Foundations of Intelligent Process Automation and applications of low-code tools

Lecturer: Dario Ambroggi

Language

English

Course description and objectives

This course provides university students with a comprehensive introduction to Intelligent Process Automation (IPA), combining the principles of business process analysis with the practical implementation of automated digital workflows. The course focuses on enabling students to understand how automation technologies can enhance organizational efficiency, reduce manual effort, and support data-driven decision-making.
The course introduces students to process mining techniques, highlighting how data collected from systems and user behavior can be analyzed to uncover inefficiencies, optimize workflows, and guide the design of effective automation strategies. This analytical approach ensures that automation is not only implemented, but also continuously improved based on performance insights.
A central part of the course is dedicated to the Process Automatio**n**, which allows the creation of automated workflows across different applications such as Outlook, Teams, SharePoint, Excel, Forms, and OneDrive. Students will learn how to design and build automated flows using a visual, low-code approach, making the technology accessible even to those without a programming background.
Additionally, the course explores how to extend automation capabilities with prebuilt components which enables the integration of dedicated services or artificial intelligence into workflows.

By the end of the course, students will be able to:

- Understand the fundamental concepts and goals of Intelligent Process Automation within the context of digital transformation.
- Analyze business processes to identify which steps are suitable for automation.

- Design and build functional, efficient workflows using low-code automation platforms.
- Incorporate external services and AI capabilities into automation solutions
- Apply process mining techniques to assess process performance and continuously improve automated workflows.
- Demonstrate the ability to document, present, and justify a complete automation solution based on real-world scenarios.

Audience

This course is open to all students at Bocconi University.

Prerequisites

- Basic knowledge of Microsoft 365 (e.g., Outlook, SharePoint, Excel)
- Familiarity with digital tools and workflows
- Logical thinking and problem-solving mindset

Guidelines

Registration:

You can sign up for the course only through the yoU@B student Diary, in the " **sign-up for various activities**" box (please note that the box appears only when registrations open. Before then it will not be visible).

You can only cancel your registration by Diary **no later** than the registration deadline for the course itself. No other ways of cancellation are allowed.

Registration will be confirmed a few days before the start of the course through a message posted in the yoU@B student Diary.

Attendance:

- Attendance of **75% or more** of class hours: obtainment of the Open Badge
- Attendance of **less than 25%** of class hours: placement on **Exclusion List**

Duration

12 hours

Teaching mode

This course will be only taught in person. Distance mode will not be provided.

Calendar

Lecture	Date	Time	Room
1	Mon 09/02/2026	18.15 - 19.45	InfoAS04 (Röntgen)
2	Mon 23/02/2026	18.15 - 19.45	InfoAS04 (Röntgen)
3	Sat 07/03/2026	09.30 - 11.00	InfoAS04 (Röntgen)
4	Sat 07/03/2026	11.15 - 12.45	InfoAS04 (Röntgen)
5	Sat 14/03/2026	09.30 - 11.00	InfoAS04 (Röntgen)
6	Sat 14/03/2026	11.15 - 12.45	InfoAS04 (Röntgen)

Note: lessons will be held in the traditional room and **all the students have to bring their own device**.

Syllabus of the course

Lecture	Topics
1	**Introduction to Intelligent Process Automation** - What is IPA and why it matters in the modern enterprise - Overview of key technologies: BPA, RPA, Process Mining, low-code platforms, agentic AI - Introduction to Process Automation Platform
2	**Process Analysis and Mining** - Techniques for analyzing workflows (Flowcharts and BPMN) - Identifying automation candidates with process Mining - Why Process mining is so important in process automation
3	**Building Blocks of a Cloud Flows** - Overview of Flow Architecture - Triggers and actions and conditions - How to use standard connectors - Hands-on: Automate File Organization Scenario
4	**Working with Data and Forms** - Integrating Forms and Using Excel Data Source - Data Validations - Flow Output and Logging - Hands-on Survey Automation Scenario

Lecture	Topics
5	**Intelligent Automation with Advanced Logic and Data Integration** - Designing complex flow by using conditions, switches, loops - Integrating Excel, SharePoint, and OneDrive - Overview of AI Builder - Hands-on: Multi-Stage Approval Process
6	**Final Project and Best Practices** - Guidelines and Best Practices for designing an end-to-end automated process - Final Project: Analyze, design, and build a process automation - Course wrap-up and future learning paths

Suggested bibliography

During the course, the teacher will provide guidance on readings and materials.

Available seats

This activity is limited to **110** participants. Registrations cannot be carried out once this number has been reached or after the registration period ends.
Please note that you can withdraw from ITEC courses **only before the registration deadline**.