



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

**IT & NIST Cybersecurity  
Career Pathway Training Curriculum  
& Student Management Platform**

**By**

**Rick Lemieux & David Nichols**

**January 2019**

## **DxCERTS - IT & NIST Cybersecurity Career Pathway Training Curriculum and 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.

## **DxCERTS - IT & NIST Cybersecurity Career Pathway Training Curriculum and Student Management Platform**

---

### ***IT & NIST Cybersecurity Online 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.

# DxCERTS - IT & NIST Cybersecurity Career Pathway Training Curriculum and 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 IT & NIST Cybersecurity Career Pathways Curriculum

itSM Solutions DxCERTS career curriculum pathways enables enterprises of any size to create a workforce capable of operationalizing, maintaining and improving the IT & Cybersecurity frameworks, methodologies and technologies that enable an organizations to identify, protect, detect, respond and recover from cyber-attacks.

DxCERTS Enterprise 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 Network & System Admin Curriculum	NICE Cybersecurity Workforce Framework Network & System Admin Curriculum	NICE Cybersecurity Workforce Framework Cloud Management Curriculum	NICE Cybersecurity Workforce Framework Software Engineering Curriculum	NICE Cybersecurity Workforce Framework Project Management Curriculum	NICE Cybersecurity Workforce Framework Business Skills Curriculum
<b>Pathway Description</b>	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 digital 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 network 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 knowledge, skills and abilities to perform the project & program management workforce roles outlined in the NICE Cybersecurity Framework
<b>Pathway Roles</b>	OTIF Engineer OTIF Operations Analyst OTIF Business Analyst OTIF 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 CCIP VMware Professional CompTIA PC Specialist CompTIA Server Specialist CompTIA Network Specialist CompTIA Linux Specialist CompTIA Healthcare Technician	Amazon Web Services Engineer Operations Analyst Microsoft Azure Engineer Microsoft Azure Operations Analyst	Software & Application Developer Java/JSP Specialist, ASP.NET Specialist, Angular JS Specialist, SCSS, Server Specialist, C# Specialist, C++ Specialist, Python Specialist, Runtime Specialist, ASP Specialist, PHP/ASP Specialist, PERL 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, Microsoft & Core Computing, Legal, Web Design, Accounting, Social Media, Human Resources, Communication Skills, Time Management Skills, Thinking Critically, Business Etiquette, Customer Service
<b>Certification Bodies</b>	APMG International	APMG International Axelos / Peoplecert	Axelos / Peoplecert ISACA	CompTIA ISE2 ISACA MILE2	CompTIA Microsoft Cisco VMware	Amazon Microsoft	Various	Project Management Institute (PMI) Axelos SCRUMstudy	Various
<b>Alignment with NICE Cybersecurity Workforce Categories</b>	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 see or download our course catalog

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

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

## **DxCERTS - IT & NIST Cybersecurity Career Pathway Training Curriculum and Student Management Platform**

---

### ***DxCERTS Unlimited Access Subscription Program***

The DxCERTS unlimited access subscription program enables individuals and organizations to become trained and certified to engineer, operationalize and improve the IT and NIST Cybersecurity frameworks, methodologies and technologies utilized by enterprises across the globe.

A full listing and description of the programs listed below can be found [here](#).

### **DxCERTS INDIVIDUAL Subscription Program**

The DxCERTS INDIVIDUAL subscription provides unlimited access to the complete DxCERTS library for one low annual fee. This affordable, easy to use, online training program enables students from across the globe to become trained and certified in the most sought-after positions in IT & Cybersecurity.

### **DxCERTS ENTERPRISE Subscription Program**

The DxCERTS ENTERPRISE subscription provides enterprise with unlimited access to the complete DxCERTS blended learning training portfolio and online branded student management and reporting portal. This affordable, easy to use training and management solution not only helps organizations get the right training to the right person at the right time but also provides management teams (HR, Learning & Development and






## DxCERTS - IT & NIST Cybersecurity Career Pathway Training Curriculum and Student Management Platform

Department Managers) with the online student management and reporting tools to ensure a successful, on-time, training outcome for both the student and employer.

