



# **DxCERTS<sup>SM</sup>**

**NIST & NICE Cybersecurity  
Training Curriculum & Student Management Platform**

**By**

**Rick Lemieux & David Nichols**

**January 2019**

# **NIST & NICE Cybersecurity Training Curriculum & Student Management Platform**

## ***Copyright and Trademark Notice***

Copyright © 2018 itSM Publishing. itSM Solutions® is a Registered Trademark of itSM Solutions LLC. ITIL® is a Registered Trademark, and a Registered Community Trademark of the Axelos, and is registered in the U.S. Patent and Trademark Office and is used here by itSM Solutions LLC under license from and with the permission of Axelos (Trademark License No. 0002). Other product names mentioned in this guide may be trademarks or registered trademarks of their respective companies.

## ***Notice of Rights / Restricted Rights Legend***

All rights reserved. No title or ownership of this document, any portion thereof, or its contents is transferred. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without the prior written permission of itSM Solutions LLC. Reproduction prohibitions do not apply to this document when reproduced for non-commercial use, or to excerpts or quotes for use in reviews or attributed quotes in other works of any type as allowed for in copyright law. For additional information, please contact:

itSM Solutions LLC  
742 Mink Ave #135  
Murrells Inlet  
South Carolina, 29576  
401-480-5872  
Web <http://www.itSMSolutions.com>

## ***Notice of Liability***

This guide is distributed "As Is," without warranty of any kind, either express or implied, respecting the content of this guide, including but not limited to implied warranties for the guide's quality, performance, merchantability, or fitness for any particular purpose. Neither the authors, nor itSM Solutions LLC, its dealers or distributors shall be liable with respect to any liability, loss or damage caused or alleged to have been caused directly or indirectly by the contents of this whitepaper.

## **NIST & NICE Cybersecurity Training Curriculum & Student Management Platform**

### ***NIST & NICE Cybersecurity Certification Training Curriculum***

Today, due to the ever changing threat landscape created by Digital Transformation (DX) programs (IoT, Mobile, Cloud etc.) and a very sophisticated network of threat actors (i.e., the bad guys) enterprises need to build a workforce capable of engineering, maintaining and improving the best practice frameworks and methodologies required to identify, protect, detect, respond and recover from cyber-attacks.

itSM Solutions NISTCSF.COM is a global consortium of academic, government and industry thought leaders working together to create Digital Transformation (DX) Training Curriculum and Platforms (DxCERTS<sup>SM</sup>) that teach the knowledge, skills and abilities to operationalize the IT and NIST Cybersecurity frameworks, methodologies and technologies created by the **National Institute of Standards and Technologies (NIST), Axelos, ISACA and other internationally recognized institutes and organizations.**

The consortium's focus is to create online training curriculum that can be delivered in an instructor led classroom, virtual classroom, blended classroom or as a standalone self-paced video program.

The consortium is also focused on delivering online train-the-trainer services that will enable academic and enterprise institutions to utilize existing resources to support the delivery or mentoring portion of its IT & NIST Cybersecurity workforce development and continuing education program.

## **NIST & NICE Cybersecurity Training Curriculum & Student Management Platform**

The consortium's UMass Lowell NIST Cybersecurity Framework NCSF-CFM certification training programs were recently featured in the [National CyberWatch Center 2018 Innovations in Cybersecurity Education magazine](#).

## ***DxCERTS NIST/NICE Cybersecurity Curriculum & Student Management Platform***

DxCERTS is the industry's first online IT & NIST Cybersecurity career pathway training curriculum & student management platform designed specifically for K-12, higher education and enterprise learning & development organizations.

DxCERTS career pathway programs are aligned with the industry leading IT & Cybersecurity frameworks being adopted and operationalized by organizations across the globe. These frameworks include the NIST Cybersecurity Framework, NICE Cybersecurity Workforce Framework, ITIL, RESILIA, Cobit and the Digital Transformation Readiness Framework.

The online curriculum includes eight IT & NIST Cybersecurity career pathway programs plus one Business Soft Skill track which are designed to fit seamlessly into any existing academic or Learning & Development instructor-led or self-paced program.

