

NATIONAL CENTERS OF ACADEMIC EXCELLENCE
IN INFORMATION ASSURANCE EDUCATION (CAE/IAE) PROGRAM
Re- DESIGNATION CRITERIA FOR MEASUREMENT – October 2011

The National Centers of Academic Excellence in Information Assurance Education Program is open to current nationally or regionally accredited 4-year colleges and graduate-level universities. The mission of a nationally accredited institution program must be in the Information Assurance (IA), Cybersecurity arena or similar. Re-designation applications are assessed against criteria, listed below, which are intended to measure the depth and maturity of programs of instruction in IA at the graduate and undergraduate levels. Applicants must clearly demonstrate how they meet each of the criteria. Each of the criteria must be met in order to obtain re-designation. Successful applicants are re-designated as a National Center of Academic Excellence in Information Assurance Education (CAE/IAE) for a period of 5 academic years, after which they must successfully reapply in order to retain the designation. The criteria is reviewed annually and strengthened as appropriate to keep pace with the evolving nature of IA. (Designation as a National Center of Academic Excellence in IA Education does not carry a commitment of funding from the National Security Agency or from the Department of Homeland Security.)

Prerequisites:

- a. Prior to submitting an application for re-designation as a National Centers of Academic Excellence in IA Education, IA courseware must be certified under the IA Courseware Evaluation Program (<http://www.nsa.gov/ia/academia/iace.cfm?MenuID=10.1.1.1>) as meeting the Committee on National Security Systems (CNSS) Training Standards (<http://www.cnss.gov>) and the certification must be current. Specifically, certification for CNSS Training Standard 4011 is required, and certification for at least one additional CNSS Training Standard (4012, 4013, 4014, 4015, 4016, or subsequent standards) is required.
 - b. The institution must hold current regional or national accreditation.
1. Existing National CAE/IAE: For the purpose of the re-designation process, the institution must verify that they are compliant with the current criteria associated with designation as a CAE/IAE. In other words, they could meet the minimum point criteria per the current criteria. Evidence to document this assertion will be provided by the institution in the form of a letter. In the letter of compliance, institutions will briefly describe how they continue to maintain or exceed the standards they met when originally designated. The intent of the re-designation process is not to make it easier to achieve re-designation, but rather to shift the documentation focus to a more value-added narrative element.
 - a. The institution must upload a signed letter stating that it currently meets or exceeds all of the program requirements for designation as a National Center for Academic Excellence in Information Assurance Education as per the current criteria.

Attachment required
 2. Outreach and Collaboration Efforts: Effective CAE/IAE institution outreach and collaboration are essential to the reputation of the CAE/IAE program. The institution

should clearly demonstrate that its outreach and collaboration efforts are continuously improving and providing value beyond the boundaries of the CAE/IAE institution.

The narrative should include discussion of the efforts of the institution's Center, faculty and students in reaching out beyond the IA program, in an ongoing effort to continuously improve the quality of the IA programs, curriculums, faculty, students and/or general public of other institutions and communities. Discussions should emphasize the institution's strengths and advances in outreach and collaboration efforts in IA, and its Center, faculty and students efforts therein.

To successfully receive credit for this criterion, the institution must provide evidence within the narrative and through the supporting evidence that the institution's Center, faculty and students are continuing to improve the IA outreach and collaboration programs since the previous CAE/IAE recognition.

This is a place in the narrative to discuss Center, faculty and student success stories – how has the institution's outreach program evolved and improved to meet the needs of other organizations in the IA field.

