








Course Timeline

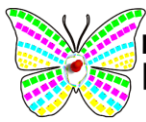
IASSC CERTIFIED BLACK BELT™




Bucuresti – 2018 (sept. – dec.)

Week	Topics	Meetings	Self-Study
1 17-23 Sept. 2018	<p>Introduction to</p> <ul style="list-style-type: none"> Lean Six Sigma – Training and Certification Statistics for Six Sigma <p>1.0 Define Phase</p> <p>1.1 The Basics of Six Sigma</p> <p>1.1.1 Meanings of Six Sigma 1.1.2 General History of Six Sigma & Continuous Improvement 1.1.3 Deliverables of a Lean Six Sigma Project 1.1.4 The Problem Solving Strategy $Y = f(x)$ 1.1.5 Voice of the Customer, Business and Employee 1.1.6 Six Sigma Roles & Responsibilities</p> <p>1.2 The Fundamentals of Six Sigma</p> <p>1.2.1 Defining a Process 1.2.2 Critical to Quality Characteristics (CTQ's) 1.2.3 Cost of Poor Quality (COPQ) 1.2.4 Pareto Analysis (80:20 rule) 1.2.5 Basic Six Sigma Metrics a. including DPU, DPMO, FTY, RTY Cycle Time; deriving these metrics</p>	<p>Workshop 1</p> <p>22/09/2018 09:00 – 17:00</p> 	<p>On-line & Off-line Activities</p> <p>3-7 ore</p>
2 24-30 Sept. 2018	<p>1.0 Define Phase</p> <p>1.3 Selecting Lean Six Sigma Projects</p> <p>1.3.1 Building a Business Case & Project Charter 1.3.2 Developing Project Metrics 1.3.3 Financial Evaluation & Benefits Capture</p> <p>1.4 The Lean Enterprise</p> <p>1.4.1 Understanding Lean 1.4.2 The History of Lean 1.4.3 Lean & Six Sigma 1.4.4 The Seven Elements of Waste 1.4.5 5S</p>	<p>Live Webinar 1</p> <p>27/09/2018 19:00 – 21:00</p> 	<p>On-line & Off-line Activities</p> <p>3-7 ore</p>
3 01-07 Oct. 2018	<p>2.0 Measure Phase</p> <p>2.1 Process Definition</p> <p>2.1.1 Cause & Effect / Fishbone Diagrams 2.1.2 Process Mapping, SIPOC, Value Stream Map 2.1.3 X-Y Diagram 2.1.4 Failure Modes & Effects Analysis (FMEA)</p> <p>2.2 Six Sigma Statistics</p> <p>2.2.1 Basic Statistics 2.2.2 Descriptive Statistics 2.2.3 Normal Distributions & Normality 2.2.4 Graphical Analysis</p>	<p>Workshop 2</p> <p>06/10/2018 09:00 – 17:00</p> 	<p>On-line & Off-line Activities</p> <p>3-7 ore</p>



