Summary
Continuous improvement deals with ongoing and long-term initiatives to improve products and services. This course will arm students with practical skills to evaluate and improve manufacturing/service systems and lead change and drive transformation for people, processes, and technology.

Content
This course is based on four main modules:

**Module 1) Introduction to continuous improvement**
Continuous improvement (change vs transformation), The nature of change, Value chain and value adding networks, Operations improvement, why change projects fail?, three main pillars of the course (people, processes, technology), driving change and transformation in service/manufacturing companies.

**Module 2) People**
Leading oneself: Emotional intelligence (self and social awareness), How our brain functions, Perception, Attention, Decision making biases.
Leading others: Listening, Connection and bonding, Communication, Managing difficult conversations, Managing conflict.

**Module 3) Processes**
Change Management: Leading a change project, Communicating the change plan
Operations improvement: Methods analysis, Motion study, Work measurement, Learning Curve
Toyota Production System: Value chain, lean operations, Just-in-Time, Lean tools.
Capacity & Constraint Management: Bottleneck analysis, Theory of Constraints
Facility Location and Layout: Product and Process layouts, Line balancing
Quality Management: Quality Control, Quality Tools, TQM, Six Sigma.

**Module 4) Technology**
Big data and data-driven industries
Digital strategies and application of digital technologies
Leading digital transformation.

Keywords

Learning Prerequisites

Recommended courses
Production Management (Fall semester)

Important concepts to start the course
• Understanding probability and statistics
• Data analysis with Excel
• Active participation for cases and problem sets
• Willingness to make change and transformation

Learning Outcomes
By the end of the course, the student must be able to:
• Understand fundamentals of change and transformation
• Evaluate and analyze a system based on key performance indicators
• Design and execute a change and transformation plan for a system

Transversal skills
• Plan and carry out activities in a way which makes optimal use of available time and other resources.
• Assess progress against the plan, and adapt the plan as appropriate.
• Use a work methodology appropriate to the task.
• Communicate effectively, being understood, including across different languages and cultures.
• Keep appropriate documentation for group meetings.
• Manage priorities.

Teaching methods
• Case studies
• Assignments and project-based learning
• Videos
• Articles and research papers
• Guest speakers

The course is based on the implementation of theoretical concepts and models to practical cases. Students work in a group in multiple cases during the whole semester.

Expected student activities
• Individual: Self-study, Active class discussions, case evaluations, Q&A
• In-group: Teamwork (respect, brainstorming, involvement and constructive feedback)

Assessment methods
Continuous evaluation of case reports, projects, individual and group presentations, class discussions, during the semester. More precisely:
• 25% presence, participation, and class engagement,
• 45% class assignments, presentations, projects, and case reports.
• 30% final exam (final report and presentation and understanding of the case)

Supervision
Office hours Yes
Forum Yes
Others - Meetings by appointment.
- All information sharing and communications regarding the course must be through Moodle.

Resources

Bibliography
Series of book chapters, hand-outs, and notes will be share in the class. The following books are recommended:

Ressources en bibliothèque

- Leading Change / Kotter
- Operations Management / Slack
- Emotional Intelligence / Goleman
- Driving Digital strategy / Gupta

Notes/Handbook
Course slides (main material)
Videos
Hand-outs