

ACAP
9/10/2015
Agenda Item 3a

Name of Institution

The Citadel

Name of Proposed Center/Institute

Center for Cybersecurity Education and Research

Proposed Date of Implementation

January 1, 2016

Site

Department of Mathematics and Computer Science,
School of Science and Mathematics, The Citadel

Program Contact Information (name, title, telephone number, and email address)

Dr. Shankar Banik
Associate Professor of Computer Science
Program Director of MS in Computer Science
Phone: 843-953-5039
Fax: 843-953-7391
E-mail: shankar.banik@citadel.edu

Institutional Approvals and Dates of Approval

School of Science and Mathematics Approval: January 16, 2015
Institution Approval and Inclusion in LEAD 2018 Strategic Plan: 12 June 2015

Background Information

State the nature and purpose of the proposed center/institute and its centrality to institutional mission. (1500 characters)

The proposed center will play an important role in higher education and research in cybersecurity by producing a growing number of trained cybersecurity professionals for government, military and industry, and by providing general cybersecurity education for general public. The Citadel, as a military college that emphasizes principled leadership, is a natural fit for establishing this center.

Currently, the Department of Mathematics and Computer Science of The Citadel offers an undergraduate minor in Cybersecurity, a Master of Science degree in Computer Science with Cybersecurity specialization, and a Graduate Certificate program in Cybersecurity. Several research projects in cybersecurity are ongoing by Dr. Shankar Banik and his students, both undergraduate and graduate students. To report their research results, several conference presentations have been given and several research papers have been published. The Citadel Cybersecurity Club members have participated annually in several cybersecurity competitions. All our graduates in cybersecurity so far have become cybersecurity professionals in Navy or computer science related industries.

With an increasing reliance of our economic, military and social life on the internet is accompanied by increasing cyber attack on those infrastructures, and to have well-trained professionals in cybersecurity is in a great need for governmental agencies, all military branches and industry. As an educational institute, our cybersecurity education programs and research projects must keep the pace with a changing world and it is also our responsibility to provide training programs to meet the needs for government, military, industry and general public. The proposed center will provide us with more education and research opportunities and resources in cybersecurity to help us enhance our academic programs in cybersecurity and to assist us with the development of our cybersecurity training programs. In addition, the proposed center will further promote our cybersecurity academic programs to help creating the needed workforce in government, military and industry and to improve the pipeline into graduate program in the state.

The cybersecurity programs at The Citadel have received strong support from the institute. The creation of the proposed center has been added as one of new projects into the refresh of LEAD 2018: The Citadel's Strategic Plan for Leadership Excellence and Academic Distinction.

List the objectives of the proposed center/institute. (1000 characters)

The proposed center will

1. Establish an outreach and collaboration program through sharing cybersecurity curriculum with local universities, colleges, technical schools and K-12 schools.
2. Establish a resource hub for students and faculty to promote collaboration and interaction in cybersecurity.
3. Encourage the practice of cybersecurity throughout the college.
4. Encourage student-based cybersecurity research.

Assessment of Need

Provide an assessment of the need for the proposed center/institute for the state, the region, and beyond, if applicable. (1500 characters)

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This proposed center will compete to be (so far) the only NSA/DHS center of Academic Excellence in IA/CD Education for four-year colleges in South Carolina. With additional NSA/DHS funding opportunities and resources for the center, and our long-term collaboration with the Center for Information Assurance Engineering at the University of South Carolina at Columbia (the only NSA/DHS center of Academic Excellence in IA/CD Research in South Carolina), we will be able to further provide our assistant to local high/middle school programs in cybersecurity and our training programs for local and state-wide companies that are seeking improved data security. In addition, we will be able to enhance our academic programs in cybersecurity to improve the pipeline into graduate program in the state and to help creating the needed cybersecurity professions locally and state-wide.

Will the proposed center/institute impact any existing programs and services at the institution?

Yes

No

If yes, explain. (1000 characters)

The Center for Cybersecurity Education and Research will make our academic programs (undergraduate minor in cybersecurity, MS in Computer Science with Cybersecurity specialization, and Graduate Certificate in Cybersecurity) and students activities related to cybersecurity more visible. This will help us recruit more students and provide more opportunities in cybersecurity education and research.

List of Similar Centers/Institutes in South Carolina

Name	Institution	Similarities	Differences
Center for Information Assurance Engineering (http://isl.cse.sc.edu/)	University of South Carolina at Columbia (http://www.sc.edu)	Seeking academic excellence in cybersecurity education and research	University of South Carolina Center for Information Assurance Engineering conducts research up to doctoral levels whereas the proposed center at The Citadel will be dedicated to undergraduate and master's levels cybersecurity education and research.

Faculty

Provide a brief explanation of any changes in faculty and/or administrative assignment that may be required as a result of the proposed center/institute. (1000 characters)

A faculty member of the Department of Mathematics and Computer Science will be assigned as the director of the center to oversee the education and research projects in cybersecurity involving the center and to prepare annual report to NSA. The director of the center will be given a course reduction from his/her regular teaching load for each semester during an academic year.

Library and Learning Resources

Identify current library/learning collections, resources, and services necessary to support the proposed center/institute and any additional library resources needed. (500 characters)

The Citadel library currently subscribes ACM Digital Library and IEEE Xplore databases. Faculty and students in cybersecurity have also been using other online resources for literatures and publications. No additional library resources will be needed right now.

Physical Resources

Identify any new equipment needed for the proposed center/institute. (500 characters)

The proposed center is not seeking any state funding at this point. The proposed center's budget will come from internal strategic planning funds, industrial funding, or through NSA/DHS sources initially.

Will any extraordinary physical facilities be needed to support the proposed center/institute?

Yes

No

Identify the physical facilities needed to support the center/institute and the institution's plan for meeting the requirements, including new facilities or modifications to existing facilities. (1000 characters)

Financial Support

Estimated New Costs by Year						
Category	1 st	2 nd	3 rd	4 th	5 th	Total
Program Administration						
Faculty and Staff Salaries						
Graduate Assistants						
Equipment						
Facilities						
Supplies and Materials						
Library Resources						
Other*						
Total						
Sources of Financing						
Category	1 st	2 nd	3 rd	4 th	5 th	Total
Tuition Funding						
State Funding (i.e., Special State Appropriation)*						
Reallocation of Existing Funds*						
Federal Funding*						
Other Funding*						
Total						
Net Total (i.e., Sources of Financing Minus Estimated New Costs)						

*Provide an explanation for these costs and sources of financing in the budget justification.

Budget Justification

Provide a brief explanation for the other new costs and any special sources of financing (state funding, reallocation of existing funds, federal funding, or other funding) identified in the Financial Support table. (1000 characters)

Note: Only provide this budget justification if any other new costs, state funding, reallocation of existing funds, federal funding, or other funding are included in the Financial Support table.

NA- No financial support requested at this time.

Evaluation and Assessment

Provide an outline of how the proposed center/institute will be evaluated. Identify assessment tools or software used in the evaluation. Explain how assessment data will be used. (1500 characters)

The center will apply for NSA/DHS Center of Academic Excellence (CAE) designation in Information Assurance and Cyber Defense (IA/CD) Education. Enrollment data and student learning outcome data from our undergraduate minor in cybersecurity, and graduate specialization and certificate in cybersecurity, and results from research projects will be used to evaluate the success of the center.