[Click Here](#) for the DxCERTS Complete Curriculum Catalog

# NIST & NICE Cybersecurity Training Curriculum & Student Management Platform

## DxCERTS<sup>SM</sup>

### NIST & NICE Cybersecurity Frameworks Training Curriculum & Student Management System

<b>Subscription Options:</b> 1 to 4 Year Subscription Options	<b>Management Options;</b> Client Branded Portal with Student Monitoring & Reporting
<b>Hosting Options:</b> itSM Solutions or Client Hosted	<b>Training Options;</b> Individual or Organizational Transformation Trainings

### On-Demand

### Individual or Group Career Pathway Programs

#### Accredited Programs

- > 250+ certification training videos
- > Digital Courseware
- > Online Mentoring
- > Online Learner Management
- > Certificate of Completion
- > Continuing Ed Credits

#### Video Learning & Quizzes

#### Digital Courseware

Multi-touch learning

#### Checkpoints & Sample Papers

#### Online Mentoring & Learner Management

Cybersecurity Management	NIST CSF	ISCS*	CompTIA	ISACA	MILE2
Service & Project Management	ITIL	COBIT	RESILIA	PMI	AGILE/ SCRUM
Networking & Cloud Mgmt.	Microsoft	Cisco	CompTIA	VMware	CSA
Software Programming	C+	C++	Java	Python	Ruby
Business Skills	Microsoft Office	HR	Legal	Finance	Social Media

### Global Reach

### Customization and New Program Development Options

DxCERTS Curriculum Pathways	Digital Transformation Readiness Framework Curriculum	NIST Cybersecurity & RESILIA Cyber Resilience Framework Curriculum	Digital Service Management & Digital Governance Framework Curriculum	NICE Cybersecurity Workforce Framework Information Security Curriculum	NICE Cybersecurity Workforce Framework Network & System Admins Curriculum	NICE Cybersecurity Workforce Framework Cloud Management Curriculum	NICE Cybersecurity Workforce Framework Software Programming Curriculum	NICE Cybersecurity Workforce Framework Project Management Curriculum	NICE Cybersecurity Workforce Framework Business Skills Curriculum
Pathway Description	This DxCERTS training and mentoring program enables students to learn the knowledge, skills and abilities to operationalize the digital transformation best practices outlined in the Digital Transformation Readiness Framework	This DxCERTS training and mentoring program enables students to learn the knowledge, skills and abilities to operationalize the the cybersecurity and cyber resilience best practices outlined in the NIST Cybersecurity and RESILIA Cyber Resilience Frameworks	This DxCERTS training and mentoring program enables students to learn the knowledge, skills and abilities to operationalize the Service Management and Governance best practices outlined in the ITIL and Cobit Frameworks	This DxCERTS training and mentoring program enables students to learn the knowledge, skills and abilities to perform the information security workforce roles outlined in the NICE Cybersecurity Framework	This DxCERTS training and mentoring program enables students to learn the knowledge, skills and abilities to perform the networking and administration workforce roles outlined in the NICE Cybersecurity Framework	This DxCERTS training and mentoring program enables students to learn the knowledge, skills and abilities to perform the cloud management workforce roles outlined in the NICE Cybersecurity Framework	This DxCERTS training and mentoring program enables students to learn the knowledge, skills and abilities to perform the application and software development workforce roles outlined in the NICE Cybersecurity Framework	This DxCERTS training and mentoring program enables students to learn the knowledge, skills and abilities to perform the project & program management workforce roles outlined in the NICE Cybersecurity Framework	This DxCERTS training and mentoring program enables students to learn the business skills necessary to communicate and work with the various lines of business within an enterprise
Pathway Roles	DTRF Engineer DTRF Operations Analyst DTRF Business Analyst DTRF Expert Practitioner	NISTCSF Engineer NISTCSF Operations Analyst NISTCSF Business Analyst NISTCSF Risk Management Analyst Cyber Resilience Engineer Cyber Resilience Operations Analyst Cyber Resilience Business Analyst	ITSM Engineer ITSM Operations Analyst ITSM Business Analyst ITSM Expert Practitioner ITSM AGILE Practitioner ITSM Governance Practitioner DEVOPS Practitioner	INFOSEC Engineer INFOSEC Operations Analyst INFOSEC Business Analyst INFOSEC Specialist Ethical Hacker, Pen Tester, Vulnerability Assessor, Forensics Investigator, First Responder, Wireless Network Professional, Auditor, Manager / Officer, Healthcare Professional, Secure Web Analyst, Disaster Recovery Analyst	Microsoft MCSA Microsoft MCSE Cisco CCNA Cisco CCNP VMware Professional CompTIA PC Specialist CompTIA Server Specialist CompTIA Network Specialist CompTIA Cloud Specialist CompTIA Linux Specialist CompTIA Healthcare Technician	Amazon Web Services Engineer Amazon Web Services Operations Analyst Microsoft Azure Engineer Microsoft Azure Operations Analyst	Software & Application Developer JavaScript Specialist, ASP.NET Specialist, Angular 3 Specialist, SQL Server Specialist, C# Specialist, C++ Specialist, Python Specialist, Runtime Specialist, RUPP Specialist, Hadoop Specialist, PERI Specialist, RESTful Specialist, Bootstrap Specialist, Selenium Specialist	Project Management Professional SCRUM Professional AGILE Professional RISK Management Professional	Enterprise Business Skills Cybersecurity Awareness, Operating Systems, Sharepoint, Internet & Core Computing, Legal, Web Design, Accounting, Social Media, Human Resources, Communication Skills, Time Management Skills, Thinking Critically, Business Etiquette, Customer Service
Certification Bodies	APMG International	APMG International Axelos / Peoplecert	Axelos / Peoplecert ISACA	CompTIA ISCS ISACA MILE2	CompTIA Microsoft Cisco VMware	Amazon Microsoft	Various	Project Management Institute (PMI) Axelos SCRUMstudy	Various
Alignment with NICE Cybersecurity Workforce Categories	Oversee & Govern	Securely Provision Operate & Maintain Protect & Defend Oversee & Govern Collect & Operate Investigate Analyze	Securely Provision Operate & Maintain Protect & Defend Oversee & Govern Collect & Operate Investigate Analyze	Securely Provision Operate & Maintain Protect & Defend Oversee & Govern Collect & Operate Investigate Analyze	Securely Provision Operate & Maintain Protect & Defend	Securely Provision Operate & Maintain Protect & Defend	Securely Provision Operate & Maintain Protect & Defend	Oversee & Govern	Oversee & Govern

