

DIGITAL TRANSFORMATION: FUNDAMENTAL INTELLIGENT AUTOMATION

Training & Certification Guide



Arcitura[®]
DIGITAL

About the Digital Transformation Professional Academy

The Digital Transformation Professional Academy from Arcitura provides formal education and accreditation programs dedicated to industry-standard Digital Transformation. This extensive program encompasses a number of specialized tracks for IT professionals, each of which addresses a specific skillset for a common profession associated with Digital Transformation projects. Fields of practice covered by the Digital Transformation Professional Academy curriculum include Digital Transformation technology, architecture, data science, security and intelligent automation.

The Digital Transformation Professional Academy curriculum is comprised of 18 course modules and 9 certification tracks. Several of the certification tracks leverage courses in other Arcitura programs. Exams are available worldwide via Pearson VUE testing centers, as well as via Pearson VUE OnVue online proctoring and on-site delivery by Certified Trainers. Achieving a passing grade on required exam(s) achieves a certification for which a digital accreditation certificate is automatically issued by Arcitura and a digital certification badge is issued by Acclaim/Credly.

TABLE OF CONTENTS

03

How to Get Started

04

How to Get Certified

05

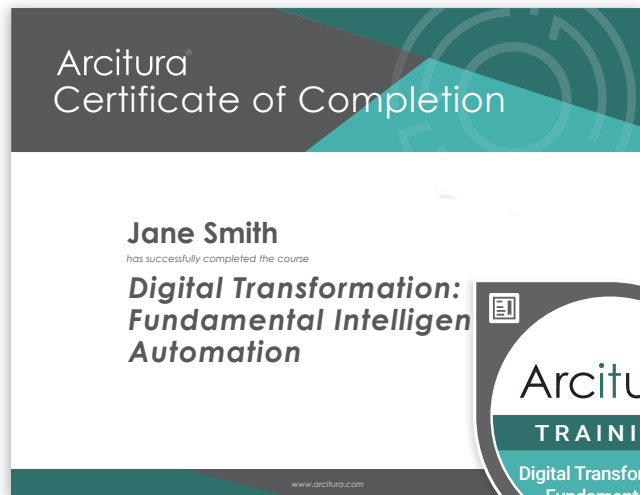
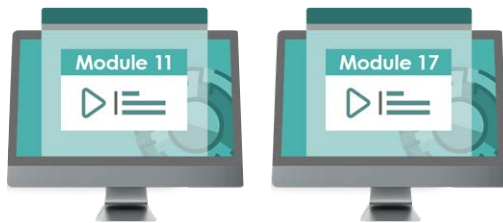
Course Module Outlines

08

How to Get Your Own Digital and Printed Course Materials

09

Arcitura Certification Programs



HOW TO GET STARTED

Welcome to the Digital Transformation: Fundamental Intelligent Automation course! This course is comprised of a set of modules. Each module has a set of lessons and is further supplemented with exercises to help reinforce your understanding of specific topics.

Upon completing the course, you can optionally proceed to prepare yourself for the certification exam (as explained on the next page). You will be provided with a self-test that can help you assess your proficiency in the course topics. After passing this online test you will receive an official digital Certificate of Completion and you will also be provided with the option to order an official digital Training Badge from Acclaim/Credly.

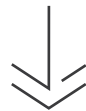
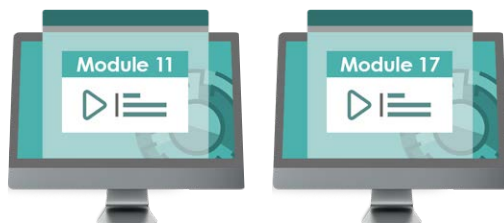
If you require any assistance to complete this course and/or prepare for the certification exam, several resources are available. You can acquire more sample questions, a separate eLearning account, coaching hours and instructor-led training services. You are also provided with the option to order downloadable digital course files and printed course materials.

PREREQUISITE

The prerequisite for this course is the completion of the Digital Transformation course. It is recommended that you complete the Digital Transformation course prior to starting the Digital Transformation: Fundamental Intelligent Automation course.

QUESTIONS?

Contact us at: info@arcitura.com



HOW TO GET CERTIFIED

You can become a Digital Transformation IA Professional! In addition to providing you with training, the modules in this course also prepare you for the official Pearson VUE Digital Transformation IA Professional Certification exam, which can be taken worldwide at Pearson VUE testing centers and via Pearson VUE online proctoring.

