

NICE FRAMEWORK SUCCESS STORY

University of New South Wales Canberra Cyber

Mapping Training and Education Courses

The voluntary [Workforce Framework for Cybersecurity](#) (NICE Framework) was developed through a collaborative process by industry, academia, and government stakeholders. It establishes a taxonomy and common lexicon that describes cybersecurity work and is intended for use in both the public and private sectors. NIST does not validate or endorse any individual organization or its approach to using the NICE Framework.

ORGANIZATIONAL PROFILE

The University of New South Wales (UNSW) Canberra Cyber, based in the Australian capital, is a center of excellence in conducting impactful multi-disciplinary research and educating the next generation of Australian leaders and scholars in this important and growing field.

UNSW Canberra Cyber uniquely brings together a dynamic community of experts in the fields of computer science, engineering, mathematics, psychology, business and management, philosophy, human geography, and criminology. We continue to grow as a team across disciplines and with our industry and government partners.

Through fundamental and applied research, training, and education, UNSW Canberra Cyber is working to combat cybersecurity threats to our nation, organizations, and individuals by understanding the intersection of human, business, and technical factors.

DRIVERS

- To ensure our course offerings are matched to required student learning and employer expectations.
- To be a leader among Australian tertiary institutions adopting the NICE framework.
- To utilize the NICE Framework to identify gaps in our training offerings.

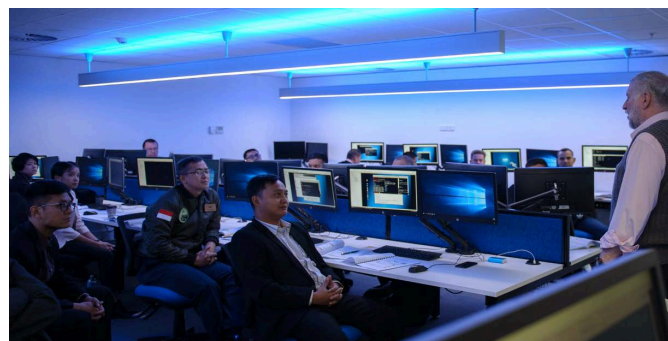


Figure 1: UNSW Canberra Cyber

PROCESS

- A comprehensive audit of the content of all Professional Education courses was performed by UNSW Canberra Cyber.
- Identified content was then mapped to NICE Framework Categories and Knowledge, Skills, Abilities, and Tasks (KSATs) by UNSW Canberra Cyber and course lecturers.
- Course outlines and website entries were updated with NICE Framework mapping and color coding by UNSW Canberra Cyber and the Creative Media Unit.
- This process was then applied to the university's cybersecurity postgraduate and undergraduate courses by UNSW Canberra Cyber and Cyber academics.

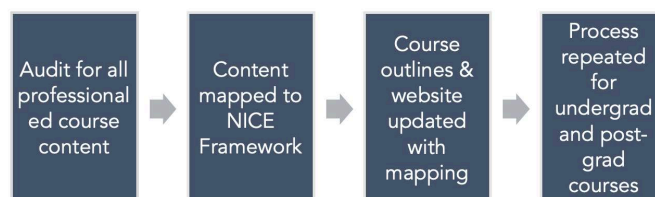


Figure 2: Process for mapping courses

Cyber Security Boot Camp*

NICE Framework Mapping

This course maps to the following NICE Framework KSAs (Knowledge, Skills & Abilities):

K0001: Knowledge of computer networking concepts and protocols, and network security methodologies.	K0177: Knowledge of cyber attack stages (e.g., reconnaissance, scanning, enumeration, gaining access, escalation of privileges, maintaining access, network exploitation, covering tracks).
K0005: Knowledge of cyber threats and vulnerabilities.	K0318: Knowledge of operating system command-line tools.
K0011: Knowledge of capabilities and applications of network equipment including routers, switches, bridges, servers, transmission media, and related hardware.	K0332: Knowledge of network protocols such as TCP/IP, Dynamic Host Configuration, Domain Name System (DNS), and directory services.
K0019: Knowledge of cryptography and cryptographic key management concepts.	

Figure 3: Sample course mapping

TIE-IN WITH THE NICE FRAMEWORK

Mapping courses to the NICE Framework gave a structure by which we were able to survey existing course content and ensure that it prepares students for the cybersecurity workforce in a clear and detailed way. At times mapping was difficult due the fact that the level of adherence a course has to any NICE Framework components is self-determined and not able to be independently verified, but ultimately alignment provides a level of detail required to describe learning outcomes for our Professional Education courses.

BENEFITS & IMPACT

- Audits of content and mapping of courses to the NICE Framework resulted in more detailed course outlines and website content, providing prospective students with comprehensive course information that wasn't previously available.
- Use of NICE Framework categories has allowed us to identify gaps in our training offerings and formulate ideas for potential new courses to fill in these gaps.

"Implementing the NICE Framework has allowed us to accurately match student expectation with quality academic delivery"

Nigel Phair, Director,
UNSW Canberra Cyber

CONTACT INFORMATION & RESOURCES

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- ▶ unsw.adfa.edu.au/unsw-canberra-cyber/news/nist-nice-framework

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