[Click here](#) to learn more about our Curriculum Licensing & TTT programs.

[Click here](#) to read NICE Cybersecurity Workforce Framework Publication

## **NIST & NICE Cybersecurity Training Curriculum & Student Management Platform**

### ***DxCERTS Curriculum Benefits***

Listed below are the eight reasons your university, training company or enterprise learning and development organization should partner with itSM Solutions for its DxCERTS IT & NIST Cybersecurity career pathway curriculum subscription program.

- DxCERTS is the industry's first online NIST & NICE Cybersecurity career pathway training curriculum & student management platform designed specifically for K-12, higher education and enterprise learning & development organizations.
- DxCERTS career pathway programs are aligned with the industry leading IT & Cybersecurity frameworks being adopted and operationalized by organizations across the globe. These frameworks include the NIST Cybersecurity Framework, NICE Cybersecurity Workforce Framework, ITIL, RESILIA, Cobit and the Digital Transformation Readiness Framework.
- DxCERTS flexible pricing program provides enterprises of any size the ability to offer training to all of its IT & NIST Cybersecurity workforce.
- DxCERTS flexible delivery options enable the program to be adapted to any organizational structure and training schedule
- DxCERTS online Student Monitoring, Mentoring & Reporting platform ensures a successful outcome for both the student and employer
- DxCERTS online instructor Train-the Trainer program provides enterprises and academic institutions with the tools to quickly stand-up its own delivery and mentoring force.

## **NIST & NICE Cybersecurity Training Curriculum & Student Management Platform**

- DxCERTS multi-year licenses enable individuals and enterprises to span the training over degree program years or enterprise budget cycles
- DxCERTS procure options include Credit Card, Purchase Order, HR Continuing Education Funds, and State or Federal Workforce Development or Grant Funds

### ***DxCERTS – NIST Cybersecurity Framework Certification Curriculum***

**This DxCERTS NIST Cybersecurity Framework (NIST-CSF) program teaches students how to Engineer & Operationalize a cybersecurity program based on the NIST Cybersecurity Framework.**

The NIST Cybersecurity Framework (NIST CSF) training program was created in partnership with UMass Lowell (UML) a NSA/DHS National Center of Academic Excellence in Cyber Defense Research (CAE-R). The program was designed to train the engineering, operations and business teams responsible for operationalizing the framework controls (CIS 20 Critical Controls etc.) and management systems (ISO 27001 etc.) across an enterprise and its supply chain.

The UMass Lowell NIST Cybersecurity Framework – Controls Factory Model (NCSF-CFM) training program was created by Larry Wilson the CISO in the UMass president's office. The program was used to train the engineering, operations and business teams responsible for operationalizing the NIST Cybersecurity Framework Program controls (CIS 20 Critical Controls,

## **NIST & NICE Cybersecurity Training Curriculum & Student Management Platform**

ISO27002, PCI, AICPA etc.) across the university five campuses and its supply chain. The NCSF-CFM program has since been used to train other universities, governments and private corporations to do the same.

