HSEM 416: Cyber Security Management
Credits: 3
Prerequisites: HSEM 301 or permission of Instructor
Location: TBD based on classroom availability
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Course Description

This course focuses on developing an understanding of the concepts, trends and strategies associated with cyber security and managing the risk associated with information systems. This course will enable managers to understand risks associated with information technology, know how to develop compensating controls or mitigations and introduce how to implement them. Planning process, mitigation strategies, detection and recovery associated with cyber security and risk management will also be covered.

Course Objectives:

Develop an understanding of:
- Cyber risks, mitigations and controls.
- Establish and understanding of trade offs between cyber security and operations.
- Enable critical thinking about cyber risk, cost of controls and risk tolerance.
- Cyber security and risk management strategy development and management.

Student Learning Outcomes:

Students will be able to:
- Recognize the importance of information assurance and the principles related to it.
- Define the current laws and best practices for cyber security and the importance and uses of each.
- Recognize the information assurance planning process and how reiterate the importance of each step in reference to cyber security.
- Utilize risk management, asset management, and risk mitigation to minimize the issues with the information assurance planning process.
- Determine the correct control method for different types of businesses.
- Explain how recovery occurs after a cyber security breach.

Course Textbook(s):

- Information Assurance Handbook: Effective Computer Security and Risk Management Strategies, (2015), 1st edition, Schou, C., Hernandez, S., McGraw-Hill (ISBN 978-0071821650)

Additional Reading:

Additional reading assignments have been selected from articles and Web Sites. Where possible, the course author has obtained permission to include session handouts of the assigned reading.

Instructional Method:

The course format includes lecture, directed reading assignments, class discussion board topics and internet-based assignments via Blackboard. Case Study and current topics in cyber security research will be used to supplement the text material, highlight emerging trends and include developing areas of cyber security.

Reading and online lecture time: 4-5 hours weekly
Recommended preparation: 4-5 hours weekly beyond reading and online lecture time

Evaluations:

1. Weekly Chapter Quiz/Discussion Board Management 70% (700 points)
    A.   Weekly Quizzes are worth 20 points each. (280 points total)
        i.   Multiple choice and/or short answer essay questions
        ii. Due Thu. at 11:59p
    B.   Weekly Discussion Board Posts are worth 30 points each. (420 points total)
        i.   Initial response to discussion board posts are due Wed. at 11:59p for 10 of 30 points
        ii. 2 follow-up responses are due Sun. at 11:59p for 10 of 30 points each
        iii. All post comment positions will be supported by at least 1 citation from the text or other reputable source (not Wikipedia).

2. Mid Term Test will account for 10% (100 points)

3. Final Paper 20% (200 points)

    A.   The final paper will highlight a class of threats, the range of risks associated with them, common methods for controlling or compensating for the risks, environments where they exist noting any variation in risk level. One emerging approach to dealing with the threats will be introduced and discussed. Finally attention will be paid to how to incorporate controls and mitigations into planning for normal operations and how they get included during an emergency event.

    B.   The paper (200 points) will be:

        i.   Original work supported by APA format
        ii. Include a cover page and a works cited page
        iii. Be developed analyzing at least 3 valid sources of information
        iv. Be between 3-5 pages in length.

C.   A grading rubric for the final paper has been attached to the back of this syllabus.

***For additional information on APA formatting: https://owl.english.purdue.edu/owl/resource/560/01/

Grading:

Weekly Assignments/ Discussion Board Management = 42% (420 points)
Mid Term Test = 29% (290 points)
Final Paper = 29% (290 points)
Total = 1000 points

A= 90-100% B= 80-89%   C= 70-79%   D= 60-69%   F= 59 % or less

Course Policies:

Students are expected to watch instructor posted lectures and participate in discussions generated in Blackboard. Students will turn in work via Blackboard and late submission will not be accepted (outside of emergency or mutually agreed upon circumstances). Plagiarism on assignments and cheating on exams will not be tolerated. Work is to be original efforts to address the specific assignment at hand (in other words, don't submit work from another course). Students caught plagiarizing or cheating will be disciplined according to the appropriate University of Alaska guidelines.

**Discussion Board etiquette: When both posting and responding to the discussion board requirements, remember that these are graded activities. Content is to address the requirement at hand and in terms of a response, be respectful and constructive in nature. Be sure to read the discussion board rubric found in the rubric folder for the course.

Support Services:

Students are encouraged to schedule an initial appointment and utilize the UAF Writing Center in 801 Gruening, ph 474-5314, http://www.uaf.edu/english/writing-center/ for the first written topic review. Further assistance through the writing center is encouraged as needed to assist in the development and refinement of written products. Please contact me as required should you need to contact other subject matter support services relevant to the development of your leadership or classroom projects/topics. Distance students have access to the tutoring as well.

