UDACITY

NANODEGREE PROGRAM SYLLABUS

RPA Developer with UiPath

Overview

The RPA Developer Nanodegree Program helps students develop professional-level skills focused on developing and deploying software robots. The course assumes no prior knowledge of RPA. It begins by introducing basic RPA concepts, introduces the UiPath RPA platform and teaches a student how to use free UiPath software to automate business processes while refreshing basic programming skills along the way.

Prerequisites:

A well-prepared learner is already able to:

- Use Microsoft applications, understand data manipulation, and understand basic logical sequence flows (like Visio)

While the following experience is not required to complete the Nanodegree program, students may benefit from:

- Proficiency in a programming language and scripting in a programming language to review, implement, and modify code; VB.NET/VBA/C# experience is a plus
- An understanding of the .NET framework

A student must have access to a Windows-based machine with Microsoft applications like Excel and Outlook or a VM running a Windows Environment

- Minimum Hardware and Software requirements:
  - CPU: 2 x 1.8GHz 32-bit (x86)
  - RAM: 4 GB
  - Windows 7+, Chrome, and Microsoft Office

Estimated Time: 4 Months at 10hrs/week

Prerequisites: Proficiency in a programming language

Flexible Learning: Self-paced

Need Help?
udacity.com/advisor
Discuss this program with an enrollment advisor.

IN COLLABORATION WITH

UiPath

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Course 1: Intro to RPA with UiPath

In this course, you will learn about RPA using UiPath, specifically how to use UiPath Studio to develop automation solutions. You'll first get a deep dive into Studio and how to use activities to program the robot to mimic actions. You'll understand how data is stored and passed between applications and actions while understanding the logical flow of execution of the actions. You'll understand how to ensure data is valid and in any format needed while learning what's available to leverage from the Microsoft coding language used in Studio. Finally, you'll learn about selectors, which are the heart of user interface identification and automation and how the robots use them to work within UI applications to successfully identify where to enter or extract data and actions.

Project 1:
Sorting Annual Reports

You are tasked with organizing several annual reports from your company, but you want to be able to create an automation so that you can just click one button and automatically sort future reports! You will be given a webpage where all the reports are currently stored and will create an automation to sort them based on the name of the reports.

	LEARNING OUTCOMES	
LESSON ONE	**Introduction to UiPath**	• Install and update the UiPath components and extensions, taking into account the versioning scheme. • Use the user interface of the UiPath Studio to interact with the application and design automation workflows. • Search, install, save, use and reuse activities in UiPath Studio.
LESSON TWO	**Variables, Arguments, & Control Flow**	• Code an automation using variables and arguments • Understand and utilize the correct data types • Code an automation using both sequences and flowcharts • Code an automation which loops through data
MID-COURSE PROJECT	**Data & String Manipulation and UI Activity Properties**	• Pescribe data manipulation and its importance • Apply data manipulation methods suitable for RPA to different types of data structures and variables • Explain collection, its types, and manipulations • Understand and correctly use the properties of User Interface activities to make them robust, reusable, and scalable • Using VB.NET string methods, dynamically store all the files in the folder in an array variable • Using validation methods, check the file names against constraints and move the files depending on the process requirements

LESSON THREE	**Selectors**	• Understand what is a Selector and what makes a selector robust, stable, and dynamic • Create stable and dynamic selectors • Debug selectors to fine-tune them in order to improve element manipulation precision • Understand the structure of selectors and what tags and attributes refer to • Use Anchors to manage difficult situations.

Course 2: UiPath Advanced Automation Techniques and Design

In this course, you'll cover more advanced automation techniques to make you confident automating various software, web applications, and beyond. You'll learn how to extract, manipulate, and insert data within Excel and PDF documents. You'll learn about the recording options in Studio to assist you in quickly building automation projects, and how to code automation emails for input, output, and email management. In addition, you'll learn how to implement debugging techniques to ensure your code is free from errors and runs end to end. And finally, you'll be introduced to UiPath Orchestrator, a web based management tool, so you can manage your projects and use the developer functionalities to make your projects robust and scalable.

Project 2:
Invoice Scraping

In this project, you will develop an automation for a process that will scrape data from and then process invoices. Your robot will read through emails and download the invoices received in the form of an email attachment. It will extract specific data and store those values in an Excel spreadsheet and a subset of values will be uploaded to the Orchestrator Queue. And finally, the robot will email the spreadsheet to you when finished.

