>3.3 Design the activities' action plan</p>  | Case 3                             |       |



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| <p>Step 4<br/>Analyze the Causes<br/>Data recollection<br/>4M's for analyzing causes<br/>4.1 Cause – Effect Analysis<br/>- Cause – Effect Diagram<br/>4.2 Analyze the relation between the problem and the causes using the quality tools<br/>- Why – Why Diagram<br/>- Relation Diagram<br/>4.3 Analysis results<br/>4.4 Decide the root cause that has to be attacked<br/>- Pareto Chart</p> <p>Step 5<br/>Evaluate, Select and Implement Solution<br/>5.1 Break Even Analysis<br/>5.2 PERT/CPM Method<br/>5.3 Selecting and Implementing solution<br/>- How to successfully implement a solution<br/>o Why<br/>o What<br/>o How<br/>- Supervision Visit Plan<br/>- Supervision Guide<br/>5.4 Quantitative and Qualitative Evaluation<br/>5.5 Evaluation Form – Check List</p> <p>Step 6 &amp; 7<br/>Verifying Results<br/>Business Normalization<br/>Traditional vs. Business Normalization<br/>Data Modeling<br/>Design and Implement the Norms<br/>Establishing a Norm<br/>Deciding Methods of Control<br/>Educate and Qualify the Responsible</p> | <p>Case 4<br/>Team Building Exercise 2</p> <p>Case 5</p> <p>Case 6</p> |  |
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UNIT 4. ADDITIONAL STEPS

| TOPICS   | ACTIVITIES | WEEK |
|--|------------|------|
| <ul style="list-style-type: none"> <li>- Identifying and overcoming resistance to change</li> <li>- Resources of Resistance to change</li> <li>- Types of Resistance</li> <li>- Behavioral Styles</li> <li>- Under Stress</li> <li>- Fears about change</li> </ul> | Exercises  | 10   |



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| <ul style="list-style-type: none"> <li>- What can you do to assist change</li> <li>- Consistency</li> <li>- Recognize effort and achievement</li> <li>- Principles</li> <li>- Change vs. transition</li> <li>- Three phases of transition</li> <li>- Neutral zone</li> <li>- Getting through the neutral zone</li> </ul> |  |  |
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**UNIT 5. EMPLOYEE EMPOWERMENT, LEADERSHIP AND CHANG, TEAMBUILDING AND TEMA WORK**

| TOPICS  | ACTIVITIES                       | WEEK |
|---|----------------------------------|------|
| <ul style="list-style-type: none"> <li>- Employee Empowerment               <ul style="list-style-type: none"> <li>o Defined</li> <li>o Rationale</li> <li>o Inhibitors of empowerment</li> <li>o Management role</li> </ul> </li> <li>- Leadership &amp; Change               <ul style="list-style-type: none"> <li>o Defined</li> <li>o Leadership quality</li> <li>o Building and maintaining a following</li> <li>o Leadership vs. Management</li> <li>o Ethics and change</li> </ul> </li> <li>- Team Building and Team Work               <ul style="list-style-type: none"> <li>o Overview</li> <li>o Making the team</li> <li>o Four Step approach to team building</li> <li>o Character Traits and team work</li> <li>o Coaching</li> <li>o Handling conflict</li> <li>o Inhibitors</li> <li>o Reward system</li> </ul> </li> </ul> | Team Building Exercise: Egg Drop | 11   |

**UNIT. 6. SIX SIGMA, LEAN SIX SIGMA AND CULTURE**

| TOPICS   | ACTIVITIES | WEEK |
|--|------------|------|
| <ul style="list-style-type: none"> <li>- Six Sigma</li> <li>- Lean Six Sigma</li> <li>- DMAIC</li> <li>- DMADV</li> <li>- Culture               <ul style="list-style-type: none"> <li>o Example</li> </ul> </li> <li>- Do's and Don'ts</li> </ul> | Exercises  | 12   |



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| - Establishing a Culture |  |  |
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UNIT 7. PROCESS CAPABILITY AND STATISCITAL QUALITY CONTROL

| TOPICS  | ACTIVITIES | WEEK              |
|---|------------|-------------------|
| <ul style="list-style-type: none"> <li>- Basic Forms of Variation</li> <li>- Taguchi’s View of Variation</li> <li>- Process Capability</li> <li>- Process Capability Index               <ul style="list-style-type: none"> <li>o Cereal box example</li> </ul> </li> <li>- Types of statistical sampling</li> <li>- Control Limits               <ul style="list-style-type: none"> <li>o p- charts</li> <li>o X-bar</li> <li>o R – charts</li> </ul> </li> <li>- Acceptance Sampling</li> <li>- Risk               <ul style="list-style-type: none"> <li>o Example Problems 1, 2, 3</li> </ul> </li> </ul> | Exercises  | 13 – semester end |

**VII. METHODOGY:**

Each week we will address a new topic regarding continuous improvement. At the end of each week a class exercise or case will be given, allowing a hand on approach to what could be real life situation inside a company. This allows for the student to be faced with realistic problem solving situation.

Regarding that team work is essential in the success of continuous improvement projects three team building exercises will be address along the semester, the first two will not be graded but are instructive for the third exercise which will be graded.

Finally the course ends with a final project and final presentation resembling a real life situation once again, where the improvement team addresses the company’s upper management to inform of the success or failure of the project.

**VIII. EVALUATION**

| Grading Procedure:    | Weight |
|-----------------------|--------|
| Graded Class Exercise | 1      |
| Cases                 | 1      |
| Final Project         | 2      |
| Final Presentation    | 2      |

$$(PRA1+ PRA2+ PRA3+ PRA4+PRA5+PRA6+PRA7+PRA8+FIN1+FIN2+FIN3+FIN4)/11=$$

FINAL GRADE

Note: Lowest grade is dropped, not including Final Project or Presentation.

**IX. BIBLIOGRAPHY:**

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