As a registrant of this course, you are able to purchase pre-paid Pearson VUE exam and retake vouchers at a discount in the Become a Digital Transformation IA Professional section, where you also have the option of ordering an Exam Prep Kit with more practice exam questions. The Add-Ons section at the bottom of the course is where you can acquire further support resources, including coaching hours, instructor-led training services, downloadable digital course files, printed course materials, and access to the course documents via a separate eLearning account with custom annotation features.

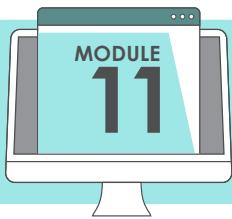
Upon attaining a passing grade on the exam (and fulfilling any other prerequisite exam requirements) you will achieve the Digital Transformation IA Professional Certification, after which you will automatically receive an official digital Certificate of Excellence and a digital Certification Badge from Acclaim/Credly with an account that supports the online verification of your certification status. Digital accreditation certificates and badges are free of charge and are provided to you via email.

MORE INFO

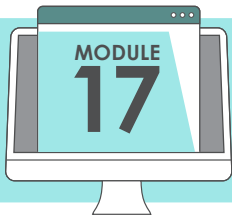
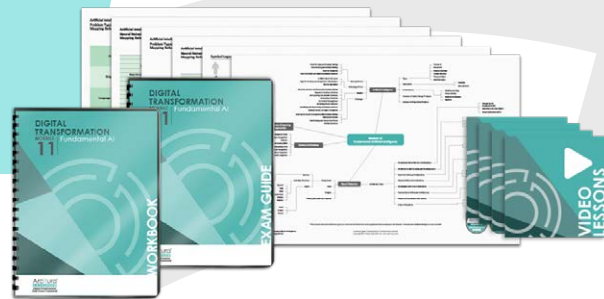
To learn more about scheduling this exam, visit:
www.pearsonvue.com/arcitura

COURSE MODULE OUTLINES

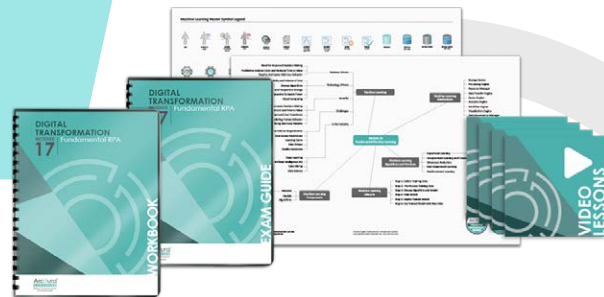
The Digital Transformation: Fundamental Intelligent Automation course is comprised of the following course modules. Outlines for these course modules are provided on the subsequent pages.



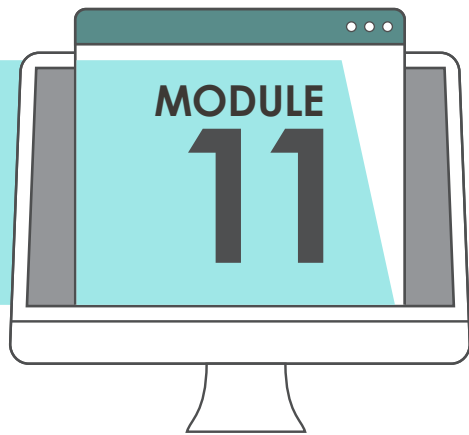
Fundamental AI



Fundamental RPA



Fundamental AI

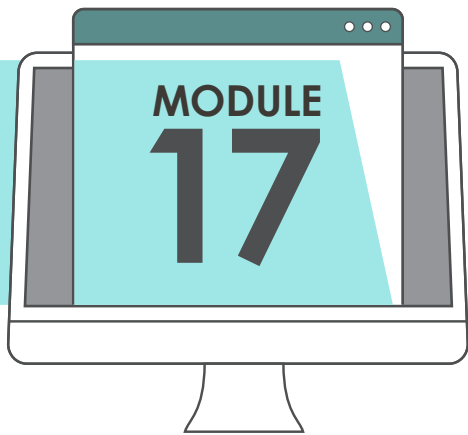


This course module provides essential coverage of artificial intelligence and neural networks in easy-to-understand, plain English. The course provides concrete coverage of the primary parts of AI, including learning approaches, functional areas that AI systems are used for and a thorough introduction to neural networks, how they exist, how they work and how they can be used to process information. The course further establishes a step-by-step process for assembling an AI system, thereby illustrating how and when different practices and components of AI systems with neural networks need to be defined and applied. Finally, the course provides a set of key principles and best practices for AI projects.