	LEARNING OUTCOMES	
LESSON ONE	**Excel, Data Tables, and PDF Automation**	• Understand the concept of DataTable and its Manipulation technique • Identify the common methods of data manipulation for DataTables • Code an automation using an Excel spreadsheet, datatables, and PDFs • Automate creating and populating new Excel files from datatable variables using the Excel and Workbook automation packages within UiPath Studio. • Extract text segments from PDF using the PDF activities

LESSON TWO	**Recording, UI Interactions, and Advanced Citrix Automation**	• Use the recorder to automate actions • Differentiate between actions that can be recorded automatically and actions that have to be manually recorded in UiPath • Use the Basic, Desktop and Web Recording and know the situations in which each of them is appropriate • Use the Screen Scraping wizard and configure input and output methods as appropriate to the context. • • Use the Data Scraping functionality of UiPath in the appropriate contexts. • Code an automation to scrape data from various sources (web, PDF, applications) using data scraping wizard and screen scraping wizard • Perform basic Image and Text Automations as well as Virtual Machine Application Automations
LESSON THREE	**Email Automation**	• Identify activities suited for email automation • Code an automation to read emails using Mail activities • Code an automation to filter and download attachment from the mail • Code an automation to send emails using message template
LESSON FOUR	**Debugging, Exception Handling, and Testing**	• Use debugging techniques to find errors • Define exception handling and use of different types of exceptions in finding errors • Run and test your automations with default values and re-usable code
LESSON FIVE	**Introduction to Orchestrator**	• Define Orchestrator and its functions • Understand the concept of processes and publishing package • Connect your Studio Robot to Orchestrator and identify types of robots in Orchestrator • Understand Orchestrator Queues and Assets • Define the process for scheduling of robots

Course 3: RPA Team Best Practices

As an RPA developer, you need to understand how to handle anything thrown your way with consistent and successful methods. This course will give you the tools you need to be successful as an RPA developer and working with an RPA team. First, you'll understand how to identify and handle common challenges with RPA projects. Then, you'll learn the best way to design solutions and have clean, organized project solutions. You'll learn standard best practices to make working within a team a breeze and ensure you consider the most important aspects to well written code in Studio. Next, you'll cover an advanced topic, the Robotic Enterprise Framework, which is necessary for production level projects. Finally, you'll understand how RPA teams work together, how automation is an end-to-end process, and how it relates to AI and other technologies, as well as how to learn more and connect with the RPA community.

Project 3:
RPA Code Review

As an RPA developer, you will often be called on by other RPA developers on your team to review their work. Team members review each other's code routinely before completing the end-to-end automation solution.

As the RPA developer leading the project, it is your job to finish the Design Specification Document (DSD) when the development and testing is done for hand-off to the COE.

		LEARNING OUTCOMES
LESSON ONE	**Automation Challenges**	• Code an automation that interacts with a user • Verify stability of the automation • Catch all errors and handle them in a graceful way by reprocessing, retrying, or letting the user know when an action failed and must be manually handled • Understand the common exceptions thrown in UiPath Studio
LESSON TWO	**Project Organization**	• Organize a project in an efficient and understandable way • Ensure all business requirements from a Process Definition Document are met throughout a project (all use cases stated, all known and unknown exceptions handled, etc.) • Test and debug each workflow (unit testing) as well as the overall project workflow
LESSON THREE	**Best Practices**	• Demonstrate advanced knowledge of best practices by correcting the project in areas of readability, logging, re-usability, and naming conventions • Build and test dynamic selectors and highlight relevant tags and attributes of those selectors • Complete project documentation and necessary sections of the Design Specification Document

LESSON FOUR	**RE Framework**	• Understand the production level framework, state machines, audit logs, and retry mechanisms
LESSON FIVE	**Capstone Work**	• Understand how RPA fits into digital transformation • Understand expectations of each role on an RPA team

Capstone Project: Personal Use Automation

You will apply the skills you have developed throughout this Robotic Process Automation (RPA) Developer with UiPath Nanodegree to build an automation of a process in your professional or personal life. To ensure your process is impactful and a good use case for your portfolio, it will have to be a process which interacts with multiple applications, contains data manipulation, handles errors and exceptions, and has good design and reusable components. First, you will fill out all the necessary steps of the process and any requirements in the Process Definition Document (PDD). Then, you will design and build the automated solution in UiPath Studio. Finally, you will create the resulting Development Specifications Document (DSD) showcasing your solution and any dependencies needed to run it.

