



DIGITAL TRANSFORMATION PROFESSIONAL ACADEMY



DIGITAL TRANSFORMATION PROFESSIONAL ACADEMY

The Digital Transformation Professional Academy from Arcitura provides formal education and accreditation programs dedicated to industry-standard Digital Transformation, including technology, architecture, data science, security and intelligent automation.

For more information, visit the Digital Transformation Professional Academy home page: www.arcitura.com/dt

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SELF-STUDY



ARCITURA **eLEARNING** OPTIONS

To give you the most flexibility to achieve your learning goals and accommodate your preferences, this course is made available via two Arcitura eLearning solutions: An interactive environment with graded exercises and a graded self-test, as well as a study kit account that supports online/offline access and custom annotations.



ONLINE **COACHING**

Arcitura Certified Trainers are available to provide online coaching services that can be scheduled on an hourly basis. Scheduling is available in all time zones and is based on your preferences and trainer availability.



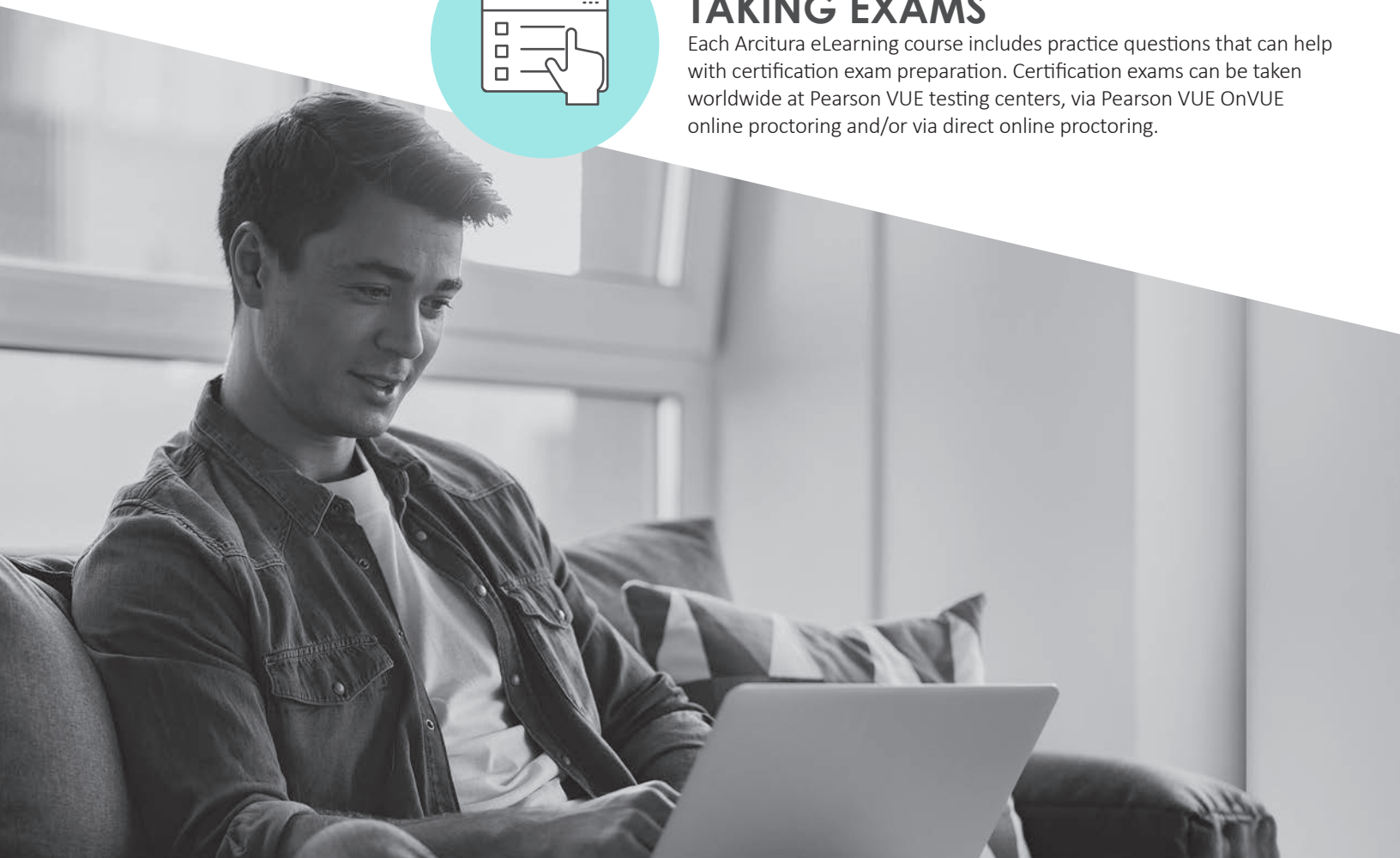
ENHANCED SELF-STUDY WITH **ADD-ONS**

Arcitura eLearning courses can be supplemented with downloadable course files, printed course materials and other add-on resources.



EXAM PREPARATION & **TAKING EXAMS**

Each Arcitura eLearning course includes practice questions that can help with certification exam preparation. Certification exams can be taken worldwide at Pearson VUE testing centers, via Pearson VUE OnVUE online proctoring and/or via direct online proctoring.



WORKSHOPS

Onsite Classroom

Virtual Classroom



ONSITE WORKSHOPS

Private onsite workshops can be delivered by Certified Trainers from Arcitura and authorized training partners for both small and large groups. Each workshop participant can receive access to the full Arcitura eLearning course materials. Each workshop agenda, format and schedule can be tailored to client requirements. Onsite workshops allow for the option to deliver onsite paper-based exams.



VIRTUAL WORKSHOPS

Private virtual workshops can be delivered by Certified Trainers from Arcitura and authorized training partners for small and large groups, as well as individual participants. Each workshop participant can receive access to the full Arcitura eLearning course materials. Each workshop agenda, virtual delivery platform and schedule can be tailored to client requirements. In addition to a typical delivery schedule based on consecutive workshop days, virtual workshops allow for a delivery schedule to be distributed as shorter sessions across weeks or months.



ONLINE COACHING

Arcitura Certified Trainers are available to provide online coaching services that can be scheduled on an hourly basis. Scheduling is available in all time zones and is based on your preferences and trainer availability. For workshop participants, coaching sessions can be scheduled during or after a given workshop, for groups or individuals.



EXAM PREPARATION & TAKING EXAMS

Onsite and virtual workshop participants can receive complimentary practice exam questions as part of their eLearning course accounts. Certified Trainers can supervise and provide guidance for participants completing the self-tests and the Exam Prep Kit practice questions provided in the eLearning accounts. Certification exams can be taken worldwide at Pearson VUE testing centers, via Pearson VUE OnVUE online proctoring and/or via direct online proctoring.



The Digital Transformation Professional Academy curriculum is comprised of 20 course modules and 9 certification tracks. 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.

Several of the certification tracks leverage course modules in other Arcitura programs. Exams are available worldwide via online proctoring and on-site delivery by Certified Trainers. Achieving a passing grade on the 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.

www.arcitura.com/dt

QUESTIONS?

Contact us at: info@arcitura.com



Arcitura®
CERTIFIED
Digital Transformation
Specialist



A Certified Digital Transformation Specialist has an understanding of digital transformation as a formal field of practice, along with knowledge of associated impacts, processes, technologies and business models.