The following primary topics are covered:

- AI Business and Technology Drivers
- AI Benefits and Challenges
- Business Problem Categories Addressed by AI
- AI Types (Narrow, General, Symbolic, Non-Symbolic, etc.)
- Common AI Learning Approaches and Algorithms
- Supervised Learning, Unsupervised Learning, Continuous Learning
- Heuristic Learning, Semi-Supervised Learning, Reinforcement Learning
- Common AI Functional Designs
- Computer Vision, Pattern Recognition
- Robotics, Natural Language Processing (NLP)
- Speech Recognition, Natural Language Understanding (NLU)
- Frictionless Integration, Fault Tolerance Model Integration
- Neural Networks, Neurons, Layers, Links, Weights
- Understanding AI Models and Training Models and Neural Networks
- Understanding how Models and Neural Networks Exist
- Loss, Hyperparameters, Learning Rate, Bias, Epoch
- Activation Functions (Sigmoid, Tanh, ReLU, Leaky ReLU, Softmax, Softplus)
- Neuron Cell Types (Input, Backfed, Noisy, Hidden, Probabilistic, Spiking, Recurrent, Memory, Kernel, nvolution, Pool, Output, Match Input, etc.)
- Fundamental and Specialized Neural Network Architectures
- Perceptron, Feedforward, Deep Feedforward, AutoEncoder, Recurrent, Long/Short Term Memory
- Deep Convolutional Network, Extreme Learning Machine, Deep Residual Network
- Support Vector Machine, Kohonen Network, Hopfield Network
- Generative Adversarial Network, Liquid State Machine
- How to Build an AI System (Step-by-Step)

Fundamental RPA



This course module establishes the components and models that comprise contemporary robotic process automation (RPA) environments. Different types of RPA bots are explained, along with different RPA architectures and bot utilization models. This course further provides detailed scenarios that demonstrate different deployments of RPA bots and other components in relation to different business automation requirements.

The following primary topics are covered:

- Understanding Robotic Process Automation
- RPA Business Drivers and Technology Drivers
- RPA Goals and Benefits
- RPA Risks and Challenges
- Front-end and Back-end Integration
- RPA Components and Bot Runners
- RPA Architecture Layers and Models
- RPA Life Cycle
- Front-End Integration with RPA Bots
- Back-End Integration with RPA Controllers and APIs
- Automated Data Entry
- Automated Routing
- Automated Web Searching
- Automated Data Search and Fetch
- Automated Digitization
- Automated User Acceptance Testing Usage Scenario

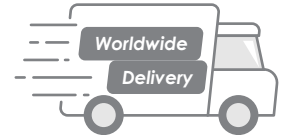
The usage scenarios covered in this course are further extended in Module 2 using Artificial Intelligence (AI) systems as part of intelligent automation solutions.



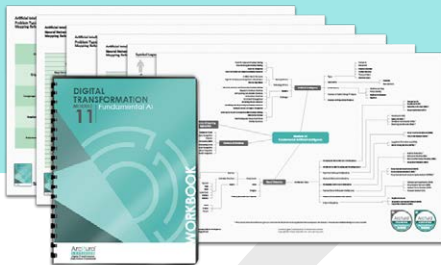
HOW TO GET YOUR OWN DIGITAL AND PRINTED COURSE MATERIALS

To supplement your Arcitura Digital subscription, you can also purchase both printed and downloadable digital versions of course materials.

- Printed course materials can be purchased in B&W and full-color and can be shipped worldwide.
- Downloadable digital course are comprised of printable, watermarked PDF files and do not include video lessons.
- The option to purchase printed and digital course materials is provided at the bottom of the course curriculum outline, in the Add-Ons section.