Learn with the Best

Kristina Kaldon

RPA DEVELOPER

Kristina studied Astronomy and Physics at Penn State University. After completing her degree, she worked with satellites at MIT Lincoln Laboratory while taking graduate courses in Aerospace Engineering. She is a self-taught RPA Developer and Program Manager on the UiPath Learning team.

Niyaz Ahmed

TECHNICAL CONSULTANT

Niyaz is a Technical Consultant and Technical Trainer at UiPath, where he teaches UiPath to various academic institutions. He formerly worked as a Tech Mentor at NIIT LTD, where he mentored learners through project-based learning for various programming languages. He has an Engineering Degree from Mumbai University.

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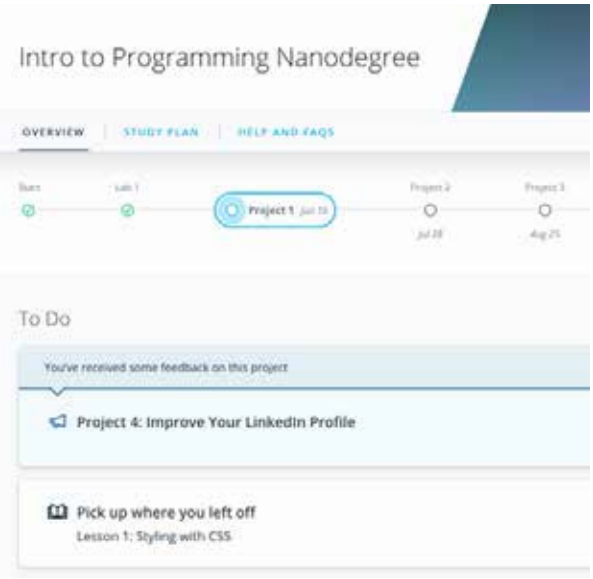
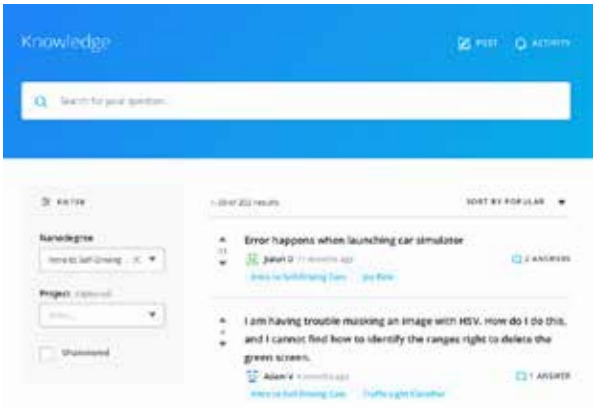
Our Classroom Experience





REAL-WORLD PROJECTS
Build your skills through industry-relevant projects. Get personalized feedback from our network of 900+ project reviewers. Our simple interface makes it easy to submit your projects as often as you need and receive unlimited feedback on your work.

KNOWLEDGE
Find answers to your questions with Knowledge, our proprietary wiki. Search questions asked by other students and discover in real-time how to solve the challenges that you encounter.

STUDENT HUB
Leverage the power of community through a simple, yet powerful chat interface built within the classroom. Use Student Hub to connect with your technical mentor and fellow students in your Nanodegree program.

WORKSPACES
See your code in action. Check the output and quality of your code by running them on workspaces that are a part of our classroom.

QUIZZES
Check your understanding of concepts learned in the program by answering simple and auto-graded quizzes. Easily go back to the lessons to brush up on concepts anytime you get an answer wrong.

CUSTOM STUDY PLANS
Work with a mentor to create a custom study plan to suit your personal needs. Use this plan to keep track of your progress toward your goal.

PROGRESS TRACKER
Stay on track to complete your Nanodegree program with useful milestone reminders.

All Our Nanodegree Programs Include:

EXPERIENCED PROJECT REVIEWERS

REVIEWER SERVICES

- Personalized feedback
- Unlimited submissions and feedback loops
- Practical tips and industry best practices
- Additional suggested resources to improve

TECHNICAL MENTOR SUPPORT

MENTORSHIP SERVICES

- Chat with mentors in the Student Hub community
- Weekly learning plan focused on your progress, goals, and schedule
- 1500+ mentors with a 4.7/5 average rating
- Support for your questions when you need it

PERSONAL CAREER SERVICES

CAREER COACHING

- Personal assistance in your job search
- Monthly 1-on-1 calls
- Personalized feedback and career guidance
- Access Udacity Talent Program used by our network of employers to source candidates
- Advice on negotiating job offers
- Interview preparation
- Resume services
- Github portfolio review
- LinkedIn profile optimization

FAQs + Contact Info

WHY SHOULD I ENROLL?