Digital Transformation
COURSE 01 02

Arcitura®
CERTIFIED
Digital Transformation
Technology Professional



A Certified Digital Transformation Technology Professional has essential knowledge of the core digital transformation technologies and further understands how these technologies can be positioned and utilized in relation to each other as part of greater digital solutions and enterprise environments.

**Digital Transformation:
Fundamental Technology**
COURSE 03 04 05

Arcitura®
CERTIFIED
Digital Transformation
Technology Architect



A Certified Digital Transformation Technology Architect has detailed knowledge of the technology architectures behind the core technologies essential to digital solutions and digital enterprises.

**Digital Transformation:
Advanced Technology & Architecture**
COURSE 06 07 08

Arcitura®
CERTIFIED
Digital Transformation
Data Science Professional



A Certified Digital Transformation Data Science Professional has an understanding of essential concepts, techniques and models associated with modern data science practices, including big data, machine learning and artificial intelligence.

**Digital Transformation:
Fundamental Data Science**
COURSE 09 10 11

Arcitura®
CERTIFIED
Digital Transformation
Data Scientist



A Certified Digital Transformation Data Scientist has detailed knowledge of modern data science analytics and analysis practices, including those associated with big data, machine learning and artificial intelligence, and further understands how these practices can be utilized as part of a digital enterprise.

**Digital Transformation:
Advanced Data Science**
COURSE 12 13 14

Arcitura®
CERTIFIED
Digital Transformation
Security Professional



A Certified Digital Transformation Security Professional has an understanding of technology cyber threats, contemporary cybersecurity and blockchain technologies, as well as modern security controls and counter-measures relevant to digital solution environments.

**Digital Transformation:
Fundamental Security**
COURSE 04 15

Arcitura®
CERTIFIED
Digital Transformation
Security Specialist



A Certified Digital Transformation Security Specialist has a detailed understanding of cybersecurity threats, countermeasures and practices, as well as knowledge of establishing controls for the protection of data and digital assets, including the use of blockchain immutable storage technology.

**Digital Transformation:
Advanced Security**
COURSE 07 16

Arcitura®
CERTIFIED
Digital Transformation
IA Professional



A Certified Digital Transformation IA Professional has knowledge of artificial intelligence (AI) techniques, practices and learning methods together with technologies, business automation models and integration options provided by robotic process automation (RPA).

**Digital Transformation:
Fundamental Intelligent Automation**
COURSE 17 19

Arcitura®
CERTIFIED
Digital Transformation
IA Specialist



A Certified Digital Transformation IA Specialist has an understanding of how to design intelligent automation solutions comprised of robotic process automation (RPA) and artificial intelligence (AI) systems.

**Digital Transformation:
Advanced Intelligent Automation**
COURSE 18 20



Digital Transformation

Provides a clear understanding of Digital Transformation from both business and technical perspectives and further develop fundamental skills in Digital Transformation practices and technologies.



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MODULE 01 | Fundamental Digital Transformation

Introduces Digital Transformation and provides detailed coverage of associated practices, models and technologies, along with coverage of Digital Transformation benefits, challenges and business and technology drivers. Also explained are common Digital Transformation domains, digital capabilities and adoption considerations.



MODULE 02 | Digital Transformation in Practice

Delves into the application of Digital Transformation by exploring a series of contemporary technologies associated with carrying out Digital Transformation projects and further demonstrating how the adoption of Digital Transformation practices and technologies can lead to business process improvements and optimization.



Digital Transformation: Fundamental Technology

Provides essential coverage of primary Digital Transformation technologies and develop skills associated with their application.



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MODULE 03 | Fundamental Cloud Computing

Provides end-to-end coverage of fundamental Cloud Computing topics relevant to Digital Transformation, including an exploration of technology-related topics that pertain to contemporary Cloud Computing platforms.



MODULE 04 | Fundamental Blockchain

Provides a clear, end-to-end understanding of how Blockchain works. It breaks down Blockchain technology and architecture in easy-to-understand concepts, terms and building blocks. Industry drivers and impacts of Blockchain are explained, followed by plain English descriptions of each primary part of a Blockchain system and step-by-step descriptions of how these parts work together.



MODULE 05 | Fundamental IoT

Covers the essentials of the field of Internet of Things (IoT) from both business and technical aspects. Fundamental IoT use cases, concepts, models and technologies are covered in plain English, along with introductory coverage of IoT architecture and IoT messaging with REST, HTTP and CoAp.



Digital Transformation: Advanced Technology & Architecture

Drills-down into the technology architecture and inner workings of primary Digital Transformation technologies and develop skills associated with their application.



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MODULE 06 | Cloud Architecture

Provides a technical drill-down into the inner workings and mechanics of foundational Cloud Computing platforms. Private and public cloud environments are dissected into concrete, componentized building blocks that individually represent platform feature-sets, functions and/or artifacts, and are collectively applied to establish distinct technology architecture layers. Building upon these foundations, SaaS, PaaS and IaaS environments are further explored.



MODULE 07 | Blockchain Architecture

Delves into Blockchain technology architecture and the inner workings of blockchains by exploring a series of key design patterns, techniques and related architectural models, along with common technology mechanisms used to customize and optimize Blockchain application designs in support of fulfilling business requirements.



MODULE 08 | IoT Architecture

Provides a drill-down into key areas of IoT technology architecture and enabling technologies by breaking down IoT environments into individual building blocks via design patterns and associated implementation mechanisms. Layered architectural models are covered, along with design techniques and feature-sets covering the processing of telemetry data, positioning of control logic, performance optimization, as well as addressing scalability and reliability concerns.



CONTINUED



Digital Transformation: Fundamental Data Science

Provides comprehensive coverage of contemporary data science and analysis practices and technology essential to Digital Transformation.



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MODULE 09 | Fundamental Big Data Analysis & Analytics

Provides an overview of essential Big Data science topics and explores a range of the most relevant contemporary analysis practices, technologies and tools for Big Data environments. Topics include common analysis functions and features offered by Big Data solutions, as well as an exploration of the Big Data analysis lifecycle.



MODULE 10 | Fundamental Machine Learning

Provides an easy-to-understand overview of Machine Learning that explains how it works, what it can and cannot do and how it is commonly utilized in support of business goals. The module covers common algorithm types and further explains how Machine Learning systems work behind the scenes.



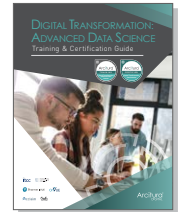
MODULE 11 | Fundamental AI

Provides essential coverage of Artificial Intelligence and neural networks in easy-to-understand, plain English. The course module 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 module further establishes a step-by-step process for assembling an AI system.



Digital Transformation: Advanced Data Science

Delves into the practical application of contemporary data science techniques and algorithms.



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MODULE 12 | Advanced Big Data Analysis & Analytics

Provides an in-depth overview of essential and advanced topic areas pertaining to data science and analysis techniques relevant and unique to Big Data with an emphasis on how analysis and analytics need to be carried out individually and collectively in support of the distinct characteristics, requirements and challenges associated with Big Data datasets.



MODULE 13 | Advanced Machine Learning

Delves into the many algorithms, methods and models of contemporary Machine Learning practices to explore how a range of different business problems can be solved by utilizing and combining proven Machine Learning techniques.



MODULE 14 | Advanced AI

Covers a series of practices for preparing and working with data for training and running contemporary AI systems and neural networks. It further provides techniques for designing and optimizing neural networks, including approaches for measuring and tuning neural network model performance.