Week	Topics	Meetings	Self-Study
4 08-14 Oct. 2018	2.0 Measure Phase 2.3 Measurement System Analysis 2.3.1 Precision & Accuracy 2.3.2 Bias, Linearity & Stability 2.3.3 Gage Repeatability & Reproducibility 2.3.4 Variable & Attribute MSA 2.4 Process Capability 2.4.1 Capability Analysis 2.4.2 Concept of Stability 2.4.3 Attribute & Discrete Capability 2.4.4 Monitoring Techniques	Live Webinar 2 11/10/2018 19:00 – 21:00 	On-line & Off-line Activities 3-7 ore
5 15-21 Oct. 2018	3.0 Analyze Phase 3.1 Patterns of Variation 3.1.1 Multi-Vari Analysis 3.1.2 Classes of Distributions 3.2 Inferential Statistics 3.2.1 Understanding Inference 3.2.2 Sampling Techniques & Uses 3.2.3 Central Limit Theorem	Workshop 3 20/10/2018 09:00 – 17:00 	On-line & Off-line Activities 3-7 ore
6 22-28 Oct. 2018	3.0 Analyze Phase 3.3 Hypothesis Testing 3.3.1 General Concepts & Goals of Hypothesis Testing 3.3.2 Significance; Practical vs. Statistical 3.3.3 Risk; Alpha & Beta 3.3.4 Types of Hypothesis Test 3.4 Hypothesis Testing with Normal Data 3.4.1 1 & 2 sample t-tests 3.4.2 1 sample variance 3.4.3 One Way ANOVA a. Including Tests of Equal Variance, Normality Testing and Sample Size calculation, performing tests and interpreting results. 3.5 Hypothesis Testing with Non-Normal Data 3.5.1 Mann-Whitney 3.5.2 Kruskal-Wallis 3.5.3 Mood's Median 3.5.4 Friedman 3.5.5 1 Sample Sign 3.5.6 1 Sample Wilcoxon 3.5.7 One and Two Sample Proportion 3.5.8 Chi-Squared (Contingency Tables)	Live Webinar 3 25/10/2018 19:00 – 21:00 	On-line & Off-line Activities 3-7 ore
7 29 Oct.-04 Nov. 2018	4.0 Improve Phase 4.1 Simple Linear Regression 4.1.1 Correlation 4.1.2 Regression Equations 4.1.3 Residuals Analysis 4.2 Multiple Regression Analysis 4.2.1 Non- Linear Regression 4.2.2 Multiple Linear Regression 4.2.3 Confidence & Prediction Intervals 4.2.4 Residuals Analysis 4.2.5 Data Transformation, Box Cox	Workshop 4 03/11/2018 09:00 – 17:00 	On-line & Off-line Activities 3-7 ore



Week	Topics	Meetings	Self-Study
8 05-11 Nov. 2018	4.0 Improve Phase 4.3 Designed Experiments 4.3.1 Experiment Objectives 4.3.2 Experimental Methods 4.3.3 Experiment Design Considerations 4.4 Full Factorial Experiments 4.4.1 2k Full Factorial Designs 4.4.2 Linear & Quadratic Mathematical Models 4.4.3 Balanced & Orthogonal Designs 4.4.4 Fit, Diagnose Model and Center Points 4.5 Fractional Factorial Experiments 4.5.1 Designs 4.5.2 Confounding Effects 4.5.3 Experimental Resolution	Live Webinar 4 08/11/2018 19:00 – 21:00 	On-line & Off-line Activities 3-7 ore
9 12-18 Nov 2018	5.0 Control Phase 5.2 Statistical Process Control (SPC) 5.2.1 Data Collection for SPC 5.2.2 I-MR Chart 5.2.3 Xbar-R Chart 5.2.4 U Chart 5.2.5 P Chart 5.2.6 NP Chart 5.2.7 Xbar-S Chart 5.2.8 CuSum Chart 5.2.9 EWMA Chart 5.2.10 Control Methods 5.2.11 Control Chart Anatomy 5.2.12 Subgroups, Impact of Variation, Frequency of Sampling 5.2.13 Center Line & Control Limit Calculations	Workshop 5 17/11/2018 09:00 – 17:00 	On-line & Off-line Activities 3-7 ore
10 19-25 Nov. 2018	5.0 Control Phase 5.1 Lean Controls 5.1.1 Control Methods for 5S 5.1.2 Kanban 5.1.3 Poka-Yoke (Mistake Proofing) 5.3 Six Sigma Control Plans 5.3.1 Cost Benefit Analysis 5.3.2 Elements of the Control Plan 5.3.3 Elements of the Response Plan	Live Webinar 5 22/11/2018 19:00 – 21:00 	On-line & Off-line Activities 3-7 ore
11 26 Nov.-02 Dec. 2018	Revision & Exam Simulation		Assesments 5-7 ore
12 03-09 Dec. 2018	Revision	EXAM 08/12/2018 09:00 – 13:00	Assesments 5-7 ore