



DxCERTSSM

**IT & NIST Cybersecurity
Digital Transformation (Dx)
Enterprise Training Curriculum**

By

Rick Lemieux & David Nichols

January 2019

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 Enterprise 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 IT and Cybersecurity curriculum that teaches the knowledge, skills and abilities to operationalize the frameworks and methodologies created by the National Institute of Standards and Technologies (NIST) and other internationally recognized institutes and organizations.

The consortium's focus is to create licensable assessment, curriculum and train-trainer-services that will provide an affordable and scalable way for other academic and commercial institutions to offer these programs as part of their IT & Cybersecurity workforce development program.

NISTCSF.COM 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 Frameworks & Methodologies

NISTCSF.COM Best Practice Frameworks and Methodologies curriculum areas include.

NIST Cyber Security Framework provides guidance and training's on how enterprises can proactively manage and improve its Cybersecurity risk by operationalizing the controls (Center for Internet Security) and management systems (ISO 27001, NIST 800-53 etc.) outlined in the framework.

NICE Cybersecurity Workforce Framework provides guidance and training's on how enterprises can proactively manage and improve its IT and Cybersecurity workforce by following the guidance outlined in the framework.

RESILIA™ Cyber Resilience Framework provides guidance and training's on how digital enterprises can proactively manage and improve a cyber service portfolio in terms of business resiliency and recovery.

ITIL® Service Management Framework provides guidance and training's on how digital enterprises can proactively manage and improve a cyber service portfolio in terms of agility, development, operations, cost, quality and compliance.

COBIT Governance Framework provides guidance and training's on how digital enterprises can proactively manage and improve a cyber service portfolio in terms of risk policies and controls.

ISO/IEC 20000 Service Management Framework provides guidance and training's for service provider to plan, establish, implement, operate, monitor, review, maintain and improve a Service Management System (SMS). The requirements include the design, transition, delivery and improvement of services to fulfill agreed service requirements.

Digital Enterprise Readiness Framework provides guidance and training's on how digital enterprises can manage and improve a cyber business in terms of operational sustainability, organizational agility, strategic agility, and operating within a disruptive culture.

Cloud Security Alliance Framework provides guidance on how digital enterprises can adopt the cloud paradigm safely and securely.

DEVSECOPS Framework provides guidance and trainings on how to automate the processes between software development and IT teams, in order that they can build, test, and release secure software faster and more reliably.

FAIR Value at Risk (VaR) Framework provides guidance and trainings on a best practice approach to measure, manage and report on information risk from the business perspective.

Software & Application Testing Methodology provides guidance and training's on how digital enterprises can make software systems and applications safer regardless of their operating environment (web, IoT, Cloud)

PMI PMBOK Framework & PRINCE 2® Project Management provide guidance and training's on how digital enterprises can improve the success of its cyber service projects by using knowledge and techniques that result in desired business outcomes.

DxCERTS Training Curriculum Catalog

itSM Solutions NISTCSF.COM role-based curriculum solutions enable's enterprises to build a workforce capable of operationalizing, maintaining and improving IT & Cybersecurity best practice frameworks, methodologies and technologies across an enterprise and its supply chain.

[Click here](#) to learn more about our Curriculum Licensing and Train-the-Trainer programs.

[Click here](#) to read NIST Special Publication 800-181 – NICE Cybersecurity Workforce Framework.