The NCSF Control Factory™ model helps enterprises organize the Engineering, Operations and Business Risk of an NCSF program. The model is completely adaptable, which means that each of the modules can easily be updated, replaced or modified with minimal impact on the overall solution. Organizations are free to choose the minimum set of controls its need to improve its cybersecurity risk profile and then over time adopt additional controls that will take it to a higher cybersecurity state. The factory approach allows for changes in the cybersecurity threat landscape, new vulnerabilities and the addition of improvements while still keeping a focus on the critical assets and identities.

The program teaches the knowledge, skills and abilities to:

- Develop a strategy to educate executives and board members about the NIST Cybersecurity Framework (NCSF) and why they should allocate funding to launch and maintain a program
- Create a Cybersecurity Program that will become policy for an organization or industry association
- Engineer a solution to operationalize the cybersecurity program across an enterprise and its supply chain using the UMass Lowell NCSF Controls Factory™ Model (NCSF-CFM)



## **NIST & NICE Cybersecurity Training Curriculum & Student Management Platform**

- Build and Operate a Security Operations Center (SOC) to continuously monitor and respond to changes in the cybersecurity profile documented in the cybersecurity program
- Conduct continuous Business Risk assessments to compare the current profile against the target profile (documented in the program) to identify any gaps that need to be addressed

### **DxCERTS NIST Cybersecurity Framework Awareness Training Curriculum**

The DxCERTS NIST Cybersecurity Framework awareness training curriculum introduces students to the basic concepts associated with Digital Transformation, the NIST Cybersecurity Framework and Cybersecurity Risk Management.

### **NIST Cybersecurity Framework Foundation Certification Training**

This APMG accredited training program is targeted at IT and Cybersecurity professionals looking to become certified on how to operationalize the NIST Cybersecurity Framework (NCSF) across an enterprise and its supply chain. The NCSF Foundation training course outlines current cybersecurity challenges and explains how organizations who implement a NCSF program can mitigate these challenges.

### **NIST Cybersecurity Framework Practitioner Certification Training**

This APMG accredited training program is targeted at IT and Cybersecurity professionals looking to become certified on how to operationalize the NIST Cybersecurity Framework (NCSF) across an enterprise and its supply chain.

## **NIST & NICE Cybersecurity Training Curriculum & Student Management Platform**

The NCSF Practitioner program teaches the knowledge to prepare for the NCSF Practitioner exam plus the skills and abilities to design, build, test, manage and improve a cybersecurity program based on the NCSF.

### **NIST Cybersecurity Framework Boot Camp (Foundation + Practitioner) Certification Training**

This APMG accredited training program is targeted at IT and Cybersecurity professionals looking to become certified on how to operationalize the NIST Cybersecurity Framework (NCSF) across an enterprise and its supply chain. The NCSF Bootcamp program teaches the knowledge to prepare for the NCSF Boot Camp exam (Foundation + Practitioner) plus the skills and abilities to design, build, test, manage and improve a cybersecurity program based on the NCSF.

### ***DxCERTS – NICE Cybersecurity Workforce Framework Certification Curriculum***

**This DxCERTS NICE Cybersecurity Workforce Framework (NICE-CWF) training program teaches students the knowledge, skills and abilities to become Engineers, Analysts, Specialists & Risk Management Professionals in a cybersecurity organization.**

The DxCERTS curriculum is aligned with the industry leading IT & Cybersecurity frameworks being adopted and operationalized by organizations across the globe.

## **NIST & NICE Cybersecurity Training Curriculum & Student Management Platform**

The online curriculum includes eight IT & NIST Cybersecurity career pathway programs plus one Business Soft Skill track which are designed to fit seamlessly into any existing academic or Learning & Development instructor-led or self-paced program.

### **DxCERTS NICE-CWF Practitioner Subscription**

This low cost, DxCERTS “All Access” subscription program provides students access to over 250 accredited training programs that will enable them to become certified in the most sought-after positions in IT & Cybersecurity including the NIST Cybersecurity Framework Foundation and Practitioner certification programs.

### **DxCERTS NICE-CWF MANAGED Practitioner Subscription**

This low cost, DxCERTS “All Access” managed subscription program provides students access to over 250 accredited training programs that will enable them to become certified in the most sought-after positions in IT & Cybersecurity including the NIST Cybersecurity Framework Foundation and Practitioner certification programs.

This easy to use training and management program not only helps organizations get the right training to the right person at the right time but also equips the management team (Professors, HR, Learning & Development, Department Managers etc.) with a student management and reporting platform that enables them to ensure a successful, on-time, training outcome for both the student, employer and academic institution.

