

# ROBOTIC PROCESS AUTOMATION (RPA)

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**Course Presentation**

**[3 October 2024]**

Elective Course, 2024-2025, Fall Semester

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# Acknowledgements

This course is presented to our Faculty with the support of UiPath Romania.



# Contents

- Course Goals
- Final Grade
- Activities
  - Details
  - Planning
- Lab
  - Rules
  - Assignment Turn in Scheduler
- Project
  - Rules. Assessment
  - Ideas
- Resources

# Course Goals

- this course introduces
  - basic concepts on business processes;
  - technical knowledge **to develop software robots**;
  - potential **strategies** applied in order **to automate business processes**;
  - business analyst related tasks;
- facilitates practical work on:
  - specific process automation tool – **UiPath Studio**;
  - **particular business process automation**.
- various **skills improvement** related to
  - team communication and team working;
  - innovative technology use.

**RPA main intent: improve technical skills to develop software robots.**

# Final Grade

- **Final Grade (G) = 30%L + 70%P**

# Activities. Details

- **Lecture:** 2 hours/week; 14 weeks;
- **Laboratory:** 2 hours every 2 weeks;
- **RPA Project:** turn in during week 14.

# Activity Planning (1)

Week	Lecture	Laboratory
[w01]	<b>Lecture 01.</b> Course Presentation Robotic Process Automation (RPA). UiPath Platform. Introduction to UiPath Studio (Project Overview. Basic Data Types. Control Flow)	<b>Lab 01.</b> UiPath Studio installation. RPA project setup. Basic Concepts
[w02]	<b>Lecture 02.</b> <b>UiPath: UiPath Platform Presentation</b> <b>Software companies: Project Ideas Presentation</b>	
[w03]	<b>Lecture 03.</b> Data processing. Collections (Operations on Data. Data Manipulation)	<b>Lab 02.</b> Multiple workflows. Arguments. Invoke Workflow Activity
[w04]	<b>Lecture 04.</b> Advanced UI Interaction <b>RPA Diploma Paper Preparation Program</b>	

# Activity Planning (2)

Week	Lecture	Laboratory
[w05]	<b>Lecture 05.</b> Debugging and Exception Handling (try-catch) Custom Activities	<b>Lab 03.</b> UI interactions. Exception Handling. Custom activities
[w06]	<b>Lecture 06.</b> Selectors	
[w07]	<b>Lecture 07.</b> Robotic Enterprise Framework (REF)	<b>Lab 04.</b> Selectors. Image and Text Automation
[w08]	<b>Lecture 08.</b> Image and Text Automation	
[w09]	<b>Lecture 09.</b> Excel. Data Tables	<b>Lab 05.</b> Excel <i>or</i> PDF files
[w10]	<b>Lecture 10.</b> PDF and E-mail	



# Activity Planning (3)

Week	Lecture	Laboratory
[w11]	<b>Lecture 11.</b> Orchestrator. Basics Features (I)	<b>Lab 06.</b> E-mail Automation <i>or</i> Orchestrator
[w12]	<b>Lecture 12.</b> Orchestrator. Jobs Scheduler. Queues (II)	
[w--]	Christmas Break	
[w13]	<b>Lecture 13. Invited lecture</b> <b>Automatify</b> - Chat GPT Integration in Process Automation	<b>Lab 07.</b> <i>Finalize Lab activities</i>
[w14]	<b>Lecture 14.</b> <b>RPA/SBPA Project turn in</b>	<b>Lab 07.</b> <b>RPA/SBPA Project turn in</b>

# Lab. Rules

$$G = 30\%L + 70\%P$$

- **Attendances:**
  - **Lab attendances are not compulsory.**
  - Lab attendances will not be checked during lab activities by the teacher.
  - **Students should keep their lab group throughout the semester.**
- **Assignments:**
  - **Assignments are not mandatory;** students can pass the final course exam with the P grade only, i.e., L=0.
- **Activities:**
  - Students have the choice to work as single or in teams(2-3 students) to perform lab tasks.
  - Teams can be changed from one lab assignment to another.
  - **The whole team attends the lab activity when an assignment is turned in.**  
**All team members should be able to answer to asked questions!**

# Lab. Assignment Turn in Scheduler

$$G = 30\%L + 70\%P$$

Lab assigned	Week	Lab01 grade	Lab02 grade	Lab03 grade	Lab04 grade	Lab05 grade	Lab06 grade
Lab01	Week01	-	-	-	-	-	-
	Week02	-	-	-	-	-	-
Lab02	Week03	10	-	-	-	-	-
	Week04		-	-	-	-	-
Lab03	Week05	8	10	-	-	-	-
	Week06			-	-	-	-
Lab04	Week06	-	8	10	-	-	-
	Week07	-			-	-	-
Lab05	Week09	-	-	8	10	-	-
	Week10	-	-			-	-
Lab06	Week11	-	-	-	8	10	10
	Week12	-	-	-			
-	Week13	-	-	-	-	8	10
	Week14	X	X	X	X	X	X

- **L = Average of the highest 3 labs grades (or less than 3 lab assignments turned in)**
  - **3 out of 6 lab assignments should be turned in in order to compute (successfully) grade L.**
  - students may choose **any** 3 lab assignments to be turned in to compute L.
  - **all assignments have the same weight when computing the grade L.**
- **Lab activity (L) = 30% of the final grade (G).**

# Project. Rules

$$G = 30\%L + 70\%P$$

- **P = Business Process Automation Project**
  - **P represents the RPA course final assessment;**
  - P is an individual student or a team (2-3 students) project;
  - Any student enrolled in RPA elective course must register to elaborate and turn in P.
  - Additional announcements on registering a team to P will be provided over MS Teams.
  - Details on the P **requirements** and **assessment** will be available on MS Teams.
  - **The registration deadline is the end of week 05.**
  - P is turned in during **week 14** according to a scheduling that will be available by the end of week 12.
- **Project (P) = 70% of the final grade (G).**

# UiPath Presentation. Project Ideas

- **week02:**
  - **UiPath presentation for UiPath Platform;**
  - **Project ideas from software companies collaborators:**
    - **Future WorkForce**
    - **Global Logic**
    - **Accesa**
    - **UiPath**
    - **Goodroid**
    - **TquilaAutomation**



# RPA Diploma Paper Mentorship

- **week04:**
  - **Presentation of RPA Diploma Paper Mentorship Program:**
  - **interested companies:**
    - **Automatify;**
    - ...



# Resources (1)

- **MS Teams**
  - student are added to **RPA** team by the teacher after filling in a form with their details;
- communication over channels:
  - **General**
    - events, announcements, deadlines, news;
  - **Lectures**
    - course presentation, lecture notes, demos;
    - references;
  - **Labs\_RPA\_Ro, Labs\_RPA\_En**
    - specific details during particular lab activities;
  - **RPA Project**
    - business process automation project details;
    - team details and project registration;
  - **Q\_A**
    - RPA related question, technical issues.

# Resources (2)

- UiPath Platform
  - <https://cloud.uipath.com/>
  - create an account;
  - download UiPath Studio Community.
- UiPath Docs
  - <https://docs.uipath.com/studio/docs>
- UiPath Forum
  - <https://forum.uipath.com/>
- UiPath Academy
  - <https://academy.uipath.com/>
  - create an account;
  - enroll in various trainings.

