CYBERSECURITY
Training & Certification Guide

Arcitura® TRAINING — Cybersecurity

Arcitura® CERTIFIED — Cybersecurity Specialist

itcc

PCC PROFESSIONAL CERTIFICATION COALITION

Pearson | VUE

OnVUE

Acclaim

Credly
by Pearson

Arcitura® DIGITAL

About the Next-Gen IT Academy

The Next-Gen IT Academy from Arcitura provides formal education and accreditation programs for contemporary technologies and fields of practice important and relevant to mainstream IT. This growing curriculum encompasses a set of individual tracks, each of which provides covers a distinct technology innovation and/or field of practice.

The Next-Gen IT Academy curriculum is comprised of 24 course modules and 8 certification tracks. For each topic area covered within the program, a set of 3 courses is developed, along with a single exam. 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 a required exam achieves a certification for which a digital accreditation certificate is automatically issued by Arcitura and a digital certification badge is issued by Acclaim/Credly. Note that the completion of select Next-Gen IT courses and certifications are also applicable to some Digital Transformation accreditation requirements.

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HOW TO TAKE THIS COURSE

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.

To learn more, visit: www.arcitura.com/elearning

To enroll, visit: digital.arcitura.com/courses

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 Digital eLearning course materials. Each workshop agenda, format and schedule can be tailored to client requirements.

To learn more, visit: www.arcitura.com/workshops

VIRTUAL WORKSHOPS

Private virtual workshops can be delivered by Certified Trainers for small and large groups, as well as individual participants. Workshop participants receive access to the course materials via the Arcitura Digital eLearning platform. Virtual workshop agendas can be tailored with greater flexibility to accommodate more distributed and fragmented training schedules.

To learn more, visit: www.arcitura.com/workshops
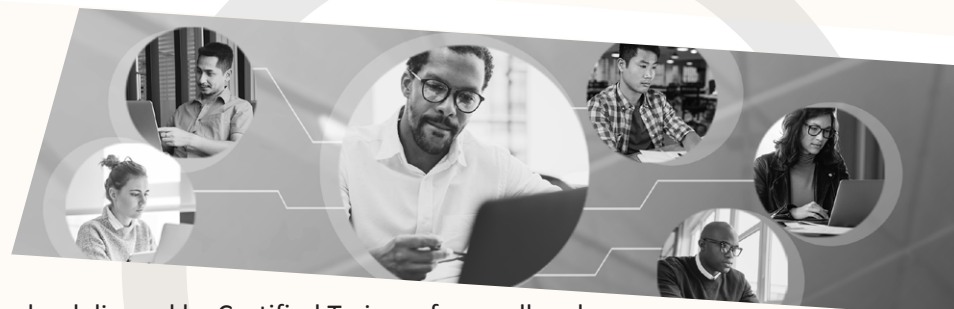
Several additional learning and exam preparation products and services are available, including coaching, exam prep kits and digital downloads. See the Training and Exam Preparation Resources page for details.

HOW TO GET STARTED

Welcome to the Cybersecurity 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 key topics. Upon completing the course, you can optionally proceed to prepare yourself for the certification exam (as explained on the *How to get Certified* page).

Additional resources are available to assist you with completing this course, including downloadable digital course files, printed course materials, coaching hours and instructor-led training services (as explained on the *Training and Exam Preparation Resources* page.)

Module 01 Module 02 Module 03

Arcitura®
Certificate of Completion

Jane Smith
has successfully completed the course
Cybersecurity

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T R A I N I N G
Cybersecurity

MORE INFO
To enroll in this course, visit:
digital.arcitura.com/courses

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Arcitura® CERTIFIED
Cybersecurity Specialist

A Certified Cybersecurity Specialist has an understanding of common Cybersecurity threats, as well as the technologies and practices used to counter and prevent cyber-attacks, including the investigation of suspicious online activity and the hardening and protection of digital assets.

Module 01

Module 02

Module 03

CERTIFICATION EXAM

Arcitura Certified
Cybersecurity Specialist

Arcitura Certified
Cybersecurity Specialist

Jane Smith
has successfully completed the requirements
to be recognized as a certified Cybersecurity Specialist.