Technology is facing a tipping point and Robotic Process Automation (RPA) is the catalyst. Over 60% of all positions for information workers spend over 30% of their time doing rote, automatable tasks, and business are looking to leverage RPA to free up employees to focus on more strategic work. That's why RPA is the fastest-growing segment of the enterprise software market, and why UiPath was the fastest growing technology company in 2019.

The RPA Developer Nanodegree program was designed with UiPath to train professionals to be able to support companies in their adoption of RPA tools and best practices. Students will learn the skills that enable automation processes, master specific automation techniques for the most commonly used applications like Excel, email, and PDFs, and work within the UiPath platform to implement RPA best practices and enable more advanced automation processes. By becoming an RPA Developer today, you'll have the skills companies need as the RPA field continues expand in the coming years.

WHAT JOBS WILL THIS PROGRAM PREPARE ME FOR?

The RPA Developer Nanodegree program prepares students with the comprehensive knowledge and professional-level skills you will need to develop and deploy business process automations. Those skills will be useful in a variety of roles across many industries, especially Finance, Healthcare, Insurance, Consulting, Manufacturing, Telecommunications, and beyond. Some specific roles include:

- RPA Developer
- Business Analyst
- Business Intelligence Developer
- Project Managers
- RPA Architect
- Technology Consultant
- Process Designer
- Production Manager

HOW DO I KNOW IF THIS PROGRAM IS RIGHT FOR ME?

The RPA Developer Nanodegree Program is a great fit for anyone interested in learning how to leverage RPA software in their existing roles or to prepare for new opportunities. The program assumes no prior knowledge of RPA, but there are some useful prerequisites that we outline below.

ENROLLMENT AND ADMISSION

DO I NEED TO APPLY? WHAT ARE THE ADMISSION CRITERIA?

There is no application. This Nanodegree program accepts everyone, regardless of experience and specific background.

FAQs + Contact Info cont.

WHAT ARE THE PREREQUISITES FOR ENROLLMENT?

A well-prepared learner is already able to:

- Use Microsoft applications, understand data manipulation, and understand basic logical sequence flows (like Visio)

While the following experience is not required to complete the Nanodegree program, students may benefit from:

- Proficiency in a programming language and scripting in a programming language to review, implement, and modify code; VB.NET/VBA/C# experience is a plus
- An understanding of the .NET framework

A student must have access to a Windows-based machine with Microsoft applications like Excel and Outlook or a VM running a Windows environment. Specific minimum hardware and software requirements:

- CPU: 2 x 1.8GHz 32-bit (x86)
- RAM: 4 GB
- Windows 7+, Chrome, and Microsoft Office
- For more information on the recommended hardware requirements or other versions of software, you can go to UiPath Hardware and Software Requirements

IF I DO NOT MEET THE REQUIREMENTS TO ENROLL, WHAT SHOULD I DO?

We recommend our Intro to Programming Nanodegree program if you want to brush up on basic programming skills.

TUITION AND TERM OF PROGRAM

HOW IS THIS NANODEGREE PROGRAM STRUCTURED?

The RPA Developer Nanodegree program is comprised of content and curriculum to support four projects. We estimate that students can complete the program in four months, working five to ten hours per week.

Each project will be reviewed by the Udacity reviewer network. Feedback will be provided, and if you do not pass the project, you will be asked to resubmit the project until it passes.

HOW LONG IS THIS NANODEGREE PROGRAM?

Access to this Nanodegree program runs for the length of time specified in the payment card above. If you do not graduate within that time period, you will continue learning with month to month payments. See the Terms of Use and FAQs for other policies regarding the terms of access to our Nanodegree programs.

FAQs + Contact Info cont.

CAN I SWITCH MY START DATE? CAN I GET A REFUND?

Please see the Udacity Nanodegree program FAQs found **here** for policies on enrollment in our programs.

SOFTWARE AND HARDWARE - WHAT DO I NEED FOR THIS PROGRAM?

WHAT SOFTWARE AND VERSIONS WILL I NEED IN THIS PROGRAM?

A student must have access to a Windows-based machine with Microsoft applications like Excel and Outlook or a VM running a Windows Environment. Minimum Hardware and Software requirements:

- CPU: 2 x 1.8GHz 32-bit (x86)
- RAM: 4 GB
- Windows 7+, Chrome, and Microsoft Office

For more information on the Recommended Hardware Requirements or other versions of software, you can go to UiPath Hardware and Software Requirements