Digital Transformation: Fundamental Security

Provides in-depth coverage of security concepts, technologies and practices essential to Digital Transformation.



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MODULE 04 | Fundamental Blockchain

Provides a clear, end-to-end understanding of how Blockchain works. It breaks down Blockchain Security and architecture in easy-to-understand concepts, terms and building blocks. Industry drivers and impacts of Blockchain are explained, followed by plain English descriptions of each primary part of a Blockchain system and step-by-step descriptions of how these parts work together.



MODULE 15 | Fundamental Cybersecurity

Covers essential topics for understanding and applying cybersecurity solutions and practices. The course begins by covering basic aspects of cybersecurity and then explains foundational parts of cybersecurity environments, such as frameworks, metrics and the relationship between cybersecurity and data science technology.



Digital Transformation: Advanced Security

Covers advanced Cybersecurity and Blockchain topics essential to building contemporary Digital Transformation solutions.



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MODULE 07 | Blockchain Architecture

Delves into Blockchain Security architecture and the inner workings of blockchains by exploring a series of key design patterns, techniques and related architectural models, along with common Security mechanisms used to customize and optimize Blockchain application designs in support of fulfilling business requirements.



MODULE 16 | Advanced Cybersecurity

Delves into the building blocks of cybersecurity solution environments and further explores the range of cyber threats that cybersecurity solutions can be designed to protect organizations from. The module establishes a set of cybersecurity technology mechanisms that represent the common components that comprise cybersecurity solutions and further explores formal processes and procedures used to establish sound practices that utilize the mechanisms.



Digital Transformation: Fundamental Intelligent Automation

Provides fundamental coverage of artificial intelligent (AI) and robotic process automation (RPA) concepts, technologies and practices associated with intelligent automation (IA).



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MODULE 17 | Fundamental RPA

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 module further provides detailed scenarios that demonstrate different deployments of RPA bots and other components in relation to different business automation requirements.



MODULE 19 | Fundamental AI Decisioning

Covers essential topics pertaining to AI systems, neural networks and data processing, with an emphasis on autonomous decision-making capability-enablement. Topics include risk assessment, reinforcement learning, decision-result evaluation, ethics and behavior control.



Digital Transformation: Advanced Intelligent Automation

Covers advanced AI and RPA topics to explore the creation of integrated intelligent automation environments.



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MODULE 18 | Advanced RPA & Intelligent Automation

Explores the relationship between RPA and AI and describes how these technologies can be combined to establish intelligence automation (IA) environments utilizing RPA bots and autonomous decision-making solutions using AI decisioning technology.

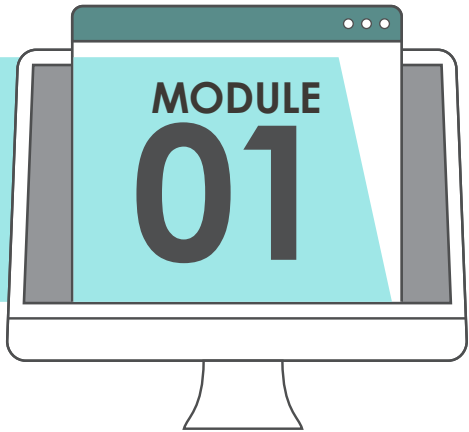


MODULE 20 | Advanced AI Decisioning

Covers advanced topics, such as knowledge representation, rules of inference, probabilistic reasoning and First-Order Logic (FOL) and documents a series of AI practices as applied to autonomous decision-making, including reasoning, data wrangling, reinforcement learning and model evaluation and optimization.



Fundamental Digital Transformation



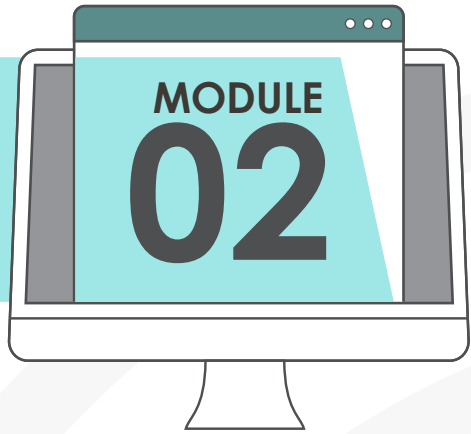
This course module provides an easy-to-understand introduction to Digital Transformation and how it relates to business, technology, data and people. Coverage includes the benefits, risks and challenges of Digital Transformation, as well as its business and technology drivers.

Also explained are the characteristics of building customer-centric automation solutions, along with an insightful exploration of data intelligence origins, sources, methods and utilization types, as well as manual and automated intelligent decision-making delegated to humans and machines.

The following primary topics are covered:

- Understanding Digital Transformation
- Benefits of Digital Transformation
- Challenges of Digital Transformation
- Digital Transformation Business and Technology Drivers
- Understanding Customer-Centricity
- Product-Centric vs. Customer-Centric Relationships
- Relationship-Value Actions and Warmth
- Omni-Channel Customer Interactions
- Customer Journeys and Customer Data Intelligence
- Data Intelligence Basics
- Data Origins and Data Sources
- Data Collection Methods and Data Utilization Types
- Intelligent Decision-Making
- Computer-Assisted Manual Decision-Making and Conditional Automated Decision-Making
- Intelligent Manual Decision-Making vs. Intelligent Automated Decision-Making
- Direct-Driven Automated Decision-Making and Periodic Automated Decision-Making
- Realtime Automated Decision-Making

Digital Transformation in Practice



This course module delves into Digital Transformation automation environments by exploring the key contemporary technologies used to build Digital Transformation automation solutions, including AI, RPA, IoT, machine learning, blockchain, cloud computing and big data.

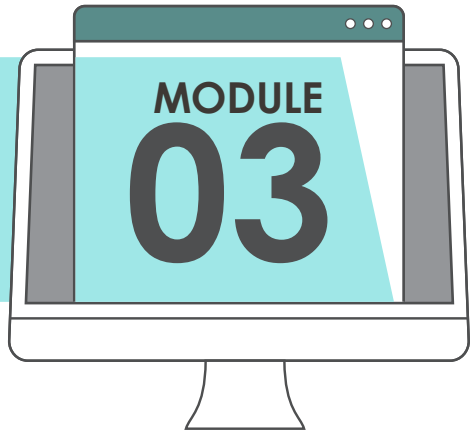
The module begins by establishing the basic forms of data ingress used to bring data into organizations for use by data science technologies that provide increased data intelligence to both human decision-makers and AI-driven solutions with automated decision-making capabilities.

After covering each of the primary Digital Transformation technologies, the module concludes with a comprehensive, step-by-step description of a business process as carried out by a customer-centric Digital Transformation solution.