HONORS

Arcitura® CERTIFIED
Cybersecurity Specialist

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Arcitura® CERTIFIED
Cybersecurity Specialist

HOW TO GET CERTIFIED

You can become a Certified Cybersecurity Specialist! This course can prepare you for the official Cybersecurity Specialist Certification exam, which can be taken worldwide at Pearson VUE testing centers, via Pearson VUE online proctoring and/or Arcitura direct proctoring.

Upon attaining a passing grade on the certification exam (and fulfilling any other prerequisite exam requirements) you will achieve the Cybersecurity Specialist Certification, after which you will automatically receive an official digital Accreditation Certificate 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.

Additional resources are available to assist you with preparing for the certification exam, including practice exam questions, downloadable digital course files, printed course materials, coaching hours and instructor-led training services (as explained on the *Training and Exam Preparation Resources* page.)
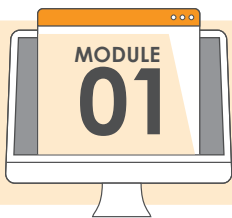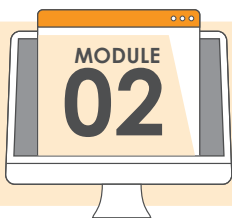
The Cybersecurity course develops an understanding of common cyber security threats and vulnerabilities and further develop skills in the technologies and practices used to prevent and counter cyber-attacks.
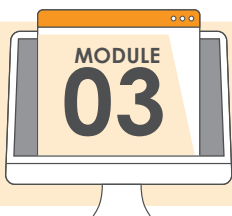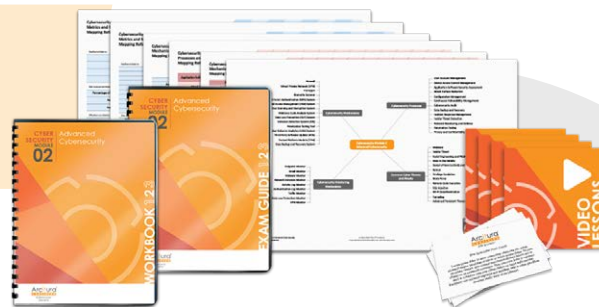
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COURSE MODULE OUTLINES

The Cybersecurity course is comprised of the following course modules. Outlines for these course modules are provided on the subsequent pages.
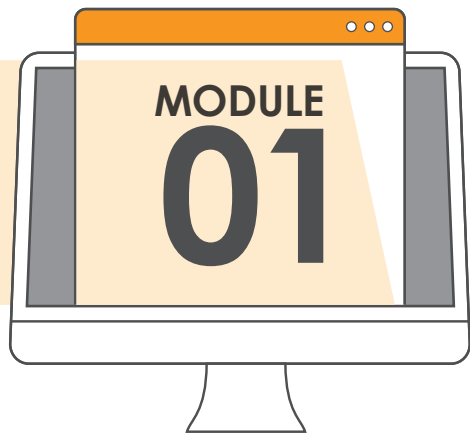
MODULE 01 Fundamental Cybersecurity

MODULE 02 Advanced Cybersecurity

MODULE 03 Cybersecurity Lab

Fundamental Cybersecurity

MODULE 01

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
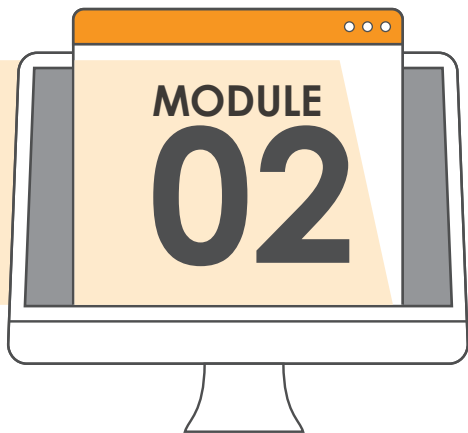
MODULE 02

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 beings by establishing a set of cybersecurity technology mechanisms that represent the common components that comprise cybersecurity solutions. The 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.

