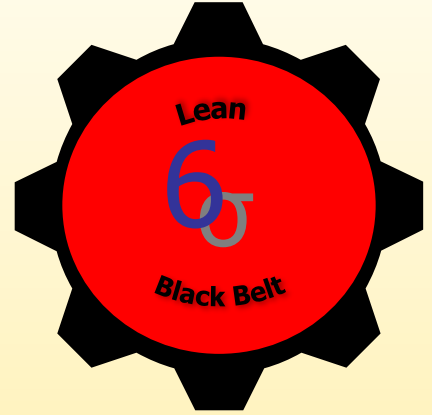




Online Lean Six Sigma Black Belt Training



Introduction session

Alex Boussetta, Master Black Belt
Madalena Valiante, Master Black Belt



Agenda

- Welcome and introductions
- Black Belts vs Green Belts
- Overall content
- Certification process
- Colors and Styles
- Project selection
- Pre-requisites
- Setup needed



What is a Black Belt

A Lean Six Sigma Black Belt is a trained improvement agent who demonstrates change management skills, project management skills, team leadership, and understands team dynamics.

Black Belts aim for *breakthrough improvements*.





What is a Black Belt

- Lead *complex* and *multifunctional* process improvement or process design projects
- Manage projects using a roadmap that encompasses change management
- Identify and optimize the key factors that are linked to the customers needs in a process or product
- Analyze data and information in order to *demonstrate* and *prove* the way forward
- Achieve successful breakthroughs in *environments where resistance is a challenge*





Typical role of a Black Belt

- Lead, as a team leader, complex cross functional projects
- Provide technical support and mentoring to Black Belts and Green Belts, including on the most recent tools
- Act as an internal consultant and a Lean Six Sigma expert
- Participate to the governance
- Establish procedures, best practices





Overall content

- Change management tools
- Team decision making tools
- Analysis tools
- Statistical tools
- Project management
- Artificial Intelligence tools





Recognize Module I

1. Selecting the right projects to improve
2. Strategic planning / Hoshin Kanri
3. Multi generation project plans
4. Value Stream Mapping
5. Process management





Define Module I

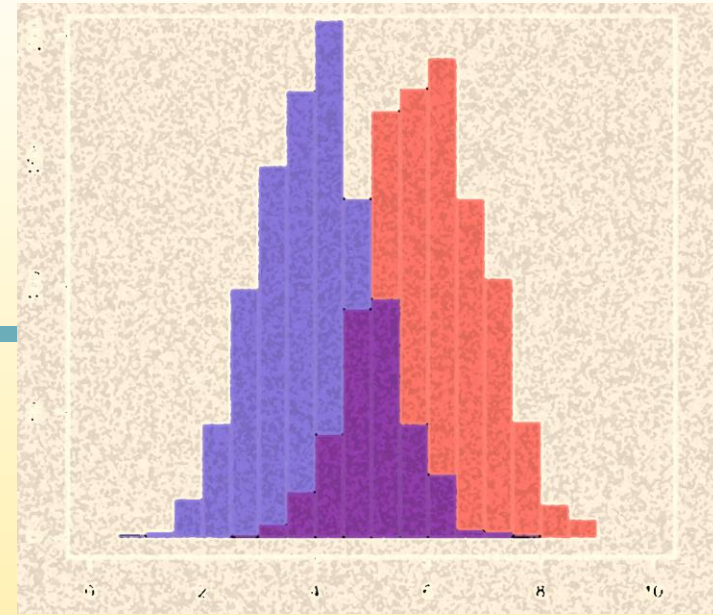


1. Defining the project
2. Teamwork and team building
3. Overview of process management
4. Project management tools and principles
5. Agile and SCRUM
6. Change management tools



Measure

Module II



1. Voice of the customer and survey techniques
2. Artificial Intelligence / Machine Learning: applications and overall process
3. Generative AI and Prompt Engineering
4. Data collection and process mining
5. Sample size calculation
6. Measurement system analysis (Gauge R&R, continuous, attribute)
7. Advanced Process capability for normal and non normal data
8. The Leader and the Team
9. Change management and organizational readiness



Analyze phase

Module III



1. Graphical Analysis
2. Hypothesis testing, ANOVA
3. Correlation and regression
4. Selection of the factors to improve
5. AI/Machine Learning
 1. Supervised
 2. Unsupervised
6. Change Management and Communication
7. Conflict Management



Improve Phase Module IV

1. Process design methodology
2. Scenario evaluations and selection, creativity
3. Pilot and implementation plan
4. Design of experiment (full, fractional)
5. Pull: Kanban
6. Workshops guidelines and facilitation
7. AI/Machine Learning: Deep Learning and Generative AI
8. Coaching, giving feedback