DxCERTS - IT & NIST Cybersecurity Enterprise Training Curriculum

IT Service, Project, Cybersecurity & Cloud Mgmt. Training				IT Networking, Programming & INFOSEC Training			Business & Cyber Skills Training	
IT Service Management	IT Project Management	Cybersecurity Management	IT Cloud Management	Software Programming	IT Networking	Information Security	Microsoft Office Skills	General Business Skills
27 Courses	17 Courses	15 Courses	11 Courses	24 Courses	45 Courses	30 Courses	68 Courses	31 Courses
ITIL V3 ITIL V4 RESILIA COBIT ISO20000 DEVOPS DIGITAL READINESS AGILEshifT SAFE	PMI PRINCE2 AGILE SCRUM	NIST CSF NIST 800-171 COBIT ISO27001 FAIR VaR DEVSECOPS	AZURE AWS COMPTIA SHAREPOINT SQL SERVER CLOUD SECURITY	C+ C++ JAVA PYTHON RUBY ANGULAR 5 ASP.NET HADOOP PERL SQL 2014 RESTFUL SELENIUM BOOT STRAP SECURE CODING	Microsoft Cisco COMPTIA VMware	ISC2 ISACA COMPTIA MILE2 CyberSec First Responder IoT	O365 END USER O365 ADMIN O365 SHAREPOINT O365 WEB APPS WORD EXCEL POWERPOINT OUTLOOK ACCESS PROJECT LYNX DATA ANALYSIS	HR LEGAL ACCOUNTING CYBERSECURITY IOT Awareness SOCIAL MEDIA COMMUNICATIONS COMPUTERS INTERNET SHAREPOINT PROJECT MGMT.

Note: Items in **RED** are in the planning or development stage

Curriculum Delivery Formats

- **Video Instructor Led Self-Paced Video Training with Online Mentoring**
- **Video Instructor Led Self-Paced Blended Team Training with Self-Paced Videos and Digital Courseware plus**
- **Instructor Led Online or Onsite Review Sessions**
- **Instructor Led Onsite Public Open Enrollment Training Classes with Digital Book or Print Courseware**
- **Instructor Led Onsite Team Training Classes with Digital Book or Print Courseware**
- **Instructor Led Onsite Team Training with Self-Paced Videos and Digital Courseware**
- **Instructor Led Virtual Public Open Enrollment Training Classes with Digital Book or Print Courseware**
- **Instructor Led Virtual Team Training Classes with Digital Book or Print Courseware**

Curriculum Benefits

- **NIST & NICE Aligned Curriculum**
- **Role Based Training Curriculum** – With a focus on Engineering, Operations, Specialty Role & Risk Management professionals
- **Accredited, White Label, Print, Digital Book and Video Curriculum**
- **Cyber Range Skills Training Programs and Advisory Services**
- **100% Priced Right** (no student left behind)
- **Client Branded Learning Management System (LMS)** for Student Enablement, Mentoring & Reporting Services
- **Instructor Led Delivery or Mentoring Sessions** can be added to any program
- **Instructor Train-the Trainer Sessions** delivered online – no travel required
- **Workforce Planning** and Launch Services
- **New Curriculum Planning** and Development Services

IT & Cybersecurity Career Pathway Programs

- **Cybersecurity Management** (NIST Cybersecurity Framework, NIST 800-171 etc.)
- **Cyber Resilience Management (RESILIA)**
- **IT Service Management (ITIL V3, ITIL V4)**
- **IT Governance Management (COBIT5)**
- **IT Project Management (PMP, PRINCE2, SCRUM, AGILE)**
- **Software & Application Launch Management (DEVOPS & DEVSECOPS)**
- **Cloud Management (AMAZON, AZURE etc.)**

DxCERTS - IT & NIST Cybersecurity Enterprise Training Curriculum

- **IoT** (Awareness & Practitioner)
- **Enterprise Digital Transformation Management** (IDT Foundation & Practitioner)
- **Enterprise AGILITY Management** (AGILEshift)
- **Enterprise RISK Management** (FAIR Institute)
- **Cybersecurity Workforce Development** (NICE Cybersecurity Workforce Framework)
- **Cloud Security** (Cloud Security Alliance)
- **Information Security** (CISSP, CISA, CISM, Security+, Ethical Hacker etc.)
- **Secure Coding** (Software & Application Development)
- **Software Development** (C+, C++, JAVA, PYTHON, RUBY, ANGULAR 5, ASP.NET etc.)
- **Network Engineering** (Microsoft, Cisco, CompTIA & VMware)
- **Microsoft Office** (Office 365, SKYPE, Lync, Word, PowerPoint, Excel etc.)
- **Business Skills** (Communication Skills, Social Media, Accounting, Legal, HR etc.)