## **NIST & NICE Cybersecurity Training Curriculum & Student Management Platform**

### ***DxCERTS Curriculum Consortium Partners***

The following companies have come together to provide the operational infrastructure to support the DxCERTS curriculum consortium.

#### **Reseller Partners**

itSM Solutions has partnered with academic and private institutions to deliver the DxCERTS assessment and workforce development programs. Inaugural partners include New Horizons Computer Learning Centers, LRS Education Services, University of West Florida, Bryant University, GRC Sphere and Babbage Simmel.

#### **Print and Digital Book Distribution**

itSM Solutions has partnered with Arvato Training & Education Services a global eCommerce platform an integrated eReader application which delivers print and digital book versions of the DxCERTS curricula to students anywhere in the world. Arvato is currently the exclusive delivery partner for Microsoft training and consulting education solutions worldwide.

#### **Platform Partners**

itSM Solutions has partnered with leading Assessment, Learning Management and Simulation platform companies to deliver affordable training solutions for today's cyber enterprise. Inaugural partners include Career Academy and CyberSaint.

#### **Authoring Partners**

DxCERTS inaugural program NIST Cybersecurity Framework – Controls Factory Model™ (NCSF-CFM), was built in partnership with UMass Lowell

## **NIST & NICE Cybersecurity Training Curriculum & Student Management Platform**

(UML) a NSA/DHS National Center of Academic Excellence in Cyber Defense Research (CAE-R). NISTCSF.COM has since formed strategic partnerships with Axelos creator of the ITIL®, RESILIA® and PRINCE2 frameworks & methodologies, ISACA creator of the COBIT framework, The Institute for Digital Transformation creator of the Digital Enterprise Readiness Framework (DERF) and other academic and private industry partners to build out the rest of the DxCERTS portfolio.

### **Publishing Partners**

itSM Solutions is leading the development team to create assessment, remediation, certification and simulation training solutions for today's cyber enterprise

### **Accreditation Partners**

itSM Solutions has partnered with APMG for content accreditation and exam delivery services.

### ***Summary***

Three things are certain: first, digital services are now at the center of most businesses; second, business is a moving target, third organizations are under attack from those trying to steal the information companies rely on for daily business operations and revenue.

The itSM Solutions DxCERTS training curriculum and student management system enables enterprises of any size to create a workforce capable of

## **NIST & NICE Cybersecurity Training Curriculum & Student Management Platform**

identifying, protecting, detecting, responding and recovering from cyber-attacks.

# NIST & NICE Cybersecurity Training Curriculum & Student Management Platform

## *About itSM Solutions LLC*

itSM Solutions LLC is an accredited content publishing company specializing in the creation of assessment, certification and skills training content for Information Technology (IT) and NIST Cybersecurity professionals. itSM's training solutions have been adopted by the who's who of industry including HPE, Microsoft, Disney, Cisco, IRS, Navy, Lowes, Staples, Genzyme, Boeing, Intel, Molina Healthcare and many others.

itSM Solutions is also the founder of NISTCSF.COM a global consortium of academic, government and industry thought leaders working together to create Cybersecurity training programs that help organizations operationalize, maintain and improve the frameworks and methods created by the National Institute of Standards & Technologies (NIST), the National Institute of Cybersecurity Education (NICE) and other internationally recognized institutes and standards organizations. The consortium's goal is to provide academia and enterprises with an affordable and scalable way to train, skill and certify today's Cybersecurity workforce.

## *About the Authors*

**David Nichols** is the President and CEO of itSM Solutions LLC, an ITSM consulting and training company. He has over 40 years experience in Information Technology. As an early adopter of the IT Service Management processes as described in the IT Infrastructure Library (ITIL), he has utilized his hardware and software engineering background as a foundation for implementing sweeping changes in how IT Services are delivered at several fortune 100 companies in the US. Working closely with the executive management teams, David has helped the strategic goals of the IT organization with those of the company and develop a more effective IT Strategy. Strategies that are customer focused, process-oriented and cost/performance optimized, and help business and IT organization establish the value of IT Services. David holds ITSM Service Manager certification.

**Rick Lemieux** is a managing partner and the Vice President of Business Development. He is responsible for overseeing the company's Sales, Marketing & Business Development programs. Rick has been involved in selling IT solutions for the past 30 years. Prior to itSM, Rick, an early proponent of ITSM and ITIL, led the Sales and Business Development teams at software companies focused on automating the best practices guidance outlined in ITIL. Rick holds a Foundation Certificate in IT Service Management and was recently identified as one of the top 5 IT Entrepreneurs in the State of Rhode Island by the TECH 10 awards.