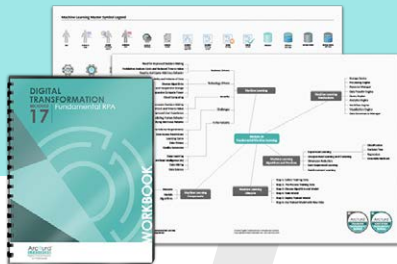


MODULE 11



- Module 11 Workbook
- Mind Map Poster
- Symbol Legend Poster
- Neural Networks and Neuron Types Mapping Poster
- Problem Types and Neural Networks Mapping Poster
- Neural Networks and Practices Mapping Poster
- Problem Types and Practices Mapping Poster

MODULE 17



- Module 17 Workbook
- Symbol Legend Poster
- Mind Map Poster

COURSES		Digital Transformation	Digital Transformation: Fundamental Technology	Digital Transformation: Advanced Technology & Architecture	Digital Transformation: Fundamental Data Science	Digital Transformation: Advanced Data Science	Digital Transformation: Fundamental Security	Digital Transformation: Advanced Security	Digital Transformation: Fundamental Intelligent Automation	Digital Transformation: Advanced Intelligent Automation
CERTIFICATIONS		Digital Transformation Specialist	Digital Transformation Technology Professional	Digital Transformation Technology Architect	Digital Transformation Data Science Professional	Digital Transformation Data Scientist	Digital Transformation Security Professional	Digital Transformation Security Specialist	Digital Transformation Intelligent Automation Professional	Digital Transformation Intelligent Automation Specialist
MODULE 01	Fundamental Digital Transformation	●								
MODULE 02	Digital Transformation in Practice	●								
MODULE 03	Fundamental Cloud Computing		●							
MODULE 04	Fundamental Blockchain		●				●			
MODULE 05	Fundamental IoT		●							
MODULE 06	Cloud Architecture			●						
MODULE 07	Blockchain Architecture			●				●		
MODULE 08	IoT Architecture			●						
MODULE 09	Fundamental Big Data Analysis & Analytics				●					
MODULE 10	Fundamental Machine Learning				●					
MODULE 11	Fundamental AI				●				●	
MODULE 12	Advanced Big Data Analysis & Analytics					●				
MODULE 13	Advanced Machine Learning					●				
MODULE 14	Advanced AI					●				●
MODULE 15	Fundamental Cybersecurity						●			
MODULE 16	Advanced Cybersecurity							●		
MODULE 17	Fundamental RPA								●	
MODULE 18	Advanced RPA & Intelligent Automation									●

COURSES		DevOps	Blockchain Architecture	IoT Architecture	Cybersecurity	Robotic Process Automation	Digital Business Technology	Containerization Architecture
CERTIFICATIONS		DevOps Specialist	Blockchain Architect	IoT Architect	Cybersecurity Specialist	RPA Specialist	Digital Business Technology Professional	Containerization Architect
DevOps	MODULE 01 Fundamental DevOps	●						
	MODULE 02 DevOps in Practice	●						
	MODULE 03 DevOps Lab	●						
Blockchain	MODULE 01 Fundamental Blockchain		●					
	MODULE 02 Blockchain Technology & Architecture		●					
	MODULE 03 Blockchain Technology & Architecture Lab		●					
Internet of Things	MODULE 01 Fundamental IoT			●				
	MODULE 02 IoT Technology & Architecture			●				
	MODULE 03 IoT Technology & Architecture Lab			●				
Cybersecurity	MODULE 01 Fundamental Cybersecurity				●			
	MODULE 02 Advanced Cybersecurity				●			
	MODULE 03 Cybersecurity Lab				●			
Robotic Process Automation	MODULE 01 Fundamental RPA					●		
	MODULE 02 Advanced RPA & Intelligent Automation					●		
	MODULE 03 RPA Lab					●		
Digital Business Technology	MODULE 01 Business Automation Technology Overview						●	
	MODULE 02 Data Science Technology Overview						●	
	MODULE 03 Digital & Security Technology Overview						●	
Containerization	MODULE 01 Fundamental Containerization							●
	MODULE 02 Containerization Technology & Architecture							●
	MODULE 03 Containerization Technology & Architecture Lab							●