### DxCERTS<sup>SM</sup> “Unlimited Access”

**IT & NIST Cybersecurity 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

<b>On-Demand</b>	<b>Individual or Group Career Pathway Programs</b>									
<b>Accredited Programs</b>  <ul style="list-style-type: none"> <li>&gt; 250+ certification training videos</li> <li>&gt; Digital Courseware</li> <li>&gt; Online Testing</li> <li>&gt; Online Mentoring</li> <li>&gt; Online Student Mgmt.</li> <li>&gt; Certificate of Completion</li> <li>&gt; Continuing Ed Credits</li> </ul>	<b>Video Learning &amp; Quizzes</b> 	<b>Digital Courseware</b> 	<b>Cybersecurity Management</b> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>NIST CSF</td> <td>ISCF</td> <td>CompTIA</td> <td>ISACA</td> <td>MILE2</td> </tr> </table>			NIST CSF	ISCF	CompTIA	ISACA	MILE2
NIST CSF	ISCF	CompTIA	ISACA	MILE2						
	<b>Multi-touch learning</b>		<b>Service &amp; Project Management</b> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>ITIL</td> <td>COBIT</td> <td>RESILIA</td> <td>PMI</td> <td>AGILE/ SCRUM</td> </tr> </table>			ITIL	COBIT	RESILIA	PMI	AGILE/ SCRUM
ITIL	COBIT	RESILIA	PMI	AGILE/ SCRUM						
	<b>Checkpoints &amp; Sample Papers</b> 	<b>Online Mentoring &amp; Learner Management</b> 	<b>Networking &amp; Cloud Mgmt.</b> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>Microsoft</td> <td>Cisco</td> <td>CompTIA</td> <td>VMware</td> <td>CSA</td> </tr> </table>			Microsoft	Cisco	CompTIA	VMware	CSA
Microsoft	Cisco	CompTIA	VMware	CSA						
			<b>Software Programming</b> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>C+</td> <td>C++</td> <td>Java</td> <td>Python</td> <td>Ruby</td> </tr> </table>			C+	C++	Java	Python	Ruby
C+	C++	Java	Python	Ruby						
			<b>Business Skills</b> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>Microsoft Office</td> <td>HR</td> <td>Legal</td> <td>Finance</td> <td>Social Media</td> </tr> </table>			Microsoft Office	HR	Legal	Finance	Social Media
Microsoft Office	HR	Legal	Finance	Social Media						
<b>Global Reach</b>	<b>Customization and New Program Development Options</b>									

### DxCERTS Curriculum Subscription Benefits

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

## **DxCERTS - IT & NIST Cybersecurity Career Pathway Training Curriculum and Student Management Platform**

---

- 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 subscription 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 enables enterprises to quickly stand-up its own delivery and mentoring force.
- 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

### ***NISTCSF.COM Curriculum Consortium Partners***

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

## **DxCERTS - IT & NIST Cybersecurity Career Pathway Training Curriculum and Student Management Platform**

---

### **Reseller Partners**

NISTCSF.COM has partnered with academic and private institutions to deliver the NISTCSF.COM 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**

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

### **Platform Partners**

NISTCSF.COM 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**

NISTCSF.COM's inaugural program NIST Cybersecurity Framework – Controls Factory Model™ (NCSF-CFM), was built in partnership with UMass Lowell (UML) a NSA/DHS National Center of Academic Excellence in Cyber Defense Research (CAE-R). NISTCSF.COM has since formed strategic



## **DxCERTS - IT & NIST Cybersecurity Career Pathway Training Curriculum and Student Management Platform**

---

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 NISTCSF.COM portfolio.

### **Publishing Partners**

NISTCSF.COM has partnered with itSM Solutions to create assessment, remediation, certification and simulation training solutions for today's cyber enterprise

### **Accreditation Partners**

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

## **DxCERTS - IT & NIST Cybersecurity Career Pathway Training Curriculum and 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.