Memorandum

To: Graduate College Curriculum Committee

Re: Vote history for Graduate Certificate in Enterprise Cybersecurity Management

The following votes were taken on the Enterprise Cybersecurity certificate.

1. The Information Systems faculty voted 12-0 in support of the proposed certificate on Oct. 7, 2016.
2. The College Curriculum Committee voted 5-0 in support of the proposal on Apr. 19, 2017.
3. The general faculty voted 47-2 in support of the proposal on Oct. 25, 2017.

Respectfully,

Travis Sapp, Chair, College of Business Curriculum Committee
Establishing a Graduate Certificate Program

The first step in establishing a new graduate certificate is the preparation of a proposal by qualified group of faculty. If the proposed program will be focused in an existing department, program or college, the proposal should be routed through the corresponding curriculum committees. College curriculum committees will forward the appropriately amended proposal to the Graduate College Catalog and Curriculum Committee. Proposals for interdisciplinary programs with no obvious departmental or college focus shall be submitted directly to the Graduate College Catalog and Curriculum Committee.

The proposal will be reviewed by the Graduate Curriculum and Catalog Committee, by the Graduate Council, by the Graduate Dean, and by the Provost.

The following information should be included in the proposal:

1. Name of the proposed graduate certificate.

   Enterprise Cybersecurity Management

2. Name of the departments and/or programs involved.

   Supply Chain and Information Systems, Information Assurance, Accounting.

3. Name of the contact person.

   Jackie Rees Ulmer

4. Need for the graduate certificate.

   There is a strong and growing need for practitioners skilled in all aspects of enterprise cybersecurity management. While Iowa State provides a strong Information Assurance graduate certificate and master’s degree program, it is agreed that there exists substantial potential for a management of security program which will complement current offerings.

5. Objective of the graduate certificate.

   The Enterprise Cybersecurity Management graduate certificate will focus on managing for a secure enterprise. While specific security technologies and attacks are certainly relevant to
this program, students will focus on enterprise cyber risk management, investing and budgeting for cybersecurity, policies, procedures, human relations issues, and compliance and legal issues present in the modern organization.

6. General description of the graduate certificate.

The graduate certificate will consist of four courses (3 credits each) in the management of enterprise cybersecurity. Two of the four courses are required (MIS 535 Telecommunications and MIS 545x Enterprise Cybersecurity Management). Students will be able to choose the other two courses from an approved elective list.

7. Graduate certificate requirements including:
   a. Admission standards and prerequisites for the certificate program.

   Admission to the Enterprise Cybersecurity Management Graduate Certificate program is contingent upon the following requirements:

   • Bachelors degree in Business, a STEM major, or related field
   • Work experience of two years or more preferred
   • Your GPA should be 3.0 or better (on a 4.0 scale) in the last 60 semester/90 quarter units of study, with an absolute minimum overall GPA of 2.5. – official documentation from previous studies that meets the requirements of the Graduate College (4.0 scale).
   • International (non-English speaking) students need to take the Test of English as a Foreign Language (TOEFL) or the International English language Testing System (IELTS). Minimum scores for admission are: paper based TOEFL – 600; Internet TOEFL – 100; or IELTS – 7.

   Students may take up to 9 credits as a non-degree seeking student, so it is possible to begin studies before formal admittance into the program.

   b. Courses and seminars.

   The Enterprise Cybersecurity Management Graduate Certificate consists of a minimum of 12 approved graduate credits. Students must maintain a grade point average of B or higher in certificate courses.

   **Required courses (6 credits):**
   • MIS 535 – Telecommunications Management
   • MIS 545x – Enterprise Cybersecurity Management
Elective courses (Minimum of 6 credits):
- ACCT 591 Fraud Examination and Prevention
- INFAS 532 Information Warfare
- MIS 445 Enterprise Systems and Architecture
- MIS 539 Topics in Management Information Systems (As Approved)
- Other courses by permission

8. General description of the resources currently available and future resource needs:
   a. A list of supporting faculty members including a brief description of their expertise relating to the graduate certificate.

   All graduate faculty are eligible to teach in this program.

   b. The effects of any new courses on faculty workload.

   No new courses would be required for the certificate. Experimental courses are already offered or developed.

   c. Other resources required for the program including graduate assistants, laboratories and other facilities, supplies, etc.

   The Department of Supply Chain and Information Systems will handle admissions and management of students into this certificate. This is a course-only certificate, so no additional resources for laboratories, facilities or supplies are needed. College of Business will handle all marketing and recruiting of students into the certificate program.

9. Relationship of the proposed graduate certificate to the strategic plans of the department, college, and the university.

   The certificate program adheres to Iowa State University’s 2017-2022 strategic plan by providing students access to top notch faculty in order to “Create, share and apply knowledge to make Iowa and the world a better place.” By teaching students how to protect, detect and recover from cybersecurity incidents, we work to ensure that Iowa and the world are open and ready for business. It also fosters a university culture and work ethic of individuals collaborating to achieve at the highest level of abilities. Finally, it will help to recruit, support, retain, and graduate a diverse group of outstanding graduate and professional students dedicated to making a difference in the world.

   The departmental and college strategic plans align with that of the university in furthering “Iowa State University’s land-grant ideals by delivering high-quality education through impactful research, teaching, and community engagement.” The department and College have a sizeable number of faculty who have expertise in various areas of information risk and cybersecurity management. This expertise needs to be put to good use, especially given the cybersecurity needs of the financial services and insurance sectors that dominate the State of Iowa.

The certificate program will be reviewed by the College of Business Curriculum Committee every five years.