COURSES		Big Data Analytics & Fundamental Data Science	Big Data Analysis & Advanced Data Science	Data Science Professional Consulting	Machine Learning	Artificial Intelligence	Big Data Engineering	Big Data Architecture	Data Science Governance
CERTIFICATIONS		Big Data Science Professional	Big Data Scientist	Data Science Consultant	Machine Learning Specialist	Artificial Intelligence Specialist	Big Data Engineer	Big Data Architect	Data Science Governance Specialist
MODULE 01	Fundamental Big Data Science & Analytics	●							
MODULE 02	Big Data Analysis & Technology Concepts	●							
MODULE 03	Big Data Analysis & Technology Lab	●							
MODULE 04	Big Data Analysis & Science		●						
MODULE 05	Advanced Big Data Analysis & Science		●						
MODULE 06	Big Data Analysis & Science Lab		●						
MODULE 07	Fundamental Machine Learning			●	●				
MODULE 08	Advanced Machine Learning				●				
MODULE 09	Machine Learning Lab				●				
MODULE 10	Fundamental Artificial Intelligence			●		●			
MODULE 11	Advanced Artificial Intelligence					●			
MODULE 12	Artificial Intelligence Lab					●			
MODULE 13	Fundamental Big Data Engineering						●		
MODULE 14	Advanced Big Data Engineering						●		
MODULE 15	Big Data Engineering Lab						●		
MODULE 16	Fundamental Big Data Architecture							●	
MODULE 17	Advanced Big Data Architecture							●	
MODULE 18	Big Data Architecture Lab							●	
MODULE 19	Fundamental Data Science Governance for Big Data, Machine Learning & AI								●
MODULE 20	Advanced Data Science Governance for Big Data, Machine Learning & AI								●
MODULE 21	Data Science Governance Lab for Big Data, Machine Learning & AI								●

COURSES		Cloud Computing	Cloud Architecture	Cloud Security	Cloud Governance	Cloud Storage	Cloud Virtualization
CERTIFICATIONS		Cloud Technology Professional	Cloud Architect	Cloud Security Specialist	Cloud Governance Specialist	Cloud Storage Specialist	Cloud Virtualization Specialist
MODULE 01	Fundamental Cloud Computing	●					
MODULE 02	Cloud Technology Concepts	●					
MODULE 03	Cloud Technology Lab	●					
MODULE 04	Fundamental Cloud Architecture		●				
MODULE 05	Advanced Cloud Architecture		●				
MODULE 06	Cloud Architecture Lab		●				
MODULE 07	Fundamental Cloud Security			●			
MODULE 08	Advanced Cloud Security			●			
MODULE 09	Cloud Security Lab			●			
MODULE 10	Fundamental Cloud Governance				●		
MODULE 11	Advanced Cloud Governance				●		
MODULE 12	Cloud Governance Lab				●		
MODULE 13	Fundamental Cloud Storage					●	
MODULE 14	Advanced Cloud Storage					●	
MODULE 15	Cloud Storage Lab					●	
MODULE 16	Fundamental Cloud Virtualization						●
MODULE 17	Advanced Cloud Virtualization						●
MODULE 18	Cloud Virtualization Lab						●

COURSES		Fundamental Microservices & Service Technology	Fundamental SOA Design with Services & Microservices	SOA Analysis & Modeling with Services & Microservices	SOA Design & Architecture with Services & Microservices	Microservice Design & Architecture	Microservice Professional Consulting	Service API Design & Management	Service Governance & Project Delivery	Security for Microservices & SOA
CERTIFICATIONS		Microservice Professional	SOA Professional	SOA Analyst	SOA Architect	Microservice Architect	Microservice Consultant	Service API Specialist	Service Governance Specialist	Service Security Specialist
MODULE 01	Fundamental SOA, Services & Microservices	●	●							
MODULE 02	Service Technology Concepts	●								
MODULE 03	Design & Architecture with SOA, Services & Microservices		●		●					
MODULE 04	Fundamental SOA Analysis & Modeling with Services & Microservices			●						
MODULE 05	Advanced SOA Analysis & Modeling with Services & Microservices			●						
MODULE 06	SOA Analysis & Modeling Lab with Services & Microservices			●						
MODULE 07	Advanced SOA Design & Architecture with Services & Microservices				●					
MODULE 08	SOA Design & Architecture Lab with Services & Microservices				●					
MODULE 09	Fundamental Microservice Architecture & Containerization					●	●			
MODULE 10	Advanced Microservice Architecture & Containerization					●				
MODULE 11	Microservice Architecture & Containerization Lab					●				
MODULE 12	Fundamental Service API Design & Management						●	●		
MODULE 13	Advanced Service API Design & Management							●		
MODULE 14	Service API Design & Management Lab							●		
MODULE 15	Fundamental Service Governance & Project Delivery								●	
MODULE 16	Advanced Service Governance & Project Delivery								●	
MODULE 17	Service Governance & Project Delivery Lab								●	
MODULE 18	Fundamental Security for Services, Microservices & SOA						●			●
MODULE 19	Advanced Security for Services, Microservices & SOA									●
MODULE 20	Security Lab for Services, Microservices & SOA									●



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