Students with Disabilities:

Students with learning or other disabilities who may need classroom accommodations are encouraged to make an appointment with the Office of Disability Services (Phone # 474-7043). Please inform me of your needs and if I need to meet with the Office of

Disability Services to provide the appropriate accommodations and support to assist you in meeting the goals of the course.

Course Schedule:

Each week there is text reading assignment, there will be an accompanying on-demand lecture session available.

Week 1 (14-17 Jan)
Introductions, Introduction to leadership issues (relevance), Introduce Writing Assessment and ensure appointment is made with UAF Writing Center.
Readings
- Overview of course objectives and expectations.
- Review of writing standards (APA Format)
- Information Assurance Handbook; Chapter 1

Assignments
- Discussion Board #1- Introductions
- Pre-test – graded for participation ONLY and used to establish current understanding of Cyber Security

Week 2 (18-24 Jan)
Readings
- Information Assurance Handbook; Chapters 2 & 3
- Special topic People-Centric Security

Assignments
- Discussion Board #2
- Chapter Quiz #2

Week 3 (25-31 Jan)
Readings
- Information Assurance Handbook; Chapters 4 & 5

Assignments
- Discussion Board #3
- Chapter Quiz #3

Week 4 (1-7 Feb)
Readings
- Information Assurance Handbook; Chapters 6 & 7 (end of part 1)

Assignments
- Discussion Board #4
- Chapter Quiz #4

Week 5 (8-14 Feb)
Readings
- Information Assurance Handbook; Chapters 8 & 9 (start of part 2)

Assignments
- Discussion Board #5
- Chapter Quiz #5

Week 6 (15-21 Feb)
Readings
   ● Information Assurance Handbook; Chapters 10 & 11
Assignments
   ● Discussion Board #6
   ● Chapter Quiz #6

Week 7 (22-28 Feb)
Readings
   ● Information Assurance Handbook; Chapters 12 & 13
Assignments
   ● Discussion Board #7
   ● Chapter Quiz #7

Week 8 (29 Feb – 6 Mar)
Readings
   ● Information Assurance Handbook; Chapters 14 & 15 (end of part 2, start of part 3)
Assignments
   ● Discussion Board #8
   ● Chapter Quiz #8

Week 9 (7-13 Mar)
Readings
   ● Information Assurance Handbook; Chapters 16 & 17
Assignments
   ● Discussion Board #9
   ● Chapter Quiz #9

Week 10 (14-20 Mar SPRING BREAK)
No readings or assignments

Week 11 (21-27 Mar)
Readings
   ● Information Assurance Handbook; Chapters 18 & 19 (end part 3)
Assignments
   ● Discussion Board #10
   ● Chapter Quiz #10
   ● Mid-term exam covering the contents of Chapters 1-17
      ● Due Mar. 27 at 11:59p

Week 12 (28 Mar - 3 Apr)
 Readings
   ● Information Assurance Handbook; Chapters 20 & 21 (start part 4)
Assignments
   ● Discussion Board #11
   ● Chapter Quiz #11

Week 13 (4-10 Apr)
 Readings
- Information Assurance Handbook; Chapters 22 & 23

Assignments
- Discussion Board #12
- Chapter Quiz #12

Week 14 (11-17 Apr)
 Readings
- Information Assurance Handbook; Chapters 24 & 25 (end part 4)

Assignments
- Discussion Board #13
- Chapter Quiz #13

Week 15 (18-24 Apr)
 Readings
- Information Assurance Handbook; Chapters 26, 27 & 28

Assignments
- Discussion Board #14
- Chapter Quiz #14

Week 16 (25 Apr – 1 May)
 Readings
- Reading necessary to find sources for the final paper

Assignments
- Paper outline
- List of sources with 2-3 sentence summary relevance for each

Week 17 (2-6 May) Finals Week
Assignments
- Final paper

416 Final Paper Requirements and Rubric

Paper requirements

The final paper will have students analyze threats, the range of risks associated with them, the common methods for controlling or compensating for the risk and the environments where they exists. Students will then not any variation to the risk level. One emerging approach to deal with the threats will be introduced and discussed. Furthermore, students will show how to incorporate controls and mitigations methods into planning for normal operations and how they get included during an emergency event.

Additionally, your paper needs to be double spaced, and include a cover page (this does not count as one of the 3-5 pages). It will be worth **200 points** and it will be evaluated using the grading criteria listed below. All papers must be written APA format and all sources need to be cited appropriately.

Rubric

Organization   */20*
Style   */20*
Content   */110*
Grammar/spelling   */25*
Sources   */25*

Papers turned in after the end of finals week (May 6th), will not be accepted.