The following primary topics are covered:

- Distributed Solution Design Basics
- Data Ingress Basics, including File Pull, File Push, API Pull, API Push and Data Streaming
- An Introduction to Digital Transformation Automation Technologies
- Cloud Computing Basics and Cloud Computing as part of Digital Transformation Solutions
- Common Cloud Computing Risks and Challenges
- Blockchain Basics and Blockchain as part of Digital Transformation Solutions
- Common Blockchain Risks and Challenges
- Internet of Things (IoT) Basics and IoT as part of Digital Transformation Solutions
- Common IoT Risks and Challenges
- Robotic Process Automation (RPA) and RPA as part of Digital Transformation Solutions
- Common RPA Risks and Challenges
- An Introduction to Digital Transformation Data Science Technologies
- Big Data and Data Analytics and Big Data as part of Digital Transformation Solutions
- Common Big Data Risks and Challenges
- Machine Learning Basics and Machine Learning as part of Digital Transformation Solutions
- Common Machine Learning Risks and Challenges
- Artificial Intelligence (AI) Basics and AI as part of Digital Transformation Solutions
- Common AI Risks and Challenges
- Inside a Customer-Centric Digital Transformation Solution (a comprehensive, step-by-step exploration)
- Mapping Individual Digital Transformation Technologies to Solution Processing
- Tracking how Data Intelligence is Collected and Used in a Digital Transformation Solution

Fundamental Cloud Computing

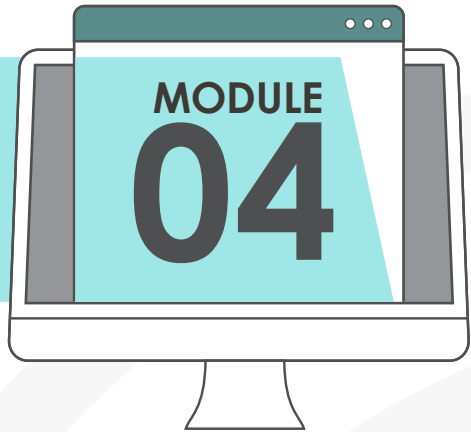


This course module provides end-to-end coverage of fundamental cloud computing topics relevant to Digital Transformation, including an exploration of technology-related topics that pertain to contemporary cloud computing platforms.

The following primary topics are covered:

- Fundamental Cloud Computing Terminology and Concepts
- Basics of Virtualization
- Specific Characteristics that Define a Cloud
- Understanding Elasticity, Resiliency, On-Demand and Measured Usage
- Benefits, Challenges and Risks of Contemporary Cloud Computing Platforms and Cloud Services
- Understanding the Software as a Service (SaaS) Cloud Delivery Model
- Understanding the Platform as a Service (PaaS) Cloud Delivery Model
- Understanding the Infrastructure as a Service (IaaS) Cloud Delivery Model
- Cloud Computing Mechanisms that Establish Architectural Building Blocks
- Virtual Servers, Containers, Ready-Made Environments, Failover Systems & Pay-Per-Use Monitors
- Automated Scaling Listeners, Multi-Device Brokers & Resource Replication
- Understanding How Individual Cloud Computing Mechanisms Support Cloud Characteristics
- An Introduction to Containerization, Container Hosting & Logical Pod Containers
- A Comparison of Containerization and Virtualization
- Cloud Balancing and Cloud Bursting Architectures

Fundamental Blockchain

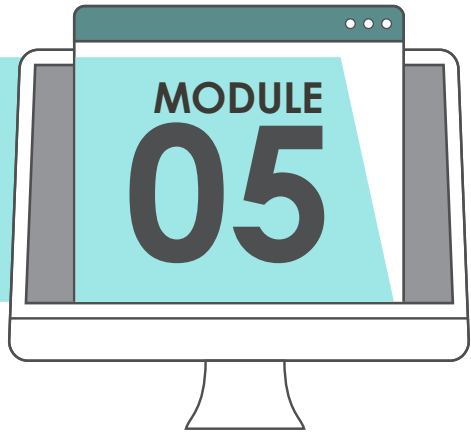


This course module provides a clear, end-to-end understanding of how blockchain works. It breaks down blockchain technology and architecture in easy-to-understand concepts, terms and building blocks. Industry drivers and impacts of blockchain are explained, followed by plain English descriptions of each primary part of a blockchain system and step-by-step descriptions of how these parts work together.

The following primary topics are covered:

- Benefits and Challenges of Blockchain
- Blockchain Business Drivers and Technology Drivers
- Understanding Blockchain's Decentralized Model
- Blockchain Value Propositions
- How Blockchain Can be Used for Different Industries
- Blockchain Applications, Networks and the Distributed Ledger
- How the Distributed Ledger Can Relate to Relational Database
- Fundamental Components of a Blockchain Architecture
- Transactions, Records and Pools
- Blocks, Chains and Block Headers
- Blockchain Users, Full Nodes and Partial Nodes
- Step-by-Step Understanding of the Record and Block Lifecycle
- Step-by-Step Understanding How the Merkle Tree Works
- Step-by-Step Understanding of How Consensus Works
- Consensus Algorithms (PoW, PoS, PoA, DPoS, LPoS, Pol, PoET, PoC, PoB, Round Robin)
- Public vs. Private / Permissionless vs. Permissioned Blockchains
- Coins, Tokens, Smart Contracts
- Basics of Crypto Hashing and Cryptography
- On-Chain, Off-Chain and Cross-Chain Activity
- Understanding Soft Forks and Hard Forks
- Common Blockchain Metrics

Fundamental IoT

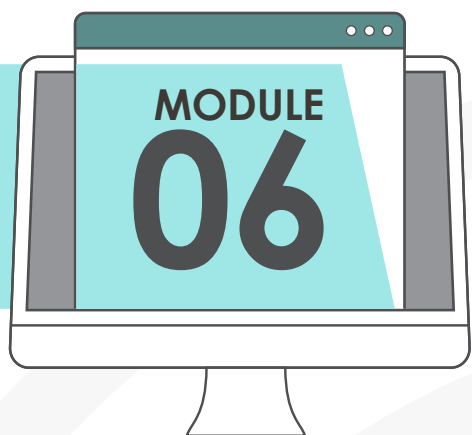


This course module covers the essentials of the field of Internet of Things (IoT) from both business and technical aspects. Fundamental IoT use cases, concepts, models and technologies are covered in plain English, along with introductory coverage of IoT architecture and IoT messaging with REST, HTTP and CoAp.

The following primary topics are covered:

- Understanding Things, Connectivity, Data, Processing, Commands and Business Analytics
- IoT Business and Technology Drivers, Benefits and Challenges
- Miniaturization and Nanotechnology
- IoT Connectivity and Contextual Realtime Data
- IoT Business Domains (Personal, Home, Enterprise, Utilities, Mobile)
- IoT vs. the Internet
- Resource-Constrained Devices and Low-Power Wide-Area Networks (LPWANs)
- Active and Passive Devices (including RFID)
- Telemetry and Command Data
- Sensors (Mechanical, Resistive, Optical, Ranging, MEMS)
- Microcontrollers, Firmware and Power Sources
- IoT Gateways and Common Gateway Functions
- Introduction to Edge and Fog Computing
- IoT Platforms and Common Platform Functions
- IoT Architecture Layers and Action Modeling
- Key IoT Architecture Design Considerations
- Radio Transports (Leased vs. Unleased, High Band vs. Low Band)
- IoT Messaging with REST, HTTP and the Constrained Application Protocol (CoAp)
- REST Properties and Constrains with IoT and CoAp
- HTTP Resource Identifiers, Media Types and Method with IoT and CoAp
- IoT Publish-and-Subscribe and MQ Telemetry Transport (MQTT)
- Non-Binary Data Serialization for IoT with JSON
- Binary Data Serialization for IoT with Protocol Buffers

Cloud Architecture



This course module provides a technical drill-down into the inner workings and mechanics of foundational cloud computing platforms.