Control phase

Module IV

1. Setting a control plan (recap)
2. Evaluation of the gains
3. Control charts, SPC (recap only)





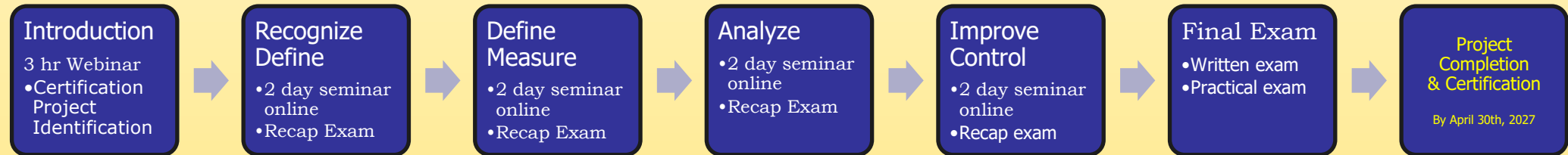
Module V – Exams and Special topics

1. Exams
 1. Written exam
 2. Practical exam
2. Advanced Change management
3. Workshops and Kaizen Events





Certification and training



Coaching and work on the project
Group coaching and working session can also be scheduled



Black Belt Certification Requirements

- Accomplishments
 - Complete 1 project from definition to implementation, including controls
 - The project has to be completed by April 30th, 2027 (extensions can be discussed)
 - Pass interim exams
 - Pass final exam

Once a Belt, Always a Belt



Black Belt Certification Requirements

- Support and coaching
 - Online and over the phone coaching
 - Ad hoc meetings when possible
 - 12 hours including certification



Certification Project Selection Criteria

The project needs to deal with a problem that is SMART

- **Specific** - One problem
- **Measurable** – If you can't measure it, you don't know if you improved
- **Achievable** – Contained enough to be able to make a difference
- **Relevant** - Still having a impact on the institution's operations
- **Time constrained-** Your project needs to have an end date



Project Selection Criteria

- The project is connected to a recognized need, impacts and adds value to your organization (quality, time, cost)
- No minimum dollar value, still SMART
- The project has a measurable benefit that can be confirmed and is correlated to a product or process performance characteristic that is measurable in a valid and reasonable way.



Project Selection Criteria

- The project is based on a process that does not depend on major influences outside of your control.
- The project has a sponsor who is willing to support the project.





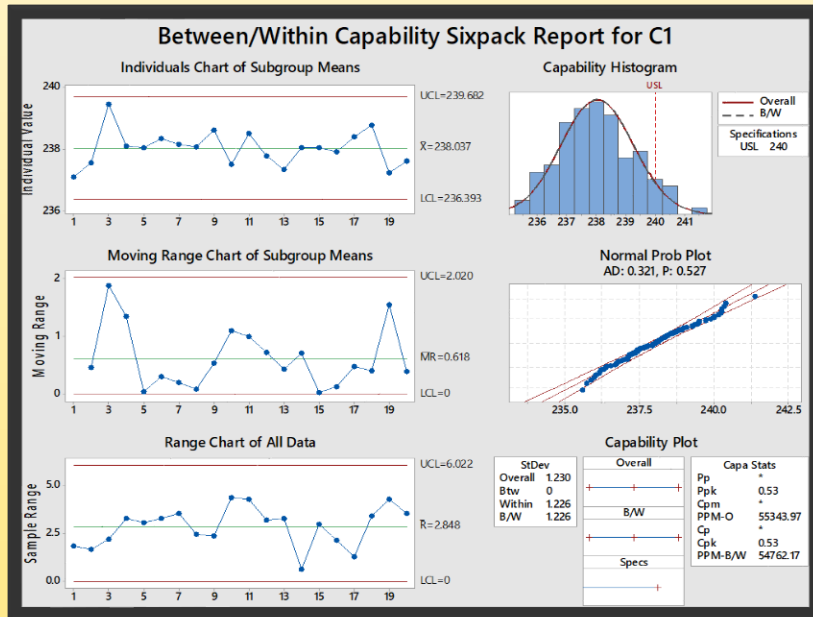
Pre-Requisites



- 2 years of work experience (in any field)
- Lean Six Sigma Green Belt Certification or the equivalent
- Exceptions can be discussed, for example
 - Equivalent experience and exposure
 - Additional training pre-Black Belt



Setup Needed



- Registration and payment
- Internet connection, webcam
- Laptop with Microsoft Office
- Material supplied
- Lean Six Sigma Companion supplied
- ChatGPT Plus supplied