Cybersecurity Lab
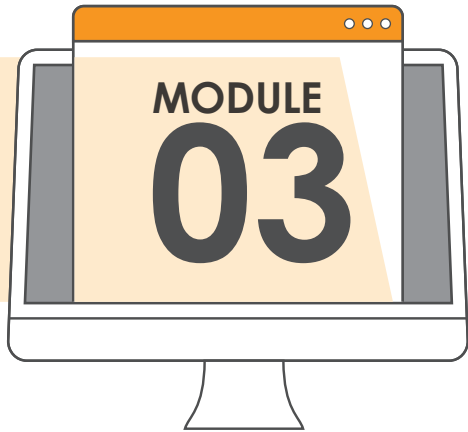
MODULE
03

This course module presents participants with a series of exercises and problems that are designed to test their ability to apply their knowledge of topics covered in previous modules. Completing this lab will help highlight areas that require further attention and will help prove hands-on proficiency in Cybersecurity threats, practices and technologies, as they are utilized and combined to solve real-world problems.

The following exercises are provided:

- Reading Exercise 3.1: ENO Bank Background
- Lab Exercise 3.2: Data Breach
- Lab Exercise 3.3: Hidden Malware
- Optional Lab Exercise 3.4: Cybersecurity Processes
- Optional Lab Exercise 3.5: Cybersecurity Metrics
- Reading Exercise 3.6: ITI Background
- Lab Exercise 3.7: Ransomware
- Lab Exercise 3.8: Phishing
- Lab Exercise 3.9: Cybersecurity Processes
- Lab Exercise 3.10: Cybersecurity Metrics
- Reading Exercise 3.11: Auto-Mech Background
- Lab Exercise 3.12: Botnet and DoS
- Lab Exercise 3.13: Software Exploit and SQL Injection
- Optional Lab Exercise 3.14: Cybersecurity Processes
- Optional Lab Exercise 3.15: Cybersecurity Metrics
- Reading Exercise 3.16: Top Sector Financial (TSF) Background
- Lab Exercise 3.17: Malicious Insider

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

A set of additional practice questions is available to support exam preparation.
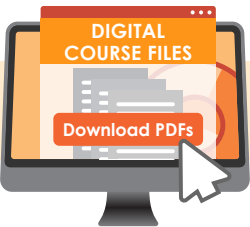
Digital Course Files

For each course you can order a set of downloadable digital course materials comprised of printable, watermarked workbook and poster PDF files.

Printed Course Materials

The printed workbooks and posters for each course can be ordered in B&W and full-color, and can be shipped worldwide.

One-on-One Coaching

Certified Trainers are available to provide online coaching on an hourly basis and in all time zones.

Instructor-Led Training

Certified Trainers are available to provide virtual and onsite training workshops for this and other Arcitura courses.

DIGITAL TRANSFORMATION PROFESSIONAL ACADEMY

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	COURSES → CERTIFICATIONS	Digital Transformation / Digital Transformation Specialist	Digital Transformation: Fundamental Technology / Technology Professional	Digital Transformation: Advanced Technology & Architecture / Technology Architect	Digital Transformation: Fundamental Data Science / Data Science Professional	Digital Transformation: Advanced Data Science / Data Scientist	Digital Transformation: Fundamental Security / Security Professional	Digital Transformation: Advanced Security / Security Specialist	Digital Transformation: Fundamental Intelligent Automation / Intelligent Automation Professional	Digital Transformation: Advanced Intelligent Automation / 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									●
MODULE 19	Fundamental AI Decisioning								●	○
MODULE 20	Advanced AI Decisioning									●

Gray circles indicate prerequisite modules.

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NEXT-GEN IT ACADEMY

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								●

NEXT-GEN DATA SCIENCE ACADEMY

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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									●

Gray circles indicate prerequisite modules.

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CLOUD SCHOOL

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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							●

Gray circles indicate prerequisite modules.

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SERVICE TECHNOLOGY SCHOOL

COURSES / CERTIFICATIONS	Fundamental Microservices & Service Technology / Microservice Professional	Fundamental SOA Design with Services & Microservices / SOA Professional	SOA Analysis & Modeling with Services & Microservices / SOA Analyst	SOA Design & Architecture with Services & Microservices / SOA Architect	Microservice Design & Architecture / Microservice Architect	Microservice Professional Consulting / Microservice Consultant	Service API Design & Management / Service API Specialist	Service Governance & Project Delivery / Service Governance Specialist	Security for Microservices & SOA / 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									●

Gray circles indicate prerequisite modules.

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