Private and public cloud environments are dissected into concrete, componentized building blocks (referred to as “patterns”) that individually represent platform feature-sets, functions and/or artifacts, and are collectively applied to establish distinct technology architecture layers.

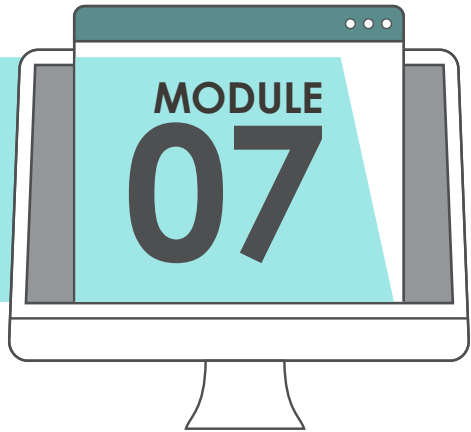
Building upon these foundations, Software-as-a-Service (SaaS), Platform-as-a-Service (PaaS) and Infrastructure-as-a-Service (IaaS) environments are further explored as compound patterns, comprised of unique and shared building blocks.

The module is structured as a guided tour through these architectural layers, describing primary components, highlighting shared components, exploring containerization extensions and explaining how building blocks can be assembled and implemented via cloud computing mechanisms and practices.

The following primary topics are covered:

- Understanding the Technology Architecture of Private Clouds and Public Clouds
- Understanding the Technology Architecture of SaaS, PaaS and IaaS Environments
- Automated Administration and Centralized Remote Administration
- Container Sidecars and Container Chains
- Self-Provisioning and Platform Provisioning
- Rich Containers and Logical Pod Containers
- Bare-Metal Provisioning and Resource Management
- Single-Node Multi-Containers and Multipath Resource Access
- Usage Monitoring and Broad Access
- Realtime Resource Availability and Pay-as-You-Go
- Shared Resources and Resource Pooling
- Rapid Provisioning and Resource Reservation
- Non-Disruptive Service Relocation and Service State Management
- Workload Distribution and Dynamic Scalability

Blockchain Architecture

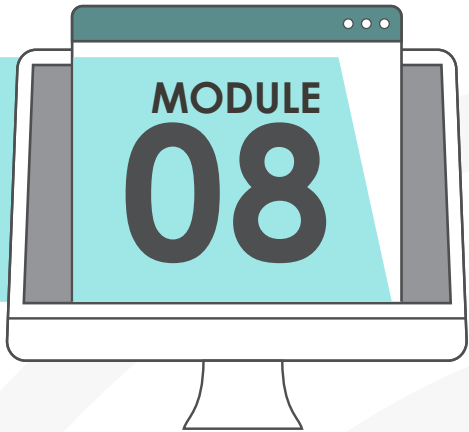


This course module delves into blockchain technology architecture and the inner workings of blockchains by exploring a series of key design patterns, techniques and related architectural models, along with common technology mechanisms used to customize and optimize blockchain application designs in support of fulfilling business requirements.

The following primary topics are covered:

- Common Blockchain Technology Mechanisms and Artifacts
- Node Monitor, Automated Node Deployer, Node Placement Monitor
- Consensus Processor, Block Maker, Identity Federator
- Hashing Engine, Chaining Engine, Identity Verifier, Wallet
- Node Repository, Ledger Replicator, Live Node Migrator
- Integrity and Validation Blockchain Design Patterns
- Block Singleton, Sidechain, Block Validation Consensus
- Scalability and Reliability Blockchain Design Patterns
- Auto-Scaling Nodes, Guaranteed Minimum Full Nodes
- Geo Scaling, Block Size Update
- Security and Privacy Blockchain Design Patterns
- Forced On-Chain Transactions, Federated Chain
- User Data Protection
- Utility Blockchain Design Patterns
- Transaction Record Tagging
- Lightweight Node, Node Task Abstraction

IoT Architecture

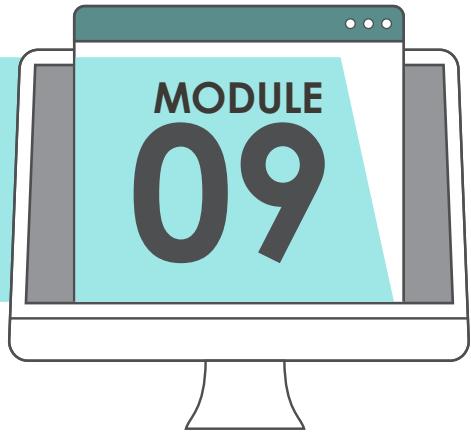


This course module provides a drill-down into key areas of IoT technology architecture and enabling technologies by breaking down IoT environments into individual building blocks via design patterns and associated implementation mechanisms. Layered architectural models are covered, along with design techniques and feature-sets covering the processing of telemetry data, positioning of control logic, performance optimization, as well as addressing scalability and reliability concerns.

The following primary topics are covered:

- Components of an IoT Device (including sensor, actuator, modem, control logic, etc.)
- IoT Platforms, Gateways and Publish-Subscribe Systems
- Device Shadows and Device Shadow Registries
- Trusted Platform Module (TPM) and the Truncated Exponential Back-off Algorithm
- Fundamental Functional Distribution Patterns
- Autonomous Controlling Device Model, Intermediary Controlling Model
- Multi-Gateway Intermediary Controlling Model, Recipient Device Controlling Model
- Telemetry Processing Patterns
- Minimalized Data, Canonical Data Format
- Telemetry Modeling, Intermediary Metadata Provisioning
- Information Transduction and Encoding
- Performance Optimization Patterns
- Observe Messaging, Transport Quality Traffic Profile
- Reconnection Request Regulation, Device Workload Regulation
- Security, Reliability and Utility Patterns
- Radio Transport Encryption, Firmware Integrity Attestation
- Message Bookkeeping, Multimode Communication
- Network-Based Positioning and Triangulation

Fundamental Big Data Analysis & Analytics

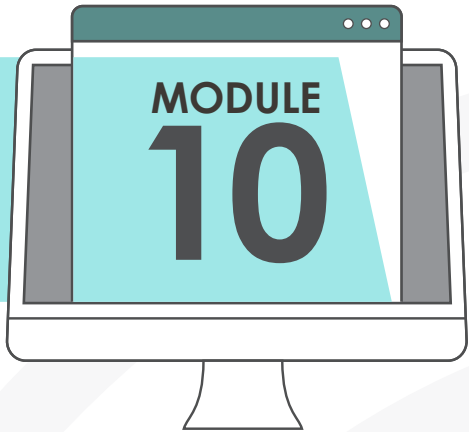


This foundational course module provides an overview of essential big data science topics and explores a range of the most relevant contemporary analysis practices, technologies and tools for big data environments. Topics include common analysis functions and features offered by big data solutions, as well as an exploration of the big data analysis lifecycle.