Narrative justification required – supporting documents recommended

- a. Discussion topics could include:
 - Hosted IA conferences, workshops or seminars where IA knowledge and/or curriculum was shared
 - Recorded lectures and/or guest lectures from IA faculty members shared with other institutions
 - Documented visits from IA faculty members to other institutions to share IA curriculum.
 - Hosted IA conferences, workshops or seminars where IA knowledge was shared
 - IA events for the host institution and or local community (computer awareness day, antivirus clinics etc)
 - Student projects evaluating IA in local organizations
 - Programs to mentor faculty at the partner institution and/or other regional institutions;
 - Documented efforts to establish and/or enhance collaborations with multiple institutions beyond the partner institution
 - Documented improvements in the size, scope and quality of IA events – whether Center, faculty or student.
- b. Supporting evidence could include (but is not limited to) links to:
 - Conference Schedules and Agenda from hosted IA events
 - Access to recorded lectures
 - Attendee lists from IA events
 - Lists of student projects and brief descriptions
 - Letters of Agreement/Memorandums of Understanding with partner institutions.

3. IA ACADEMIC PROGRAM EFFORTS: The creation of future IA professionals is the cornerstone of the CAE/IAE program. The institution should clearly demonstrate that its

IA program is a continuously improving and integral component of its academic offerings and that IA continues to be integrated into non-IA curriculum.

The narrative should include discussion of the efforts of the institution's faculty members in continuously improving the quality of the IA program and curriculum. Discussions should emphasize the institution's strengths and advances in the development of quality curriculum and programs in IA, and the faculty's efforts therein.

To successfully receive credit for this criterion, the institution must provide evidence within the narrative and through the supporting evidence that faculty members are continuing to improve the IA programs and curriculum since the previous CAE/IAE recognition.

This is a place in the narrative to discuss program and coursework success stories – how has the institution's program evolved and improved to meet the need for future IA professionals.

Narrative justification required – supporting documents recommended

- a. Discussion topics could include:
 - Evolution of the IA program
 - Enhancement of the curriculum through the development of a specialization
 - Expansion of the IA program through student growth or program improvement
 - Curriculum refinement and continuous improvement
 - Adoption of a formal assessment and collection and incorporation of feedback back into the curriculum (e.g. AACSB, CSAB/ABET, CIP, or ISO 14000, among others)
 - Enhanced or expanded mapping of curriculum to additional CNSS standards, or to advanced levels of current CNSS standards through the IACE program.

- b. Supporting evidence could include (but is not limited to) links to:
 - Syllabi and/or course descriptions of non-IA courses with IA content.
 - Course schedules demonstrating frequency, breadth and depth of IA course offerings.
 - Program descriptions of established undergraduate, master or doctoral degree in an IT-related field (IS, CS, CSE etc.) with a concentration or minor in an Information Assurance-related field such as Information Security, Information Assurance, Forensics, Information Technology Auditing, Software Assurance, etc.
 - Program descriptions of established undergraduate, master or doctoral degree in an Information Assurance-related field such as Information Security, Information Assurance, Forensics, Information Technology Auditing, Software Assurance, etc.
 - Documentation of matriculated majors in established programs
 - Documentation of any academic or industry-standard continuous improvement programs involving

This category has significant opportunity to overlap with the categories of Faculty-Centered and Student-Centered Scholarship efforts, The value of the narrative is that statements can be created that address all three elements when they overlap and thus eliminate duplication.

4. Faculty-Centered Efforts: The role of Faculty in leadership of the Information Assurance program is critical. The narrative should clearly demonstrate that the institution's faculty has worked to continuously improve its faculty-centered efforts in Information Assurance.

The narrative should include discussion of the efforts of the institution's faculty members in improving the quality and/or quantity of their IA scholarship, professional development, and/or instructional capabilities. Discussions should emphasize the institution's strengths and advances in the work of its faculty members.

To successfully receive credit for this criterion, the institution must provide evidence within the narrative and through the supporting evidence that faculty members are continuing to improve their IA professional capabilities since the previous CAE/IAE recognition.

This is a place in the narrative to discuss on faculty success stories – how has the institution and program enabled them to advance within their IA careers.

