

Industrial Management

The Major **Industrial Management** aims to provide students with a **systemic and integrated view** of the industrial processes **across the different functions** of a service or manufacturing company, including the relationships with customers and suppliers.

Students will learn how to deal with production, planning, purchasing, quality, logistics, information systems, product development, etc. in order to create and maintain a strong competitive advantage.

A particular attention will be given to exploit the opportunities enabled by new technologies and digitalization, and to develop solutions that create a better and sustainable world to live in

Industrial Management Lab and Toolbox (1st or 2nd sem at student's choice)	15
Smart Maintenance Management (1 sem)	5
Operations Risk Management and Resilience (1 sem)	5
Industrial Asset Management (1 sem)	5
Agile Project Management (1 sem)	5
Quality Management (1 sem)	5



Coordinate and Integrate

Industrial Management Lab: leading improvement

Expected Learning Outcomes

Participants will **master the amazing art of complex problem solving**: the top skill for 2025 onwards, according to World Academic Forum, and a key ability for the leaders of the future. In particular, participants will develop:

- A toolbox with **all tools needed** in the different phases of any problem solving process
- The knowledge of **the functioning of the different areas** of a company, interacting to deliver value to the customer
- Strong **analytical skill**, and use of advanced techniques as AI, Cluster analysis, Machine learning, to make the best out of available data.
- **Critical thinking**, and **creativity**
- Self **consciousness** and self **confidence**
- **Passion** to overcome all difficulties and to make the world a better place to live

Professor

Prof. Alberto Portioli (alberto.portioli@polimi.it)

Learning Experience

Students will build on the knowledge of previous courses, with 5 credits of methods and tools to **address complex problems and find creative solutions**, under the guidance of and experienced tutor. Then **students will lead an improvement project in a Company** supported by a Company Tutor and a Methodological Tutor through weekly meetings, with the goal to bring real, significant, measurable results to the Company.

Students will spend **2 days/week at the company's premise** so to get in close contact with company's people: *teamworking* together to meet the targets, and learn how to integrate people and competences from different functional areas for the best result. **Soft skills seminars given by Professors of our Business School** will help the students to develop soft skills that will be extremely useful during the improvement project: to better understand, manage and lead.

Examples of projects are the following: Using AI to support product configuration; Digitalisation of admin processes; Increasing productivity using SMED; Preassembly Lean transformation; Reducing delivery lead time; Increasing quality and efficiency in a food production plant; Pursuing a greener production; Applying IoT (Internet of Things) in the manufacturing area; Implementing LEAN in low volume-high variety production company; Warehouse space & activities re-engineering.

Examples of involved companies

There are big name companies, as ST microelectronics, Decathlon, IKEA, HILTI, Vibram, Ingersoll Rand, CEVA Logistics, Esselunga, Mediobanca, Humanitas, Magneti Marelli, Comau, and others which are less famous but with incredibly interesting opportunities.

Every term, we select companies and projects on the base of a real need of the company, and its commitment in giving the students an amazing learning experience