The following primary topics are covered:

- Understanding Big Data
- Fundamental Terminology & Concepts
- Big Data Business & Technology Drivers
- Characteristics of Data in Big Data Environments
- Dataset Types in Big Data Environments
- Fundamental Analysis and Analytics
- Business Intelligence & Big Data
- Data Visualization & Big Data
- The Big Data Analysis Lifecycle
- A/B Testing, Correlation, Regression
- Time Series Analysis, Heat Maps
- Network Analysis, Spatial Data Analysis
- Classification, Clustering
- Filtering (including collaborative filtering & content-based filtering)
- Sentiment Analysis, Text Analytics

Fundamental Machine Learning

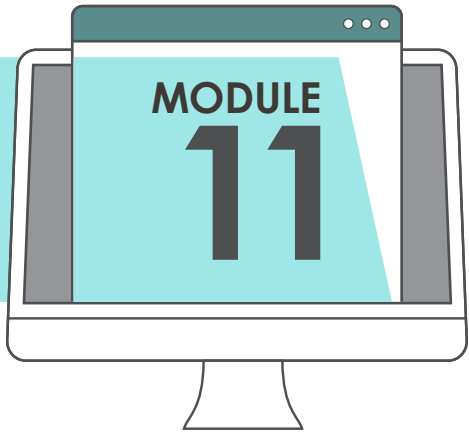


This course module provides an easy-to-understand overview of machine learning for anyone interested in how it works, what it can and cannot do and how it is commonly utilized in support of business goals. The course covers common algorithm types and further explains how machine learning systems work behind the scenes. The base course materials are accompanied with an informational supplement covering a range of common algorithms and practices.

The following primary topics are covered:

- Machine Learning Business and Technology Drivers
- Machine Learning Benefits and Challenges
- Machine Learning Usage Scenarios
- Datasets, Structured, Unstructured and Semi-Structured Data
- Models, Algorithms, Model Training and Learning
- How Machine Learning Works
- Collecting and Pre-Processing Training Data
- Algorithm and Model Selection
- Training Models and Deploy Trained Models
- Machine Learning Algorithms and Practices
- Supervised Learning, Classification, Decision Tree
- Regression, Ensemble Methods, Dimension Reduction
- Unsupervised Learning and Clustering
- Semi-Supervised and Reinforcement Learning
- Machine Learning Best Practices
- How Machine Learning Systems Work
- Common Machine Learning Mechanisms
- How Mechanisms Are Used in Model Training
- Machine Learning and Deep Learning, Artificial Intelligence (AI)

Fundamental AI



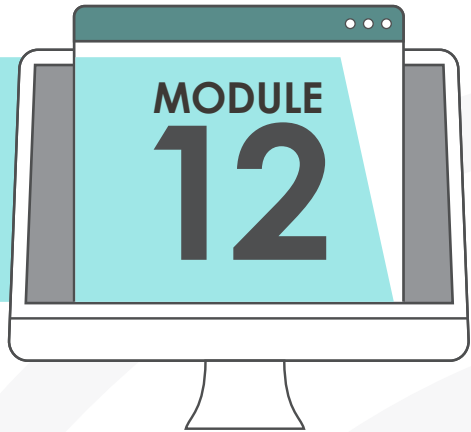
This course module provides essential coverage of artificial intelligence and neural networks in easy-to-understand, plain English. The course provides concrete coverage of the primary parts of AI, including learning approaches, functional areas that AI systems are used for and a thorough introduction 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)

Advanced Big Data Analysis & Analytics

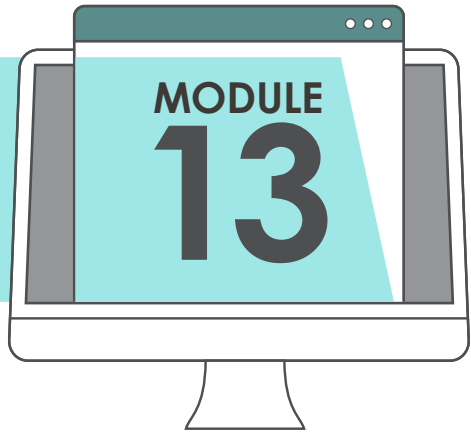


This course module provides an in-depth overview of essential and advanced topic areas pertaining to data science and analysis techniques relevant and unique to Big Data with an emphasis on how analysis and analytics need to be carried out individually and collectively in support of the distinct characteristics, requirements and challenges associated with Big Data datasets.

The following primary topics are covered:

- Exploratory Data Analysis, Essential Statistics, including Variable Categories and Relevant Mathematics
- Statistics Analysis, including Descriptive, Inferential, Covariance, Hypothesis Testing, etc.
- Measures of Variation or Dispersion, Interquartile Range & Outliers, Z-Score, etc.
- Probability, Frequency, Statistical Estimators, Confidence Interval, etc.
- Variables and Basic Mathematical Notations, Statistical Measures and Statistical Inference
- Confirmatory Data Analysis (CDA)
- Data Discretization, Binning and Clustering
- Visualization Techniques, including Bar Graph, Line Graph, Histogram, Frequency Polygons, etc.
- Prediction Linear Regression, Mean Squared Error and Coefficient of Determination R^2 , etc.
- Numerical Summaries, Modeling, Model Evaluation, Model Fitting and Model Overfitting
- Statistical Models, Model Evaluation Measures
- Cross-Validation, Bias-Variance, Confusion Matrix and F-Score
- Association Rules and Apriori Algorithm
- Data Reduction, Dimensionality Feature Selection
- Feature Extraction, Data Discretization (Binning and Clustering)
- Parametric vs. Non-Parametric, Clustering vs. Non-Clustering
- Distance-Based, Supervised vs. Semi-Supervised
- Linear Regression and Logistic Regression for Big Data
- Logistics Regression, Naïve Bayes, Laplace Smoothing, etc.
- Decision Trees for Big Data
- Pattern Identification, Association Rules, Apriori Algorithm
- Time Series Analysis, Trend, Seasonality, K Nearest Neighbor (kNN), K-means
- Text Analytics for Big Data and Outlier Detection for Big Data
- Statistical, Distance-Based, Supervised and Semi-Supervised Techniques

Advanced Machine Learning

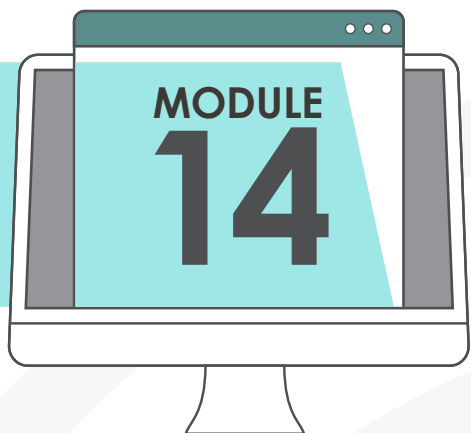


This course module delves into the many algorithms, methods and models of contemporary machine learning practices to explore how a range of different business problems can be solved by utilizing and combining proven machine learning techniques.