Narrative justification required – supporting documents recommended

- a. Discussion topics could include:
 - Discussion of research productivity by IA faculty – focusing on research streams, quality and/or quantity of publications.
 - Discussion of impact of research by IA faculty on research and researchers at other institutions (seminal works).
 - Faculty research projects, grants and scholarly works.
 - Integration of faculty IA research and scholarly works into the IA curriculum.
 - Security specialization through research and other means (i.e. forensics, software assurance, cryptography, SCADA, etc.)
 - Faculty involvement in student research (projects, theses, dissertations)
- b. Supporting evidence could include (but is not limited to) links to:
 - Faculty vitae clearly identifying overall workload, IA courses taught, IA professional development, and research efforts (for example)
 - Letter from Dean or higher identifying faculty with at least partial IA responsibility
 - Copies of teaching and course schedules highlighting IA faculty members

This category has significant opportunity to overlap with the categories of Student-Centered efforts, and IA Academic Program. The value of the narrative is that statements can be created that address all three elements when they overlap and thus eliminate duplication.

Narrative justification required – supporting documents recommended

5. Student-Centered Scholarship Efforts: The academic program continues to encourage student scholarly work in IA. The narrative should clearly demonstrate that the institution's faculty has worked to continuously improve their IA program's student-centered scholarship efforts in Information Assurance.

The narrative should include discussion of the efforts of the institution's faculty members in improving the quality and/or quantity of their student's IA scholarship in project and research efforts. Discussions should emphasize the institution's strengths and advances in the work of its student scholarship.

To successfully receive credit for this criterion, the institution must provide evidence within the narrative and through the supporting evidence that students are continuing to improve their IA scholarly capabilities since the previous CAE/IAE recognition. The institution must provide evidence within the narrative that they have enhanced and/or expanded its efforts in student scholarship by continuing to improve the IA scholarship requirements within IA coursework and/or end of program IA research or project work. (IA scholarship refers to student achievement, not IASP or other financial instruments.)

This is a place in the narrative to talk on student success stories – how has the program enabled them to advance within their IA careers. Past students (since most recent re-designation) current achievements can be indications of the maturity of the student-centered aspect of a program.

- a. Discussion topics could include:

- Security specific specializations or tracks that enable students to achieve expertise in critical areas (i.e. forensics, software assurance, cryptography, SCADA, etc.)
- Programs to mentor students in scholarship at the institution.
- Efforts to promote student scholarship at workshops, symposia or conferences.
- Student competitions with recognition for best scholarship effort.
- Improvements in the number and/or scope of student scholarship efforts.
- Involvement of students in faculty IA research efforts.

- b. Supporting evidence could include (but is not limited to) links to:

- Individual course syllabi highlighting requirements to conduct IA research or project work.
 - Program-level documentation highlighting requirements to conduct end-of-program IA research or project work (e.g. theses and dissertation efforts).
 - Conference or other presentation schedules highlighting student IA scholarship
 - Published student IA scholarship
- Links and/or attachments and narrative required

6. Supporting Evidence: In this section, the institution should provide a well-organized set of links to any evidence they feel supports their application for re-designation. It is

recommended that ACM Citation format is used in the body of the narrative, sequentially numbering link references, and the actual links are provided here, without duplicating the links in this section.

For example:

“State College has dramatically increased both the quantity and frequency of its IA course offerings, now providing the students with many options not previously available. As shown in [1], our course listings for Fall 2011 provide 3 more required sections and 1 additional elective over a similar schedule in Fall 2005 [2], during our previous re-designation cycle.”

Any subsequent references to the same content can use the same number.

For example:

“State College has also offered a wider selection of times during which courses are offered. As shown in the Fall 2011 schedule [1], the Introduction to IA class is now offered both during the day and the evening, as opposed to alternative between day and evening in previous schedules (s.f. [2,3]).”

Under the Supporting Evidence Section a link and brief description are associated with the reference number:

For example:

[1] State College Fall 2011 Schedule:

<http://www.statecollege.edu/schedules/Fall2011.pdf>

[2] State College Fall 2005 Schedule:

<http://www.statecollege.edu/schedules/Fall2005.pdf>

[3] State College Spring 2006 Schedule:

<http://www.statecollege.edu/schedules/Spring2006.pdf>

Links and Narrative required