



UNIVERSITY OF WASHINGTON CIAC

CENTER FOR INFORMATION ASSURANCE AND
CYBERSECURITY

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Cybersecurity Workforce RFI: The Professionalization of Cybersecurity

In response to the National Institute of Standards and Technology (NIST) request, we offer the following information on the scope and sufficiency of efforts to educate and train the Nation's cybersecurity workforce and recommendations for ways to support and improve that workforce in both the public and private sectors.

We are proponents of the *professionalization of cybersecurity*. This goal transforms all of our programs in cybersecurity at the University of Washington. Cybersecurity is now a discipline that permeates operations and management, a field in which policies, processes, and risk management are as important as technology.

The nation has a wide and growing gap between the demand and supply of trained cybersecurity personnel. These vacancies are growing at all levels, from IT operations through management to executive leadership and communications. We should address this need systematically, by promoting the emerging national model, by developing scalable programs, and by ensuring the readiness of graduates.

Promoting the national model. As more schools establish cybersecurity programs, we need to make a concerted effort to share the research, frameworks, and standards that have been developed over decades. As newcomers enter this field, we need to make them familiar with the NIST job classifications and the knowledge units, to make sure that their programs produce graduates who have the knowledge, skills, and abilities (KSA's) expected by employers.

Similarly we need to organize around the goal of protecting critical infrastructure and key resources. This framework should be embedded in workforce development programs for cybersecurity. The programs for managers and executives should address cross-institution and cross-sector responses, since our critical infrastructure is controlled by both public agencies and private companies.

Scalability. This need for workforce development in cybersecurity is so great that the national system of training programs should be set up with efficient scaling in mind. The centers of academic excellence provide a network through which core curriculum, course modules, and program models can be shared nationwide. This supports rapid coherent promulgation of training programs.

Two other aspects – the human aspects – of scalability have to be addressed. How do we develop quality educators for these programs, and how do we expand the pool of qualified candidate students? For quality students, we recommend expanding programs like Cyber P3i, to actively recruit veterans and reservists for this field. Expanding focused cybersecurity career guidance to recruit broadly to build talent pipelines to assist organizations looking for internal pathways for their staff to move into the cybersecurity team.

Increase readiness. Whether public and private, employers are looking for staff members who are “breach ready”, ready to contribute to the problem solving teamwork during an adverse event. This transition from



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training program to workplace can be smoothed by including industry partners in the design and execution of the training models.

We believe that embracing a rules-and-tools approach to the professionalization of cybersecurity leads naturally to addressing all of these aspects.

Sincerely,

A handwritten signature in cursive script, reading "Barbara Endicott-Popovskiy", is written over a horizontal line.

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