The following primary topics are covered:

- Data Exploration Patterns
- Central Tendency Computation, Variability Computation
- Associativity Computation, Graphical Summary Computation
- Data Reduction Patterns
- Feature Selection, Feature Extraction
- Data Wrangling Patterns
- Feature Imputation, Feature Encoding
- Feature Discretization, Feature Standardization
- Supervised Learning Patterns
- Numerical Prediction, Category Prediction
- Unsupervised Learning Patterns
- Category Discovery, Pattern Discovery
- Model Evaluation Patterns, Baseline Modeling
- Training Performance Evaluation, Prediction Performance Evaluation
- Model Optimization Patterns
- Ensemble Learning, Frequent Model Retraining
- Lightweight Model Implementation, Incremental Model Learning

Advanced AI

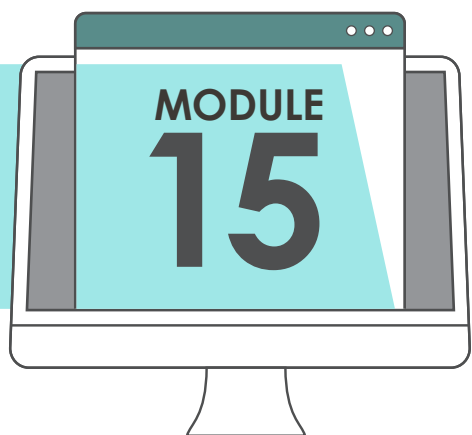


This course module covers a series of practices for preparing and working with data for training and running contemporary AI systems and neural networks. It further provides techniques for designing and optimizing neural networks, including approaches for measuring and tuning neural network model performance. The practices and techniques are documented as design patterns that can be applied individually or in different combinations to address a range of common AI system problems and requirements. The patterns are further mapped to the learning approaches, functional areas and neural network types that were introduced in Module 11: Fundamental Artificial Intelligence.

The following primary topics are covered:

- Data Wrangling Patterns for Preparing Data for Neural Network Input
- Feature Encoding for Converting Categorical Features
- Feature Imputation for Inferring Feature Values
- Feature Scaling for Training Datasets with Broad Features
- Text Representation for Converting Data while Preserving Semantic and Syntactic Properties
- Dimensionality Reduction to Reduce Feature Space for Neural Network Input
- Supervised Learning Patterns for Training Neural Network Models
- Supervised Network Configuration for Establishing the Number of Neurons in Network Layers
- Image Identification for using a Convolutional Neural Network
- Sequence Identification for using a Long Short Term Memory Neural Network
- Unsupervised Learning Patterns for Training Neural Network Models
- Pattern Identification for Visually Identifying Patterns via a Self Organizing Map
- Content Filtering for Generating Recommendations
- Model Evaluation Patterns for Measuring Neural Network Performance
- Training Performance Evaluation for Assessing Neural Network Performance
- Prediction Performance Evaluation for Predicting Neural Network Performance in Production
- Baseline Modeling for Assessing and Comparing Complex Neural Networks
- Model Optimization Patterns for Refining and Adapting Neural Networks
- Overfitting Avoidance for Tuning a Neural Network
- Frequent Model Retraining for Keeping a Neural Network in Synch with Current Data
- Transfer Learning for Accelerating Neural Network Training

Fundamental Cybersecurity

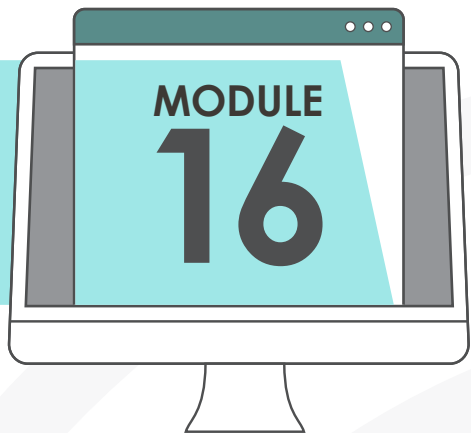


This course module covers essential topics for understanding and applying cybersecurity solutions and practices. The module begins by covering basic aspects of cybersecurity and then explains foundational parts of cybersecurity environments, such as frameworks, metrics and the relationship between cybersecurity and data science technology.

The following primary topics are covered:

- History of Asset Protection
- Cybersecurity Business and Technology Drivers
- Cybersecurity Goals and Benefits
- Risks and Challenges of Adopting Cybersecurity
- Cybersecurity Protection Characteristics and Functions
- Common Cyber Threat Terminology
- Cybersecurity Framework Components
- Digital Risk Assessment and Management
- Common Cybersecurity Industry Standards and Frameworks
- Cybersecurity and Machine Learning
- Cybersecurity and Artificial Intelligence
- Cybersecurity Resilience, Risk Assessment and Effectiveness Metrics

Advanced Cybersecurity



This course module delves into the building blocks of cybersecurity solution environments and further explores the range of cyber threats that cybersecurity solutions can be designed to protect organizations from. The module begins by establishing a set of cybersecurity technology mechanisms that represent the common components that comprise cybersecurity solutions.

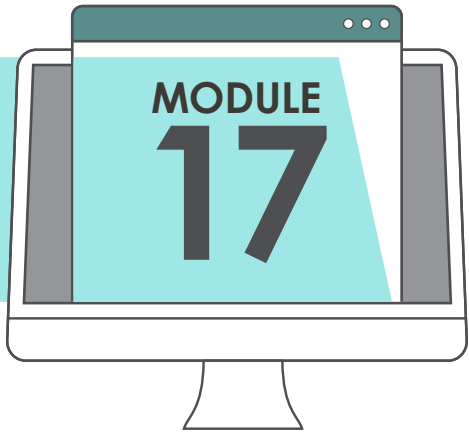
The course module then explores a series of formal processes and procedures used to establish sound practices that utilize the mechanisms. The module concludes with comprehensive coverage of common cyber threats and attacks and further explains how each can be mitigated using the previously described mechanisms and processes.

The following primary topics are covered:

- 15 Cybersecurity Mechanisms (including Honeypots, , Biometric Scanners, Intrusion Detection, Malicious Code Analysis and User Behavior Analytics Systems)
- 9 Cybersecurity Monitoring Mechanisms (including Malware Monitors, Network Intrusion Monitors and Data Loss Protection Monitors)
- 13 Cybersecurity Processes (including Attack Surface Reduction, Continuous Vulnerability Management and Network Monitoring and Defense)
- Insider Threat Detection and Incident Response Management
- Cyber Threat Intelligence and Cyber Attack Motivations
- 13 Common Cyber Threats and Attacks (including Botnets, Tunneling and Remote Code Execution Attacks and 8 types of Malware)
- Insider Threats, Social Engineering and Phishing
- Advanced Persistent Threats (APTs)

The utilization of data science technologies (such as AI and Machine Learning) is further covered in relation to both how such technologies can be used to improve cybersecurity environments and how these technologies can be abused to carry out more sophisticated cyber attacks. Posters are further provided to show how mechanisms map to processes and how mechanisms and processes map to cyber threats and attacks.

Fundamental RPA



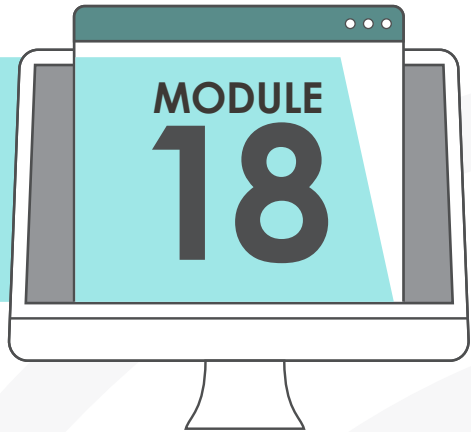
This course module establishes the components and models that comprise contemporary robotic process automation (RPA) environments. Different types of RPA bots are explained, along with different RPA architectures and bot utilization models. This module further provides detailed scenarios that demonstrate 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 module are further extended in Module 18 using Artificial Intelligence (AI) systems as part of intelligent automation solutions.

Advanced RPA & Intelligent Automation



This course module explores the relationship between artificial intelligence (AI) and RPA and describes how these technologies can be combined to establish intelligence automation (IA) environments. The module covers different types of autonomous decision-making and further extends the usage scenarios from Module 17 by incorporating Artificial Intelligence (AI) systems as part of intelligent automation solutions.