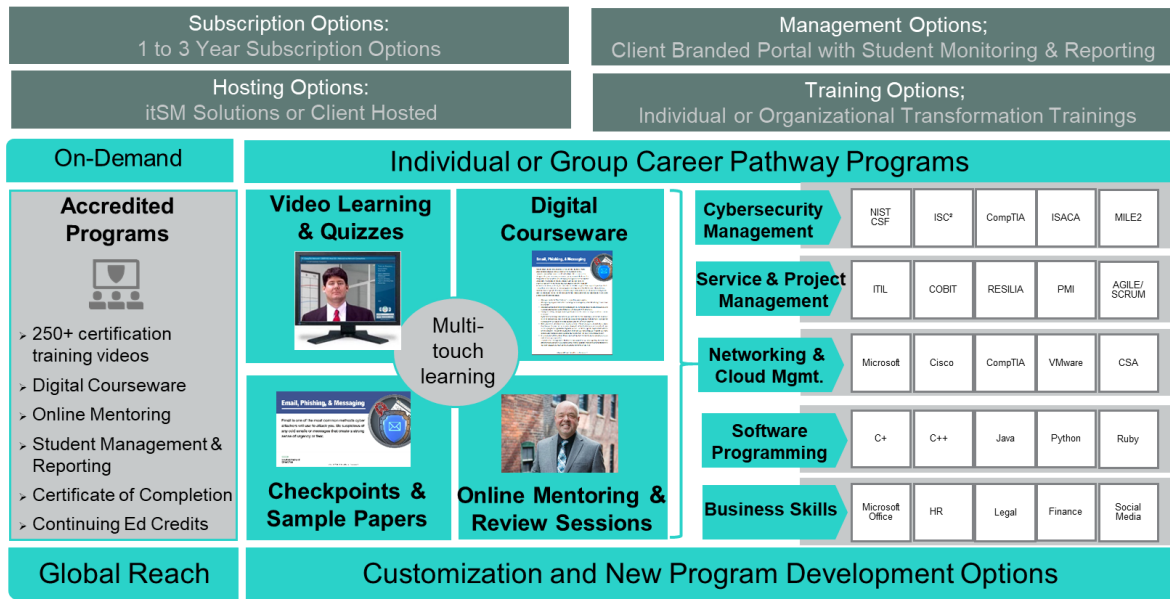
DxCERTS Enterprise IT & NIST Cybersecurity Training & Mentoring Program

The DxCERTS enterprise training and mentoring program provides guidance on how to profile the knowledge and skills of an enterprise IT & Cybersecurity workforce and then map that profile to the role-based training

DxCERTS - IT & NIST Cybersecurity Enterprise Training Curriculum

programs necessary to create a workforce capable of identifying, protecting, detecting, responding and recovering from cyber-attacks.

This easy to use model helps organizations get the right training to the right person at the right time by identifying and justifying anticipated IT & Cybersecurity training needs. The NISTCSF.COM assessment and mentoring program ensures a successful outcome for both the student and employer.



DxCERTS Enterprise

IT & Cybersecurity Enterprise Training Curriculum & Mentoring Program

Disney

Getting widespread adoption of a new method or way of working in such a large organization is no mean feat. ‘With over 700 domestic IT cast, we simply can’t adopt large-scale change overnight,’ he explains. ‘Where I talk about best practice and ITIL integration, at the start of the process, the staff

only know how we do business. They are unaware of both ITIL and our interest in it. The first step is to make them part of Disney's ITIL® Journey.

[Click here](#) to learn more about the enterprise program we built for Disney

Internal Revenue Service (IRS)

Rick Lemieux from itSM Solutions was involved in helping the IRS roll out its ITIL training programme from the beginning. 'ITIL V3's focus on continual service improvement and putting the customer first fit well with the IRS's objectives, so we took some time educating the executive teams on the benefits of ITIL V3. This wasn't a hard sell because everyone could see the synergy there but understanding the fit doesn't mean you can roll it out instantly.

[Click here](#) to learn more about the enterprise program we built for the IRS.