The following primary topics are covered:

- Introduction to Intelligent Automation and Hyperautomation
- Intelligent Automation Business Drivers and Technology Drivers
- Intelligent Automation Goals and Benefits
- Intelligent Automation Risks and Challenges
- Components of Intelligent Automation Solutions
- Intelligent Automation and Business Process Management
- Introduction to Artificial Intelligence
- Understanding Autonomous Decision-Making
- Direct-Driven Automated Decision-Making
- Periodic Automated Decision-Making
- Realtime Automated Decision-Making
- Intelligent Automated Data Entry
- Intelligent Automated Routing
- Intelligent Automated Web Searching
- Intelligent Automated Data Search and Fetch
- Intelligent Automated Digitization
- Intelligent Automated User Acceptance Testing Usage Scenario

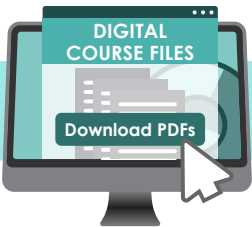
TRAINING AND EXAM PREPARATION RESOURCES

You can supplement this course with a number of available resources to assist with both learning and exam preparation. Contact info@arcitura.com with any questions.



Certification Exam Prep Kit

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AI Professional Academy

- Predictive AI Specialist Certification Exam
- Generative AI Specialist Certification Exam
- AI Engineer Certification Exam
- AI Architect Certification Exam
- AI Consultant Certification Exam
- AI Chatbot Specialist Certification Exam
- NLP Engineer Certification Exam
- Cloud AI Professional Certification Exam
- Cloud AI Architect Certification Exam

Digital Transformation Professional Academy

- Digital Transformation Specialist Certification Exam
- Digital Transformation Technology Professional Certification Exam
- Digital Transformation Technology Architect Certification Exam
- Digital Transformation Data Science Professional Certification Exam
- Digital Transformation Data Scientist Certification Exam
- Digital Transformation Security Professional Certification Exam
- Digital Transformation Security Specialist Certification Exam
- Digital Transformation IA Professional Certification Exam
- Digital Transformation IA Specialist Certification Exam

Next-Gen IT Academy

- DevOps Specialist Certification Exam
- Blockchain Architect Certification Exam
- IoT Architect Certification Exam
- Cybersecurity Specialist Certification Exam
- RPA Specialist Certification Exam
- Digital Business Technology Professional Certification Exam
- Containerization Architect Certification Exam
- Quantum Computing Specialist Certification Exam

Next-Gen Data Science Academy

- Big Data Science Professional Certification Exam
- Big Data Scientist Certification Exam
- Machine Learning Specialist Certification Exam
- Artificial Intelligence Specialist Certification Exam
- Data Science Consultant Certification Exam
- Big Data Engineer Certification Exam
- Big Data Architect Certification Exam
- Data Science Governance Specialist Certification Exam
- AI Decisioning Specialist Certification Exam

Cloud Computing School

- Cloud Technology Professional Certification Exam
- Cloud Computing Consultant Certification Exam
- Cloud Architect Certification Exam
- Cloud Security Specialist Certification Exam
- Cloud Governance Specialist Certification Exam
- Cloud Storage Specialist Certification Exam
- Cloud Virtualization Specialist Certification Exam

Service Technology School

- Microservice Professional Certification Exam
- SOA Professional Certification Exam
- SOA Analyst Certification Exam
- SOA Architect Certification Exam
- Microservice Architect Certification Exam
- Service API Specialist Certification Exam
- Service Governance Specialist Certification Exam
- Service Security Specialist Certification Exam
- Microservice Consultant Certification Exam

COURSES		Predictive AI	Generative AI	AI Engineering	AI Architecture & Design	AI Professional Consulting	AI Chatbot Concepts & Design	NLP Engineering	Cloud AI Technology & Automation	Cloud AI Architecture & Design
CERTIFICATIONS		Predictive AI Specialist	Generative AI Specialist	AI Engineer	AI Architect	AI Consultant	AI Chatbot Specialist	NLP Engineer	Cloud AI Professional	Cloud AI Architect
MODULE 01	Fundamental Predictive AI	●		●	●	●				
MODULE 02	Advanced Predictive AI	●								
MODULE 03	Predictive AI Lab	●								
MODULE 04	Fundamental Generative AI		●	●	●	●				
MODULE 05	Advanced Generative AI		●							
MODULE 06	Generative AI Lab		●							
MODULE 07	Fundamental AI Engineering			●		●				
MODULE 08	Advanced AI Engineering			●						
MODULE 09	AI Engineering Lab			●						
MODULE 10	Fundamental AI Architecture				●	●				
MODULE 11	Advanced AI Architecture				●					
MODULE 12	AI Architecture Lab				●					
MODULE 13	Fundamental AI Chatbot Concepts & Design						●			
MODULE 14	Advanced AI Chatbot Concepts & Design						●			
MODULE 15	AI Chatbot Concepts & Design Lab						●			
MODULE 16	Fundamental NLP Engineering							●		
MODULE 17	Advanced NLP Engineering							●		
MODULE 18	NLP Engineering Lab							●		
MODULE 19	Fundamental Cloud AI Technology & Automation								●	●
MODULE 20	Advanced Cloud AI Technology & Automation								●	●
MODULE 21	Fundamental Cloud AI Architecture & Design									●
MODULE 22	Advanced Cloud AI Architecture & Design									●
MODULE 23	Cloud AI Architecture & Design Lab									●

COURSES		Digital Transformation	Fundamental Digital Technology	Digital Technology & Architecture	Fundamental AI & Data Science for Digital Transformation	AI & Data Science for Digital Transformation	Fundamental Security for Digital Transformation	Security for Digital Transformation	Fundamental Intelligent Automation for Digital Transformation	Intelligent Automation for Digital Transformation
CERTIFICATIONS		Digital Transformation Specialist	Digital Technology Professional	Digital Technology Architect	Digital Data Science Professional	Digital Data Scientist	Digital Security Professional	Digital Security Specialist	Intelligent Automation Professional	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									●

Attaining a certification that encompasses all of the course modules also associated with another certification results in the other certification also being automatically awarded.

COURSES		DevOps	Blockchain Architecture	IoT Architecture	Cybersecurity	Robotic Process Automation	Digital Business Technology	Containerization Architecture	Quantum Computing
CERTIFICATIONS		DevOps Specialist	Blockchain Architect	IoT Architect	Cybersecurity Specialist	RPA Specialist	Digital Business Technology Professional	Containerization Architect	Quantum Computing Specialist
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							●	
Quantum Computing	MODULE 01 Fundamental Quantum Computing								●
	MODULE 02 Advanced Quantum Computing								●
	MODULE 03 Quantum Computing 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	AI Decisioning
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	AI Decisioning 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								•	
MODULE 22	Fundamental AI Decisioning									•
MODULE 23	Advanced AI Decisioning									•
MODULE 24	AI Decisioning Lab									•

COURSES		Cloud Computing	Cloud Computing Professional Consulting	Cloud Architecture	Cloud Security	Cloud Governance	Cloud Storage	Cloud Virtualization
CERTIFICATIONS		Cloud Technology Professional	Cloud Computing Consultant	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	Microservice 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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+1-604-904-4100
info@arcitura.com
www.arcitura.com

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