The DxCERTS enterprise training & mentoring program is based on the five pillars listed below:

Phase 1 – Executive Team Training

Organization Role	Objective	Training Programs
CEO, CFO, CIO, CISO CRO, CCO, PMO Director, SMO Director, Governance Director	To help the executive team understand the benefits associated with operationalizing a IT & Cybersecurity program	Executive Overview Executive Simulations Digital Readiness Training

IT & Cybersecurity executive training programs are designed to help the executive team:

- **Understand** the benefits of adopting an IT & Cybersecurity best practice program
- **Understand** the value of Organization Digital Readiness
- **Secure** funding for the IT & Cybersecurity program
- **Select** a leadership team to drive and continually improve the IT & Cybersecurity program

Phase 2 – Program Leadership Team Training

Organization Role	Objective	Training Programs
Practice Owners, Service Owners, Change Mgrs. Operation Mgrs. CSI Mgrs. Business Analysts	To help the leadership team acquire the knowledge and skills to develop an actionable IT & Cybersecurity plan	Assessment Training NCSF Assessment Training Digital Readiness Training Planning to Change Workshop Internet of Things Training ITIL® Training RESILIA Training Prince 2 Training NIST Cybersecurity Training Simulations

IT & Cybersecurity leadership training programs are designed to help the leadership team acquire a systemic structure for thinking and planning and the skills to:

- **Become** thought leaders for the IT & Cybersecurity program
- **Understand** the value of Digital Readiness
- **Perform the Assessment** to identify and document IT & Cybersecurity Gaps
- **Organize and Condition** the enterprise for IT & Cybersecurity

Phase 3 – Enterprise Awareness & Readiness Training

Organization Role	Objective	Training Program
All IT staff, senior leadership, stakeholders and supply chain partners	To help condition the enterprise for IT & Cybersecurity change through a series of online awareness and simulation trainings	Awareness Simulations Digital Readiness Training

IT & Cybersecurity enterprise training programs enable business stakeholders and supply chain partners to:

- **Understand** the IT & Cybersecurity program and its value to the organization in terms of improving the quality, risk and security of an enterprise digital service portfolio
- **Understand** the value of Digital Readiness

Phase 4 – Practitioner Training

Organization Role	Objective	Training Programs
1st Line Mgrs. Practice & Service Owners Architects & Strategists Operation & System, Analysts Business & Quality Analysts Program & Project Managers Operation & Change Mgrs. Service Level & CSI Mgrs. Tool Administrators	To provide the IT & Cybersecurity practitioners the knowledge and skills to plan, design, implement, operate and improve a IT & Cybersecurity program.	NIST Cybersecurity Framework Training NIST Cybersecurity Employee Training NICE Cybersecurity Workforce Trainings Internet of Things Training ITIL Trainings RESILIA Trainings Prince 2 Trainings ISO 27001 Training Cobit Training Simulation Trainings

IT & Cybersecurity training programs enable the IT and Cybersecurity organizations to acquire the knowledge, skills and abilities to:

- **Plan, Design, Implement, Operate and Improve** an IT & Cybersecurity program

Phase 5 – HR Policy & Procedure Training

Organization Role	Objective	Activities
HR Manager	To establish HR policies and procedures for training new employees and a career pathway for existing employees practicing IT & Cybersecurity	Setup both eLearning and role-based Blended Learning IT & Cybersecurity best practice training solutions for new and existing employees

IT & Cybersecurity HR training programs enable HR departments to:

- **Establish** policies and procedures for training new employees
- **Identify** career pathways for existing IT & NICE Cybersecurity practitioners.

NISTCSF.COM Curriculum Consortium Partners

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

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 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.

DxCERTS - IT & NIST Cybersecurity Enterprise Training Curriculum

The itSM Solutions DxCERTS role-based training curriculum and training & mentoring program enables enterprises of any size to create a workforce capable of identifying, protecting, detecting, responding and recovering from cyber-attacks.

DxCERTS - IT & NIST Cybersecurity Enterprise Training Curriculum

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.